

JANUARY-MARCH 2014

# SWARA



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WILD LIFE SOCIETY

THE VOICE OF CONSERVATION IN EAST AFRICA

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CITES UNDER SPOTLIGHT

## TURKANA

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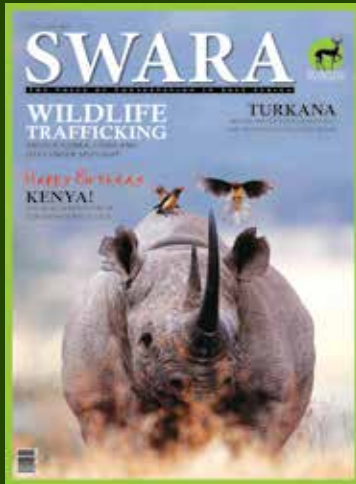
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COVER PHOTO BY: PAOLO TORCHIO

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SWARA is a quarterly magazine owned and published by the East African Wild Life Society, a non-profit making organisation formed in 1961.

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#### African Journal of Ecology

The African Journal of Ecology is Published by Wiley – Blackwell in association with East Africa Wildlife Society. Purchase a copy of this

Journal at Wiley Online Library:  
<http://wileyonlinelibrary.com/journal/aje>.



SWARA appreciates the continued support it receives from Fauna & Flora International



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SWARA is the Swahili word for antelope.

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To advocate and collaborate on the safeguarding and sustainable management of East Africa's natural resources

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The East African Wild Life Society and SWARA salute Kenya and its people on the 50th anniversary of independence. Much has been achieved in five decades, the glow of achievement illuminating the work still to be done.

It is appropriate that this issue of the magazine and the next will be featuring Storm Stanley interviews with some of the scions of conservation and asking the key question: What next for conservation in Kenya?

Both our Chairman and Executive Director broach the same question in their letters and we would welcome readers' input as well. Is the vision of Kenya as a top spot for wildlife conservation and viewing compatible with rapid urbanisation and industrial growth? What is meant by conservation? Who is it for? For the benefit of safari-suited tourists, their dollars and the tourism industry and its owners, or a national asset, like oil or diamonds, to be carefully nurtured for now and for the future? Is it a current or interest bearing deposit account? Where does it sit in current visions of Kenya as a hi-tech regional giant reaching out with super-highways to its immediate neighbours and beyond?

And is it a Kenyan asset, or a regional heritage that requires regional stewardship? This issue casts the conservation net far and wide for lessons learned from experiences

in Namibia, Angola and Guinea as well as articles closer to our Nairobi headquarters. I hope you enjoy this issue and also hope that you, the readers, will take part in the conservation discussion. Your voices are key for the next 50 years as well. ●

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THE LAST SAVANNA

*As ivory poachers are gunning down Africa's last elephants, ex-SAS officer Ian MacAdam leads a commando squad against them, only to find they have kidnapped a young archaeologist, Rebecca Hecht, whom he once loved and bitterly lost. He embarks on a desperate trek to save not only Rebecca but his own soul in an Africa torn apart by wars, overpopulation and the slaughter of its last wildlife.*

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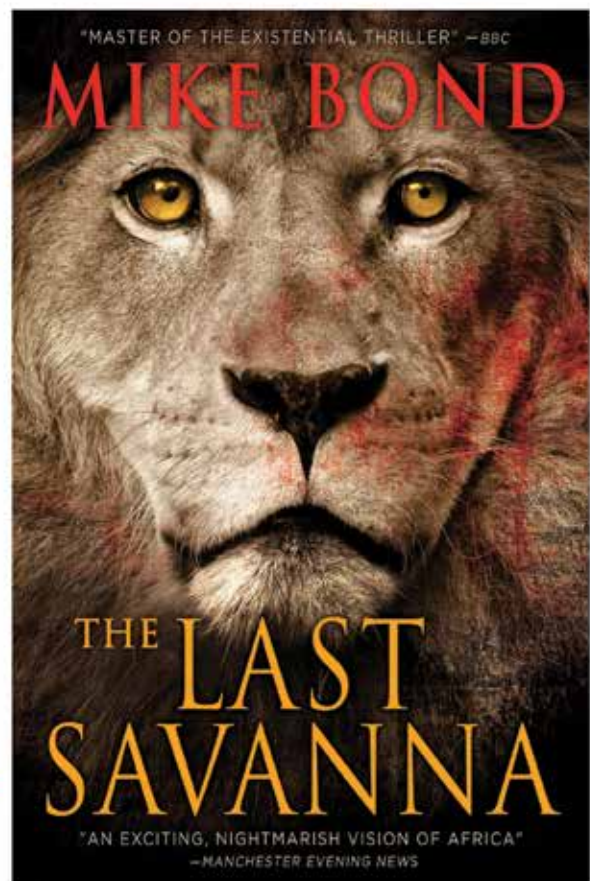
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ISBN 978-1-62704-008-2



**Dear Editor,**

I was thrilled to see the whale sharks on the cover of this issue since I and my husband have been fortunate enough to snorkel in their presence over the years, most recently in the Philippines last February. The villagers there determined that bringing in monies from tourists far exceeded their incomes from killing the sharks for food. That said, I am always so distraught to see photos and articles about the constant poaching of so many African animals. Perhaps it's time to be less polite and directly confront and accuse those of these horrendous killings:

Chinese, Taiwanese, Lao, Vietnamese, interestingly all Asian. It is these same countries, China always in the majority, who also kill sharks for their fins, purchase illegal rhino horns and use tiger parts. Everyone in the world knows who exactly benefits and exploits these animals so it's time to publicize this in harsher terms and make it economically unfeasible for them to continue.

We have been so lucky to have traveled in most of the world and have been well educated about CITES and what NOT to purchase ever.

I, on my own, have confronted store owners who exhibit gorgeous shells to enhance their products, telling them how these shells have living creatures inside and to obtain beautiful shells means killing those living inside.

On the other hand we have been captivated by the flensing of a whale in the Arctic of the Russian Far East, knowing that there is a quota of whales to be caught and that a single whale fed 2500 people. Every part of the animal was utilized according to their culture, and living above the Arctic circle, they could not grow or produce other foods. That is NOT the case with the above-mentioned countries. Shame on them and their pretended ignorance of these wonderful African and Asian animal treasures.

We have been members of EAWLS since our visit to Kenya in 1985 and are always eager to receive our SWARA magazine. It's an uphill battle to continue to educate and conserve, but there are many in the world who strongly support your efforts. Keep up the good work! ●

**Cordially,  
Barbara Berger**

**Dear Editor,**

In September 2013, I visited the Masai Mara and stayed at Acacia Camp near to the Ololaimutiek Gate. It is over 20 years since I

have been in that area, and we normally visit the Triangle or Musiara area.

I was horrified to see the blot on the landscape that surrounds that gate. The litter is indescribable and is a national disgrace. Whilst the only large lodge in the area is Mara Sopa, there are at least 10 other establishments catering to the lower end of the market (backpackers and overlanders). Assuming a very conservative figure of 10 doubles minimum in each of these establishments, there is the capacity for at least 200 visitors to the Reserve entering the gate on a daily basis. These visitors pay exactly the same entrance fee as any other tourist and yet they are treated as low class visitors.

When are the relevant authorities going to wake up to the fact that people do not want or need to travel several thousand kilometers to see litter and filth. That can be found in every major city in the world, although many would find it hard to equal the litter at Ololaimutiek.

On another point, that south eastern end of the Mara is being seriously overgrazed by livestock. On a daily basis one could see thousands of head of cattle, sheep and goats inside the reserve. The fact of allowing domestic stock into a reserve and the benefits accrued to the local community can be argued but the environmental degradation is alarming and will only result in complete desertification of the area and consequent loss of visitors. We did see livestock that had been confiscated by the game rangers, indicating that there is some regulation prohibiting entry of stock into the Reserve but it would appear that the rules are only being enforced on people who are not paying a "tax" which allows them entry. Even in the hills, 3 or 4 km west of "daraja la pili", far from the Reserve boundaries, the herdsmen showed no concern at seeing a vehicle approaching. ,

How many tourists actually come to Kenya to see domestic livestock? Very few and those that do want to see well managed systems not destructive systems. As a livestock breeder and grazer, it really alarmed me to see the destruction being allowed to occur as a result of this wanton overgrazing. It is no good saying that the local people must benefit. They will only do so if they nurture their resource and that means changing their way of life in order to do so.

It is time for the Local Authority to lead the way and ensure that their valuable resource is protected and nurtured, rather than raped and killed! ●

**Concerned SWARA Reader**

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# Stopping the Flow of Wildlife Products from Africa

Two articles in the previous SWARA helped highlight the threats to wildlife through outflow of animal and wildlife products. One of the articles was contributed by Lucy Vigne titled "Lao Traders Threaten Africa's Elephants and Rhinos". The author of the second article is Dan Stiles titled "The World Wildlife Racket: The Conakry Connection". What comes out starkly from the two is that there are deficiencies in the current international arrangements to stop illegal flows of these resources from the continent and that there is need for African countries to review their individual and collective action to immediately address the deficiencies. Let us face the realities that CITES regulations are not being fully enforced in African countries and that other conservation guides like IUCN red lists of threatened species are being ignored by countries of the continent.

I have had the opportunity to engage in the negotiation process of international arrangements on sustainable management of forests under the United Nations Forum on Forests (UNFF) for over 10 years



and the most important lesson I have learnt is that actions to enforce any regional and international arrangement can only be effected when countries fully adopt or "internalise" the agreed arrangements and commit to their full implementation.

Let us take the specific case of CITES arrangements. CITES has categorised wildlife species under threat which is routinely reviewed by state parties. CITES addresses the flows of wildlife and wildlife products

through instituting tracking system. For example, TRAFFIC supports countries with updated information on the movement of wildlife and wildlife products. CITES also provides countries with wildlife species conservation status. Furthermore, there are sub-regional tracking arrangements such as the Lusaka Agreement Task Force (LATF) whose main functions is to facilitate cooperative activities in/among the Party states to the Lusaka Agreement, in carrying out



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### IMPORTANT FOR OVERSEAS MEMBERS

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investigations on violations of national laws pertaining to illegal trade in wild fauna and flora. CITES' conference of parties even goes to the extent of identifying errant groups known to break its rules and regulations. However, weak institutions and corruption among responsible agencies in African countries allow powerful international cartels to continue with the illegal flow of the resources from Africa. Wildlife resources and the tourism sector in Africa continue to be threatened by consumptive demands in other parts of the world, particularly in Asia.

I have not participated in CITES conference of parties, but from what I read from their outcomes, it appears that African countries continue to display their differences on mundane issues like "one-off sale of ivory tusks". This is truly sickening given the fact that some of the African countries are even not transparent about the stockpiles they hold! African countries do not appear keen to address real challenges to wildlife conservation in the continent when they attend international forums.

Part of the problem is that the continent lacks an effective mechanism for harmonising actions stemming undesirable flow of wildlife and wildlife products. I have attended several sessions of the Food and Agriculture Organization of the United Nations (FAO) Africa Forestry and Wildlife Commission (AFWC) and I submit the AFWC has very little influence on member country actions on the matter. The continental political organisation, the African Union, has a unit which should address natural resources including wildlife conservation issues in the continent. However, the relevant unit is underfunded, and understaffed. Yet, the actions needed are trans-boundary and call for common approach by several countries. Thus, both FAO and the African Union do not seem to offer solutions and CITES rules are not being enforced.

What is the way out of this situation? How else can African countries address this important development challenge? I think the solution rests squarely on national governments to commit to enforcement of international arrangements and for the regional economic communities like the East African Community (EAC) to commit to effective coordination of the arrangements. Moreover, this should go beyond political and policy integration into cross border control measures to stem non-compliance.

African countries must take a common stand on this matter and agree on and implement measures to stem the flow. Africa is the home of great wildlife biodiversity and must make take this challenge as an issue of global threat to biodiversity and a war between powerful cartels international trade and conservation forces.

I have argued in my earlier messages that this is not an issue to be resolved only within the continent but also in countries which provide lucrative markets for wildlife and wildlife products. We must find ways to reduce market demands – period. In the meantime, African countries should take actions to institute governance systems that can stem illegal flows as depicted by Dan Stiles article on the Conakry connection.

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There have been some commendable efforts by some African countries to increasing threats to wildlife through poaching and illegal trade of wildlife products. For example, Kenya has just introduced new measures to retrain and better equip wildlife rangers. Tanzania has recently launched a country-wide security operation to control wildlife poaching. There have also been promising regional and continental initiatives in the same direction. For example, IUCN, country representatives and other stakeholders have just concluded a meeting dubbed "African Elephant Summit" in Botswana at which agreement was reached on urgent measures to curb poaching and illegal trade. The Botswana meeting attracted the participation of African countries where poaching is rampant, key transit countries in the flow of illegally traded products and key markets countries.

