Conservation and Education in Murchison Falls Conservation Area, Uganda

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Submitted in partial fulfillment of
the requirements for the degree of
Master of Arts from Prescott College
in Conservation Education

June 2005

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Acknowledgements

I would first like to express my deep appreciation to the guides and staff of Murchison Falls National Park. You are all doing such great work with so few resources, and yet you still found time to help me with this project. Special thanks to Christine Nakayenze, Warden for Tourism; Stonewall Kato, Community Conservation Warden; and Charles Okuta, Assistant Community Conservation Warden. I could not have done this without your support. Thank you Moses, George, Bruhan, Emmanuel, Simon, Dennis, David, Charles, Wako, Jimmy, and Maureen – I learned so much from each of you, and you made me feel at home in the park.

I credit the preservation of my sanity to Lyn Fleming, my advisor. How many times did you say "you know Mark, you're not trying to get your Ph.D. here!" You kept me focused and not only encouraged me to follow my passion, but refused to let me stray from it. I can't thank you enough.

My wife, Devin, made it all possible. You encouraged me from the beginning to pursue this degree, and gave me all the support I needed to make it through. It was fun and enriching being on this adventure together, and it continues to amaze me how much my love for you grows every day. And thanks to our dog Roshi, the "Husky on the Equator" – life's going to be pretty boring back home with no jackals to chase, isn't it?

I dedicate this thesis to our baby, conceived under African skies. May the wild speak to you always. I also dedicate this work to the people of Uganda – may you find much more peace in your future than you have had in your past.

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Abstract

This thesis forms the foundation for a conservation education training manual to help guides in Murchison Falls National Park, Uganda, communicate to foreign visitors about conservation issues. For background information I used a combination of text-based research and interviews to examine the application of community conservation and revenue-sharing in the boundary communities around Murchison Falls, the factors that make such programs successful, and the affects of those programs on the attitudes of locals towards the park. I used a visitor questionnaire to measure customer satisfaction, awareness of environmental issues, and attitudes regarding the relationship between local people and the park. After compiling the results, I made recommendations for how the park can improve its guiding and educational efforts as well as potential additional program offerings.

Map of Uganda

Chapter 1 – Introduction

Uganda is known as the "Pearl of Africa." Situated on the border between the savannah of East Africa and the jungles of West Africa, it holds the natural bounty of both. The elevation ranges from 600 meters in Kampala to 5,000 meters on Mount Stanley. With over 1,000 species of birds, Uganda has the 4th highest bird biodiversity in Africa, and the presence of 343 species of mammals makes it the third most diverse on the continent in terms of mammals (New Vision, www.enteruganda.com). In surface area, Uganda is slightly smaller than the state of Oregon which, by comparison, holds 466 species of birds and 136 species of mammals. All of North America north of Mexico boasts a total of only 810 bird species. Uganda is home to more endangered mountain gorillas than any other country in the world. Nearly one-fifth of the country is covered with water or freshwater wetlands, which support abundant wildlife. Old-growth mahogany trees, a globally endangered species, can still be found in some of the protected forests, and the largest mahogany forest in East Africa

is in Uganda. In addition to this biodiversity, much of the country is extremely fertile, so much so that a Ugandan man told me that you can "stick a table in the ground and it will grow." The northeast once boasted superb grasslands for grazing cattle, sheep and goats. Bananas have long been an easily grown staple, and coffee and tea grow well in the nutrient-rich soils.

Beyond the natural resources, there is great national pride in the natural beauty of the country. Visitors are greeted everywhere with warmth and bright smiles, and the phrase "you are most welcome." This is in a country that was decimated by Idi Amin's regime in the 1970s, has been battling the AIDS pandemic since the 1980s, and that is currently experiencing a civil war in the northern areas where children are being abducted and forced to fight as soldiers or serve as sex slaves.

Under Yoweri Museveni, the current president, Uganda has reduced the prevalence of AIDS from nearly 30% to somewhere between 5% and 12% (Europa Regional Surveys of the World [ERSW], 2004). The economy has rebounded somewhat and the government has been able to begin prioritizing sustainable development and environmental policy. For long-term sustainability, however, it is imperative that education around environmental issues reaches out into the rural communities, and solutions must be found that do not jeopardize people's ability to feed their families.

People have been interacting with the land and wildlife in Africa longer than on any other continent in the world. For the last several hundred-thousand years, low population and limited technology have allowed for a largely symbiotic, balanced relationship between people and the environment. Today there are increasing pressures on natural systems around the world, and Africa is no exception. If future generations of Ugandans are to continue to

be able to produce food to eat and find water to drink, and if the incredible biodiversity of East Africa is to survive into the future, there is work that needs to be done now. I was inspired to play a role in those efforts when I visited Murchison Falls Conservation Area in April of 2004. After spending four days in the park, I realized that I had not seen or been told a single piece of information relating to conservation. Clearly an opportunity was being missed to educate visitors about the very real pressures on the ecosystems they had traveled so far to see.

Pressures on the Ecosystem

Being one of the most biologically rich and abundant countries in the world does not immunize Uganda against the threats of environmental degradation. As the human population increases and the productivity of the land decreases, it will become more and more difficult for Ugandans to meet their food and energy needs from the land. Currently, the main environmental issues in Uganda are (National Environment Management Authority, Uganda [NEMA], 2000):

1. Deforestation
2. Soil erosion and land degradation (through agriculture or overgrazing)
3. Loss of biodiversity
4. Filling and degradation of wetlands
5. Availability and quality of fresh water
6. Diseases caused by environmental damage
7. “Urban issues” such as solid waste management and air and water pollution

Nearly all of these issues can be directly attributed to people simply trying to survive in difficult circumstances in an underdeveloped, agrarian society. In the words of Uganda’s environmental education training strategy, “For the industrialized countries, the environmental problems arise from inconsiderate use of the environment to promote self-

centered development. For most third world countries on the other hand, the main environmental problems have their roots in the social, economic and political ramifications of underdevelopment" (NEMA, 1997).

This difference is very significant in how a country addresses their environmental issues. One of the biggest challenges in trying to address environmental issues in developing countries is that the majority of the members of the societies have very limited choices. Their impacts on the environment are driven by survival, not by greed. This means it is not realistic to ask people to make decisions based on the moral "high-ground" and do what's "right." In order to convince rural Ugandans to make changes in farming practices or wood collection, they need to be given very clear alternatives that will not compromise their ability to feed their families. In addition, the lack of schooling for the majority of the population means there is often not the opportunity to learn about the connections between, for example, deforestation and drought (NEMA, 1997). As these connections are not always obvious or intuitive, environmental damage increases as people try to make up for the decrease in the land's productivity by clearing more forests or planting on marginal land such as steep hillsides, and they often do not have the resources necessary to implement sustainable techniques such as building terraces on the slopes.

The issues are exacerbated by a rapidly increasing population (of 3.4% per year-UWA, 2003). This increasing population has sped up the time-line for these issues to the extent that the ability to survive "has been compromised within a single generation" (NEMA, 1997). As 80% of the population works in agriculture, this population growth places huge pressures on the remaining undeveloped land. In 1931, population density was 18/km^2. By 1969 it had risen to 49/km^2 and by 2000 it was 113/km^2 (NEMA, 2000). The current

population of Uganda is 26,219,000 (ERSW, 2004). With people concerned about survival, often the government agricultural agencies turn to the short-term solutions that increase immediate food production rather than long-term sustainable practices that will guarantee a steady food source for much longer (NEMA, 1997).

It is only recently in the history of Uganda, perhaps the last 100 years or so, that humans have begun to place unsustainable pressures on the earth's systems. Given how comparatively recent this phenomenon is, is it any wonder that we have not yet figured out appropriate ways to address both the conservation and human development needs? A rapidly increasing population, extreme poverty, "advances" in technology, and civil strife are but a few of the complicated and complicating factors exacerbating the environmental situation in Uganda.

The Case for Global Responsibility

If biodiversity is a global asset, then the cost of its conservation must be borne by the global community and not by the biodiversity rich nations alone. (Yaa, 2000)

Biodiversity is on the decline throughout the world. In reference to this decline, a report by the Biodiversity Support Program states, "This trend is especially important in sub-Saharan Africa where people depend on biological resources to a far greater extent than most other parts of the world" (BSP, 1993). I see this as a dangerous, although widespread, attitude. I believe that we are *all* entirely dependant on biological resources, no matter where we live, and it is the feeling that we in the westernized world have somehow removed ourselves from this dependence that threatens what remains of our own natural endowment.

This thesis is my attempt to play a role in encouraging the global community, particularly foreign visitors to Murchison Falls National Park in Uganda, to take on more of the responsibility for protecting African biodiversity. Granted, many of the most significant immediate pressures on African ecosystems result from the day-to-day actions of villagers in areas surrounding protected areas. Countless efforts, some of which will be recounted in more detail later in this paper, are underway throughout Africa and throughout the world to change these behaviors and institute more sustainable interactions with the land and wildlife. However, it is unreasonable to place the entire burden of conservation on these communities who are least able to absorb the costs.

There are many stakeholders interested in African conservation efforts, ranging from the global public, to international conservation NGO's, to national governments and local villagers (Byers, 1996). Each of these stakeholders brings a different set of values and needs to conservation. To people living in industrialized nations, reasons for preserving these lands generally fall in the categories of aesthetic, educational, ecological, intrinsic, and scientific values. For national governments it often relates to economic development through tourism or resource extraction. For local villagers, these resources represent food, water, clothing, building materials, medicine and religious or cultural identity (Yaa, 2000). Which set of values should dominate the decision-making process? The power-balance has generally not been in the favor of the locals, when the large NGO's often hold the purse-strings, and the national government has traditionally exercised the authority to forcibly remove people from their land with no input or compensation. Local elites and businesses also often exert pressure on the government to allow them to manipulate the land for short-term gain.

Often, even when local communities recognize the benefit of ecologically responsible natural resource management, the ability to implement such practices is out of their reach. Many of the impacts on the environment, and many of the forces causing unsustainable use of resources may happen at the regional, national or international level. In the words of Paula Palmer, a woman working on participatory assessment of rural social issues in Africa:

> It is important…to keep in mind the influences that originate beyond the boundaries of the land area in question and to include them in the analysis. Otherwise the process may be based on a false assumption that local actors alone can bring about desired changes. Sometimes they can, but more often policy changes are also required." (Byers, 1996, p.96)

These influences may take the form of local and global policies on agricultural subsidies, trade restrictions, the patenting of disease-resistant strains of crops, land ownership laws, and others.

It is also important to recognize that the financial resources necessary to protect biodiversity around the world are concentrated in the developed world, and biodiversity itself is largely concentrated in the developing world countries that do not have the financial resources necessary to protect it. In a look at what it would cost to expand current global protected areas and to fully fund the operations of current ones, Bruner et. al. (2004) made it clear that it is not out of reach for the world economy:

> Even if creating and managing an expanded protected-area system costs a full $13 billion per year, this amount is not excessive when compared with other global expenditures. Using a comparison first made by James and colleagues (1999), $13 billion is equivalent to 1% of what governments spend globally each year on environmentally harmful subsidies (Myers 1998, van Beers and de Moor 1999). Simply meeting the approximate $1.3 billion annual shortfall for managing all existing protected areas in developing countries [10% of the cost of an expanded system], in itself a critically valuable step, would require global support on the order of 2% of what Americans spend each year on soft drinks (Jacobson 2003). Finally, the total cost of managing an expanded protected-area system in developing countries is perhaps 50% of total current spending on protected areas in developed regions (James et al. 2001). Perhaps two-thirds of the world's species are located in the

> developing countries (Raven 1988), suggesting that investment in these countries' protected areas is highly cost-effective. (¶29).

These numbers show that it is not a matter of possibility, but of priority. Will the world decide that cheet*ahs* are more important than Cheet*os*?

Project Description

This thesis project is designed to help foreign visitors to Murchison Falls Conservation Area (MFCA) in Uganda understand the complexity of environmental issues in the developing world, particularly those confronting the MFCA. When describing this project to people here in Uganda, I often get the question "why educate the *muzungus* (white foreigners) rather than the locals?" There are several reasons for this. First, there are already many groups throughout Africa who focus on conservation education for local people, even though there is a need for more. Second, to implement an effective education program for local communities, it is imperative to be in the area long enough to understand how the culture works, what motivates people, and why certain practices are in place. I see that process taking much longer than the time I have available. Third, my experience and my strengths are in teaching westerners about the natural world. If I can use those skills to inspire the people who have the financial resources to have an impact on conservation in Africa, then my time will have been well spent.

There will be three end products resulting from this project. The first product will be the traditional thesis, which will address the theoretical and methodological framework used to create the other two. In the thesis, I will describe Community Conservation and examine in what ways it is working in Uganda and in what ways it is not. I will also review the literature on environmental communication and draw out what techniques within that field

will be useful for communicating the conservation messaging identified during the research phase of this study. I will then proceed to describe the methods I used in the research, the results of that research, and make conclusions and recommendations based on the research.

The next product will be a book titled *Murchison Falls Conservation Area: Getting Beyond the Checklist Safari*. It will be presented mainly as a field guide to the park, with high-quality photos of the animals, information about their habits and habitats, as well as the geology and vegetation zones of the park. It will have additional sections on the human communities and park/people relationships, conservation issues, and will end with a list of ways visitors can contribute to the sustainability of the park. The book will not be submitted as part of the thesis, although the thesis has formed the foundation for the book. My plan is to complete the book by the end of August, 2005.

The third product will be a training manual for the park guides designed to help them communicate to foreign visitors about the conservation issues confronting Murchison Falls Conservation Area. It will act as a companion volume to the book, with some more detailed information about the wildlife. It is assumed that the guides will learn the information contained in the book about the geology, ecology and history of the park. This manual is underway and is scheduled for completion by the end of July, 2005. My goal is to offer a training to the guides based on the manual in August, 2005.

The Need for this Research, Manual and Book

On the most basic level, there is a need for this project stemming from a complete lack of quality field guides to the wildlife of Murchison Falls Conservation Area and the lack of knowledge that even many of the park staff have about the ecology of the area and the life

histories of the animals. Other East African countries (Kenya and Tanzania) have very intensive, well-established guide training programs and have highly skilled safari leaders. Due to Uganda's political instability of the last few decades, the subsequent decline in tourist numbers and the resulting lack of funds and infrastructure in the parks, there are no such comprehensive training programs for guides in this country, nor would there be funding to send guides to such trainings unless a donor agency stepped forward to support such a project.

In a report generated by a consultant hired to evaluate the infrastructure of Queen Elizabeth National Park, considered one of Uganda's most well-served "flagship" parks, the author reported:

> "After a number of excursions including nature walks, a boat trip on the Kazinga Channel, and a game drive, it was evident that while the park staff have excellent knowledge of the animals and their whereabouts, they need to be better prepared for the breadth of questions that may arise when taking diverse people out at one time. Perhaps brochures describing the wildlife seen on typical game drives, launch trips and guided nature walks could be offered to tourists to enhance their experience." (Kuhnle, 2001, P5)

Throughout the park system there is a serious lack of information available to visitors about the wildlife that they have come to see, and a lack of information even for park guides to develop this knowledge for themselves.

The more pressing need for this project is the state of conservation of Uganda's wildlife and wild landscapes. The history of instability in the country, the rapidly increasing population and the lack of sufficient government funding for conservation have all contributed to a tenuous situation for Uganda's environment. Visitors to game parks in East Africa have the potential to become strong advocates for conservation, and so the parks have a wonderful opportunity to teach. Actually

seeing these amazing animals and landscapes in person can inspire people to take action if they are given the information they need about what the issues are and what they can do about them.

In addition to a review of the relevant literature, I will be conducting a needs assessment using a self-administered visitor questionnaire, as well as interviews with park guides and members of the local communities. The questionnaire is designed to give visitors an opportunity to evaluate their guide, rate their own level of awareness of East African conservation issues, state whether they have received any conservation information while they have been in the park, and express some of their attitudes and understanding of conservation through the use of a Likert Scale.