The big questions remain. Are these country and regional efforts going to be sustained or are they merely sporadic reactions to poaching alarms? Do the measures match the task given that international illegal trade is becoming more sophisticated? ●

**Fredrick Owino**  
Chairman

# Over 10 Years of Waiting: Kenya may have a New Wildlife Law in 2014



**M**y letter in SWARA (January – April 2013 issue) highlighted the shortcomings of the Wildlife Conservation and Management Bill 2012 as submitted to Cabinet in 2012. The bill did not move further in 2012 but was re-submitted to the New Cabinet in May 2013 following the election of a New Government in April 2013, regrettably with the same weakness. It was published as a Parliamentary bill in July 2013. On 18 September, 2013, the bill was read for the first time in Kenya's Parliament and committed to Kenya's Departmental Committee on Environment and Natural Resources for consideration. In line with the constitutional requirement for public participation in legislative development, the committee invited public input to the bill. Together with the Kenya Wildlife Conservancies Association, Vision 2050 and Wildlife Direct, the Society presented written submissions on the Wildlife Bill, three of which I highlighted in Swara 2013:01. These are; (1) making penalties a real deterrent to

committing wildlife crimes such as poaching, (2) encouraging community management of wildlife resources through increased benefits and incentives for landowners and communities who live with and bear the cost of wildlife; this is vital for the long-term conservation of wildlife outside of state protected areas, (3) strengthening of governance at local level by removing regulatory functions at the top and streamlining institutional and administrative arrangements to ensure the Bill adheres to the principle of devolved management and does not create unnecessary bureaucratic and administrative burdens, or conflicting roles between institutions.

Our memorandum was followed by intensive lobbying of Members of Parliament through policy briefs and a meeting with the Parliamentary Committee in October 2013. I am happy to inform you that the three main concerns were addressed in the Wildlife Act that was passed by Parliament in December 2013 and which has been enacted as a law. First, penalties for major crimes such as poaching of elephant tusks and rhino horns have now been increased to a fine of Kshs 20 million or life imprisonment. Compensation for death has been raised to Kshs 5 million, permanent disability to Kshs 3 million and other injury to Kshs 2 million. Second, the Act allows for stakeholder consultation in relation to benefit sharing. In line with this, the Act now allows for establishment of rules and regulations for benefit sharing within a time frame of six months following enactment of the bill. Third, the proposed Wildlife Regulatory Council in the published bill,

which was to undertake the facilitation of user rights and licensing, has been removed. This responsibility has now been decentralised at the county level and given to the Kenya Wildlife Service through the County Wildlife Conservation and Compensation Committees. The bill also recognizes wildlife conservation as a form of land use.

The Society looks forward to the implementation of this law in 2014 in order to curb the increased levels of wildlife poaching and provide people living close to wildlife with appropriate incentives. It is sad to say that communities consider the presence of wildlife on their land as a burden rather than an opportunity for gaining benefits, an issue I hope this bill will address through the proposed regulations on benefit sharing.

It has taken us over 10 years to have this bill replace the existing Wildlife Conservation and Management Act of 1975 in order to address the challenges in the sector in a vigorous and responsive manner. I hope that Tanzania and Uganda will also initiate processes to review their wildlife laws fast enough since wildlife is a resource that is vital to the economy of the three countries. As an example, in Kenya, wildlife accounts for 70% of the gross tourism earnings, 25% of the Gross Domestic Product (GDP) and more than 10% of total formal sector employment. In addition, wildlife resources provide important environmental goods and services for the livelihood of the people and productive sectors. Wildlife also plays critical ecological functions that are important for the interconnected web of life supporting systems. Enactment of the Wildlife Bill will therefore boast the economy of Kenya. ●

**Michael Gachanja**  
Executive Director

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## CHINA CRUSHES IVORY - NGOs DELIGHTED

The Chinese authorities crushed about six tons of confiscated ivory on January 6 in Guahgzhou to demonstrate commitments to international rulings and the implementation of its own laws. WildAid, Save the Elephants, and the African Wildlife Foundation applauded the decision. In 2013, the NGOs, along with former NBA superstar Yao Ming and actress Li Bing Bing, called on China to raise awareness about elephant poaching, reduce the demand for ivory, and protect endangered wildlife. "Today's ivory crush is a significant step in raising public awareness and will hopefully lead to similar events throughout China," said Yao Ming, who, alongside The Duke of Cambridge and David Beckham, will appear in a public service message to be broadcast by China's leading television stations beginning this month. China's rapid economic development continues to build a burgeoning middle class that can afford—and is demanding in greater quantities—endangered wildlife products, such as ivory.

The current demand for ivory is estimated to claim the lives of as many as 35,000 African



elephants annually. "The demand for illegally traded ivory negatively impacts Africa's tourism industry and reportedly contributes to funds used by terror and insurgent groups," said WildAid's Executive Director Peter Knights.

WildAid spearheaded a campaign in 2006 to reduce the demand for shark fin soup in China. Through its partnership with Save the Elephants and the African Wildlife Foundation, similar public awareness tactics are being used to inform consumers of the impact of ivory demand. "As the largest ivory market in the world, China



has a significant role to play in combatting the illegal trade in ivory," said African Wildlife Foundation CEO Patrick Bergin. "We commend the Chinese government for taking this important first step and hope it signals their sincere and growing commitment to help end the elephant slaughter in Africa."

Recent surveys indicate a large portion of China's population is unaware of the death toll to create ivory and rhino horn products, yet a greater number of residents support government enforced bans.

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## KWS DECLARES WAR ON INVASIVE SPECIES

Severe threats posed by Invasive Alien Species (IAS) in Kenya's protected areas are expected to be confronted following the launch of a National Strategy and Action Plan 2013-2018 for the Management of Invasive Species. The Kenya Wildlife Service (KWS) in collaboration with other government agencies and line ministries along with conservation stakeholders recently developed the document which aims to minimize the harmful effects of invasive species on the environment, economy, biodiversity and society in the country's protected areas. The invasive species are recognized as the second biggest threat to biodiversity loss worldwide, second only to that of habitat loss and destruction and have been implicated in the decline of endangered species across the globe.

The IAS are non-indigenous species that may spread quickly and aggressively when introduced to areas beyond their normal ranges. In a speech read on his behalf by the Director of Wildlife Conservation at the Ministry of Environment, Water and Natural Resources, Stephen Manegene, the Cabinet Secretary, Prof. Judy Wakhungu said that her ministry will spearhead the review of various environmentally related legislation and policies to promote management of invasive species and securing healthy ecosystems in Kenya. "These reviews will result to minimized economic, ecological, and human health impacts that invasive species cause, recognizing that with ever growing international commerce, reduced barriers to trade, and increasing human influence, species are moving around the World, and natural systems are suffering drastic changes."

## U.S STAGES DENVER IVORY CRUSH

More than six tons of confiscated ivory including tusks, carvings and jewelry were crushed in the US in a public ceremony in November. Kenya's Paula Kahumbu of Save Our Elephants attended the action. Thousands of items accumulated over the past 25 years were dumped into a steel crusher at the National Wildlife Property Repository north of Denver. The items were seized from smugglers, traders and tourists at US ports of entry

since the 1989 international embargo on the ivory trade took effect. "These stockpiles of ivory fuel the demand," said Dan Ashe, director of the US Fish and Wildlife Service. "We need to crush the stores of ivory worldwide." Ashe said keeping the stockpile could feed consumer demand for illegal souvenirs and trinkets. Officials said the collection represented the killing of more than 2,000 adult elephants.

## Botswana holds elephant summit – measures agreed



Gaborone - African states in which the illegal ivory trade flourishes have agreed to take urgent steps to try and contain it, promising to secure elephant populations across the continent. The agreement was reached at the African Elephant Summit convened by the government of Botswana and the International Union for Conservation of Nature (IUCN) in Gaborone.

The measures were agreed upon by key African elephant range states including Gabon, Kenya, Niger and Zambia and ivory transit states Vietnam, Philippines and Malaysia, and ivory destination states, including China and Thailand, said the IUCN in a statement.

Experts and officials from 30 states were involved in the summit, which the organisers

described as "the first-ever meeting focusing on the dynamics of the entire ivory chain."

There are 14 measures altogether. One involves classifying wildlife trafficking as a serious crime. Other measures agreed upon include engaging communities living with elephants in their conservation, strengthening national laws to secure maximum wildlife crime sentences, mobilizing financial and technical resources to combat wildlife crime and reducing demand for illegal ivory. The IUCN, says 2011 saw the highest levels of elephant poaching and the illegal ivory trade in at least 16 years, with around 25,000 elephants killed on the African continent. Preliminary data say even higher levels of illicit trade may be reached in 2013.

## Chinese Government Supports four Community Conservancies with Anti-Poaching Equipments

Under the New partnership between the Society and Mara Conservation Fund (MCF), the Chinese Embassy in Nairobi has supported four community wildlife conservancies in elephant anti-poaching efforts in Kenya's Northern Rangelands and North Coast. It is noteworthy to observe that the Kenya Wildlife Service (KWS) and other law enforcement agencies are trying their best to contain the situation, however the situation remains dire and hence the need to provide assistance to community wildlife conservancies. The four

beneficiaries of 34 Portable tents, 42 back packs, 42 Sleeping bags, 42 Camel backs, 8 Binoculars, 4 GPS and 2 Unit huts for radio room and office sets are; Nasuulu, Leparua, Nakuprat-Gotu and Ndera community wildlife conservancies. This equipment which will be presented to the four conservancies will enhance security cover for wildlife through targeted patrols by Community Conservancies in Northern Rangelands and North Coast and facilitate implementation of a standardised system for monitoring elephant in the two areas.

## TANZANIA CRACKS DOWN ON POACHING

Elephant deaths in Tanzania have risen dramatically since the government abandoned a shoot-to-kill policy against poachers, officials say. Lazaro Nyalandu, the deputy minister of natural resources and tourism, said 60 elephants were "butchered" in November and December, compared with two in October. Soldiers, police, game rangers and forestry officers had been involved in a month-long crackdown on poachers, codenamed Operation Terminate, in October, 2013.

But the operation was suspended after an inquiry by MPs uncovered a litany of arbitrary murder, rape, torture and extortion of innocent people. Mizengo Pinda, the prime minister, told Reuters: "The anti-poaching operation had good intentions, but the reported murders, rapes and brutality are totally unacceptable.

The inquiry's findings – including the killing of 13 civilians and arrest of more than 1,000 people – led to the sacking of the tourism minister Khamis Kagasheki, who had called for perpetrators of the illicit ivory trade to be executed "on the spot", as well as the defence minister Shamsi Vuai Nahodha, the home affairs minister Emmanuel Nchimbi and the livestock development minister David Mathayo. With 70,000-80,000 elephants in 2009, Tanzania is home to nearly a sixth of all African elephants.

### EAWLS Corporate Members Day

This year marked the first year for the Society to host a forum for our corporate members through the generous hospitality of the Southern Sun Mayfair. This was in form of a breakfast meeting that took place on 14th November last year. The forum allowed us to share our work with our corporate members, get feedback about our work and explored ways of strengthening the Society. The focus for the year was our corporate membership in Nairobi. A similar forum will be held for our members in East Africa this year. Several other activities are planned for other categories of our membership.

## Egyptian migrant bird harvesting

Following the near universal condemnation of the unsustainable migrant bird harvesting in Egypt and elsewhere in the Mediterranean, the protest and adverse publicity that the countries have received has culminated in a special meeting held recently in Bonn. Kenya's efforts did play a part, through individual and NGO lobbying, in urging the parties to come together for this most important and landmark meeting. The meeting was sponsored by the German Government, and organised by Nature and Biodiversity Conservation Union (NABU) a very pro-active bird protection association that we here owe a great deal to.

The meeting was attended by major stakeholders in Europe including various representatives of BirdLife, who themselves have worked hard to bring about the talks, but most importantly, the Ministers for Conservation/Environment of both Egypt and Lybia. Both of whom have pledged their governments support to bring the situation under control.

**You can find out about the meeting on several sites:**

<http://www.unep.org/ecosystemmanagement/News/PressRelease/tabid/426/language/en-US/Default.aspx?DocumentID=2756&ArticleID=10671&Lang=en>

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# UMANI SPRINGS, KIBWEZI FOREST

The Umani Mtito Andei water supply project implemented by the Ministry of Water and Irrigation in Makueni County is contributing to the receding of ground water levels and in all probability will lead to the drying of Umani springs and the demise of the groundwater-dependent Kibwezi forest ecosystem. The Kibwezi forest reserve, located between Makindu and Mtito Andei, was gazetted in 1936 covering an area of 58.6km<sup>2</sup>. It contains the very important Umani Springs. This ecosystem is rich in biodiversity with a groundwater forest of over 25 meters height of splendid trees and several hundred other plant species including a number of vulnerable and endangered subspecies.



PHOTOS BY: OMARI IMBONDE & QUENTIN LUKE


Umani Springs has been used to supply water to two local communities as well as continuing to sustain the mixed forest and wetland ecosystem and a small but valuable tourist enterprise. Despite the lack of an adequate water supply to the local populations in this semi-arid locality,

drying up Umani Springs is not the solution. Unfortunately the latest abstraction project for the supply of the towns from Kibwezi to Mtito Andei will do just that. An Environmental and Social Impact

Assessment (ESIA) done in 2009 and revised in 2011 for this latest project is flawed. The study uses water flow measurements for May and December 2010 of 630 litres per second and 954 litres per

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second respectively against an average flow, as established over a 30 year-period, of 164 litres per second. These two measurements were not subjected to any independent review and the question has to be asked as to why these exceptionally high and therefore unreliable flow measurements were used to justify further abstraction.

The Kibwezi forest ecosystem has recently been showing signs of receding ground water levels: massive tree mortality, and drying out of perennial wetlands raising the question whether the flows from Umani springs is enough to supply water for both the ecosystems and an ever increasing human population along the Mombasa highway. This evidence coupled with the absurdly high flow rates was not challenged in the ESIA.

Legally at least 30% of the base flow has to remain in the ecosystem to maintain its functions. This reserve flow amounts to 49 litres per second. In addition, any off-take should be reduced during drought periods. Currently none of the off-takes are metered or have any mechanism for limitation of flows. Under drought conditions therefore current abstraction invariably eats into the reserve flow.

A flow measurement taken in May 2012 indicated a flow of 56 litres per second (almost equivalent to the reserve flow) while abstraction continued at some 115 litres per second. And this is the situation before the additional abstraction by the Umani – Mtito Andei water supply project. To make matters worse, the ESIA indicates that a reserve flow of 46 litres per second should be maintained but at the same time proposes an additional off-take of 76 liters per second bringing the total off-take to 178 litres per second, higher than the average



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flow of 164 litres per second and almost twice the sustainable flow.

Despite the ESIA being undertaken, NEMA has not issued an environment licence as required under EMCA, as the proponent has failed to provide the newspaper advertisement as a precursor to the required public consultation. Yet the construction went ahead and continues. It is also not clear that procedures required under the Forest Act and Water Act have been correctly followed.

The issues described above have been confirmed by a Hydrologist who has provided a detailed report, commissioned by the Society. Supported by the conclusions of this report and concerned by this failure of Government to follow due legal process and greatly worried by the the threat to Umani Springs and their water supply, two local communities are petitioning the High Court for legal remedy. This petition should be presented to the High Court as this edition of SWARA goes to print

# My Wild Life

**A**frica has unique wildlife that occurs in varied habitats from snow-capped peaks to sandy white beaches. Africa also has one of the highest human population growth rates, which threatens vital animal and plant habitats. Photographic technology is also changing at an exponential rate and many budding photographers seem obsessed with shots of charismatic mega-fauna and seem to forget about the thousands of different and spectacular animals that live within or just outside where we stay.

SWARA has created this special section on "My Wild Life" to showcase all those forgotten animals that play significant roles in maintaining ecological

harmony. From bees that pollinate flowers to geckos that eat harmful mosquitoes, from sunbirds that enthrall us, to chameleons and frogs that fascinate us. This is YOUR opportunity to show case what is "Your Wild Life".

In each issue we will select a winner who will receive a prize. Even if you do not have a big garden or own a concrete patio, you will be surprised at what shelters in the nooks and crannies. If you live in town one of the best ways to help wildlife is to garden for wildlife.

This does not mean giving up on your herbaceous borders and letting the nettles grow, but just adapting what you may already be doing. Gardens are

extremely important for wildlife, not only can they provide food and shelter for a huge range of plants and animals, but they can form a natural "bridge" between built up and open areas which allow wildlife to move between them relatively easily. Gardens can also provide particular habitats that may be missing in your local area such as ponds and suitable foraging or nesting sites.

**Send your images to: [bishopokello07@gmail.com](mailto:bishopokello07@gmail.com) and don't forget to insert a three-four sentence caption on why you took that picture and what story it tells.**

This one metre long Savannah Monitor Lizard is often seen walking along or sunbathing on our garden wall in Watamu

PHOTO BY: STEVE TROTT





**African Yellow-billed Kite**

Nairobi can be amazing for raptors. This African Yellow-billed Kite frequently perches on a power pole and swoops down onto the garden for a scrap or two.

PHOTO BY: MUNIR VIRANI



**African Goshawk**

Sometime ago, we rescued this little African Goshawk in our Nairobi Garden that had hit a window. She was a little dazed but then after some tender loving care, she was released and off she went like a tracer bullet.

PHOTO BY: MUNIR VIRANI



**Little Sparrowhawk**

In addition to Kites, Little Sparrowhawks such as this little guy whom I have nick-named Larry also perch along power cables and lines stalking mannikins and weavers. They are a joy to watch.

PHOTO BY: MUNIR VIRANI



**Brown House Snake eating Striated Grass Mouse.**

PHOTO BY: JULIA HUNTER



Crabs are always fascinating to watch. During our recent coastal holiday in Mombasa, I came across one that was relatively tame and offered to model for me.

PHOTO BY: MUNIR VIRANI



**SEAN AVERY**



is a chartered civil engineer, a chartered environmentalist, and is listed in the Kenya Government Gazette as a 'qualified water resources professional'. His special interest lies in dryland eco-hydrology, with Lake Turkana

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PHOTO BY: SEAN AVERY

# WHAT FUTURE FOR LAKE TURKANA AND ITS WILDLIFE?

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*In recent months, the international conservation agenda has been topped and dominated by wildlife crime, ivory, rhino horn and the illegal trade in live animals and animal parts. This is a welcome focus for a very unwelcome business. But there are other pressing conservation issues that would benefit from similar international focus and concern. One, which the EAWLS has long been concerned about, is the future of Lake Turkana, the Jade Sea of legend, (see SWARA 2013-2) and the impact of Ethiopia's Omo Basin development plans might have on the world's largest desert lake. In this article, hydrologist **Sean Avery** lays out the threats and the opportunities posed by one of the biggest water-related development plans of modern times.*

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On 23rd November 2013, Kenya and Ethiopia were to sign an agreement to “develop a joint plan for sustainably managing the environment and resources of Lake Turkana and its river basins for the benefit of both people and the environment”<sup>2</sup>. This did not take place, and at the time of writing, the reasons were not known. The Lake Turkana basin covers over 130,000 square kilometres, shared in near equal proportions between Kenya and Ethiopia, but also encroaching into South Sudan near the Ilemi triangle, and extending into Uganda in the west near Mount Elgon— see Figure 1.

In 1996, Ethiopia presented its master plan for developing the Omo Basin, an area populated today by about 14 million people.<sup>1,3</sup> The Omo river discharges 14% of Ethiopia’s annual runoff, an enormous resource almost matching Kenya’s entire surface water runoff. The highlands of the upper basin enjoy plentiful rainfall, whereas the lower basin’s lowlands approaching the lake are semi-arid.<sup>4</sup>

In 2006, Ethiopia started building the massive 243 metre high Gibe III hydropower dam on the Omo River, some 600 kilometres from the lake. In 2009, scientists claimed that there would be radical reductions in inflow to Lake Turkana due to reservoir leakages underground.<sup>5</sup> They forecast the lake dropping 10-12 metres with aquatic ecosystems declining. Also in 2009, the African Development Bank (AFDB) commissioned a hydrological study of the impacts on Lake Turkana, the first study of its kind on the lake itself.<sup>6</sup> This AFDB study modelled changes to hydrological cycles and modelled huge

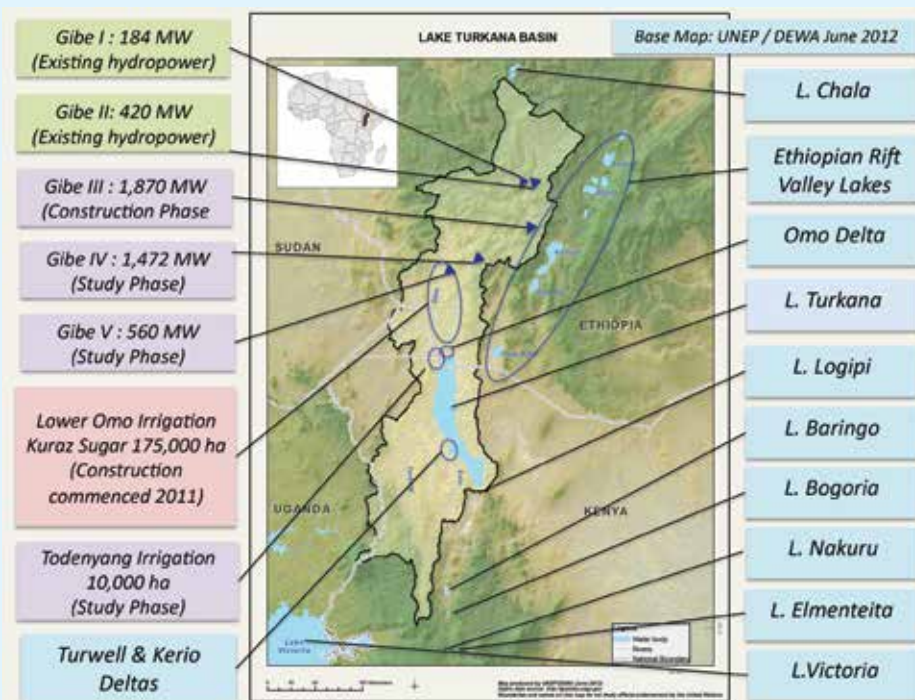


Figure 1: Lake Turkana Basin

drops in lake levels resulting from large-scale irrigation abstractions.

In 2011, Ethiopia commenced transferring 445,500 hectares of land in the Lower Omo from its traditional owners to commercial farmers from outside the area. Over 135,000 hectares of land were degazetted from the Omo and Mago National Parks, and from the Tama Wildlife Reserve, for conversion to sugar plantations.<sup>7</sup> The planned Lower Omo development’s land area is almost three times Kenya’s current irrigated area. The projects are mired in controversy. Neither feasibility studies nor Environmental and Social impact Assessments (ESIAs) have been released for the irrigation schemes. The Gibe III downstream ESIA was an afterthought done three years after dam construction started, and it did not investigate

impacts on Lake Turkana, and did not consult Kenyan stakeholders.

Lake Turkana was not within the study area of the Omo Basin Master Plan. International donors considered impacts on the lake to be of little consequence, and that these could be compensated through sharing benefits such as hydropower.<sup>3</sup> The World Bank however cold-shouldered the Gibe III project, but only because the direct sourcing of the contractor was not acceptable under the Bank’s procurement procedures.

Human rights organisations have decried the manner in which the irrigation projects are being implemented, claiming that this is a land-grab,<sup>8</sup> with the local people unwillingly evicted from their traditional lands by the authorities,

<sup>1</sup>Richard Woodroffe & Associates, and Mascott Ltd., Omo-Gibe River Basin Integrated Development Master Plan Study, Final Report for the Ministry of Water Resources of the Federal Democratic Republic of Ethiopia (15 volumes), December 1996.

<sup>2</sup>Communication from the Division of Early Warning and Assessment, UNEP, 15th November 2013.

<sup>3</sup>For more details see Avery, S.T., Lake Turkana & The Lower Omo: Hydrological Impacts of Gibe III & Lower Omo Irrigation Development, Vols I and II, African Studies Centre, University of Oxford, October 2012. <http://www.africanstudies.ox.ac.uk/lake-turkana-and-lower-omo-hydrological-impacts-major-dam-and-irrigation-developments>

<sup>4</sup>The upper Omo Basin’s highland rainfall exceeds 3,000 mm/annum in places. The lower Omo Basin’s lowland rainfall near the lake averages 300 mm/annum.

<sup>5</sup>Africa Resources Working Group (ARWG). A Commentary on the Environmental, Socio-Economic and Human Rights Impacts of the Proposed Gibe III Dam in the Lower Omo River Basin of Southwest Ethiopia, January 2009, ARWG-GIBE.org

<sup>6</sup>Avery, S.T., Assessment of hydrological impacts of Ethiopia’s Omo Basin on Kenya’s Lake Turkana water levels. Draft Report commissioned by the African Development Bank as part of mediation with Friends of Lake Turkana, November 2009. A Final Report was submitted in November 2010: [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Compliance-Review/REPORT\\_NOV\\_2010\\_S\\_AVERY\\_TURKANA\\_Small\\_file.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Compliance-Review/REPORT_NOV_2010_S_AVERY_TURKANA_Small_file.pdf)

<sup>7</sup>Ethiopian Wildlife Conservation Authority (EWCA), Existing Challenges: Plantation Development versus Wildlife Conservation in the Omo-Tama-Mago Complex, reported by: C.Enawag, D.Deksios, G.Timer, 2011.