This assessment will help me to determine: 1. Is effective conservation education already happening in Murchison Falls Conservation Area? 2. What is the overall satisfaction level with park guides, and in what areas could they use more training? 3. What environmental issues are visitors already aware of? 4. What are visitors' attitudes towards the involvement of local people in the park, and 5. Do people *want* more information about conservation in the park? This information will help me to determine what information should go into the manual for training the park guides as well as the book for visitors.

This project should be seen as just one piece of what could become a much needed, comprehensive guide training and in-park conservation education program. My hope is that the work I do will inspire others to carry it farther to ensure that visitors to Murchison Falls Conservation Area and, ideally, any park in the entire Ugandan protected area system, will receive the information necessary to help them

understand the complexity of conservation issues in Uganda and be inspired to take part in the conservation of Ugandan wildlife and wild lands.

Chapter 2 - Literature Review

Murchison Falls Conservation Area – The Context

History

Murchison Falls Conservation Area is one of the oldest, and is the largest, protected area (PA) in Uganda. It is comprised of Murchison Falls National Park, Bugungu Wildlife Refuge and Karuma Wildlife Refuge. Currently, the national park itself encompasses 3,893 km^2. Bugungu Wildlife Refuge (501 km^2) and Karuma Wildlife Refuge (678 km^2) are adjacent and act as buffer zones for the park. In addition is Budongo Forest Reserve which overlaps parts of both wildlife reserves, and covers an additional 591 km^2. This makes a total of 5,663 km^2 of space that is under some level of protection through controlled use (more than twice the land area of Rhode Island in the United States). The national park and the two

wildlife reserves are managed by the Uganda Wildlife Authority (UWA) as the Murchison Falls Conservation Area (MFCA) and the Budongo Forest Reserve is managed by the National Forestry Association except where it overlaps with UWA-managed lands.

The history of the establishment of these protected areas has had a strong influence on the state of their ecosystems and the attitudes of the local people towards them. It is therefore important to relay some of that history here before addressing the current issues of conservation as they relate to the local people. The history of these parks spans several administrations. They began to be established during the colonial era, when Uganda was a British protectorate (1894 – 1962). Since independence in 1962, the system has survived some difficult periods under presidents Milton Obote (1962-1971 and 1979 - 1986) and Idi Amin (1971 - 1979), and is now stabilizing somewhat under the current administration of President Yoweri Museveni (1986 – present). There were some short periods of time when others were in power, but they were generally in office for too short a period of time to strongly influence the direction of the country.

The following history and statistics are taken from the Murchison Falls Conservation Area General Management Plan for 2001 – 2011 (UWA, 2001). Between the years of 1907 and 1912, the inhabitants of an area of about 13,000 km^2 were evacuated due to sleeping sickness spread by tse-tse flies. This paved the way for the establishment of the Bunyoro Game Reserve in 1910, which encompassed roughly the area south of the Nile River that is now part of the National Park in Masindi District. In 1928 the boundaries were extended into Gulu District north of the river, and the resulting protected area (PA) became known as the Bunyoro-Gulu Game Reserve. As the human population had already been evacuated due to sleeping sickness, it was possible to establish this game reserve without displacing any of the

local people for the sake of the park. This is significant, as forced evacuations have often created animosity on the part of locals towards protected areas and their staff.

In 1932, the Budongo Forest Reserve was established. This became the first commercial logging concession in Uganda, and to date is one of the most intensively studied "working" forests in the world. The boundaries of this forest continued to expand over the next thirty years until they reached the current size of 825 km2. Much animosity was created by this process as locals lost land and never quite knew where the boundaries were due to the frequent changes.

In 1952, the British administration established the National Parks Act of Uganda. After forty years of reduced hunting in the Bunyoro-Gulu Game Reserve, the animal populations had expanded to an extent that justified upgrading the reserve, which became Murchison Falls National Park, one of the first two national parks, along with Queen Elizabeth NP. By the mid-1960's, Murchison Falls had become *the* premier safari destination in all of East Africa, with over 60,000 visitors per year.

With the receding of the sleeping sickness outbreak, people began to repopulate the areas around the new national park. It was realized that a buffer zone of controlled-use lands was needed around the park to lessen encroachment and poaching pressures. In 1963 the Karuma and Bugungu Controlled Hunting Areas were established, but this status conferred little actual protection. To give the government more "teeth" to control activities in these areas, they were upgraded to Game Reserves. Karuma was upgraded in1964 and Bugungu in 1968. The establishment of these PAs led to the forced eviction of some villages and new restrictions on hunting and the use of other resources. Today, there are still older villagers who remember when they had free access to the lands that are now part of Karuma and

Bugungu Game Reserves. These memories, and ongoing struggles to procure food, building materials and other necessities, cause some of the conflict today between park staff and local communities.

The increase in the numbers of large mammals came to an abrupt reversal from the late 1970's to the mid-1980's. Soldiers in the armies of Idi Amin and Milton Obote would fly over Murchison Falls National Park in helicopters, shooting animals for food and for target practice. The table below, also taken from the General Management Plan, shows the decrease in just some of the wildlife, not including the rhinos which were entirely extirpated from Uganda during this time:

Change in MFCA wildlife populations over time:

Species	Pre-1973	1980	1991	Dec1995 est	1999 est
Buffalo	30,000	15,000	1,600	2,500	3,900
Giraffe	150 – 200	No information	80	150	350
Hippo	12,000	7,500	No information	1,200	1,800
Kob	10,000	31,000	No information	4,400	7,500
Elephant	12,000	1,420	300	300	780
Hartebeest	No information	14,000	No information	2,400	2,900

The combination of political instability in the 70s and 80s, and the decrease in the populations of wildlife, resulted in a sharp decline in visitor numbers. Even today, because of the rebel activities of the Lord's Resistance Army in the north, Peace Corps volunteers and employees of the U.S. Government are not allowed north of the Nile River in Uganda, which includes most of Murchison Falls National Park. Annual visitation went from 60,000 per year in the 1960's to only 2000 by 1999. The numbers are increasing again, although last year (2004), still only 9,500 people visited the park as tourists. This has a huge impact on the funds that are available for managing the PA, as entrance fees, lodge concessions fees and other user fees contribute a significant amount to park budgets.

If there can be a bright side to such wanton slaughter of wildlife, it is the opportunity for recovery that was given to the land. Fourteen thousand elephants can do an immense amount of damage to woodlands. When these animals were able to follow their traditional migratory routes, this impact was spread out over a very large area. With the increasing human population, the elephants were no longer able to migrate. This concentrated their activities primarily within the park boundaries, causing unsustainable pressures on the woodlands. The Rabongo Forest in the Southeastern section of the park saw a 52% reduction in trees between 1932 to 1956 (Mann, 2002). Although some of this can be attributed to logging, the most significant decrease was in species that are palatable to elephants and the composition shifted to less-favored species, indicating that elephants played more of a role in deforestation than logging during that time. In the last 25 years, due to the sharp decline in elephant numbers, the amount of woodland in the park has increased from 18% of total area to 75% of total area (Mann, 2002). Park management is actively trying to determine the appropriate balance of savannah and woodland, and the number of elephants that can be supported by the Murchison Falls ecosystem without tipping that balance.

Murchison Falls Conservation Area is in a unique position. It is a park surrounded by lands that are marginal for farming, so there is little pressure to convert the protected area to farmlands except in the Karuma Wildlife Reserve in the south. The populations in many of the communities around the conservation area are still low enough that with sufficient resources, a pro-active and inclusive approach can be taken to involve the local people in wildlife management. There are viable breeding populations of many “charismatic” mammal and bird species which will continue to draw tourists, and those populations are still well below the carrying capacity of the land. There has been a period of over 20 years of very low

impact by animals on the ecosystem. Not only does this mean that the park is poised to grow as a safari destination, but all of these factors combine to create an excellent laboratory to study the resilience of faunal species after a rapid decline, as well as vegetation succession patterns. Yet at the current time, almost no ecological research is being done in the conservation area.

Pressures

Protected areas in Uganda are facing a number of significant environmental pressures. Some of these come from the people living on the borders of the PAs, others stem from challenges within the management structure. In a survey done by the National Environment Management Authority (NEMA, 1997), deforestation was seen as the main environmental issue of concern to the populace nation-wide. Deforestation is very significant in an agricultural society with an expanding population. Forests are cleared primarily for two reasons; conversion to farmland and use of wood for fuel. In 1890, 45% of the land surface of Uganda was covered with forest, half of which was closed-canopy jungle and half of which was open woodland and woodland/savannah mosaic. In 1967, it was 14%. In 1990 it was 7% (National Environment Action Plan Secretariat [NEAP], 1992). The elimination of forests can cause natural disasters such as droughts and floods, as well as cause soil erosion into streams, resulting in damage to fisheries. Additionally, forest habitat is no longer available for many species of animals, impacting not only natural biodiversity, but also eco-tourism, which provides an economic alternative to farming (NEMA, 1997).

There is a finite amount of arable land available in Uganda, so increasing the amount of land dedicated to farming is, by nature, a short-term solution. If the population continues

to grow, and new alternatives to the traditional agricultural economy or traditional farming methods are not found, the need for new farmland will soon outstrip the land available even if every acre in the country were converted to cropland. With limited government resources to protect parks and preserves, even the areas that have been legally protected are vulnerable to encroachment. Without ensuring that surrounding communities benefit from the protection of these areas, there will be little motivation for farmers to leave these protected lands intact (Weber and Vedder, 2001).

Deforestation also leads to shortages of wood for fuel, which primarily affect women, as they are the main gatherers. As they have to go farther to find wood, they are away from their families and field for longer periods of time, and also end up working late into the night to finish their housework. According to the National Biomass Study in 1993, "in areas with high population density, fuelwood harvesting is the main cause of deforestation" (NEMA, 2000, p. 42). Currently, 93% of energy used in Uganda comes from the burning of wood for cooking (New Vision, 2005). As forests in non-protected areas become more depleted, the pressure on protected forests will increase.

Poaching is also a major issue in Uganda, and this is currently the main environmental threat within the Murchison Falls Conservation Area. There are two types of poaching to consider. There is commercial poaching, where outside buyers hire locals to capture or kill wildlife. The animals targeted in this kind of poaching are generally the ones with valuable body parts or skins (elephants, rhinos, leopards), or those with value in the pet trade (chimpanzees, reptiles, birds). The other kind of poaching supplies families with food directly, or with income through the bushmeat trade. This mostly targets the antelopes and other, smaller species. However, with the recent influx of Congolese refugees due to

instability in that country, the killing of primates for food and the bushmeat trade is increasing (Ugandans traditionally do not eat the meat of primates, with the exception of the Bukonjo people living around the Rwenzori Mountains on the border with the Democratic Republic of Congo). The main form of poaching that takes place around MFCA is hunting for food using wire snares.

The Uganda Wildlife Authority has identified some of the main challenges that complicate any efforts to address the environmental threats to PAs (UWA, 2003):

- ***Animal-human conflict***: PAs are not fenced, so animals can move into settled areas. The increasing human population means these boundary areas are often densely settled. Animals may damage crops or injure people, and these animals are the main source of conflict between UWA and local communities. Community-members often want to kill these animals for the safety of themselves and their family, and to protect their crops. When UWA refuses to let them kill problem animals, locals report feeling that the animals are seen as more important than they are.

- ***Inadequate funding***: Few of the PAs cover their own expenses, and government and donor funding are required to make up the difference. The annual cost of maintaining an African PA is estimated at $300/sq. km and is usually paid for through a combination of government and donor funding, and visitor fees. These costs are enormous, especially when added to the opportunity costs of lost resource-based revenue. I have personally experienced the lack of resources in MFCA when I have given rides to rangers needing to get from one section of the park to another when no vehicles are available.

- ***Limited collaboration/partnerships:*** Communities have deep resentment towards UWA due to old policies of the national park service putting wildlife before people, and even relocating people to create PAs. Even now, there is a lack of trust and suspicion of motives when park personnel approach a community with funding or project ideas.

- ***Insecurity:*** The 9/11 terrorism attack on the U.S. has reduced tourism around the globe. Also affecting Uganda are the conflicts in Sudan and Congo, and the rebellion in northern Uganda. The massacre of U.S. tourists in Bwindi Impenetrable National Park in 2000 also reduced tourism numbers here. Murchison Falls National Park is particularly affected by the rebellion in the north, and the park has long been on the “no-go” list for Peace Corps and embassy personnel. Until the security reputation of Uganda improves, it will be difficult to realize the

full tourism potential of the country and, therefore, to bring in sufficient revenue from PAs.

- ***Poor management and tourism infrastructure***: Much of the park infrastructure was destroyed, and many staff were displaced or killed, during Idi Amin's reign in the 1970's and Milton Obote's second time in power in the early 1980's. In Murchison Falls National Park, nearly all buildings were destroyed, both those for tourists and offices and housing for staff. The loss of long-term staff also means a loss of institutional memory, and many archived documents were lost as well. This leads to much time being potentially wasted "reinventing the wheel."

I would add poverty and the rapidly increasing population to this list, as these two factors exacerbate all of the issues listed above. Traditional protectionist conservation methods have done much to preserve what now exists of African biodiversity, even as they have had some negative affects on some local people. Protectionist policies have caused animosity towards PAs and their staff, and have even, at times, led to more destruction of biodiversity. Also, there is an increasing awareness that villagers in the areas surrounding protected areas often bear most of the cost of conservation without realizing any significant benefit. These realizations have caused a move towards more inclusive approaches to conservation.

Community Conservation – What is it?

Community Conservation includes a wide range of efforts to bring the goals and resources of conservation and development together. These integrated strategies, which began to be used on a global scale within the last few decades, start with the belief that "…the conservation of biodiversity is unattainable without the support of the people living in close proximity to the resources in question." (Kangwana, 2001, p.256). It attempts to gain that support by involving local communities in the management of their environment, implementing benefit-sharing programs, and creating income-generation opportunities for

locals that will allow them to benefit more from the presence and sustainable use of natural resources than from their rapid depletion.

Community Conservation takes on many forms and many names (community-based conservation, community-based natural resource management, integrated conservation and development projects, community-based wildlife management, etc). In this paper I will use the term Community Conservation (CC) to mean all of these approaches collectively, and I will specifically focus on these efforts as they pertain to communities bordering protected areas in Africa. Later in this paper I will refine my scope even further, and be almost exclusively addressing CC as it is being implemented around Murchison Falls National Park in Uganda. These are important distinctions, as the successes, challenges, and techniques employed are very different from one situation to the next. The efforts to maintain habitat for charismatic megafauna in an African savannah with high tourism potential is very different from efforts to save the snow leopard in remote areas of Central Asia where conservationists have had to find solutions that do not rely on tourism revenue.

Natural resource conservation nearly always requires limiting someone's access to those resources, or significantly changing the ways those resources are being used (Yaa, 2000). At least in the short-term, this can be detrimental to the survival of people who relied on those resources, particularly rural people living on a thin margin of subsistence. Practitioners of CC, wherever they are working, believe that you cannot and should not address conservation issues without also addressing the human-development needs of the people affected by those efforts. This belief has both logistical and ethical foundations. In Africa, it has developed as a response to the traditional protectionist approach established by colonial governments that had, as one of its primary outcomes, "exploiting the natural wealth

of African countries for the economic development of the colonizing country (Yaa, 2000)." The game parks in East Africa, for instance, were not originally created to save wildlife, they were created to provide exclusive hunting rights to elite Western hunters (Mugisha, 2002).

The traditional approaches to PA management were dedicated to keeping people out of the parks, based on the assumption that any human activity in the park was bound to have a negative effect on biodiversity (BSP, 1993). Protected areas in southern Africa tend to be very large, and the staffing required to effectively keep out all people is financially prohibitive. From a logistical perspective, protectionist "gates and guns," or "fences and fines" approaches are simply unmanageable in Uganda with the limited resources available to the park authorities for patrolling. The only realistic way to control use by local communities is to have their "buy-in" on the conservation agenda (Bwalya, 2003).