<sup>8</sup>Oakland Institute, Understanding Land Investment Deals in Africa, Half a million lives threatened by land development for sugar plantations in Lower Omo. Land Deal Brief, September 2011.



PHOTO BY: KIERAN AVERY

Figure 2: South Island National Park

without adequate compensation, and to the accompaniment of physical abuses.<sup>9</sup> Leading members of the international community are being accused of turning a “blind-eye”, perhaps mindful of international vested interest and not wishing to upset a strategic partner?<sup>10</sup> Interestingly, the Omo Basin’s own Master Plan in 1996 drew attention to the lessons of people being displaced by government-sponsored commercial development, and warned strongly against repetition of past mistakes.<sup>3,1</sup>

The Lake Turkana National Parks comprise Sibilo National Park, Central Island, and South Island, listed together as a World Heritage Site, and believed threatened by the consequences of the Gibe III dam construction.<sup>13</sup> The World Heritage Committee has twice received recommendations from its experts that the Lake Turkana National Parks should be included on the World

Heritage endangered list, and each recommendation has been set aside by the Committee.<sup>11</sup>

The Omo is the reason Lake Turkana exists, providing 90% of the lake’s freshwater input. Lake Turkana is uniquely the world’s largest desert lake. Located within Kenya’s most arid area, this is Kenya’s largest lake, its semi-saline waters supporting Africa’s highest salinity fisheries, its ecology derived from the lake’s former fluvial connection to the Nile basin. 6,500 years ago, Turkana was a freshwater lake five times its present size, its water level nearly 100 metres higher than today, its waters spilling into the Nile Basin about 150 km north-west of the present lakeshore. This lake is an extraordinary example of climate change. As the region became increasingly arid, the lake level dropped and the basin closed with no outlet,

thereafter becoming progressively more saline (see Figure 3). The lake’s contemporary lowest levels occurred in the 1940s, 1950s and 1988, dry periods that occurred throughout Kenya. The lake’s level today is higher than those levels.

About one million people in Kenya live in the former Turkana, Samburu and Marsabit Districts that border Lake Turkana. These northern areas have long been neglected, with very little government investment. The area is insecure, with constant livestock rustling, and the people are amongst the nation’s poorest. They traditionally depended on pastoralism, a livelihood very well suited to these arid lands, but undermined by rising population challenges, insecurity, land fragmentation, restrictions in mobility, and absence of adequate governmental support for the livestock marketing

<sup>9</sup>Human Rights Watch. “What Will Happen if Hunger Comes?”; Abuses against the Indigenous Peoples of Ethiopia’s Lower Omo Valley; ISBN-56432-902-X, June 2012.

<sup>10</sup>David Turton, Aiding and Abetting: UK and US Complicity in Ethiopia’s Mass Displacement, Think Africa Press, 4th November 2013.

<sup>11</sup>Avery, Sean, “What future Lake Turkana”, African Studies Centre, University of Oxford, December 2013. <http://www.africanstudies.ox.ac.uk/what-future-lake-turkana>.

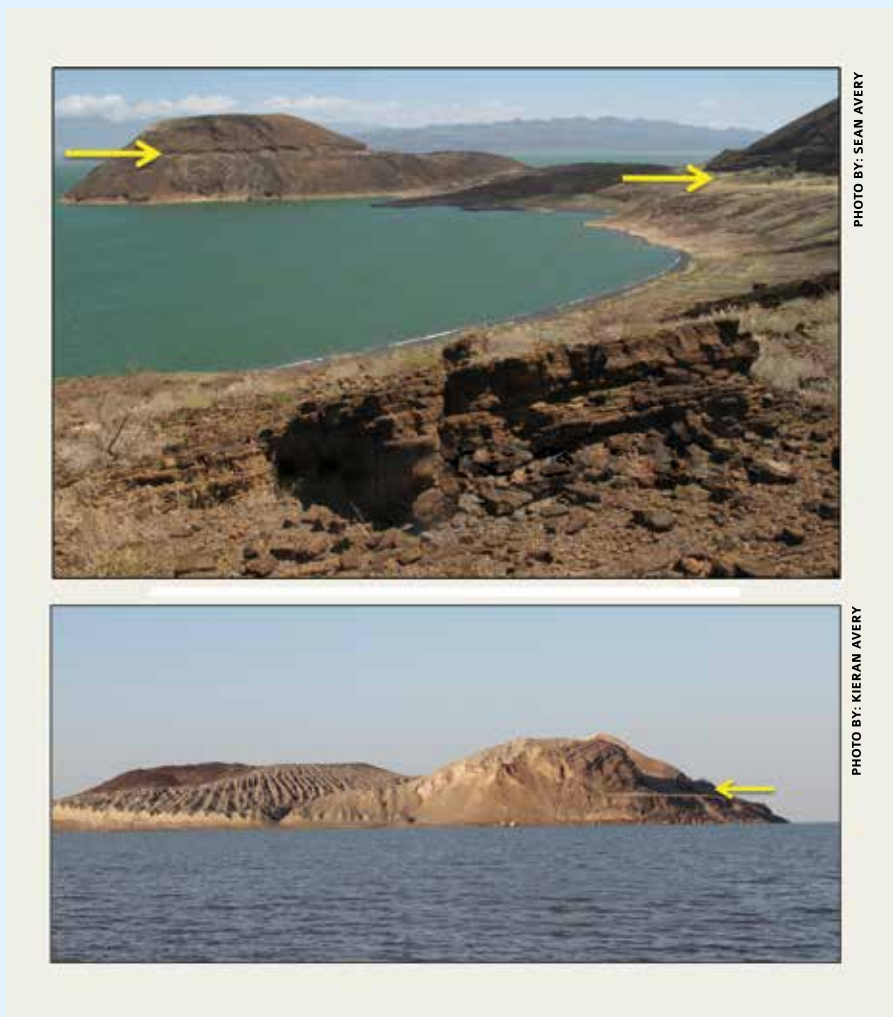


Figure 3: Palaeo shorelines on Lake Turkana's islands

sector. Alternative livelihoods have developed, including crop production and fishing, but to a limited extent. In some places today, up to 75 % of the food input is external food aid.<sup>12</sup>

In the 40 years since 1969, the population of Turkana District increased four-fold. By the year 2050, the national population will be treble the 2010 population. The area's wildlife is already threatened and in serious decline. Weapons proliferate throughout, thus adding to wildlife vulnerability. Wildlife is virtually non-

existent along the lake's western shore, and there is human encroachment into protected areas on the islands and the north-eastern protected area.<sup>13</sup> A recent field trip reported hardly any crocodiles, with crocodile nests witnessed being raided, and with animals (crocodiles and turtles) unfortunately taking baited fishhooks or entangling in fishing nets, and then drowning.<sup>14</sup> This depressing scenario of declining wildlife will be further compromised if the escalating poverty and human needs are not dealt with.

There are now real prospects of major infrastructure investment in the area, thanks to Government policy stimulated by the excitement surrounding oil finds in the region. A major transport corridor is planned through the area from Lamu to South Sudan.<sup>15</sup> These developments could be to the benefit of local people and wildlife, but if improperly managed could instead further impoverish local people and increase pressure on diminishing wildlife. The oil exploration is ongoing, and production is a long way off. In addition, UNESCO recently announced a deep palaeo freshwater lake beneath the Turkana rangelands west of the lake towards Karamoja. This lake is said to be the size of Lake Turkana, complementing four other deep-water aquifers announced earlier. The UNESCO team claims that these resources may have major implications and potential impact in terms of national and regional development. It is even suggested the resource might serve the nation for 70 years in a crisis.<sup>16</sup> Although there are real opportunities with the water, there is danger in raising unrealistic expectations. This water resource is dependent on the "weak aquifer recharge" characteristic of low rainfall areas. The quality of the deep-water reservoir is uncertain, and pumping costs will be prohibitive.<sup>17</sup> Crop development in arid and semi arid lands requires huge water quantities, and the water sources will take time and investment to prove and develop.

Lake Turkana enjoys year-round sunshine and warm waters. The prevailing southeasterly winds drive surface currents in the upper layers, and cause reverse currents in the lower layers. The water column is well mixed, turbid, and well oxygenated. The surface current transports zooplankton to concentrate on the NW shores, leading to unusual concentrations of

<sup>12</sup>Brewin, M., Report for Oxfam Kenya: A Study of Small Businesses and Markets to inform Oxfam's strategy in Turkana District, Kenya, 2009.

<sup>13</sup>World Heritage Centre & IUCN, Mission Report, Reactive Monitoring Mission to Lake Turkana National Parks (Kenya), undertaken 14-22 March 2012, May 2012.

<sup>14</sup>Avery, Patrick. Kenya's jade jewel in peril from Ethiopia plans, SWARA, May-June Issue, pp. 16-21, 2012. <http://www.mursi.org/documents>.

<sup>15</sup>Lamu Port to Southern Sudan to Ethiopia Transport (LAPSET) Project: The main components are a road, rail and oil pipeline network from South Sudan to Lamu, with airports at Lamu, Isiolo and Lokichoggio, and resort cities in Lamu, Isiolo and at Eiei Springs on Lake Turkana.

<sup>16</sup>Regional Learning & Advocacy Programme for Vulnerable Dryland Communities (REGLAP), "The Turkana Aquifer Discoveries: A REGLAP discussion perspective" by Sean Avery, independent consultant, November 2013.

<sup>17</sup>Media Paper for REGLAP, prepared by Sean Avery, November 2013. Some of the water is up to 800 metres below ground.

<sup>18</sup>Hopson A.J (ed.). Lake Turkana: A Report on the Findings of the Lake Turkana Project, 1972-75; Volumes 1-6, University of Stirling (funded by the Government of Kenya and the Ministry of Overseas Development, Overseas Development Administration, London), 1982.



PHOTO BY: SEAN AVERY

Figure 4: A fine Nile Perch near Alia Bay (released unharmed)

in a perpetual state of change” with fish yields, species composition and main fishing grounds recurrently undergoing unpredictable and drastic transformations”.<sup>22</sup> This lake is “an unstable ecological system with the biological processes highly geared to the hydrological regimes”.<sup>22</sup> This lake is very different from other African Great Lakes<sup>22</sup> and is thus unique.

Thus, an engineered hydrological change that introduces stability in place of natural instability will potentially destroy the lake’s existing ecology.

Once construction is complete (estimated to be in 2014), the Gibe III dam will need the equivalent of almost the entire annual discharge into Lake Turkana to fill its huge reservoir, albeit spread over a three-year period. This means capturing a large proportion of the river’s nutrients. Lake Turkana’s level will drop two metres. This drop is short-term, and once Gibe III is full, the lake level will recover slowly. Gibe III will thereafter “process” 67% of the river discharges that ultimately reach the lake, storing and releasing this water according to engineered turbine releases that bear no resemblance to natural hydrological cycles. Sediments and other nutrients that settle in the reservoir will obviously never reach the lake. There will be uniformity in discharges from the dam throughout the year, low flows will be raised above natural levels, and floods will be attenuated. The entire annual hydrological cycle will be smoothed by the constancy of power generation requirements.

The dam designers have proposed an ecological flood release for 10 days in September each year. This has been criticised as lacking a proper scientific basis. It was not agreed with Kenya, and there is no guarantee that the releases will happen. In any case, the proposal will be rendered redundant

small pelagic fish and their predators.<sup>18</sup> The lake is popularly known as the Jade Sea, its colouration attributable to its blue-green algae, the lake’s dominant phytoplankton.<sup>18</sup> In spite of inadequately regulated commercial fishing, including encroachment into protected areas,<sup>14</sup> large handsome Nile Perch still flourish – see Figure 4.

The most profound seasonal changes in the lake arise during the annual flooding, which peaks in the period August to October. The principal flood source is the Omo river, which provides around 90 per cent of the lake inflow. The upstream seasonal inundation of offstream areas, and the runoff therefrom, releases valuable organic matter and nutrients, which are carried into the lake by floods. Nitrogen, one of the two most important factors limiting fisheries production (the other being light), is also transported into the lake.<sup>18</sup> The floods also stimulate the migration of spawning fish into the Omo itself.