Obviously, removing people by decree from their land to create a park, or refusing them access to the resources they have traditionally used that are now within the boundaries of a park, creates strong feelings of animosity towards the protected areas (PAs) and PA staff (BSP, 1993). In one example from Uganda, Lake Mburu National Park was created in 1983 by the government of Milton Obote. The people living on the now-protected land were forcibly removed with no compensation. When the Obote government fell in 1986, the locals chased out the park staff and proceeded to rapidly slaughter the wildlife living in the region. Their goal was to decimate the wildlife and terrorize the park staff so that the government would have no reason to re-establish the National Park (Hulme & Infield, 2001).

This situation in Lake Mburu National Park provided the opportunity for the first cooperative approach to park management in Uganda. The new government, led by President Yoweri Museveni, created the Lake Mburu Taskforce, which produced a report

recommending the “degazetting” of 60% of the park after consultation with the locals, and allowing the continued habitation and grazing of that degazetted land. After a period of continued hostility where park boundaries and the legal status of residents within those new boundaries remained unclear, and both locals and park staff arrived at meetings with firearms, by 1996 resettlement land had been provided to those who were removed from the park and relations between the park and locals began to improve (Hulme & Infield, 2001). It was only after this cooperative approach gained the support of the locals that the small park staff was able to stop worrying about its safety and begin truly managing the park.

Besides logistical constraints, the other justification for this move to people-oriented conservation is ethical. People in boundary communities have traditionally absorbed the majority of the costs of conservation and reaped few of the benefits (UWA, 2003; Adams & Murphree, 2001; Byers, 1996; Adams & McShane 1992). Even in places receiving vast amounts of tourist dollars, most of those dollars are going into the hands of foreign tour operators or hoteliers, or to the country capitol. It is also a basic premise of the democratic process that people will be given a voice in the decisions that will affect them. This does not always mean that the decisions will end up being entirely in their favor, but that they will have a voice.

At the root of all these efforts is the fundamental belief that addressing at least some of the human needs of boundary communities will help in efforts to achieve biodiversity conservation goals. This is not universally accepted, as will be discussed later, but it would be difficult to argue that conservation goals can be met *without* also addressing human needs. Fundamentally, the main environmental threat to African ecosystems is poverty. Many of the people living on the boundaries of PAs in sub-Saharan Africa are living near the bottom

of Maslow's hierarchy of needs. Their primary concern is survival for themselves and for their family, and survival for many means using local natural resources. They will, reasonably, continue to use those resources until there is some economic or cultural incentive to change their behaviors, or until their survival is assured to the extent that they can make alternative behavioral choices (BSP, 1993).

In the words of an old man from Zimbabwe, "When we are full, elephants are beautiful. When we are hungry, elephants are food" (Ricciuti, 1993). Kiiza, one of the guides with the Budongo Ecotourism Project in Uganda, expressed a similar sentiment when he told me that "we in Uganda understand that these nature things are important, but certain circumstances make us forget their importance" (Personal communication, 2005). Community Conservation is largely about providing incentives and building the capacity to conserve and to give people the opportunity to remember the beauty of the wildlife and the importance of conservation.

Factors for Success in CC Projects

It is premature to say whether CC is working or not. What should be, and is, happening, is a lot of evaluation. What are the factors that make a project successful, and what are the factors that make it unsuccessful? Many researchers have been undertaking such evaluations, and there is some remarkable consistency in terms of what the prerequisites are for success. The list below follows what is listed in Yaa (2000), but is reinforced in much of the other literature on the subject (Bwalya, 2003; Mugisha, 2002; Hulme & Murphree, 2001; UWA, 2001; Byers, 2000):

- One of the most important factors for success is a **strong institutional framework** within the boundary communities for articulating their needs and getting the support of members of the communities. Perhaps the most challenging aspect of this is that even using the term "communities" for these areas is no longer relevant with the influx of people from different areas coming into these places (Byers, 2000). In the area of Murchison Falls National Park, for example, over 52 languages are spoken in a single sub-county (UWA, 2001). Particularly when many of those ethnic groups may have traditional animosities or very different views of their relationship to the natural world, it is difficult to create a sense of cohesion. When villages were comprised of a single ethnic group, they would generally have a council of elders who could make decisions for the community and who would rarely, if ever, be challenged.

  Today, there are elected Rural Council members who must appease their electorate if they are to maintain their positions of authority. This local governance infrastructure is one aspect of "social capital," defined by Labor Law Talk as "the collective value of all 'social networks' and the inclinations that arise from these networks to do things for each other." Systems such as this need to be reinforced if communities are to be able to work together towards a common goal (Bwalya, 2003, Mugisha 2002). These are also the bodies that must work with the National Environment Management Authority and follow their environmental guidelines when planning projects in their areas. If these local governing institutions are strong and are representative of their constituents, this process could allow for more equal

cooperation between UWA and the local governments for incorporating both environmental and development goals in the planning stages of projects.

- **Secure land-tenure** is another prerequisite, both for environmentally sustainable behavior and for poverty alleviation, that has been consistently recognized in the literature (Bwalya, 2003; Yaa, 2000; Agrawal, 1996; Kabubo-Mariara, 2003). This has been indicated both as a prerequisite for reducing poverty, and for engaging in sustainable agriculture and grazing practices. The policies through which this tenure is granted must also be examined (Byers, 1996). Often, ownership of land can only be gained through "improving" the land, i.e. converting forest to croplands. In southwestern Uganda, the Batwa Pygmies were forced off their land with no compensation because they were a forest-dwelling people who did not engage in formalized agriculture. Their land was given to Bantu peoples who would convert the land. This is an example of how land-tenure agreements can actually be destructive to the environment.

- **Local participation in a transparent decision-making process** at all levels is also critical (Byers, 2000; Bwalya, 2003). Traditionally, local people have had little input on the policies that affect them, even though they are one of the major stakeholders, and their interests have been underrepresented. The members of the protected areas working group identified three levels of stakeholders, all with very different timeframes for evaluation: Locals, who want policies to work on a very short timeframe in order to have immediate benefits; regional and national governments,

who want policies to take effect in the medium-term, in time for the next election; and the international NGOs, who are looking at the long-term ecosystem time frame (although I disagree with this somewhat, and would say they are also looking medium-term, at the next grant-cycle) (Yaa, 2000). One major challenge is reconciling these timeframes, and determining which stakeholders' values should take precedence in different situations.

- Strategies must incorporate **indigenous knowledge and values**. This is not to say that CC programs should operate in deliberate denial of "good science." However, it may be that what seems like a good solution from the perspective of an ecologist may cross some cultural barriers that will diminish support from the affected community, and an alternative must be found. Indigenous knowledge (IK) is often contrasted with "science" by arguing that IK is rooted in a local situation, while true science is applicable anywhere. Pointing out that scientific "solutions" have often failed when confronted with social and cultural realities, Agrawal (1996) stated, "…if attempts to implement Western technically oriented solutions failed because they did not recognize the imperatives entailed by different socio-political-cultural contexts, it is likely that the so-called technical solutions are as anchored in a specific milieu as any other system of knowledge." It is important to include both indigenous knowledge and western science to come up with effective solutions.

- **CC efforts must address a felt need within the community.** If environmental degradation is happening, it is likely that the community has already noticed it

through a change in weather patterns, decrease in crop yields, more time spent looking for firewood, or the loss of once-reliable water sources (Mugisha, 2002). This felt need will increase community support for the project, and make it easier to get their buy-in. If the need is not already felt, it is important to invest time and resources in education before asking for a change in behavior.

- **Education, training and awareness.** This category must be preceded by an assessment of the situation in order to know whether it is necessary to begin with educating the community about the problem (in essence "creating" the felt need mentioned above), or to begin training them in how to apply solutions.

- **Monitoring and Evaluation.** This should be a part of every stage of a project, first to determine needs, then to determine effectiveness. Through a Participatory Rural Appraisal, project implementers can take steps to ensure that the interventions will be culturally appropriate and will hopefully engage the support of the community. This process is also necessary for setting a baseline against which to measure the success of the project.

- **Long-term sustainability.** Too many conservation and development programs are dependent on outside funding and staff. If time is not put in to affect attitude change, the community members may not feel any incentive to continue conservation efforts once the funding stream dries up, or once the outside project managers have stopped coordinating efforts.

In essence, all of these factors represent some aspect of community buy-in. If community members feel like partners in conservation rather than victims of it, a project in their area is more likely to succeed.

Challenges in Community Conservation

It is important to recognize that Community Conservation, as it stands now, is not a magical solution for conservation and development. In fact, some argue that by trying to do both, it does not do a good job with either (Jepson & Canney, 2003; Hackel, 1999; Spinage, 1998). There is criticism by some that conservation organizations have compromised their primary conservation objectives and are becoming development agencies to the detriment of biodiversity.

Clive Spinage (1998), an elephant researcher who has done much of his work in Botswana, claims that Community Conservation is simply a political move on the part of NGO's (Non-governmental organizations) to tap into new pots of donor funds and that the protection of biodiversity is being moved into the purview of social scientists and anthropologists rather than biologists. He paints CC with a broad brush, implying that the goal of these projects is to turn control of natural areas over to local people with no government oversight. He does not seem to be arguing *for* a return to protectionist policies or anything else for that matter, although he does make a case that protected areas have done a better job of preserving biodiversity than they are given credit for. He seems to be mostly speaking *against* the arrogance of this "new breed" of conservationist from the perspective of someone who has long worked within the traditional paradigm.

Other critics, Paul Jepson and Susan Canney (2003), founding directors of Conservation Direct, believe that the conservation establishment is moving away from the "higher values" that originally drove the environmental movement, and that it is selling out. They espouse a return to values such as spiritual and intellectual benefit of nature, and believe that community conservation efforts "commodify" nature and put an economic value on things that cannot be valued in such terms. While they bring up some very important values that have driven environmental conservation over the years, they seem to be looking at conservation from an exclusively Eurocentric perspective. They list as the four main factors that *legitimize* conservation organizations to act globally (Jepson & Canney, 2003, p. 271):

1. The worth of the social values espoused
2. The belief that they are values with universal appeal and that all societies and cultures will benefit from their adoption
3. The membership base of organizations prominent in the movement and
4. The status of individuals promoting the cause

I have some concerns with this list. First, *who* determines the "worth of the social values" in a world where social values vary so widely from one culture to the next? Are western social values of conservation more "worthy" than African social values of survival through farming and hunting? Who determines whether "all societies and cultures will benefit from their adoption?" And number three seems closely tied to the first two. How many members of villages in rural Africa are making a direct-withdrawal donation out of their Citibank checking account to the World Wide Fund for Nature?

My concern is that if this list is used to determine legitimacy, there is no room for the local voice. They claim that conservation efforts are now being driven by scientific experts and economists, and that they have lost touch with "the people." The "people" they are

talking about in this situation are individuals in the west who contribute to conservation organizations. They call this "bureaucratic capture," but it could just as easily be called environmental justice. The original values of conservation are still vitally important in all of these efforts. We have a moral responsibility to protect the biodiversity of this planet which we increasingly have the power to destroy, and the aesthetic and spiritual values of nature are no less significant than the biological or ecological values. It is just not ethical to make these decisions without listening to the voices of the people who live among, and depend on, these natural resources.

It is actually difficult at this point to know if biodiversity conservation objectives are being met by these projects, as the time-intensity of the participatory process often means that there is not time to do proper biodiversity baselines to compare against. The timelines for many of these projects are also often so short, due to pressures from donors, that the ecological systems just can't change quickly enough for the report cycle (Kangwana, 2001). Also, much of the benefit of these programs comes in the form of real attitude change on the part of locals towards conservation. Such profound changes may take a generation rather than a year. In my visits to villages surrounding Murchison Falls Conservation Area, I have been repeatedly told that the children already have a much more positive attitude towards the park. It is these deeper attitude changes that will turn poachers into partners

In many areas, there remains a deep distrust on the part of local communities towards government agencies, conservation NGOs and park staff, leading them to doubt the motives of these actors when implementing a new CC project (Agrawal and Gibson, 1999). Particularly when these projects have conservation as one of their explicit goals, local people have learned from experience to be skeptical and to assume that the interests of wildlife will

trump their own interests. Many externally-driven efforts to involve the community do not come across as genuine and are, at times, little more than letting the community know what is about to happen to them (which, granted, is still better than how it often happened in the past). To overcome this distrust, the process through which projects are identified and funded must be extremely transparent and inclusive of the local governing structures (Yaa, 2000).

At this point in many countries in Africa, revenue-sharing programs and income-generation projects are not making up for the loss of income resulting from the setting-aside of lands and wildlife. The numbers of tourists are simply too low and the number of locals too high for the revenue-sharing to have a huge impact (S. Kato, personal communication, March 5, 2005). Also, much of the revenue that is supposed to accrue to local villagers never actually makes it to them due both to corruption and to fees that were not made clear to local communities at the beginning of projects (Hulme and Murphree, 2001). Adding to this challenge, the rapidly increasing population, particularly in areas where CC efforts are investing resources, means that the available funds *per person* may decrease even as total funds increase (Adams & Hulme, 2001).

Financial incentives are not the only factors in influencing pro-environmental behaviors. This can be looked at in two ways. First, it should not be assumed that one source of income can simply be replaced with any other. For instance, in a culture that has prided itself for generations on its cattle-raising abilities, and where status is afforded by the size of one's herd, setting up a vanilla-growing plantation may not be welcomed even if it will afford an equivalent or even higher level of income. Also, if financial incentives are used to change *behaviors*, but environmental *attitudes* are never addressed, that leaves the

resource vulnerable if the source of revenue is no longer available. Given the political histories of many countries in Africa, it is likely that there will be periods of low tourism. These natural places must be valued for more than financial benefits.

It is important to focus on local people's attitudes towards biodiversity, and it is overly simplistic to say that it will only be valued to the extent that it is providing income. Value can take many forms. One study in Costa Rica found that the interactions with tourists who came to explore the natural environment actually had more of an influence on locals' attitudes towards nature than the financial benefits they were gaining from tourism (Stem, et al, 2002). This does not lessen the need for financial incentives, it just makes explicit the need for more tools in the toolbox. Bwalya (2003) makes it clear that pro-conservation behaviors in projects in Zimbabwe were not inspired by a valuing of wildlife, but by the promise of financial gain. My interpretation of these seemingly contradictory results is that there is a short-term need to provide financial incentives to halt damage to the environment, which buys time and resources for education and other efforts. If this is accurate, then increasing revenue-sharing now is of paramount importance to halt the damage and also to build trust between the local communities and PA staff by showing immediate benefits.

One solution to this was implemented in the MFCA. When revenue-sharing was implemented in 1996, and arrangement where 20% of gate entry fees are distributed to the boundary communities for development projects, it was clear that it would take time for the funds to accumulate to a point where they would have any impact. In order to provide immediate benefit to the locals, the German Development Group (GTZ) decided to kick-start the process and provided approximately $255,000 between 1996 and 2003 through a Buffer-Zone Development Fund (Okuta, 2005). These funds were used for projects ranging from

the building of schools to purchasing livestock for income generation, essentially the same types of projects that are now funded through revenue-sharing.

With the end of the Buffer-Zone Development Fund project in 2003, park entrance fees became the sole source of funds for development projects. The lack of sufficient revenue at this point means there is still a need to provide villagers with opportunities for limited-use of resources and support for implementing new, diverse tourism ventures. The term "limited use" is often a red flag for people working in biodiversity conservation, as many species need large tracks of undisturbed, open space to thrive. To address this, many PAs have "zones of increasing use." There is a central core area where no resource extraction is allowed, and then there is increasing but controlled use as you reach the border for activities such as collection of firewood, medicinal herbs, water, papyrus, bamboo and materials for local crafts. As Tom Okello, Community Conservation Coordinator for Uganda Wildlife Authority pointed out to me in an interview (personal communication, February 15, 2005), however, this zonation does not always work in the textbook way.

The communities surrounding Mt. Elgon National Park in southeastern Uganda use bamboo shoots for food, and bamboo poles for building. Bamboo is a very fast growing grass, and is being used around the world as an environmentally sustainable building material. Its use should be encouraged to reduce pressure on the slower-growing hardwood trees. Unfortunately, the bamboo on Mount Elgon only grows in a limited altitudinal range that is several kilometers from even the closest border of the park. The park management continues to allow harvesting, but have implemented some controls. Villagers from the surrounding communities are only allowed to collect bamboo two days per week, and they can only carry out fresh, wet bamboo. This seemed to me like an odd restriction until he

explained that people used to first dry the bamboo over fires before carrying it out. There were two positive effects of this rule: 1. The fresh plants are heavier than if they are dried first, and so people are not able to carry as much out of the park and 2. The policy has reduced the number of accidental fires that were much more damaging to the park than the bamboo harvesting.

Allowing this use helps to make up the gap between what local people need for survival and what they are being asked to sacrifice for the sake of conservation. Another big push in CC is income generation through tourism services. In some parks this is a very successful approach, and some boundary communities now provide tour guide services, lodging, food, and have even begun to develop their own tourism destinations in natural areas outside the boundaries of official, government-established PAs.

One example of this is the Bagodi Wetlands just outside the perimeter of Kibaale National Park in southwest Uganda. This is a small wetland about 10 kilometers from the main center in Kibaale. It is surrounded by agricultural land, but serves as a haven for a wide variety of birds and primates outside the larger and denser forest within the park. The locally-hired tour guides have an exceptional knowledge of the birds, gained through a three-month intensive training program. Proceeds from the guiding service are used, among other things, to pay the school fees for the children of all families with land bordering the wetland. With this direct benefit, it has become worthwhile for the farmers to post a family-member on the boundary of their fields to chase off crop-raiding monkeys and baboons rather than killing them or cutting down the trees to remove the habitat for the primates. These “guards” also become assets to the tour guides, as they are very aware of the location of the monkeys at all times and are able to point them out to the guides and their clients.

This community tourism project has taken advantage of its fortunate placement near the main location for tourism in Kibaale forest. A challenge in Uganda's savannah parks, however, is that the tourism hubs are far inside the borders and, thus, far from the communities (UWA, 2003). This makes it harder for locals to provide services within the park, and few visitors will make an additional detour to visit a sight that is an hour drive from their primary destination.

I also see the very structure of tourism in East Africa as a hindrance to more equal distribution of tourism revenue. The safari experience is designed around the high-end tourist. Park entrance fees are high, lodging within the parks is generally three-star or higher, and if you do not arrive either with your own vehicle or as part of an organized tour, your wildlife viewing opportunities are limited to those that frequent the lodge looking for scraps. The advantage to this is that more money is being collected from each tourist, and the numbers of visitors is kept low which could mean less impact on the destination. The downside is that it keeps tourism revenue in the hands of a few "outsiders." The lodges and tour companies are generally owned either by foreigners or by a few wealthy African residents (often, in the case of Uganda, immigrants of Indian descent) who live in Kampala or Nairobi rather than in the local communities. This means that most of the dollars collected from tourists do not nourish the local economies.

This is in stark contrast to tourism in South and Southeast Asia, where communities are full of small inns and restaurants catering to the low-budget tourist. While each individual tourist does not spend a large amount of money, their numbers tend to be higher, and they spend their money at the local level where a small amount goes a much longer way. "Backpackers" are also good ambassadors for a destination, returning home and

recommending places for their friends and family to visit (UTA, 2003). It would be worth a study in itself to find out the relative value of increasing infrastructure for budget tourists rather than keeping Uganda the exclusive domain of those with large amounts of available cash.

Another important shortcoming of CC revenue-sharing programs is that the benefits are often not directly linked to conservation behaviors. Much of the money generated goes into projects such as building schools or health clinics, services that people feel government should be providing anyway (Byers, 1996; Bwalya, 2003). As an additional mixed-message, the local poacher who sends his children to a school built and funded by revenue-sharing funds is deriving the same benefit as the farmer who has planted trees, built terraces for his crops and has stopped hunting hippo to feed his family. There needs to be a more direct action-consequence relationship, where those who engage in pro-conservation behaviors reap more of the benefits. Otherwise, why sacrifice to meet the conservation goals?

Community Conservation is a work in progress. The efforts have improved park-people relationships in many places, even though it has not been entirely successful yet regarding either its conservation or human development goals. A return to protectionist policies is not an option at this point, nor should it be. That does not, however, mean total control of parks and natural resources should be immediately handed over to locals. Biologists, ecologists and land managers still have a very important role to play in determining what levels of mixed use are sustainable, and what types of use should be permissible. Most of the boundary communities do not yet have the expertise to answer these questions (Bwalya, 2003; Mugisha, 2002).

There has also been little progress in changing attitudes about the ecosystem values of protected areas. Few people understand the importance of the forests for maintaining climate and water supply, or the animals for maintaining vegetation communities. Also, they still have much more to gain in the short-term by using the resources than by conserving them. Their immediate need to feed their families will likely outstrip any inclination to protect these areas unless the benefits from conservation efforts increase.

The Context for Community Conservation around MFCA

Despite all of the challenges listed above, Community Conservation has experienced many successes in the communities around the Murchison Falls Conservation Area. There are currently three Community Conservation Wardens and ten CC Rangers on staff in MFCA who are responsible for implementing activities in the four districts surrounding the park, which include 15 sub-counties, 45 parishes and hundreds of individual villages. In my time visiting villages with community conservation rangers I saw very strong rapport between these individuals and the community members they were working with, and very sincere effort on their parts to listen to and address the issues being raised by the locals.

In an in-depth study to determine the attitudes of community members living on the boundaries of Bugungu and Karuma Wildlife Reserves, Krystyna Krassowska (1999)

determined that efforts to sensitize rangers on how to deal effectively with locals have resulted in improved relations between the locals and park staff. In my visits to villages I heard this sentiment repeated many times as people recounted the fear they used to feel when they interacted with rangers, and the mistreatment that people were subjected to when apprehended for poaching or other illegal activities. Now they not only feel more comfortable approaching park staff, but have even begun to report poachers to the rangers and have helped to apprehend some individuals (S. Kato, personal communication, March 5, 2005). This improved relationship results in a reduction of the amount of resources that need to be invested in patrols, and allows staff to focus more on ecological management of the park.

Arthur Mugisha, until recently the Executive Director of UWA, found in his doctoral research that only 14% of community members bordering Ugandan PAs that have implemented community conservation feel there is a need for improved communication between park staff and locals, compared to 67% of those living near PAs that have not (Mugisha, 2002). In his analysis of the reduction of environmental threats in Uganda's PAs, he found that 71% of those with CC efforts underway have significantly reduced at least 50% of their threats, whereas only 33% of PAs that do not have CC efforts have reduced at least 50% of their threats.

As of 2003, through a combination of revenue-sharing and the funds donated by German Technical Assistance (GTZ) in the form of the Buffer-Zone Development Fund for the MFCA, there have been 82 projects undertaken, including building secondary schools, health clinics and dispensaries, health-clinic staff housing, wells, livestock, woodlots, and sanitation projects (Okuta, 2005; UWA, 2003). UWA staff members have

trained villagers in tree-planting, animal husbandry and bee-keeping skills. Revenue-sharing funds have increased from a dispensation of 680,000 shillings per parish in 2002 (approximately $400 USD), to 6.2 million shillings per parish in 2004 (approximately $3,500 USD).

Areas of MFCA have also been opened up to boundary communities for limited use of resources. Hunting of wildlife is still off limits, but fishing, bee-keeping, and collecting grasses, firewood and medicinal plants are now allowed on a limited basis (UWA, 2003). Waako Innocent, the CC ranger for the Pakwach area, informed me that the number of women lining up at the park gate to collect resources has risen from about 10 five years ago, to nearly 250 today, indicating that there is a reduced fear of park staff. School children are also now able to visit the park at a reduced cost and with vehicles provided by UWA, which increases their awareness of conservation issues and their feeling of connection to the park.

Even with the vast improvement in relations between the park staff and the local communities, and the apparent reduction in poaching and encroachment activities, it is questionable how sustainable these attitude changes are. To what extent are they based strictly on financial benefits? If the stream of money from the revenue-sharing program were to stop flowing, would advances in park-people relationships and the reduction in poaching and encroachment be reversed?

Conservation Education

There is a vast body of literature on Conservation Education and attitude and behavior change as it relates to conservation. Unfortunately for my purposes here, most of that literature is aimed at how to design educational programs for the local communities

living in the developing world who are having a direct, negative impact on their natural surroundings. These programs are ideally designed around a specific environmental issue with the particular cultural and economic factors of the community in mind. Specific alternative, less-destructive, behaviors are identified and the capacity is built within the community to implement those alternative behaviors.

What I am attempting to accomplish with this project is quite different, and rarely addressed in the literature. I am trying to educate foreign visitors to Murchison Falls Conservation Area. My efforts are not aimed at a specific, cohesive community; the lives of the people I am attempting to educate are not being directly impacted by deforestation, decreased soil fertility, or the loss of wildlife; and there is no opportunity to actually sit down and work with the audience. By focusing my efforts on foreign tourists to Murchison Falls, I have set myself the challenge of trying to apply the successful methods of Conservation Education to a new and very different target audience.

Most people in the West have grown up knowing about endangered animals in Africa, have heard about the problem of poaching, and know that it is possible that safaris in Africa may be a thing of the past just a few generations from now. However, this knowledge does not guarantee that a person will take pro-environment action. Hungerford and Volk (in Byers, 1996) identify three sets of factors that lead to pro-environment behavior change: entry-level, ownership and empowerment factors. The knowledge about the issues mentioned above fits into the category of “entry-level” factors. This includes awareness, a certain level of environmental concern, and some knowledge of ecology such that the person understands the interconnectedness of the earth’s natural systems.

The next category is “ownership factors”, which include having a deeper concern about environmental issues, seeing that the preservation of the earth is the responsibility of everyone, and accepting that we need to “own” the problems in order to begin to solve them, or else we will just keep waiting for somebody else to take action. This awareness that we need to be involved still does not imply action, because the individual may or may not be aware of actions that they can take to help. That brings us to the third category, which is “empowerment factors.” This means that the individual is concerned about the environment, has taken the time and effort to educate him- or herself about the issues and knows that he or she has the skills and the ability to take action.

To help a person develop a holistic environmental concern that is active at all of these levels, and then to encourage them to act on that concern, we must understand what motivates people to act or not act in a certain way. Byers (2000) identifies a list of factors that can influence pro- or anti-conservation behaviors:

- **Sociocultural/Societal Norms**: How are the social pressures in your country “telling” you to behave?
- **Resource Access**: Do you have the financial ability to make environmentally sustainable choices?
- **Skills**: Do you have the skills necessary to implement a new behavior?
- **Options**: If you are aware that a certain behavior is damaging to the environment, are there alternative behaviors available to you?
- **Laws**: Are you aware of park rules or laws governing trade in endangered species? Are the penalties severe enough to cause the desired behavior or prevent the undesirable one? Clearly the penalties for driving off-track in Murchison Falls National Park are not sufficient to deter the behavior.
- **Knowledge**: Do you have access to information about the issues? Are you aware of the environmental policies of your tour operator?

As this list shows, it is not a simple matter of giving people information about why a particular behavior is damaging, although that knowledge is a critical element. It is also important to understand the social context in which the actors are living and what may

motivate or prevent a behavior change. As Byers states in *Understanding and Influencing Behaviors: A Guide,* "Behavior links the social system to the ecosystem" (Byers, 2000).

While it is possible that people will spontaneously develop a strong concern for the environment, recognize the issues, and find ways to take action, it is often necessary for some amount of education to take place. People are all at different level of concern and knowledge, and so should be addressed in different ways. Byers (1996) gives some suggestions on what to do for people at different levels:

If People… Don't know they are damaging resources
Then… Provide them the info w/education and communication
If People… Don't care it is being damaged
Then… Try to change attitudes and values through education and dialogue
If People… Do care it is being damaged
Then… Strengthen their resolve through education and dialogue
If People… Do care what others think if they destroy a resource
Then… Strengthen community norms through awareness raising and community monitoring
If People… Lack viable options
Then… Create and discover options
If People… Lack skills or means to take advantage of options
Then… Provide skills training
If People… Are motivated by overriding economic factors to continue negative behavior
Then… Increase incentives or penalties
If People… Lack secure rights or access to resources
Then… Advocate and lobby for access or ownership

If trained, the guides in the park will have the opportunity to assess where on this list their clients fall. For the purposes of the book, since it needs to apply to a general audience, as many of these categories as possible must be addressed.

The parks are in a position to educate tourists if they take the opportunity, and the guides, who spend a half-day or more with visitors are in the ideal position to be the primary conductors for that information. Conveying this type of information well, however, does not

happen by accident. It is a skill that can be learned, and I will now draw some brief suggestions from the fields of Behavior Change Communication and Environmental Interpretation, and discuss how they can be applied in the park setting. I will begin with the "7 Cs" of Behavior Change Communication, as presented by Joseph KB Matovu of Makerere University in Uganda (Matovu, 2004):

1. **Command Attention**: "Effective messages should be daring enough to attract attention and elicit comment." Saying "the biggest environmental issue facing Uganda right now is poverty" will not only catch people's attention due to its unexpectedness, but will also open many other conversational doors. Most people will want to know *why* poverty is an environmental threat.

2. **Cater to the heart and head**: "A message that arouses emotion is effective because people learn better when their emotions are aroused." This can take the form of an emotional connection to the wildlife, outrage at the disparity of wealth around the world, or inspiration that they have found ways to take action.

3. **Clarify the message**: "A message should be clear and not ambivalent. A single, clear and comprehensive message is best." Think through and practice how you want to present conservation messages.

4. **Communicate a benefit**: Some people need strong motivation to act. The best motivator is the expectation of a personal benefit (*or removal of a negative stimulus – MJ*)

5. **Create trust**: "A message that people will act on should come from sources they trust. To enforce trust, messages are phrased informally." Guides in the park have very little time to develop this trust, so they must present themselves in the most professional and knowledgeable way possible.

6. **Call for action**: "Once convinced that the promised benefit is worth pursuing, people need to know what to do." Nobody should leave the park without knowing at least one thing they can do to help with conservation in Uganda. They may still choose not to do anything, but the chance that they will is likely to increase significantly if they are given suggestions for concrete actions.

7. **Consistency check**: "A message that is repeated many times becomes familiar and people come to understand it."

These ideas will be addressed in more detail in the guide manual. It is also important to recognize that if people have a negative experience with their guide, who is their primary contact with park staff, they will not be as receptive to hearing about the conservation issues. Basic guiding and interpretation skills can have a significant impact on a guide's ability to influence the attitudes and behaviors of visitors.

For the skills section of the guide manual, I draw both on my own experience as a guide and naturalist, and from a training manual created by the educational staff of Disney's Animal Kingdom for a workshop they presented recently in Uganda called *Inspiring Conservation Action* (Disney, 2005). In that training they identified 20 key skills necessary for effective environmental interpretation, and I have selected and adapted 12 of them to highlight for the purposes of this training manual:

A skilled guide…

1. Has excellent communication skills, speaks clearly and with appropriate volume and inflection.
2. Engages and involves the audience.
3. Finds out what the visitors care about and relates it to their experience in the park.
4. Uses effective questioning and response techniques *when appropriate.*
5. Knows how to handle challenging visitor situations and sensitive issues.
6. Sets appropriate tour expectations.
7. Makes the trip fun.
8. Uses "hooks" to get people interested.
9. Displays enthusiasm.
10. Pays attention to what is happening and shares interesting wildlife interactions.
11. Has a strong knowledge base.
12. Encourages and values feedback

It is my experience that clients who are having a positive experience with their guide are more receptive to conservation messaging, and are more likely to want to get more information about how they can help the park they are visiting.