Within the main lake, fish breeding tends to be greatest during floods. The

sediment-rich waters extend south right through the central sector of the lake, diluting the lake water and lowering the salinity levels in northern parts in particular. The sediment plume reduces visibility and fish tend to move to the lake surface and to the shore, and the reduced light penetration affects production of organisms that depend on photosynthesis. The influx of nutrients during the flood season initiates changes in the algal population, and the margins of the lake inundate.<sup>18</sup>

Floodplain fisheries such as Lake Turkana’s are reportedly Africa’s most productive.<sup>19</sup> Studies have shown that productivity increases with instability, that lake level changes promote interaction between aquatic and terrestrial systems,<sup>20</sup> and that annual fluctuations in lake level are very much more significant than absolute lake levels.<sup>21</sup> Lake Turkana’s peak production rates have been associated with peak rises in lake level, with declining production rates associated with falling lake levels.<sup>22</sup> Lake Turkana “is seemingly

<sup>18</sup>Welcome (1979), and Junk et al. (1989), both cited by J.Kolding and P.A.M van Zwieten in “Improving productivity in tropical lakes and reservoirs”, Challenge Program on Water and Food - Aquatic Ecosystems and Fisheries Review Series 1. Theme 3 of CPWF, C/o WorldFish Center, Cairo, Egypt. 139 pp. ISBN: 977-17-3087-8, 2006.

<sup>19</sup>Kolding, Plus ça change, plus c’est la même chose. On the ecology and exploitation of fish in fluctuating tropical freshwater systems. Dr. Scient. thesis, Department of Fisheries and Marine Biology, University of Bergen, ISBN 82-7744-011-1, 1994.

<sup>20</sup>Karenge, L., and J. Kolding. On the relationship between hydrology and fisheries in man-made Lake Kariba, Central Africa, Fisheries Research 22, 202-226, 1995.

<sup>21</sup>Kolding, Jeppe. A summary of Lake Turkana: An ever-changing mixed environment, Mitt. Internat. Verein. Limnol., 23, 25-35, Stuttgart, May 1992.

<sup>22</sup>Two hydropower schemes are planned downstream of Gibe III to complete the hydropower cascade (named Gibe IV and V respectively).

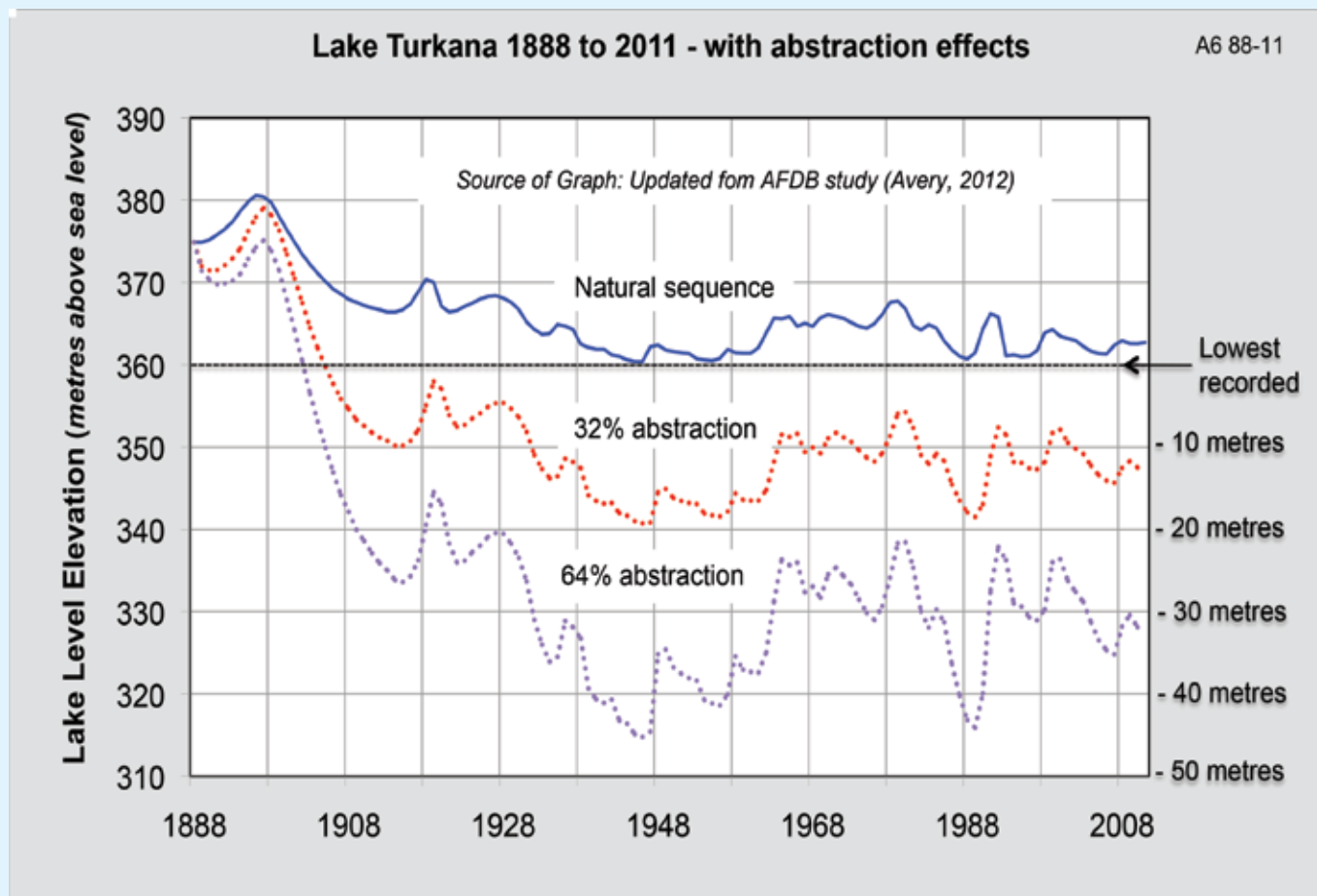


Figure 5: Lake Turkana water level changes with increasing abstractions from the Omo river

by the construction of another vast lake downstream of Gibe III.<sup>23</sup> Furthermore, if the ecological flood release is liable to damage newly constructed irrigation infrastructure downstream, it will obviously not be allowed.

Hydropower schemes are non-consumptive (apart from induced losses), but they totally alter the hydrological cycle. In contrast, irrigation schemes are very heavy water consumers, in Kenya predicted to account for over 80 % of the country’s water usage. Although the development feasibility studies have not yet been provided for Ethiopia’s Kuraz sugar plantations, it has been estimated that Lake Turkana might be deprived of up to 50 % of the entire river discharge and nutrients, and this would be permanent,

and could drop the lake level 20 metres.<sup>6</sup> The Kuraz sugar scheme is about 160,000 hectares in area, equivalent to the irrigated area in the whole of Kenya. The total agricultural area offered to investors in the Lower Omo amounts to 445,000 hectares. No studies have yet been provided to demonstrate to Kenya the feasibility of this ambitious crop development plan. If it materialises as planned, the Omo could be emptied in its entirety, which would mean that Lake Turkana might be destined to become Africa’s Aral Sea.<sup>24, 25</sup>

Fisheries experts have long held the view that drastic changes to the Omo’s natural hydrological cycles will destroy the lake’s fisheries ecology. Kenya’s National Water Master Plan

in 1992 warned of fisheries collapse with increased water consumption in the upper catchment.<sup>26</sup> The Omo Basin’s Master Plan in 1996 anticipated an adverse effect on fisheries from flow reductions and widespread use of chemical pesticides on plantations, and warned that fertiliser runoff would have both beneficial and detrimental consequences insofar as nutrient inflows.<sup>1</sup>

Many fisheries experts have since emphasised the lake’s hydrological dependence, and the potential destruction of the lake’s fisheries should hydrological cycles be altered.

The Omo Basin Master Plan in 1996 recommended a bilateral agreement with Kenya before altering the river flows. Disregarding this

<sup>24</sup>The Aral Sea, Central Asia’s most infamous man-made environmental disaster, was once one of the four largest lakes in the world. It steadily shrunk after rivers feeding it were diverted in the 1960s by Soviet irrigation projects (Wikipedia). By 2007, the lake was 10 per cent its original size (ibid.). Salinity levels rose, fishing ceased altogether, and salts blown by winds from the dried lake-bed are destroying pastures (UNEP).<sup>25</sup>UNEP. Vital Water Graphics - An Overview of the State of the World’s Fresh and Marine Waters, 2nd Edition. UNEP, Nairobi, Kenya, ISBN: 92-807-2236-0, 2008.  
<sup>26</sup>JICA funded National Water Master Plan for Kenya, Ministry of Water Development, 1992.

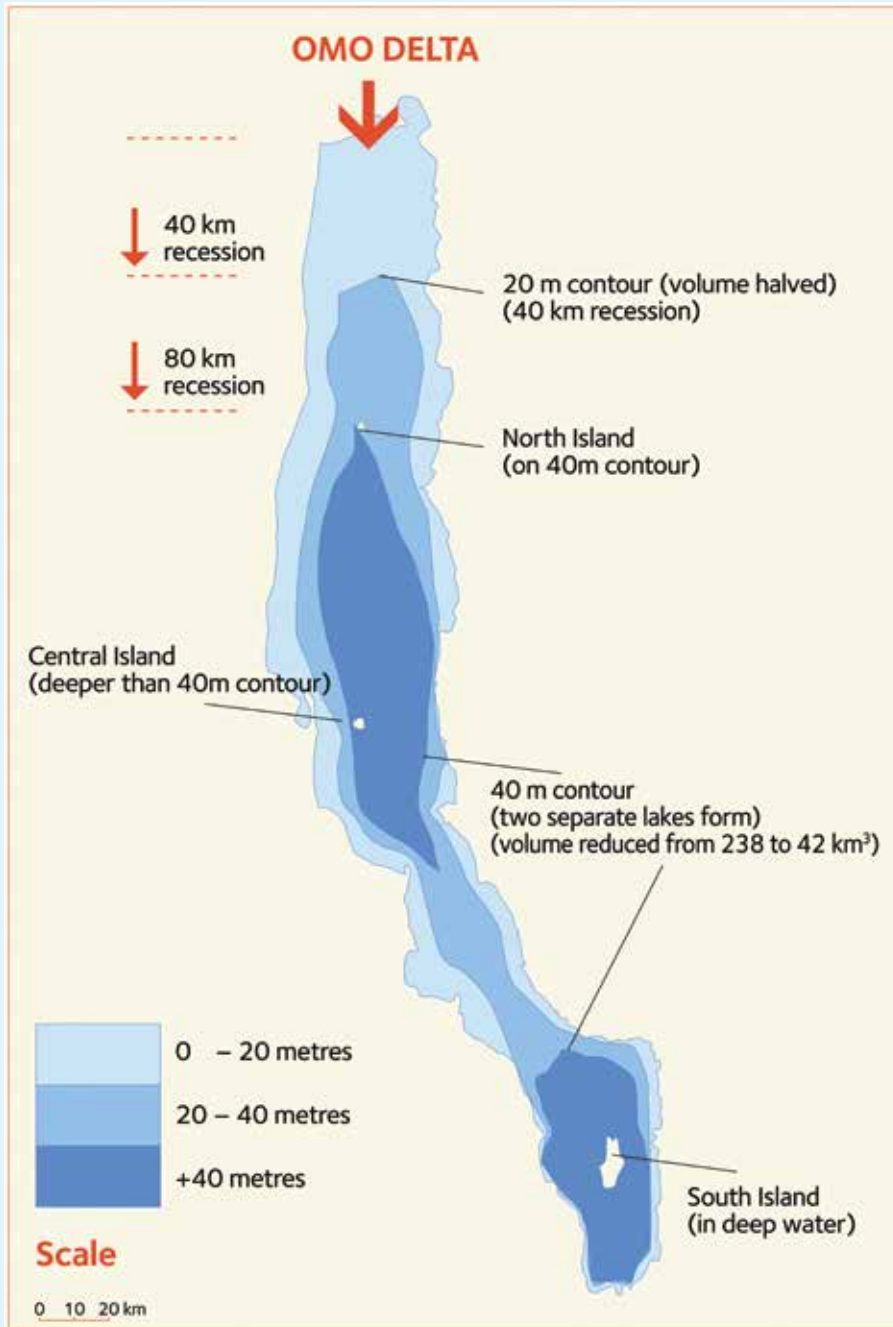


Figure 6: Lake Turkana’s bathymetry and lake recession consequences

Figure 5 shows the actual lake level variation from 1896 to date (solid blue line). In 1896, the lake was at its highest level in contemporary times. Two abstraction scenarios are superimposed to show how drastically the lake levels might reduce with increasing irrigation abstraction (dotted lines). To put the lake drawdown into perspective, the lake’s average depth is about 30 metres. Figure 6 shows the lake’s bathymetry and the extent to which the shoreline would recede for different lake level drop scenarios. The ultimate potential long-term scenario would be the lake becoming two small lakes, the north lake fed by the Omo, and the south lake fed by the Kerio and Turkwel rivers. The crater lakes on Central Island would also shrink, as their water levels follow the main lake level, and perhaps these small lakes may dry up altogether.