If it is true that African nations do not have the financial resources necessary to properly manage and expand their protected area systems, and if it is true that biodiversity conservation is the responsibility of the entire global community, then more members of the global community need to know about the complexities of conservation in Africa in order to engage in appropriate ways. They need to know that local communities need to be treated as partners rather than as enemies, that biodiversity protection can only be successful and sustainable within the context of overall poverty alleviation, that the issues are not as clear-cut as the mass media and even some conservation organizations make them out to be, and that there are actions that people anywhere in the world can take that will help with conservation efforts in Africa.

Chapter 3 - Methods

The data collection methods for this needs assessment project/research were a combination of literature review, semi-structured interviews with guides, questionnaires for visitors to the national park, and personal observations. The questionnaire was designed to gather data on some of the key research questions I wanted to test related to visitor attitudes towards conservation in Murchison Falls Conservation Area (MFCA) and what they received in terms of conservation information. These were guided largely by my literature review, and by several preliminary visits to the park during which I spoke to a variety of people about the conservation issues facing the park

I developed the questionnaire with an eye towards a mix of question formats. In the final questionnaire, five questions were open-ended, three questions asked respondents to

rank on a scale, three questions were yes/no questions, one question was a checklist, and one question was a Likert Scale in which respondents were asked to rank a series of statements from ‘strongly agree’ to ‘strongly disagree’. In addition to this, each respondent was asked for demographic information including their nationality, country of residence, length and purpose of visit, and mode of travel. The questionnaires were pilot tested and revised before the initial distribution, and then revised again significantly before the second distribution. See Appendices A and B for samples of the questionnaires.

The questionnaires were left at the four main lodging facilities at the park, with a request for the front desk personnel to ask guests to fill them out upon checkout. Three of the lodges are high-end facilities ($50 or more per person per night), and one is oriented towards budget travelers. I delivered 200 blank questionnaires (50 per lodge) on each of two occasions, three weeks apart. The expense of getting to and staying in the park necessitated the long gap between distributions, as I was only able to make three research visits to the park during the time of this project.

My goal was to receive one hundred completed surveys from the four hundred I distributed. I ended up receiving 54. As I was not resident in the park, I had to rely on lodge staff to actually hand the questionnaires to their guests rather than distributing them directly to visitors myself. As a result, I do not know how many people were actually informed about the questionnaires. I do know for certain that at least 155 of the questionnaires were never presented to visitors. In addition to these, I received another 97 blank questionnaires back from the lodges. This leaves another 96 questionnaires unaccounted for that could have been discarded by visitors, by staff, or simply misplaced by the lodges. This means the response

rate could be as low as 22%, but is likely higher in terms of the numbers of questionnaires that actually made it into the hands of the guests.

Perhaps one of the best lessons for me from this process is the need to give very clear instructions on how the questionnaires are to be handed out by the lodges, and to follow up by phone on a regular basis to see how collections are coming along. At one lodge in particular, when I returned after three weeks to pick up the first set of questionnaires, the person I had left them with said that he hadn't given any out because I hadn't authorized him to begin distributing them, even though I had asked him to give them to all of their guests and hold the completed ones for when I returned. After straightening this out for the second round, I returned in another three weeks to find out that visitors had been encouraged to take the forms with them (leaving no way for them to return the forms to me), and the ones that visitors had left at the lodge had been thrown away by the cleaning staff.

The respondents represent a broad cross-section of visitors to Murchison Falls Conservation Area. There are three high-end lodges in the park (Nile Safari Camp, Sambiya River Lodge, and Paraa Lodge) and one establishment offering budget accommodation (Red Chili). Fifty-seven percent (n=31) of respondents were from the three high-end lodges, and forty-three percent (n=23) were from the Red Chili. There were respondents from sixteen different countries, and the responses were spread out over a six-week period, from 9 March 2005 to 27 April 2005. About one-quarter were long-term residents in Uganda, and the other three-quarters were visitors here for less than six months.

After collecting the completed questionnaires from the four lodges, I entered the data from each respondent into an Excel spreadsheet. Each response included the demographic data including nationality, residency status, lodge stayed at, etc. as well as areas for each of

the sections on the questionnaire. For some questions, I recoded the answer to numerical values, for example, a 'yes' answer received a 1 score, while a 'no' received a 0.

For question 12, which is a Likert Scale (strongly agree to strongly disagree) I converted responses to a numerical value. One question was phrased in reverse logic from the others, so in the analysis of that, I used the reverse scores to interpret the data.

Once the data were coded, I conducted univariate and bi-variate analysis to report trends and outcomes. In particular, I tried to analyze how the responses to the Likert Scale related to each other and to the demographics. Although the N for many of the questions was unfortunately low, I do feel that the results generally concur with the literature review of more general trends in conservation, as well as with the guide interviews, staff interviews and visits I made in the park.

Interviews

I conducted the semi-structured guide interviews in a combination of group and individual interviews. I interviewed ten out of the thirteen UWA park guides and five out of the six guides at the Kaniyo-Pabidi Ecotourism Site in Budongo Forest. I also had informal individual follow-up conversations with three of the guides, and over the course of the last year have had the opportunity to observe four guides on game drives. My goal had been to interview all of the guides, but not all were available when I was conducting the interviews. See Appendix C for the interview protocols. After the interviews I transcribed the responses into a Word document and grouped responses to each question for easy access during the interpretation stage.

In addition to the guide interviews, I interviewed the Community Conservation Coordinator at Uganda Wildlife Authority headquarters as well as the Senior and Assistant

Community Conservation Wardens at Murchison Falls Conservation Area. I have woven this data into my overall analysis in a variety of places.

I also visited ten villages in Masindi and Nebbi Districts where revenue-sharing projects have taken place and spoke with community members and local leaders about their perspectives on the park and on the revenue-sharing program. I made an effort to visit a variety of villages, eight of which are primarily agricultural and two of which are pastoral and fishing villages. I also talked to leaders of communities that had chosen infrastructure projects for their revenue-sharing funds such as schools or clinics, and to leaders in communities that had chosen livestock rearing projects. In total I met with approximately sixty people from the boundary communities.

Chapter 4 – Results

This chapter conveys the results from the visitor questionnaires, visits to local communities and interviews with guides. My goal for the visits to local villages and the guide interviews was primarily to gather general background information. These data were analyzed using qualitative analysis methods of coding and categorizing. Statistical analysis is restricted to the results from the visitor survey.

Section 1 - Results from visitor surveys

***Guide knowledge and overall customer satisfaction*:**

Visitors were asked to rank their guide's knowledge about mammals, birds, local communities and conservation on a scale of one to five with the option of indicating "no opinion", and then to give their guide an overall rating on a scale of one to ten with one being "poor" and ten being "excellent." The table below shows the results from respondents' ratings of their guides with "no opinion" responses left out of the equation:

Table 1: Average Rating of Guides' Knowledge

	Mammals	Birds	Local Communities	Conservation	Overall
Mean	4.30	3.90	3.96	3.97	7.53
Median	4	4	4	4.5	7
Mode	5	4	5	5	7
Standard Deviation	0.84	0.93	1.13	1.278	1.82
Range	1 - 5	1 - 5	1 - 5	1 - 5	2 - 10

Although there were very few people who were clearly dissatisfied with the performance of their guide (only five ranked their overall satisfaction with their guide as a "5" or below), the

numbers do still indicate only a "slightly above average" overall performance level. The modal ranking for overall performance was 7, and the median was 7.5. It must also be noted that 34% of people who had guides did give their guide an overall rating of "9" or "10," so many people are quite pleased with the guiding services they are receiving.

Visitors seem to be particularly satisfied with the guides' knowledge about park mammals and birds. All 47 respondents who had a guide answered the question about their guide's level of knowledge about mammals, and the mean ranking was 4.30 on a scale of one to five, with very little deviation. Knowledge of birds was ranked slightly below that, with a mean of 3.90. It is important to note, however, that many visitors may not know if the information they are receiving is accurate or not. I have personally experienced, in a variety of protected areas in Uganda, guides identifying birds incorrectly. The guides themselves, in my interviews with them, almost unanimously said they wanted more training in bird identification. I have never, to my knowledge, been told information about mammals that was incorrect, although my more detailed questions about behavior have often gone unanswered.

The results from the question regarding the guides' knowledge about local communities indicate a real need for more training. Forty-three percent (n=20) of respondents had no opinion about their guide's knowledge of local communities. As these were all people who expressed an opinion about their guide's knowledge of mammals and birds, it seems reasonable to interpret "no opinion" in these cases to mean they did not receive any information on which to base an opinion. If the "no opinion" responses are left out of the equation, the mean ranking in this category is a strong 3.96. However, if "no opinion" is given a score of zero, using the interpretation that the information was not given,

then the mean drops to 2.24. The table below juxtaposes the results with "no opinion" left out, as in the above table, against the results if "no opinion" is assigned a value of zero:

Table 2: Comparison of Average Rating of Guides' Knowledge with N.O. = 0

	Mam.	Mam. n.o.= 0	Birds	Birds n.o.=0	Comm.	Comm. n.o. = 0	Cons.	Cons. n.o.= 0	Overall	Overall n.o. = 0
Mean	4.30	4.02	3.90	3.48	3.96	2.24	3.97	2.59	7.53	7.53
Median	4	4	4	4	4	3	4.5	3	7	7
Mode	5	5	4	4	5	0	5	0	7	7
Standard Deviation	0.84	1.33	0.93	1.50	1.13	2.14	1.278	2.15	1.82	1.82
Range	1 - 5	0 - 5	1 - 5	0 - 5	1 - 5	0 - 5	1 - 5	0 - 5	2 - 10	2 - 10

A similar situation exists with the question asking respondents to rank their guide's knowledge about conservation issues. However, the numbers point to a possible issue with the question's validity. On this question, 16 people out of 47 answered "no opinion," 30 gave a rank, and one left it blank. Given that only 14 people responded "yes" to the later question "During your stay in Murchison Falls NP, have you been given any information about the conservation issues in and around the park," it is surprising that more than twice the number of people who received any conservation information *at all* felt like they had something on which to base an evaluation of their guide's conservation knowledge.

I can see a number of possible ways to explain this disparity. People have a tendency, when filling out this type of an evaluation, to give one score across the board without carefully considering each question independently. If they liked their guide, they may just circle "5"s across the row. If they were displeased, they may circle all ones. Thirty percent of the respondents who gave a ranking for conservation knowledge did rate their guide the same in all four categories. It is impossible at this point to know their intention when answering the questions, but this is one possible explanation. Another possibility is that the

term “conservation” was not understood, or was interpreted differently when answering the two different questions. With more time it would be useful to do follow-up interviews with some of the respondents to clarify this issue.

***Visitor feedback on guides*:**

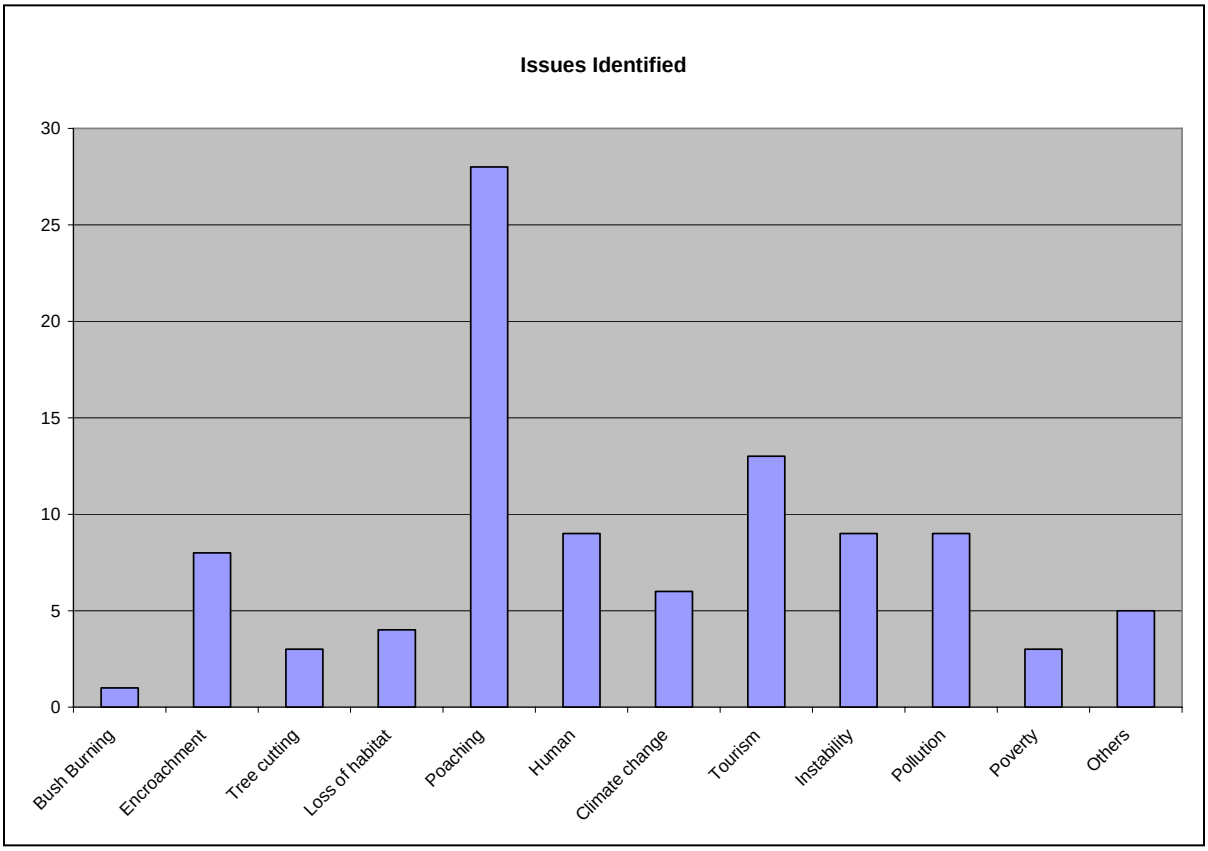
Respondents were given the opportunity, through open-ended questions, to state what their guide did well, how they could improve, and share any other comments they had about their guided experience. Of the 40 people who responded to the question “What did your guide do well,” fifty-five percent (n=22) mentioned either spotting or explaining about the animals, again indicating that this is a strength area for the guides in general. At the same time, of the people who responded to “How could your guide improve,” thirty-eight percent (n=10) stated that they wished their guide had been more proactive about offering information rather than waiting to be asked. This was another open-ended question, so this percentage is substantial in that the responses were spontaneous. This tells me that while the guides possess much of the necessary knowledge about the wildlife to do their jobs well, there is a need for training in general guiding skills to increase visitor satisfaction.

Another frequent request from respondents was for more of an orientation at the beginning of a game drive or nature walk, including rules, safety guidelines and assessing the needs and desires of the clients. The concern around safety guidelines may have been influenced by the fact that a tourist was gored by an elephant in the park while these surveys were in the field. Regardless, safety guidelines are a vitally important piece of information that should be shared with every group before embarking on a game drive or launch trip.