Ironically, climate change may provide some runoff volume respite. Over 20% increase in surface water runoff is forecast by 2030 in Kenya’s Rift Valley rivers.<sup>27</sup> On the other hand, Kenya Vision 2030 targeted a 600 % increase in the irrigated lands by 2030,<sup>27</sup> much of this being planned in the arid and semi arid lands, and any such developments will affect downstream flows in the associated rivers. Also, Kenya’s human population will treble from 2010 to 2050. Water demand will proportionally increase, as will the pressures on Kenya’s wetlands. Very careful management of the country’s natural resources is needed, as a water deficit is already apparent today. ●

recommendation has been counter productive, and it is almost too late, as Ethiopian national parks have been de-gazetted with agro-pastoralists displaced from their lands, and concerns have been voiced in Kenya for some time. Whilst the trans-boundary agreement currently being brokered is

a big step forward, it is late, and major hurdles have already been created. The predicted consequences on the lake will become apparent once Gibe III comes on stream along with the Lower Omo under extensive crop irrigation. Gibe III is nearing completion and the sugar plantations are under way.

### Acknowledgements

The author is grateful to the African Development Bank for the original commission to study the Lake Turkana hydrology, and for the African Studies Centre of the University Oxford for enabling extended studies.

<sup>27</sup>Kenya’s National Water Master Plan development to Year 2030, prepared by Nippon Koei / JICA Study Team, for the Ministry of Water, 2012. Kenya Vision 2030 targeted 1.2 million hectares of irrigated croplands, but recent estimates from the National Irrigation Board (NIB) reduced this to 765,575 hectares (the reduction being largely due to “degradation of water towers”). These figures are subject to increase with the Turkana aquifer find – see NIB presentation to REGLAP Media Briefing on Irrigation in the Drylands of Kenya at Intercontinental Hotel on 3rd December 2013).

# HUNTED IN ANGOLA

## SURVEYING THE BUSHMEAT TRADE

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PHOTO BY: SIMON K. BEARDER

**Bushmeat on the side of the road. This adult male Blue monkey was displayed for sale about 80 km from the capital Luanda.**

Angola is flourishing. So is its bushmeat trade. A cursory drive down major roads or visits to rural markets show the extent to which wildlife is being sold for food. But how to quantify this major threat to conservation in a country known as a hotspot for birds, mammals and plants<sup>1</sup>? In September 2013 we visited Angola to conduct a wildlife survey in the Angolan Escarpment.

At least 18 species of primates are believed to range in Angola. One subspecies of Blue monkey (*Cercopithecus mitis mitis*) is endemic to the Angolan Escarpment, and this area represents approximately one-third of the estimated range of Southern talapoin monkeys (*Miopithecus talapoin*)<sup>2</sup>. Conservation studies in

Angola are rare as over 40 years of conflict made it essentially impossible to conduct fieldwork in the country.

Angola is now experiencing one of the fastest post-war economic booms, driven by a massive export in petroleum products (over 90% of the total exports). Angola is Africa's second largest oil producer, and during the past few years the country has become China's major oil supplier. Chinese banks have already provided over \$14 billion of financial loans for reconstructing roads, railways and social infrastructures<sup>3,4</sup>. Although roads provide a number of benefits to local people, they are mainly built by Chinese nationals and often have a negative impact on the environment. The improved access of newly constructed roads tends to promote

<sup>1</sup> Ryan PG, Sinclair I, Cohen C, Mills MSL, Spottiswoode CN & Cassidy R. 2004. The conservation status and vocalizations of threatened birds from the scarp forests of the Western Angola Endemic Bird Area. *Bird Conservation International* 14: 247-260.

<sup>2</sup> IUCN. 2013. *IUCN Red List of Threatened Species*. Version 2013.2. Available at: [www.iucnredlist.org](http://www.iucnredlist.org)

<sup>3</sup> Naidu S & Mbazima D. 2008. China-African relations: a new impulse in a changing continental landscape. *Futures* 40: 748-761.

<sup>4</sup> Kabemba C. 2012. Chinese involvement in Angola. Open Society Initiative for Southern Africa. Available at: [www.osisa.org/books/regional/chinese-involvement-angola](http://www.osisa.org/books/regional/chinese-involvement-angola)

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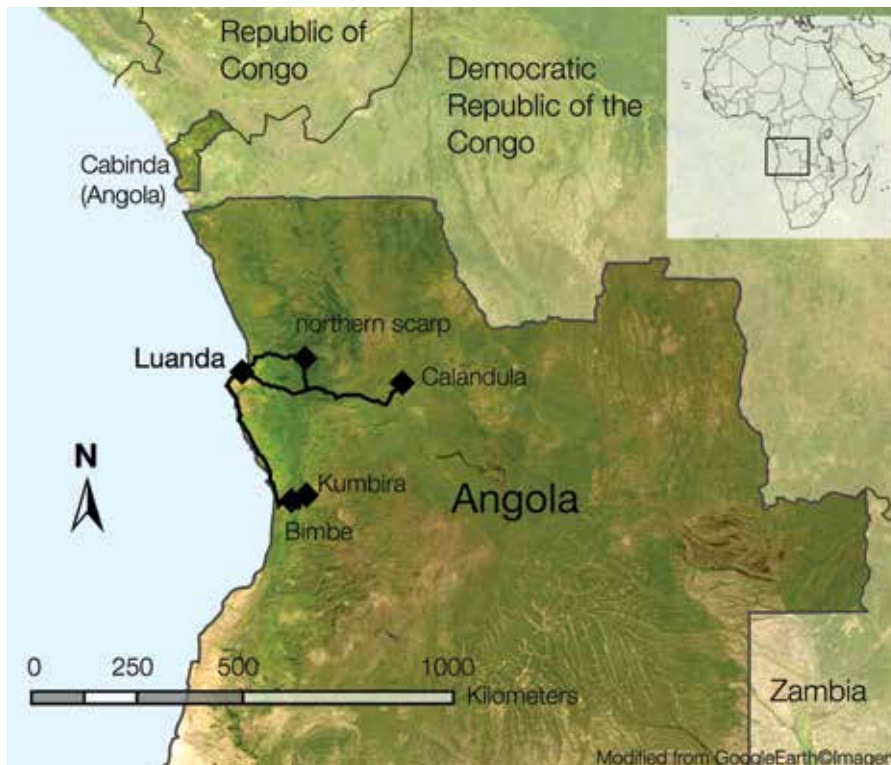


**Top: Female Blue monkey and Blue duiker presented for sale.**

**Below: Adult male Southern talapoin monkey for sale. Bushmeat carcasses on the side of the road were often displayed hanging from a wooden structure; easy to spot them whilst driving.**

and increase logging and poaching in previously isolated localities<sup>5</sup>.

Across Central and West Africa, bushmeat can be seen marketed on the side of the road, sold locally and/or transported to city markets where it fetches higher prices. To quantify the impacts of the bushmeat trade on wild populations, studies have focused on monitoring the market off-take and supplies, trends in bushmeat demand and estimates of the remaining animal population numbers in the wild<sup>6</sup>. For



**Fig 1 Map and location of survey route (black thick line) and camping sites (black diamond).**

example, over half of the taxa hunted for bushmeat in the Congo basin are exploited at unsustainable levels<sup>7</sup>.

According to the current legislation in Angola, it is the responsibility of the government to promote the conservation of natural resources by regulating their exploitation. The state's task is to maintain ecological balance by taking necessary measures to protect the environment and wildlife throughout Angola. Thus, actions that damage or threaten environmental conservation are punishable by law<sup>8</sup>. In 1999 the Ministry of Agriculture and Rural Development published the Combined Executive Decree No. 37/99 of 27 January 1999. Annex 1 of this document comprises a list of animals that are prohibited from being hunted; these including giraffes and rhinos as well as all marine turtle and crocodile species. Under Annex 2 animals are

listed for which controlled hunting is allowed, including lions, leopards, impalas and porcupines<sup>8</sup>. Whether these laws are enforced by the Angolan authorities is still unclear.

We traveled to Kumbira Forest and the Bimbe area (Gabela region), approximately 350 km south of Luanda, and subsequently to the northern scarp and Calandula forest areas, about 170 and 380 km northeast of Luanda respectively (Fig 1). These two regions are mainly inhabited by different Bantu ethnic groups: the Ovimbundu people live south of Luanda and the Ambundu to the northeast of the capital. At each of the four sites we camped for three to four nights in order to conduct nocturnal surveys. As we were aware of the paucity of conservation data from this region, during our fieldwork we also collected data on hunting and the wildlife trade: 1) we surveyed along the

<sup>5</sup> Chomitz KM & Gray DA. 1996. Roads, landuse, and deforestation: a spatial model applied to Belize. *The World Bank Economic Review* 10(3): 487-512.  
<sup>6</sup> Fa JE, Yuste JEG & Castelo R. 2000. Bushmeat markets on Bioko Island as a measure of hunting pressure. *Conservation Biology* 14(6): 1602-1613.  
<sup>7</sup> Fa JE, Peres CA & Meeuwig J. 2002. Bushmeat exploitation in tropical forests: an intercontinental comparison. *Conservation Biology* 16(1): 232-237.  
<sup>8</sup> Jones BTB. 2008. *Legislation and policies relating to protected areas, wildlife conservation, and community rights to natural resources in countries being part in the Kavango Zambezi Transfrontier Conservation Area*. Conservation International/African Wildlife Foundation/Swiss Agency for Development and Cooperation. Windhoek



PHOTO BY: SIMON K. BEARDER

Bushbuck and Blue duikers for sale.



PHOTO BY: ELENA BERSACOLA

One of the 11 Leopard skins openly displayed for sale at the Benfica craft market, Luanda.

Large items are also displayed on the ground and hanging from beams. We systematically counted the animal products on sale, and recorded species and type of item. As many of the tables displayed hundreds of small items we took photographs to aid with the counting.

We surveyed about 1400 km of small and main roads south and northeast of Luanda. We encountered bushmeat for sale at 13 locations, of which one was in the Gabela region and 12 to the northeast of Luanda. We observed hunters harvesting one Blue duiker and one Yellow backed duiker. The most numerous species found in the bushmeat trade were Blue duikers (45.1%), Blue monkeys (11.3%), Bush hyraxes (9.9%) and Yellow backed duikers (8.5%) from a total of 71 individuals recorded (Table 1). For 25 fresh carcasses, the hunting technique was evident. Eighty four percent of these fresh carcasses were hunted with shotguns, 16% were trapped using metal or string snares. All fresh carcasses were killed the same day they were presented for sale; at none of the sites was there an opportunity to store perishable goods, but whatever was not sold would be dried or smoked and presented for sale again. Some vendors said they hunted the animals themselves.



PHOTO BY: SIMON K. BEARDER

Genet carcasses for sale.

roads between field sites and in Luanda; 2) we collected data opportunistically about wildlife hunting at each field site; and 3) we visited the Benfica craft market in Luanda to collect data on animal products on sale there.

When sighting any wild animals on sale by the side of the road, we took a GPS position, collected data on species, type of carcass, sex and approximate age of the individuals, and we queried vendors about prices and the way the animal was hunted. In general, vendors were willing to discuss hunting and the bushmeat trade, and they usually allowed us to take photographs.

On 19 September 2013 we visited Benfica Mercado do Artesano, an approximately 800 m<sup>2</sup> open market situated in Luanda. The market is arranged in two sections: one that includes mainly fabric, grass and wooden products and the front section which houses mainly animal and wooden items displayed on tables.

**Table 1: Wildlife seen harvested or on sale on the side of the road in Angola**

Species	Status <sup>a</sup>	Harv Fresh	On sale Fresh	Other	Hunting technique	Price (AOA)	Total	%
Blue duiker	LC	1	31		Sg (7), T	3000-3850	32	45.1
Yellow backed duiker	LC	1	1	4 sm	(1)	25,000 <sup>c</sup>	6	8.5
Angolan blue monkey	DD <sup>b</sup>		8		Sg	1500-3000	8	11.3
Southern talapoin monkey	LC		1		Sg (2)	1500	1	1.4
Bushbuck	LC		2	2 sm	Sg	9000 <sup>c</sup>	4	5.6
Bush hyrax	LC		7 <sup>d</sup>		Sg (1)	1000-2500	7	9.9
African giant squirrel	LC		1		T (2)	500	1	1.4
Cane rat	LC		3	1	Sg	8000	3	4.2
African civet	LC		1		Sg (3)	6000	1	1.4
Large spotted genet	LC		1		Sg	1500	1	1.4
Small spotted genet	LC		2		Sg	1500	2	2.8
Tree pangolin	NT			2 live	Sg	2000	2	2.8
Nile crocodile	LR/LC			1 skin		8000	1	1.4
Monitor lizard	NA		1		Sg	5000	1	1.4
Tufted guineafowl	LC			Remains	T		1	1.4

<sup>a</sup>Data from IUCN (2013): LC = Least Concern, DD = Data Deficient, NT = Near Threatened, LR = Lower Risk, NA = Not assessed; <sup>b</sup>at subspecies level; <sup>c</sup>price is for fresh carcass; <sup>d</sup>two animals on sale in Gabela area, Harv = harvested by hunters; AOA = Angolan Kwanza (approx. 100 AOA = 1 USD); sm = smoked; Sg = shotgun; T = trapped, Hunting technique: values in brackets represent number of carcasses of which hunting technique was known by the researchers.

PHOTO BY: ELENA BERSACOLA



Immature Tree pangolin advertised for sale. The hunter informed us that the Tree pangolins were seen travelling together and were caught by hand. They were to be sold for bushmeat and to ensure that the meat would remain completely fresh the vendors kept them alive.

Prices of bushmeat varied among species, ranging between 500 AOA (approximately \$5) for a 0.7 kg African giant squirrel to 25,000 AOA (approximately \$250) for a 65 kg Yellow backed duiker. Prices appeared to be correlated with size of the animal.

We observed indications of hunting at all camping locations. Whilst staying in Kumbira we heard gunshots at night and observed a hunter harvesting a Blue duiker which was trapped using a metal snare. We also observed a number of spent cartridges along roads and trails. In Bimbe we did not hear gunshots or see any carcasses. We however asked the village chief if anyone there would hunt and he told us that Blue monkeys were an easy animal to hunt close to the village. In the northern scarp forest we heard gunshots at night and observed two hunters harvesting a

Yellow backed duiker. In Calandula we heard gunshots at night and observed hunters with rifles heading into the forest at dusk and returning to the village at dawn.

We visited Benfica market in Luanda and observed several animal products for sale (Table 2). Most common was Elephant ivory, comprising raw tusks and some two thousands of other carved ivory items. Details on the ivory at this market can be found in Svensson *et al*<sup>9</sup>. Of the remaining 48 animal products, large marine turtle shells represented 56.5% and Leopard skins 23.9%. Turtle and tortoise shells comprised 25 large (60-100 cm) and one small (approximately 20 cm) respectively. Half of the turtle shells were painted or displayed carved designs on the surface of the shell. All Leopard skins were from large individuals and price appeared to be correlated with size. We observed four live birds in one cage and an infant Blue

<sup>9</sup> Svensson MS, Bersacola E, Bearder SK, Nijman V & Mills M. In press. Open sale of elephant ivory in Luanda, Angola. Oryx.

**Table 2: Wildlife products and live animals seen on sale in Luanda**

Species	Item	Number	Price (AOA)
African elephant	Ivory	2064	
Marine turtles	Shells	25	
Tortoise	Shell	1	
Leopard	Skins	11	60,000-150,000
Nile crocodile	Handbags (2), skull	3	
Monitor lizard	Handbag	1	
Greater kudu	Horns	2	
African grey parrot	Live	2	35,000
Red fronted parrot	Live	2	35,000
Angolan Blue monkey	Live infant	1	50,000

We also had the opportunity to interview a person about trade of great apes in Angola. The interviewee has lived in Luanda since 2007 and was involved in the rescue of Chimpanzees occurring in the pet trade in Angola. During 6.5 years of living in Luanda, our interviewee was aware of 20-25 Chimpanzees having been kept as pets in Angola. The interviewee had been involved in rescuing seven of these Chimpanzees, transferring them to a rescue center in South Africa.

All Chimpanzees occurring in the pet trade are believed to originate from the Cabinda enclave adjacent to the Democratic Republic of Congo. Chimpanzee pet owners were identified by our interviewee as mainly expatriates from Portugal and Brazil. One of the main purposes of keeping Chimpanzees as pets appeared to be to promote entertainment, such as attracting clientele to restaurants and clubs. According to our interviewee, Chimpanzees were often provided with drugs and alcohol for the sole purpose of entertainment. Our interviewee noted a decline in prices for infant Chimpanzees, as in 2007 they were sold for around \$3000, and in 2013 she learned of someone paying only \$1000.

monkey inside a second bird cage. The infant Blue monkey appeared stressed and malnourished.

In rural areas across West and Central Africa bushmeat can be relatively cheap and in some cases it constitutes the main source of animal protein for local people. In contrast, in urban areas it is often expensive and viewed as luxurious food<sup>10</sup>. Our findings indicate that in Angola bushmeat hunting is practiced for local consumption as well as a source of income. In West and Central

Africa, the taxa most commonly hunted for bushmeat appear to be duikers, as well as primates<sup>10</sup>. Our results are consistent with this trend, as 53.6% of the animals found in the bushmeat trade were duikers, whilst 12.7% were primates.

Across sites in Africa, shotguns appear to be commonly used to hunt large species, such as monkeys and duikers, whereas snares are more effective for hunting smaller animals, such as Blue duikers<sup>6</sup>. The use of



PHOTO BY: ELENA BERSACOLA

African giant squirrel hunted with shotgun and displayed for sale.

shotguns is associated with intensive hunting pressures for primates. On Bioko Island, hunting with shotguns almost caused the local extirpation of Black colobus monkeys (*Colobus satanas*)<sup>11</sup>. In Angola, Blue monkeys were the second most commonly hunted species. Angolan Blue monkeys are restricted to the Angolan Escarpment; overhunting of this primate, possibly leading to localized extinctions, is likely to have disastrous impacts on their population.

The proliferation of new roads into previously remote areas has often been associated with increased hunting. New roads built by European companies in the 1980s in Cameroon have led to a significant increase in the bushmeat trade<sup>12</sup>. Bushmeat hunters were able to access remote areas more easily while the costs of transporting the carcasses diminished considerably<sup>12</sup>. In Angola we saw several main roads under construction around Luanda, as well

<sup>10</sup> Bowen-Jones E, Brown D & Robinson EJZ. 2003. Economic commodity or environmental crisis? An interdisciplinary approach to analysing the bushmeat trade in central and west Africa. *Area* 35(4): 390-402.  
<sup>11</sup> Kümpel NF, Milner-Gulland EJ, Rowcliffe JM & Cowlishaw G. 2008. Impact of gun-hunting on diurnal primates in continental Equatorial Guinea. *International Journal of Primatology* 29: 1065-1082.  
<sup>12</sup> Wilcox AS & Nambu DM. 2007. Wildlife hunting practices and bushmeat dynamics of the Banyangi and Mbo people of southwestern Cameroon. *Biological Conservation* 134(2): 251-261.



PHOTO BY: MAGDALENA S. SVENSSON

majority of these people are Portuguese and Chinese expatriates. The University of Stellenbosch (South Africa) estimated that over 40,000 Chinese immigrants were in Angola in 2007. Most Chinese workers in Angola are employed by Chinese construction companies<sup>13</sup>. Eating wildlife is part of Chinese culture and a symbol of status<sup>14</sup>. The large presence of Chinese workers in Angola might therefore be contributing to fueling the demand for bushmeat, increasing the bushmeat and wildlife trade, as well as the trade in animal products.

The Angolan population of Chimpanzees is only found in Cabinda, but to date there is no exact estimates on their population size. In 2003 Kormos *et al*<sup>15</sup> gave a rough estimate of 200-500 Chimpanzees in Cabinda. This extremely small number makes the population vulnerable to threats such as overhunting. In 2006 the Angolan government published a National Action Plan for Biodiversity to implement a permanent ban on hunting of endangered species, including Chimpanzees, by 2012<sup>16</sup>. As apparent by the ongoing pet trade in Chimpanzees, this ban is currently not enforced properly by the authorities. The number of Chimpanzees found in the Angolan pet trade is alarming and it remains to be seen whether any are left in the wild or the animals seen were in fact exported from the Democratic Republic of Congo.



PHOTO BY: ELENA BERSACOLA

Top: Female Chimpanzee kept in the outdoor area of a restaurant in Luanda.  
Below: Monitor lizard and Bushbuck on sale north of Luanda.

as logging roads in the rural areas. We predict that wildlife hunting and trade is likely to increase in these areas due to this development.

Despite hunting off all marine turtle species being illegal in Angola they were well represented in the Benfica craft market, as were ivory and crocodile items. A large proportion of

the items for sale seemed to be aimed at Asian clientele, as we observed many objects with Asian references<sup>9</sup>. We also observed Chinese clientele by the bushmeat stalls along the main roads. According to the United Nations' Department of Economic and Social Affairs, about 87,000 immigrants are currently present in Angola. The

In Angola there is a relatively high demand for bushmeat and animal products, which are openly available on the side of the road and in the main craft market in Luanda. The impacts of this trade on wild populations need to be examined. Conservation efforts are urgently required to monitor the trade and prevent the overexploitation of wildlife to the detriment of intact ecosystems in Angola. ●

13. Tang X. 2010. Bulldozer or locomotive? The impact of Chinese enterprises on the local employment in Angola and the DRC. *Journal of Asian and African Studies* 45(3): 350-368.  
14. McKenna P. 2009. Eating wildlife is part of Chinese culture. *New Scientist*, 2717.  
15. Kormos R, Boesch C, Bakarr MI & Butynski TM. 2003. *Status survey and conservation action plan: West African chimpanzees*. IUCN/SSC Primate Specialist Group, Gland, Switzerland.  
16. Kuedikuenda S & Russo V. 2006. *Strategy and National Action Plan for Biodiversity (2007-2012) - Resolution No. 42/06 of July 26, 2006*. Ministry of Urbanism and Environment, Luanda.

# CONAKRY CONNECTION

# THE ACID TEST

— *Second in a series by Dan Stiles* —

## DAN STILES



first came to Kenya in 1971 to assist on the Koobi Fora paleoanthropology project at Lake Turkana. He taught at the University of Nairobi from 1977-1981 then worked for UNEP

and other UN agencies for several years. He has researched extensively in Africa and Asia on forest and drylands natural resource utilisation. Since 1999, he has been carrying out ivory trade studies and he just completed an assignment with UNEP to help prepare the Stolen Apes report, along with another one on the elephant crisis, both launched at CITES 16 in Bangkok.

**I trust we agreed that making progress on establishing the whereabouts of the 10 gorillas ...would be a goal and an acid test ...**

E-mail of Karl Ammann to Juan Carlos Vasquez, CITES Secretariat

**T**he acid test that Karl Ammann referred to was for the CITES Secretariat to demonstrate that it wished to cooperate in locating over 130 great apes – probably infant orphans whose mothers had been killed – that were illegally trafficked from Guinea to China between 2007 and 2011 (see SWARA Oct.-Dec. 2013), and to initiate action against those involved. The Secretariat allegedly has in its possession copies of Guinea export permits and corresponding China import permits that contain information on who exported the apes and who imported them, providing names and



PHOTO BY: IAN REDMOND

Villagers commonly capture young apes after older ones in the band have been killed for bushmeat and trophies. The orphans are then sold to traffickers.

addresses. Ammann has requested that information.

The great ape episode is actually the tip of the iceberg when it comes to the trafficking of protected species to China, but the case can serve as an illustration of the problems involved with the CITES system, which is responsible for preventing the overexploitation of wild species vulnerable to international trade.

According to Ammann, the CITES Secretariat thus far has failed the acid test, along with its sister United Nations organization GRASP (Great Apes Survival Partnership), to act in accordance with their stated objectives and responsibilities regarding the protection of great apes from live

trafficking. Why? They seem to be protecting China.

Illegal wildlife trade has been growing in recent years in tandem with a number of driving factors, such as increased prosperity in countries that traditionally value wildlife products (including live animals), massive deforestation and land degradation that evicts wildlife from their habitats, and the rise of organised illegal wildlife trade networks. Some say the increasing Chinese presence in Africa is also a factor. Estimates of the illegal trade value go as high as USD 19 billion annually, which CITES is charged with controlling, admittedly a daunting task. If CITES cannot resolve the high profile great ape trafficking case, how can it be expected



PHOTO BY: [HTTP://WWW.CHIMELONG.COM/ENPARK/WILDLIFE.ASPX](http://www.chimelong.com/enpark/wildlife.aspx)

Chimpanzee drummer at the Chimelong Safari Park, Guangzhou, abducted from a West African forest.

to deal with the much tougher and broader issue of wildlife trafficking in general?

Ammann and associates of Pax Animalis, a Swiss conservation NGO, and Sean Whyte, CEO of Nature Alert in the UK, have joined forces to present evidence they claim demonstrates that the CITES Secretariat and GRASP are ‘covering up’ China’s involvement in a criminal conspiracy that involves national CITES officials and wildlife dealers to traffic great apes for commercial use in Chinese safari and amusement parks. Great Apes are CITES Appendix I, which theoretically protects them from trade for commercial purposes.