***Visitors' awareness of conservation issues*:**

When asked to rank their own level of knowledge of conservation issues in East Africa, 67% of the fifty-two people who answered gave themselves a rating of "3" on a scale of one to five. The mean is 3.04, with a standard deviation of 0.85. As a follow-up question, respondents were asked to list what they think are the main threats to East African wildlife. This was an open-ended question, so responses were not guided by the questionnaire. The table below includes the issues mentioned with the number of respondents who identified that issue:

Chart 1: Main Threats to East African Wildlife as Identified by Respondents



It is clear that the issue people are most aware of is poaching. Fifty-two percent (n=28) listed that as a main threat. This is consistent with my view of the media portrayal of wildlife conservation in Africa. Efforts to increase donations have often relied on graphic images of

elephants and other charismatic animals being brutally slain. It is true that poaching is one of the main threats, and at Murchison Falls Conservation Area is still *the* main threat identified by the park. Only three respondents identified poverty or lack of benefits to locals as a threat. Bush burning was only identified by one respondent, although this is a major issue throughout Uganda. "Loss of habitat" and "encroachment" combined were mentioned by 22% (n=12) indicating that there is some awareness of these issues.

There is very little conservation education currently happening within the park. Seventy-four percent of visitors surveyed (n = 40) stated that they received *no* conservation information while in the park, and only thirteen percent (n = 7) received any information without specifically asking for it. This is consistent with my own observations during my visits to Murchison.

***Visitors' attitudes about park/people relationships*:**

Respondents were asked to rate their level of agreement with certain statements through the use of a Likert scale. The options were "strongly agree," (scored 5) "somewhat agree," (scored 4) "not sure," (scored 3) "somewhat disagree," (scored 2) and "strongly disagree" (scored 1). My theory, from the literature review and my own observations, has been that most people still adhere to the belief that the way to protect wildlife in East Africa is to create game parks and keep humans out through whatever means are necessary. I wanted to test that theory, as well as attempt to determine who people felt should be responsible for conservation here – local communities or the global community. The table below includes each statement and the descriptive statistics for each:

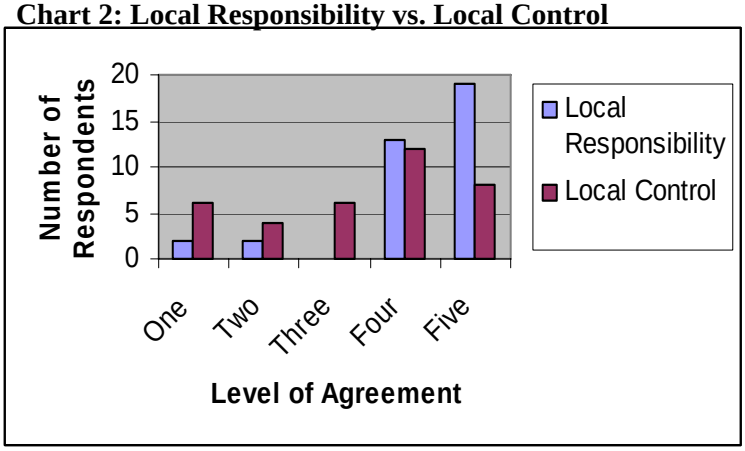
Table 3: Visitors' Attitudes Towards Park-People Relationship

Statement	Mean	Median	Mode	Standard Deviation	Range
Simply by visiting Murchison Falls NP I'm contributing to conservation efforts.	4	4	4	0.78	2 - 5
The international community should do more to help with conservation in East Africa.	3.86	4	4	1.03	1 - 5
Conservation in East Africa is the responsibility of local people and local governments.	4.25	5	5	1.09	1 - 5
If I knew more about the issues and what I can do to help, I would do more.	3.83	4	4	0.73	3 - 5
The main purpose of the park is to protect wildlife.	4.31	4	5	0.75	2 - 5
Local people should not be allowed to enter the park to collect resources.	2.86	3	3	1.08	1 - 5
Park lands should be controlled by local people.	3.33	4	4	1.37	1 - 5
Protected areas benefit the environment outside their boundaries as well as inside.	4.44	5	5	0.72	3 - 5
I don't want to hear about environmental issues. (*reverse scored)*	4.58	5	5	0.89	1 - 5

5=Strongly Agree 4=Somewhat Agree 3=Not Sure 2=Somewhat Disagree 1=Strongly Disagree

Perhaps one of the most interesting results comes from comparing responses to the statements "Conservation in East Africa is the responsibility of local people and local governments" and "Park lands should be controlled by local people." Overall, the mean response for the first statement was 4.25, and for the second statement 3.33. An average of 4.25 indicates fairly strong agreement, and 3.33 indicates that people in general really

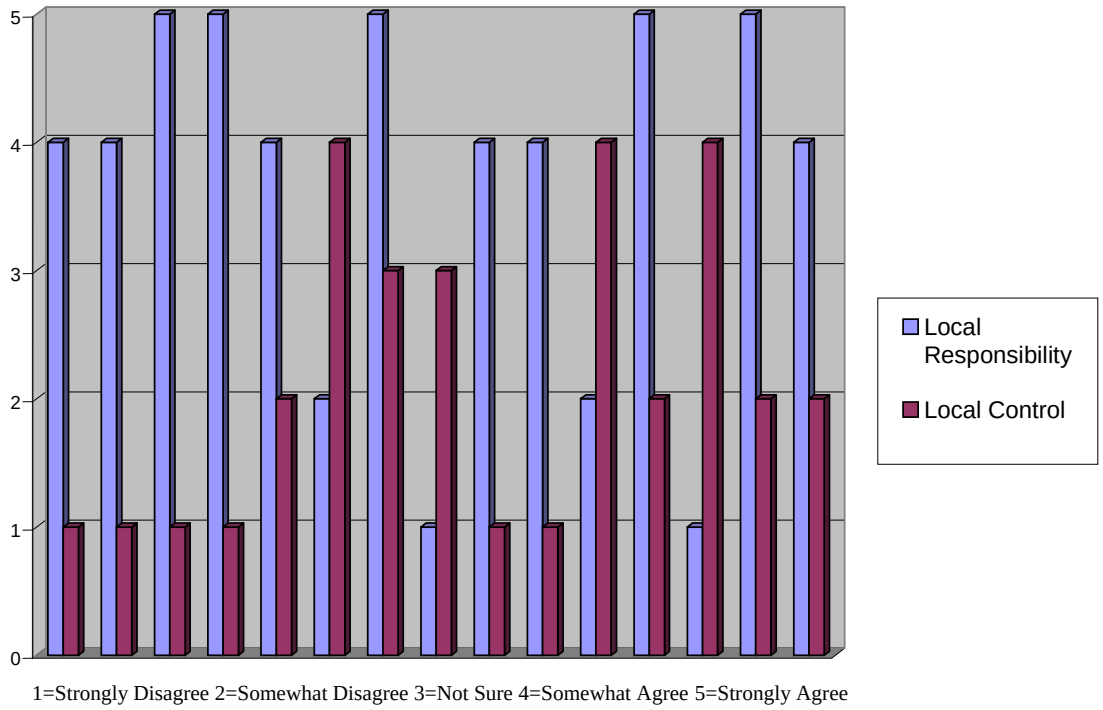
Chart 2: Local Responsibility vs. Local Control



aren't sure about whether the land should be controlled by local people. However, looking at the mean alone is somewhat misleading as there are some extremes in the first set that skew the results, and for the second question, there were actually only six people who were "not sure", and it was frequency at the end of the range that caused the average to be what it is. Note that the standard deviations for these questions are the greatest among all the answers.

To look at this in another way, in Chart 3 I have included only the respondents who showed a variation of at least two categories between their answers to the two questions. Forty-two percent of the respondents fit into this group, showing that many people actually have stronger opinions about these than the average indicates.

Chart 3 **Local Responsibility/Local Control with Difference > 2**

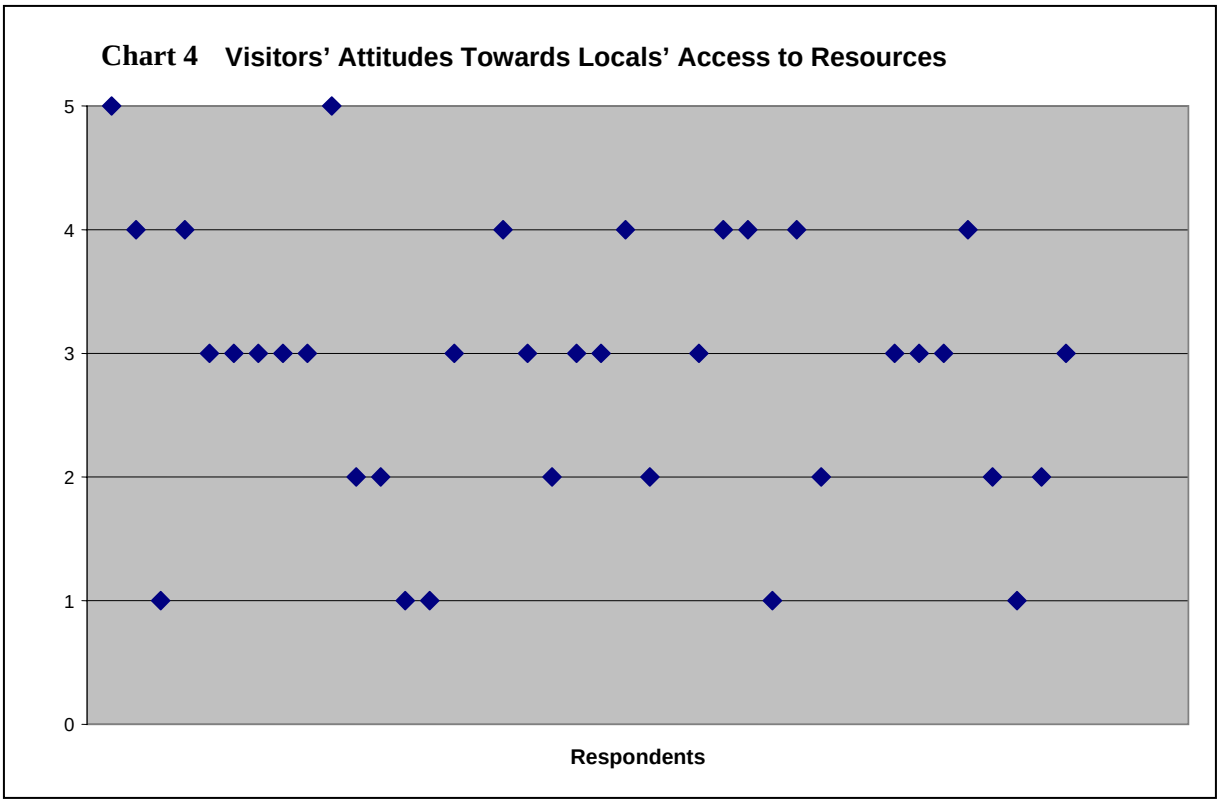


It is interesting to note on this chart that most of the responses indicate that people believe the responsibility lies with the local communities, but that they should not be given actual control of the land. Not a single person who responded to this question selected "not

sure" (score 3) about whether conservation was the responsibility of locals, and only four people either somewhat disagreed (score 2) or strongly disagreed (score 1) with the statement that it was their responsibility. It would be interesting to do further study to find out if people feel locals do not have the skills or motivation to properly manage the lands, or if there is some other reason for these results.

I recognize that there may be a lack of clarity in the interpretation of the question, as people may see "local people" and "local governments" as having different levels of responsibility, and may also have different interpretations of what constitutes "local" as it relates to government.

The statement with the most variation in responses is "Local people should not be allowed to enter the park to collect resources." The mean is 2.86 with a standard deviation of 1.08. The following scatter plot shows the relatively equal distribution of responses:



This is a very complex issue, so it is not surprising that there is a wide range of responses.

The last section of the questionnaire asked respondents to indicate which of a list of topics they would be interested in learning more about. In order of popularity, the top five were People and Culture (71%), History of the Area (69%), Medicinal and Food Uses of Local Plants (65%), Ways to Protect MFCA (60%), and Animal Tracking (54%). The other topics were Geology (50%), Birds (46%), Plant and Tree Identification (44%), Traditional Crafts (35%), Butterflies (23%) and Astronomy (21%).

Section 2 - Results from visits to boundary communities

In order to round out my perspective on the relationship between the park and the boundary communities, I wanted to talk with people who live in the vicinity of the park. With the kind assistance of the Assistant Community Conservation Warden and two of the community conservation rangers, I had the opportunity on three occasions to visit members and leaders of several of the communities around the park. I spoke with approximately sixty people in informal interviews and gatherings in Masindi and Nebbi Districts. Generally meetings were arranged with the leaders and then, as happens in village Africa, a crowd invariably gathered and contributed their own perspectives to the conversation. My main goals were to see some of the projects funded by revenue-sharing, find out how the revenue-sharing program and other community conservation efforts had influenced their perspectives on the park, and get a sense of what they think would happen if the Uganda Wildlife Authority was no longer managing Uganda's protected areas. As I said, these meetings were simply to round out my perspective and should not be interpreted as a representative sampling of attitudes of all locals living around Murchison Falls Conservation Area.

I was left with the strong impression that at the very least, community conservation efforts around MFCA have been successful in their goals of improving the attitudes of locals towards the park and park staff. There was deep appreciation for the funds that have been made available for the construction of schools, health centers and other projects, and a realization that those facilities would not have been available to them without the support of the revenue-sharing funds. Although in some areas schools and health clinics are seen as the responsibility of the government to provide, the locals in these remote areas are aware that they are far from Kampala and are, thus, low on the government's priority list. Bayo James, a local chairperson and administrator of Kitanyi Health Center in Masindi District, said his community has more faith in the park than the government because the park has built both a school and staff housing for their health center.

All people I spoke with, both park staff and locals, reported a drastic reduction in the amount of poaching happening inside the park, although it still does occur. This is based purely on anecdotal reports, as the records of arrests do not tell an accurate story for a number of reasons. For one, fish poaching used to be one of the main illegal activities in the park, but recently the boundary of the park was moved to the shore rather than the middle of the lake. The change was the result of complaints on the part of the locals, as they felt it was unfair to be punished for crossing such an unclear, unmarked boundary. This caused a significant reduction in poaching arrests simply because people who were once poachers are now just fishermen. One result is a feeling on the part of the villagers that their concerns were heard and the park adjusted its policies in their favor.

Also, the records kept are very inconsistent. It is possible that poaching has shifted to smaller animals that are more difficult to detect. Whatever the case, the people in the

boundary communities appear reluctant to jeopardize continued revenue-sharing funds. Based on my conversations with boundary communities, the current challenge seems to be keeping poachers from non-boundary parishes from passing through boundary parishes to access the park.

Poaching has been decreased through the improved relationship with park staff, continued poaching patrols, and the identification of revenue-sharing as a "reward" for not poaching rather than through any recognition of protected areas as a value in themselves. When I asked what would happen if the park was no longer protected by the UWA staff, I was invariably answered with a guilty grin and some variation on the statement "there wouldn't be a single animal left." This indicates that at least at this point, the locals either feel they do not have the skills or the incentive to protect the wildlife on their own. This argues for a slow devolution of control into local hands if such devolution is to happen at all.

I was given a similar assessment about the fish in Lake Albert. I asked a local chairperson in a fishing village on the lake if people in his community had noticed any difference in the number of fish they were catching when they went out each day. He responded that the numbers were dropping, and that they were trying to keep new fishermen from moving into their area. When I asked if they would consider putting in some voluntary restrictions in order to help the numbers of fish in the lake to increase, he responded that rather than trying to manage the fish stocks, they will just "keep trying harder to catch more fish."

One great shortcoming seemed to be in a lack of awareness of the ecological benefits of protected ecosystems. Although many could identify maintaining rainfall as a benefit of keeping forests, none could identify any other ecological services provided by healthy

ecosystems, such as water and air filtration, maintaining animal stocks, erosion control, gene-pool maintenance, cultural survival, or any of the other infinite benefits. All of the positive feelings towards the park seem at this time to be entirely derived from the revenue-sharing funds. This places the park in a very precarious position. Unless people begin to appreciate the value of these lands beyond the immediate financial benefit, there will be no incentive to continue to protect these areas if, for some reason, the revenue-sharing funds were to disappear.

Most local leaders stated that it has been over a year since park staff provided educational programming to their parishes. The Community Conservation rangers are often in a difficult position, with large areas to cover and often no transportation to visit communities. However, there also seems to be no strong sense of accountability or expectation of how often they are to visit each parish, or what types of educational programming they are to provide. The local leaders seemed to appreciate the education that had happened in the past (most mentioned 2003 as a period when they received environmental education visits from Community Conservation rangers), as it helps them in their efforts to gain community support for the park.

Another striking revelation came when I asked three members of Community-Protected Area Institutions (CPIs), from three different communities if they had, themselves, been inside the park. Not one of them had. These are the people who are supposed to be helping the people in their parishes to understand the value of the park and who are to work with the park on developing policies that will benefit members of the boundary communities. How can they advocate for something they have never even seen? There are occasional inter-district meetings for CPIs. It seems logical that these meetings should take place in the

park. There may be an additional transportation cost to bring people into the headquarters, but it will pay off quickly in community support.

Staff changeover is also difficult for the communities. It takes time for a Community Conservation ranger (CCR) to build trust and to understand the issues of the communities with which he or she is working. At the present time, the CCRs are transferred to a new area about every two years. When I asked why, I was told that if a person is in one community for too long, it is easier for them to become "corrupt" and to "make arrangements" with the locals. Unfortunately, not only does this mean that the communities need to get used to a new person every two years, but also that projects that are underway may not be continued. One local chairperson expressed frustration at the fact that coffee grows wild in the park, and nobody collects the berries or the seedlings that sprout below the bushes and saw it as a waste of a valuable resource. When asked if he had approached the park about this, he said the process had been started, but then the park staff had changed over. In speaking with the headmaster at Alimugonza Primary School, he also said the school had been planning a visit to the park, but the person they were working with was transferred.

Through my interviews with locals and park staff, it appears to me that Community Conservation around Murchison Falls Conservation Area is successful on some fronts and not on others. It has done much to improve the relationship between the locals and the park staff, which is a critical first step in being able to implement further cooperative projects. Without the trust that is beginning to be built, people in the boundary communities would continue to be suspicious of park efforts, and without their full support and participation community conservation efforts cannot, by definition, succeed.

Community Conservation has also resulted in a significant reduction in poaching and other forms of encroachment such as illegal harvesting of timber and forest-clearing for agriculture. Revenue-sharing has increased access to education and health care for an underserved population and even though the available funds so far have been quite limited, people seem to be willing to give the park the benefit of the doubt and believe that there will be more in the future. That said, there is a need for more transparency in the process, as the locals do not know how many visitors there are to the park each year, and so don't know how much money should be available. Making these figures available to the Community-Protected Area Institutions would prevent any rumors that the park was not giving the parishes their fair share of revenues. It would also be useful to share the overall budget with them so that they could see that the park operates at a loss and requires donor support to function.

I see two main shortcomings of current CC efforts around MFCA, besides the limited funds that can't be increased without an increase in tourist visits, support from NGOs or some other source of revenue. The first shortcoming is a lack of education. Locals are not being educated about the value of the protected area beyond the direct benefit of revenue-sharing. This results in a tenuous state of conservation, such that if the funds were to stop flowing, locals would have no incentive to conserve, and the park would need to revert back to intensified patrols which would tax the financial and human resources of the park beyond a level that can be sustained. There is also no capacity-building in terms of teaching villagers how to tap into the tourist market through providing crafts, produce or services.

The second main shortcoming is that most of the current CC efforts do not seem to be addressing poverty alleviation at the household level. The schools and health centers being

built are wonderful services at the community level, but do not improve livelihood except to the extent that health and more education tends to correlate with a reduction in poverty in the long-run. There are some goat-rearing and piggery projects being done in Gulu and Nebbi districts which do address this issue.

Section 3 – Results from guide interviews

The interviews with guides took the form of group and individual semi-structured interviews. My intention was to get some background information on the guides, determine what training the guides had received as a part of their job, what their awareness level is concerning conservation issues, in what areas they would like more training, and what form of training is most effective for them.

Every one of the guides, both the Uganda Wildlife Authority (UWA) guides and the Budongo Ecotourism Project guides, came from the surrounding communities. They indicated that as a part of the community conservation efforts, hiring priority was given to locals. Only one guide indicated that he had a previous interest in tourism as a result of some time in a travel and tourism diploma program. The rest all said "it was a job, and jobs are hard to find in Uganda." The length of tenure of the guides I interviewed ranged from nearly four years to twelve years. None had worked in any other parks.

The training is much more formalized for the UWA guides than for the Budongo guides. For the Budongo guides, the training is mostly on-the-job, hands-on training received by shadowing experienced guides. All UWA rangers and guides go through a four-month training program, three months of which is paramilitary training. The final month includes everything else needed to do their jobs, such as information about the wildlife,

"customer care," how community conservation and revenue-sharing work, how to deal with problem clients, etc. With so much to cover in such a short time, one guide stated that there was "little time to learn nature interpretation." There was a tour-guiding training offered by two Peace Corps volunteers about eight years ago which was spoken of highly by the guides who attended.

When asked what additional training they desired, most of the guides indicated that more and more tourists are interested in birds, and so they would like more training in bird identification. Most of the guides do not even have field guides to the birds of the park, so it is difficult for them to learn. There was also interest in general ecology, such as why different animals are found in different parts of the park, and the guides who work in the forest requested more training about the ecology of the savannah. There was general consensus that it would be ideal to have ongoing training that happened every six-months to a year. This need for reinforcement is widely accepted within the field of education. When asked what teaching methods are most effective for them, the majority said a combination of lecture and hands-on training, with books to refer to later. One also pointed out that getting field guides and binoculars donated would help in their learning.

When asked if there are rules that visitors regularly ask them to break, most said that although they are not usually asked to break rules, many of the visitors break them on their own, especially those who do game drives without a guide. The UWA guides, who mostly take visitors into the savannah areas, identified littering, "hooting" (honking) in the park and driving off track as the most common offenses. The Budongo guides, who primarily take people chimp tracking in the forest, said that visitors often want to spend more than the 1-

hour limit of time with the chimps, and they are often angry when they are required to leave on time.

In response to the question "Are there things that people (visitors or local) do to the park that harm the park," there were a number of responses: Poaching, illegal fires/burning (either for charcoal or to herd animals), littering, driving off-track, and fishing on the Nile within the park boundaries (their nets sometimes catch young crocodiles and hippos). The counterpart to that question, "Are there things that people (visitors or locals) can do to help the park," brought the following responses: Locals can report poachers and follow the limited-use guidelines for collecting resources at a sustainable level. Visitors can follow park rules, leave any books they have about the park with their guide, report any injured animals they see, buy locally made crafts, and when they return home they can donate to conservation causes and encourage others to come to Uganda.

Several interesting general thoughts came out in conversation after the interviews, many of which apply to the attitude of locals towards the park and how to gain more support from them:

- Locals should be hired for any infrastructure needs within the park, such as building roads and houses.
- Cultural tourism should be developed. There are many different cultures around the park and there are opportunities both to educate visitors and to help locals appreciate the park if they feel their cultures are being valued.
- Locals feel like the park is here for *muzungus.* Effort needs to be put into helping locals feel like the park is theirs, too.
- One of the Budongo guides said that even though he was raised near the forest, he had never been into it until the Budongo Ecoforestry Project made it possible for him to attend with his school. He was so impressed that now he works there and wants the forest and the rest of the park to be there for his children to see. He also stated that if the children don't gain an appreciation for nature while they are still young, once they are in charge they won't care about it.

It was clear to me during these interviews that the guides are very committed to the preservation of protected areas, and that they are willing to work hard under difficult, resource-poor conditions to educate visitors to the best of their abilities. They are also very much open to any new opportunities to learn ways to be more effective in their work.

Chapter 5 – Conclusion

There is a clear need for more conservation education targeted at visitors to Murchison Falls Conservation Area. Seventy-four percent of visitors surveyed stated that they received *no* conservation information while in the park, and only thirteen percent received any information without asking. National parks and other protected areas around the world have both an opportunity and a responsibility to educate their visitors about what it will take to preserve these areas for future generations. Merely being in the presence of a lion or an elephant can have a huge impact on a person's commitment to saving these amazing animals, and by preserving habitat for the larger animals much of the biodiversity that sustains them will also be preserved. Parks should capitalize on this inspiration and take the opportunity to teach.

The research I have done through the literature review, questionnaires, interviews, and my own observations has reinforced my belief that the conservation education manual I will be creating for the guides is both needed and wanted, and has guided my thinking around what should be included and how it should be structured. Focusing on training the UWA guides in conservation education is an effective avenue for getting this information to visitors, as 87% of respondents had a UWA guide for some part of their visit.

I also found that the manual must not only include conservation messages and how to present them, but general guiding tips to improve visitor satisfaction as well. The average overall rating for guide performance was only 7.5 on the ten-point scale. The goal of the park must be to raise this, especially considering the fact that people tend to score their subjects high on this type of an evaluation. In fact, one respondent who said in their comments that their guide was “not very friendly or relaxed” still gave him a rating of “8” overall.

In retrospect, it would have been useful to have had the visitors include the guide’s name so that it would be possible to evaluate whether there are a few exceptional guides or if this is an indication of overall performance of the guiding team. Regardless, if there are some individual guides skewing the numbers either high or low, it is important to increase the consistency of delivery and improve performance overall. To the visitor who has a negative experience with their guide, it doesn’t matter that another group had a great experience with another guide, and those people will be less likely to recommend Murchison Falls to others. I recommend that the park undergo a more focused individual performance assessment with the guides to determine individual training needs and set high expectations for overall visitor satisfaction.

The guides should also be assessing the current level of knowledge and the interests of their clients in order to help them know what information to share. In order to do this, they need to let the clients know what the options are. I believe that the guides possess a lot of knowledge about the cultures of the area, since all of them come from the boundary communities. However, they do not seem to readily volunteer this information. This may be because they think the clients are only interested in the animals. As the visitors may not see any aspects of local culture on a game drive, apart from the occasional fishermen on the lake, it may not occur to them to ask questions about the people living in the area. This fits with the frequent request for guides to share more information without being asked.

There was strong indication that respondents believe the international community should take on more of the responsibility for conservation here, and many people seem interested in finding out more of what they can do, as individuals, to help. Only five percent of survey respondents indicated that they did *not* want to hear about conservation issues. This means that the guides should not be afraid to talk about these issues. As Joseph Matovu (2004) stated in his talk on behavior change communication, it is important to "cater to the heart and the head." Sharing information about the local people and the challenges they face will engage the heart and open the way to engaging the head through talking about the environment and what can be done to protect it.

Part of my job must be to create some clear messages about the conservation issues that can be conveyed by the guides. Given the short amount of time that the guides are with the clients, it will be important to think about one or two messages that can be reinforced in several ways throughout a game drive rather than talking about too many issues and having none of them stick. These messages and others could also be included in literature and on

information boards around the park. Every client should leave with some conservation message in his/her head.

The results of my research will also influence the construction of the book. My original plan for the section on flora was to focus on large vegetation communities that are found throughout the park. Seeing such a strong interest in food and medicinal uses of plants has caused me to look at that section differently. I now plan to enlist the help of a local woman to help me choose ten or twenty individual plants that are important to locals, and explain how they are used. This will also be information the guides can share with their clients. I also intend to expand the sections on local communities and history after seeing the high level of interest in these topics.

As stated above, there was strong agreement with the statement "The international community should do more to help with conservation in East Africa," with nearly all respondents "somewhat agreeing" or "strongly agreeing." If people really feel this way, and are not just saying that because it's easy to say and feels like the "right" answer, it shows that people should be receptive to suggestions on how they, as members of that international community, can get engaged in the issues. It may be that when people think of the international community, they are thinking of governments and NGOs rather than individuals. It will be important to make it clear that *they*, as individuals in the international community, can take action and get involved.

The fact that so few people mentioned any conservation issues other than poaching also indicates the importance of presenting a more rounded view of the issues. Only three respondents mentioned "poverty" or "lack of benefits to locals" as threats, while twenty-eight mentioned poaching. The guides and my book should make an attempt to broaden visitors'

understanding of this issue to include the human development aspect. There was also little mention of factors relating to habitat loss, so the book should include the importance of specific types and sizes of habitats for different animals.

Limitations and Recommendations for Further Research

There are limitations to what I have accomplished and what I will be able to accomplish with this project. Due to the short time-frame, I feel that I have just begun to develop the relationships with park staff that would enable me to gain more support and have more resources available to me. My understanding of the issues is also just reaching a level where I feel I can make an effective contribution. In addition, the lack of any financial support meant I was limited in the time I could actually spend in the park collecting data and visiting local villages. Some additional questions that could be explored with more time and resources:

1. Are visitors willing to contribute more money to conservation efforts here and, if so, how much? Would they feel more comfortable paying directly to the park, or to a partner conservation organization?
2. Would visitors be willing to pay a higher entrance fee if they knew that 20% (or more) was going to the local communities?
3. Would more people come to MFCA if there were opportunities for those without their own transportation?
4. Are visitors more aware of conservation issues after their visit to MFCA than before?
5. Does a positive experience with a guide make people more receptive to conservation messages?
6. What is the comparative difference in local attitude change when infrastructure projects are undertaken with revenue-sharing funds (like schools, health clinics, etc) as opposed to household income-generating projects such as livestock purchases?
7. A linear study comparing visitors' awareness of conservation issues before and after their visit to MFCA.
8. Would a visit to a local community as part of a safari package create more interest in conservation? Would people be willing to pay extra for such a visit?
9. A cross-national study asking tourists in Kenya and Tanzania why they chose those countries to visit rather than Uganda.

If I were to do this project again, I would also put effort into increasing the return rate on the questionnaires. One way of doing this would be to call the lodges on a weekly basis to monitor the collection of questionnaires. Another solution would be to create a full-color display to leave at the registration counters of the lodges, as well as the entry gate-houses, explaining the research and the process for filling out and returning the surveys. There could also be collection boxes for the surveys in several locations. I would also try to arrange for a longer period of time to have the surveys in the field.

Recommendations to the Park

In addition to further research that could happen, there are many projects that would be vitally useful to the park if the funding was available. There is enormous potential here for a comprehensive guide training program that would improve the quality of guiding in the Murchison Falls Conservation Area. The guides who I spoke with all want more training, and would be very receptive if opportunities were presented to them. The lack of financial resources available to park management has so far been prohibitive, but it is a chicken-and-egg situation. If word spreads that the guides in Uganda provide an experience for visitors that is on par with the rest of East Africa, it will increase tourism to this country, which will result in more resources being available for park management and further training.

As a long-time guide and naturalist myself, the opportunity that guides have to educate their clients is something I feel strongly about. I believe that they, more than anyone else in the park, have the ability to influence the overall experience of their clients. It is this overall experience that will cause visitors to return home and encourage their friends and families to come to Uganda. It is an unfortunate reality that Uganda has a very negative

image to overcome. When many people in the west think of Uganda, they think of Idi Amin, the Luweero Triangle, and the tourist killings in Bwindi in 1999. The guides in Kenya and Tanzania do not have this stigma to overcome. Because of this, if Uganda is to compete as a tourist destination in East Africa, the guides *must* be providing the best experience possible.

More tourist revenue would mean more money available to the local communities through the revenue-sharing programs, which could result in them playing even more of a role in protecting the park, and may even provide incentive for locals to get training that would enable them to take on responsibility for some aspects of park management. Increased visitor numbers would also encourage local communities to provide more services, like opportunities to learn about the cultural history of the area, lodging, restaurants, and crafts. It is important to recognize, however, that increased tourism revenue should just be one aspect of an overall effort to relieve poverty. This project is primarily focused on the experience of tourists to MFCA, and so tourism-related solutions have been given extra attention in this paper.

I have a number of recommendations for the park in the areas of community conservation, guide evaluation/training, tourism development, and conservation education. These are just a few of the many potential ways to improve the overall experience of a visitor to MFCA. I tried to focus on projects that could be implemented with a modest investment of resources and in general, it would be advantageous to identify partner organizations to help with funding and implementation of many of these recommendations:

Community Conservation

- Increase environmental education efforts in boundary communities, either through a partnership with an environmental education organization, or through the use of current park staff. There should be a set minimum number of visits that each Community Conservation Ranger is expected to make to each parish within his or her

sphere, and there should be an evaluation each year to make sure these visits have happened. At the very least, there should be ongoing education of local opinion leaders such as church heads, elected officials, elders, known poachers, teachers and school administrators.

- Bring as many members of the Community-Protected Area Institutions in to the park as possible. Hold inter-district meetings at the park headquarters. After visiting the park and doing a game drive and a river launch trip, they will be much stronger advocates for the park.

- Balance community-level projects such as building schools and health centers with household-level projects such as livestock or investment in improved agricultural technologies. There are many development organizations in Uganda who have experience in these types of projects, and could be good partners through which to channel the revenue-sharing funds.

- Help locals to create cooperatives that will provide services or crafts to tourists. There is one women's cooperative selling baskets and other crafts in a small shop by the Kachubanyobo gate, but there is no well-promoted retail outlet within the park, and very few retail or service outlets near the entrance gates. Establishing this would likely involve several steps: the park granting concession rights to one or more groups, working with the communities to determine what services would be marketable, doing some basic business skills training, and providing some seed capital through micro-loans. This is another area that could benefit from partnering with development organizations working in the Murchison Falls area.

- Begin to build the skills that will allow local communities to take on responsibility for certain aspects of park management. In the beginning this will require a lot of UWA oversight, but in the long run will reduce the workload on park staff and increase community buy-in.

Guide Evaluation/Training

- Do a guide-specific evaluation to measure the strengths and weaknesses of each individual guide. This could include both evaluation by clients and a self-evaluation by the guides themselves. It is possible that if one guide has a weakness, another will have strength in that area and can share their knowledge. This capacity-sharing will strengthen the connections between the guides, create a sense of empowerment by recognizing the knowledge that they do possess, and reduce the amount of money that must be spent on outside trainers. It will also help to identify the areas where the knowledge is not present in the current guide corps, requiring the assistance of an outside trainer. Such an evaluation will also provide more incentive for guides to improve their performance. Have forms available in the place where clients pay the fees for the guide, and encourage them to fill them out. The more feedback you get,

the easier it is to improve, and visitors will appreciate the fact that an effort to improve is being made.

- Provide ongoing training. There are several hours in the middle of the day when many of the guides are not engaged with clients. It would be possible to use one of these periods every week or every month to do knowledge sharing within the current staff, with each guide or other UWA staff member being responsible for a "lesson" on a particular day, or to bring in outside trainers from the university or elsewhere.

- Nearly every guide requested more training in bird identification. I recommend pursuing a donor who would provide bird field guides to each guide so that they could advance their knowledge in this area. A better option would be to engage the services of Rare Conservation (www.rareconservation.org), a non-profit group that trains bird guides around the world. It may also be possible to find a donor willing to provide binoculars to the guides if a way can be found to keep them from "going missing." This would greatly enhance their ability to do their job.

- A script should be developed for the launch trip that includes some of the history of the Nile and the search for the source. There are long stretches of time on the way to the falls when few or no animals are spotted. This is a perfect opportunity for the guide to share more information. The most frequent piece of feedback from visitors was that they wanted their guide to offer more information without being asked. The search for the source of the Nile is the perfect adventure story, and visitors will feel more like they got their money's worth if they learn something on the trip.

- Create a conservation education training manual that can be used in training new guides and will be available as a resource to experienced guides (I am currently working on this and it will be completed by August 2005).

Tourism Development

- There should be a small store near each of the ferry landings. People are often waiting for an hour or more at these places with nothing to do. Selling soft drinks, beer, snacks, local crafts and UWA merchandise could be an excellent source of revenue for the park and could also help bring more money into the local communities. The current retail outlets at the gates are ineffective because clients on organized safaris often do not enter the gatehouses (their drivers or safari leaders pay their entrance fees), the merchandise is not displayed in an appealing way, and people are anxious to get farther into the park to see the wildlife. Invest in good merchandise and display it well. Tourists like to buy things! Give them the opportunity to buy souvenirs and they will.

- It is a long drive from either of the southern gates to Paraa. This is another opportunity to educate visitors about the park. There could be an "audio-tour" on

cassette tape or CD available at the gate that could be rented for the drive and returned at the Paraa gate. The "audio-tour" could include the history of the park, geologic information about how the Albertine Rift was formed, local music, suggestions of activities to consider, and information about the different ecosystems they are driving through. There could even be different tours on different topics, giving people incentive to rent another one for the drive out of the park. This would require a small initial investment that would quickly repay itself, and some visitors may even want to purchase the CDs as souvenirs.

- Visitors want a variety of program offerings. In my research, the top seven topics people listed that they wanted more information about are People and Culture, History of the Area, Medicinal and Food Uses of Plants, Ways to Help Protect MFCA, Animal Tracking, Birds and Geology. These are all topic areas for which locals, with some training, could be hired to deliver programs. These programs could offer additional revenue to the park and to locals, while at the same time giving visitors a reason to come back to the park. They will also help keep traditional skills and knowledge alive, and help local communities feel valued by the park and by tourists.

- Have a UWA vehicle that does game drives on a schedule or is available for hire, similar to the launch. Every time I have been in the park, somebody has asked if they could pay me to take them on a game drive. If someone arrives in the park without transportation, there is little for them to do. This is another example of giving people the opportunity to spend money in the park, and drawing people who may not come otherwise because they do not have a vehicle. This is sometimes available through Paraa Lodge, but it is not advertised, nor is it something a visitor can count on having available. Developing and advertising a more consistent arrangement with a private operator is one option, but it could be a good source of revenue if UWA was able to provide it on its own.

- Focus on birds. Uganda may never again be able to compete with Kenya or Tanzania for mammal safaris, but the birding opportunities here are unbeatable. Train the guides well and advertise through Audubon, National Geographic and other magazines read by birders. Birding is the fastest growing outdoor activity in the U.S., and the participants are often quite wealthy. Invest money in advertising now, and Uganda could become seen as *the* African destination for birders.

- After every game drive, guides should be asking their clients "have you been chimp tracking" or "have you done the launch trip yet?" This is very inexpensive "advertising" that may encourage people to do an activity that had not occurred to them.

- Have a book available for sale that will inform visitors about the wildlife, history of the park, ecology and conservation (in progress – MJ).

Conservation Education

- Make sure every guest knows that 20% of their entrance fees go into the revenue-sharing program, and the impact this can have on the lives of the local people. This will make people feel good about the money they are spending, and it will also cause them to think about the people who live around the park. This, in turn, will make them want to attend a program on local culture and history, and may also make them think that it was so easy to help that time, what else can I do?

- In the rooms in all of the guest lodges, place a one-page, full-color information sheet on conservation issues confronting the park and things that people can do to help. If the information is in their room, it is likely that they will read it because they can do so at their leisure.

- Have attractive information boards at the ferry landings. As I said above, people are often waiting at the landing with nothing to do, so it is a good time to provide conservation information, combined with general park information and pictures.

- Make sure that the guides consider sharing information about conservation to be part of their job. They have more contact with the visitors than any other staff member in the park, so they are an excellent conduit for this information. It will be necessary to train them first, so that they are giving consistent information.

- Have information available to visitors about the threatened and endangered species that are found in MFCA, both flora and fauna, and how an intact ecosystem is important for their survival. This could be part of the "audio-tour" mentioned in the suggestions for tourism development.

- Find a reputable conservation NGO that will partner with the park to create a "sponsor a field trip" program. Give visitors the option of donating at different levels, to sponsor a whole school to come to the park, one class, or one student. Visitors will be very supportive of this if they can feel like their money will actually go to the project. This model could also be used for other specific projects like snare removal, community outreach, or the building of a cultural education center.

Conservation of global biodiversity needs to become a priority for the entire world. Much of that biodiversity is concentrated in developing world countries, and the citizens of those countries are disproportionately bearing the costs of conservation. This is certainly true in East Africa. Many people in the world dream of someday going on safari, and having that

experience can make people want to be sure their children and grandchildren get the chance to have that same experience. Relatively few people in the world ever get that opportunity, however, so it is important that the parks do everything they can to turn those visitors who do come, into advocates for the protection of these places.

Appendix A – Visitor Survey Version 1

Prescott College
FOR THE LIBERAL ARTS AND THE ENVIRONMENT

UGANDA WILDLIFE AUTHORITY
UWA

Dear Visitor,

Welcome to Murchison Falls National Park. We hope you are enjoying your stay in Uganda. In order to help us with our educational efforts, please take a moment to fill out this questionnaire. We are always trying to improve our services and determine where more training or resources might be needed. If you have visited other parks, you are welcome to fill out an additional questionnaire about that experience, indicate on the form what park it refers to, and submit it here.

If you have questions about this research or would like to give more detailed feedback, please feel free to contact Mark Jordahl at markj@islandwood.org, or 078-601070.

Thank you.

Date: _____

Accomodation: _____

Visitor Survey

1. What would you say is your level of awareness of conservation efforts in East Africa?
   Please circle one:

   Very Aware Somewhat Aware Not Aware

2. What do you think are the main conservation issues confronting East African wildlife? _____
   _____

3. Do you feel that the international community has a responsibility to help with conservation efforts in East Africa, or is it the responsibility of the local people and local governments?
   Please circle one

   Global Responsibility Local Responsibility Both

2. Did you have a guide during all or part of your visit? Yes No *(if "no", please skip this box)*

If *yes*:

Was he/she a commercial guide, or an employee of Uganda Wildlife Authority?

(circle one) Commercial UWA Both Don't know

If commercial, what tour company? _____

Please rank your guide's knowledge about: *(circle one for each category)*

	Poor				Excellent	
Mammals	1	2	3	4	5	No Opinion
Birds	1	2	3	4	5	No Opinion
Local community	1	2	3	4	5	No Opinion
Conservation	1	2	3	4	5	No Opinion

What did your guide do well? _____

_____

How could your guide improve? _____

_____

Overall, how was your guide? *(Circle one)*

1	2	3	4	5	6	7	8	9	10
Poor				Average					Excellent

3. During your stay in the Murchison Falls, have you been given any information about conservation issues in and around the park? *Please circle one* YES NO

   a. **If yes**, did you ask about it, or was it presented without you asking? _____

   _____

   b. What was good/bad about the way it was presented? _____

4. Are there ways that this information could be presented that would make it easier or harder to hear?

5. Would you be interested in hearing about actions you could take to protect places like Murchison Falls National Park? *Please circle one* YES NO

6. Would you purchase a field guide to the wildlife of Murchison Falls National Park if it was available? YES NO

Please check other topics you would be interested in learning more about:

□	Birds
□	Animal Tracking
□	Geology
□	History
□	People/Cultures
□	Plant and tree identification
□	Medicinal/food uses of local plants
□	Astronomy
□	Making traditional crafts
□	Other _____

Demographics:

Nationality: _____

Country of residence: _____

Length of visit in Uganda (if non-resident): _____

Main reason(s) for coming to Uganda: _____

How are you traveling?

Organized tour *Company:* _____

Independent traveler

Thank you for your assistance with this project. If you have any other feedback that you think would be useful to us, please feel free to use the back side of this page.

Appendix B – Visitor Survey Version 2

Prescott College
FOR THE LIBERAL ARTS AND THE ENVIRONMENT

UGANDA WILDLIFE AUTHORITY
UWA

Dear Visitor,

Welcome to Murchison Falls National Park. We hope you are enjoying your stay in Uganda. In order to help us with our educational efforts, please take a moment to fill out this questionnaire. We are always trying to improve our services and determine where more training or resources might be needed. If you have visited other parks, you are welcome to fill out an additional questionnaire about that experience, indicate on this form what park it refers to, and submit it here.

If you have questions about this research or would like to give more detailed feedback, please feel free to contact Mark Jordahl at markj@islandwood.org, or 078-601070.

Thank you.

Date: _____

Visitor Survey

1. Did you have a guide during all or part of your visit? *Please circle* Yes No
   (if "no", please skip to question number 8)

2. Was he/she a commercial guide, or an employee of Uganda Wildlife Authority?
   (Please circle) Commercial UWA Both Don't know
   If commercial, what tour company? _____

3. Please rank your guide's knowledge about: *(circle one for each category)*

	Poor				Excellent	
Mammals	1	2	3	4	5	No Opinion
Birds	1	2	3	4	5	No Opinion
Local Community	1	2	3	4	5	No Opinion
Conservation	1	2	3	4	5	No Opinion

4. What did your guide do well? _____

_____

5. How could your guide improve? _____

_____

6. Other comments about your guided experience: _____

_____

7. Overall, how was your guide? *(Circle one)*

1	2	3	4	5	6	7	8	9	10
Poor				Average					Excellent

8. During your stay in Murchison Falls NP, have you been given any information about conservation issues in and around the park? *Please circle one* YES NO

If yes,

a. Did you ask for the conservation information, or was it presented without you asking? *Please check one*:

____ I asked for the information.

____ The information was provided without me requesting it.

b. What was your reaction to the information?

____ It inspired me to learn more about conservation efforts in E. Africa.

____ It made me feel like I was being blamed.

____ It made me feel like there are things I can do to help.

____ Other _____

9. Rate your level of awareness of conservation issues in East Africa. (C*ircle one*)

Very Aware		Somewhat Aware		Not Aware
5	4	3	2	1

10. What do you think are the main threats to East African wildlife?

_____

_____

11. Rate your reaction to the following statements: (*place an "X" in the box)*

Statement	Strongly Agree	Somewhat Agree	Not Sure	Somewhat Disagree	Strongly Disagree
I am helping with conservation just by visiting Murchison Falls NP.					
Conservation in East Africa is the responsibility of the whole world.					
Conservation in East Africa is the responsibility of local people and local governments.					
If I knew more about the issues and what I can do to help, I would want to do more.					
The park is here to protect wildlife. Local people should not be allowed to enter the park to collect resources.					
Park lands should be returned to local people so they could hunt and grow food.					
Protected areas benefit the environment outside their boundaries as well as inside.					
I'm on vacation – I don't want to hear about environmental issues.					

12. Would you purchase a field guide to the wildlife of Murchison Falls National Park if it was available? YES NO

Please check other topics you would be interested in learning more about:

□	Birds
□	Butterflies
□	Animal Tracking
□	Geology
□	History of this area
□	People/Cultures of East Africa
□	Plant and tree identification

□	Medicinal/food uses of local plants
□	Astronomy
□	Traditional crafts
□	Ways to help protect Murchison Falls National Park
□	Other _____

Demographics:

Nationality: _____

Country of residence: _____

If Non-resident: Length of visit in Uganda : _____

Main reason(s) for coming to Uganda: _____

How are you traveling?

Organized tour *Company:* _____

Independent traveler

Thank you for your assistance with this project. If you have any other feedback, please write on the rest of this page.

Appendix C – Guide Interview Protocol

Name: _____

Date: _____

Guide Interview Questions

1. Where did you grow up?

2. What is your level of formal education?

3. How did you become a guide? How long ago?

4. How long have you worked in this park?

5. What other parks have you worked in?

6. What training did you receive for this position? Do you feel it was sufficient?

7. Are there areas in which you would like more training?

8. How do you learn best? (books, hands-on trainings, etc)

9. When researchers do work in the park, do you have the opportunity to learn from them?

10. Are there rules that visitors regularly ask you to break? How do you respond to them?

11. What questions do visitors ask that are hard for you to answer?

12. What do you think is the most interesting thing about this park?

13. Are there things that people (visitors or locals) do to the park that harm the park?

14. Are there things that people (visitors or locals) can do to help the park?

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