What is the evidence for a cover-up?

China reported the imports of chimpanzees and gorillas to the CITES Trade Database for each year 2007-2011, indicating that most of them were imported from Guinea. To make the imports appear legal, the source

code given on the permits was C and the purpose code was Z. A ‘C’ indicates that the animal is a second generation individual born in captivity and that the breeding is done in a controlled environment meeting certain criteria. A ‘Z’ indicates that the animal is to be housed in a public zoo after importation.

When in late 2010 the Secretariat’s attention was drawn to what appeared to be increasing trade in chimpanzees from Guinea to China, with no corresponding export reports from Guinea, alarm bells sounded.

Two Secretariat officers visited Guinea in September 2011 to investigate. In their mission report they stated, ‘Copies of export permits allegedly issued by Guinea were received from China and these all declared the animals as being captive-bred.’ This statement indicates that the permits were with the Secretariat before the mission began. Also, the Secretariat

knew of no ape breeding facilities in Guinea.

They found a number of irregularities and collected all of the export permit copies held by the Guinea CITES office, of which 126 were subsequently examined in detail by a knowledgeable consultant. None of the collected export permits were those included in the copies sent to the Secretariat by China. These missing ape export permits were not mentioned in either report, in spite of the fact that unusual ape exports was the purpose of the mission. The permit copies obtained from China were not given to the consultant to analyse.

Ammann and other members of Pax Animalis attended the CITES Conference of the Parties in Bangkok in March, 2013. Prior to that they travelled to major cities in China, visiting zoos and safari parks in search of the trafficked chimpanzees and gorillas. They found several of the Guinea chimpanzees, but none of the gorillas.



PHOTO BY: DAN STILES

**Karl Ammann (right) confronting Juan Carlos Vasquez of the CITES Secretariat with copies of illegal Guinea export permits. Vasquez claims the Secretariat does not have the copies, in spite of a Secretariat report stating China sent them, confirmed by the China CITES office.**

Many of the chimpanzees they found, which included some imported from other countries as well, were dressed up in costumes and were performing trained entertainment acts before a fee-paying public. These safari and amusement parks, which have become big business in China, do not qualify for the Z CITES purpose code.

At the Bangkok CITES conference, Ammann interviewed Juan Carlos Vasquez, the CITES Communications and Outreach Officer, on the subject of the permits that the Secretariat had obtained from China. Ammann informed him that he had found some of the trafficked chimpanzees in China, but not the gorillas. The permits would indicate where the gorillas went. Where were the gorillas?

Vasquez denied that the Secretariat was in possession of any permit copies relating to the great ape exports from Guinea. Ammann even showed copies of permits he had obtained from

traffickers, but Vasquez maintained that CITES Parties were responsible for Convention enforcement, not the Secretariat, and that Ammann should contact Guinea and China regarding the permits.

In April, Pax Animalis emailed Mr. Vasquez and asked once again for information contained in the permits, and Vasquez repeated that the Secretariat did not have them. Pax Animalis then wrote to the CITES office in Beijing, China, in May with a number of questions concerning the great ape imports, including the permits. Meng Xialin, the head of the China CITES office, replied in part, ‘...we have provided all relevant export and import permits to the CITES Secretariat for its information’, thus confirming what the Guinea mission report stated.

Sean Whyte of Nature Alert, who has campaigned for 20 years on behalf of Asia’s wildlife, particularly apes, took up the case of the Conakry Connection

apes. He also wrote to Vasquez with various questions, and received a reply concerning the permits on 28 June stating in part, ‘...we can simply repeat once again that the Secretariat does not have copies of these documents.’

In spite of numerous communications more recently concerning the permits and the Conakry Connection case sent by Pax Animalis, Nature Alert and myself to the Secretariat and to the China CITES office, no replies have been forthcoming. Nature Alert has begun a public awareness campaign using an email newsletter and Facebook posts to publicize the fact that the CITES Secretariat appears to be covering up China’s role in the conspiracy to import great apes for commercial purposes.

The plot thickens. Evidence obtained by Ammann suggested that the CITES office of the Democratic Republic of Congo was involved with the Guinea great ape case. Investigations of the DRC connection with Guinea were

**Dear Mr. Scanlon,**

Why do some member states of CITES (such as China) not comply with Article VIII of the convention?

**Namely:**

- Prosecution of traders
- Use of imported Appendix 1 species for commercial use - as we see here in China?
- Confiscation of illegally imported species
- Repatriation if possible




**Why do they totally ignore CITES?**

**Is it because they know CITES hasn't the guts to enforce the rules?**

**CHINA HAS BROKEN THE LAW AND BREACHED THE CITES CONVENTION**

**SO WHAT WILL THE CITES SECRETARIAT DO ABOUT BOTH?**



130 wild caught chimpanzees and 10 gorillas - stolen from the forests of West Africa to be stuffed into Chinese Zoo's and abused like this.

This cannot go unpunished - swept under the carpet by CITES - or can it?

**JOHN SCANLON**  
WILL CHINA BE SANCTIONED AND THE APES RETURNED TO AFRICA?

**THEIR LIVES ARE IN YOUR HANDS.**

PHOTOS BY: SEAN WHYTE

Nature Alert has begun a campaign to shame the CITES Secretariat into action.

carried out in collaboration with Ian Redmond of Ape Alliance. Leonard Muamba Kanda, head of the DRC CITES office, and DRC GRASP focal point, sent a report to Redmond indicating that he had visited China in April and that he had seen chimpanzees, gorillas and other species that had originated in the DRC. He even reported that he knew the identity of the traffickers and the trade route that was used to ship the animals via Guinea to China. He expressed a strong interest in stopping this illicit trafficking, prosecuting those involved and in other correspondence indicated that he wished the apes to be repatriated to the DRC.

CITES hit Guinea with a suspension of trade last March because of the great ape affair, a serious sanction, as it means that countries belonging to CITES should no longer accept CITES-listed species from Guinea, including timber, reptiles, birds and so on. Pax

Animalis and Nature Alert are asking the Secretariat why China should not be treated as Guinea was. They have pointed out numerous deficiencies in the way the China CITES office dealt with the Guinea export permits, yet the Secretariat has done nothing publicly (though they may be working behind the scenes).

GRASP is aware of the Conakry Connection affair, and even referred to it in a report it co-sponsored on great ape trafficking (*Stolen Apes*, see SWARA April-June 2013). This UN programme, along with CITES, has the responsibility to protect great apes from illegal trade. By not taking action against those who facilitate the illegal import of great apes and other protected species into China, these United Nations bodies are only encouraging the insidious system to continue. When problems with Guinea supply started up in 2011, China quickly shifted to other countries and imported

chimpanzees – with a C source code – from Sierra Leone. Traffickers told undercover investigators working with Ammann that several African CITES offices are now offering export permits with C source codes, for a price. When will the CITES Secretariat finally meet the acid test? ●

This is only a small part of the story, and the next installment will contain interviews with senior CITES and wildlife officials of the DRC indicating that they are colluding with China to export great apes held in sanctuaries to China for 'scientific purposes'. Other cases of illegal great ape exports will also be exposed and it will highlight law enforcement work being carried out in West and Central Africa by the EAGLE network to snare the ape traffickers.

# COMMUNITY CONSERVANCIES IN NAMIBIA LESSONS FOR KENYA?

## DR. CHRIS THOULESS



is a wildlife biologist and conservationist who has been involved in community based conservation since the mid 1990s. He has worked for the Kenya Wildlife Service, Lewa Wildlife Conservancy

and National Museums of Kenya, was a director of the Mara Conservancy and is a director of Borana Conservancy. He is currently leading the community conservancy support programme of the World Wildlife Fund in Namibia funded by Millennium Challenge Account - Namibia.

Namibia and Kenya are at opposite ends of Africa but in both countries similar approaches to community based conservation have developed. Although there are differences in history, laws, land ownership and wildlife management policies, many of the same issues have emerged. A comparison of these initiatives may help guide further development of community conservancies in both countries.

Namibia's conservancies developed from a community game guard system set up to combat poaching of desert rhinos and elephants during the later stages of South African colonial rule, and from new legislation passed after independence in 1990. The government had already given substantial rights



Desert Giraffe and Oryx in Sesfontein Conservancy in Kunene.

over wildlife to private farmers and an amendment to the Wildlife Ordinance was rapidly passed to ensure that people living in communal areas could also benefit from wildlife on their land. To register a conservancy there must be broad local support, agreed boundaries, a list of members, support from the traditional authority, a constitution, a wildlife management plan and a benefit sharing plan. Once a conservancy is gazetted, it becomes a self-governing legal entity which can benefit from

wildlife and tourism (but cannot control access by self-drive tourists). The first four conservancies were gazetted in 1998 and by 2013 there were 79, covering almost 20% of the land area of the country, and generating over \$2.5 million a year in income and \$5.5 million in total benefits. Most of these are in the north, particularly in the dry north-west Kunene region and in the Caprivi Strip (now known as Zambezi Region). Some conservancies have little wildlife and almost no income, but any community has a right to register a conservancy – part of the reason why there are so many.

Community based conservation in Kenya started in Kajiado and Narok in the 1970s, but had limited success due to the lack of effective governance in group ranches and the pressure to divide land into private parcels. Community conservancies in Samburu and neighbouring districts, under the umbrella of the Northern Rangelands Trust, have been much more successful. This approach emerged in the mid-1990s from the partnership between the private Lewa Wildlife Conservancy and

PHOTO BY: JOURNEYS NAMIBIA



Grootberg lodge in Khoadi-Hoas is owned by the conservancy.

Il Ngwesi and Namunyak communities, in which donor support was used for employing local game guards to combat elephant poaching and establishing community owned tourism facilities. Following the success of these two initiatives, and recognizing how much donor funding was being spent to little effect by NGOs based outside the region, communities came together in 2004 as the Northern Rangelands Trust to coordinate, fund and support community based conservation by the different ethnic groups of Northern Kenya.

Successful conservancies in Namibia and Kenya have some common features: they have accountable management structures, they provide benefits to local people (including employment) so that wildlife is valued, and they have effective community game guards to protect wildlife.

Conservancy members need to elect and trust their leaders, ensuring that they are using funds for common benefit. Lack of trust has led to most of the problems in Kajiado and Narok group ranches. In Namibia support organisations have focused on good financial management and making sure that constitutions are followed, particularly with regard to annual general meetings and elections. Overall there has been progress, but sometimes mismanagement leads to dissent within the community and a completely new committee is elected, so that skills have to be learnt from scratch. There is reluctance to employ managers from outside the conservancy, so most managers lack relevant skills and are unable to provide effective continuity when the committee changes. Some NRT conservancies have strong managers, so that the three-year rotation of elected leaders has less impact.

A major difference between Namibia and Kenya is that consumptive utilisation is important for most Namibian conservancies, whereas photographic tourism is almost the sole source of income for conservancies in Kenya (except for a few which benefit from bird shooting). In Namibia trophy



PHOTO BY: WWF IN NAMIBIA

Community game guard from Khoadi-Hôas conservancy investigating stock loss to caracal.

and meat hunting accounts for nearly 50% of income and the distribution of game meat to members is a major benefit. Trophy hunting can provide an immediate source of income to employ community game guards, whereas benefits from photographic tourism usually build up more slowly. Hunting provides significant income in scenically dull areas where it would be difficult to develop photographic tourism. Tourism generates much more employment and provides spin-off benefits but, even in those conservancies that have lodges, hunting still takes place and is often the major source of income. There can be problems with physical separation of hunting and game-viewing tourism, but this can be resolved with a good zonation plan. It can be difficult for conservancies to manage hunting operators, particularly when they bend the rules, but these problems are intermittent (and dealing with tourism operators can sometimes be as difficult as dealing with hunters). There has been controversy around the trophy hunting of individual lions in the north west, but this should be considered in the context of a population that has increased from about 25 in the

mid-1990s to 150 today, largely as a result of greater tolerance of lions by local herders, who have benefitted from trophy hunting income – but see little direct benefit from lions through photographic tourism.

Namibia conservancies are much more financially independent than those in northern Kenya. Of the thirty most developed conservancies, only six receive any donor funding for their operational costs, amounting to less than 2% of total income. Northern Rangelands Trust conservancies are still heavily dependent on donor funding, typically providing 50-90% of income for operations. They are more expensive to run than Namibian ones, because of higher security costs. NRT conservancies have annual operating costs of \$30,000 to \$230,000 compared to \$50,000 for a typical Namibian conservancy. Northern Kenya has been plagued with banditry, livestock-raiding and illegal weapons for many years and new conservancies need armed game guards, with good communications and transport, which are expensive to maintain. Although game guards are also at the heart of Namibian conservancies, they do not



PHOTO BY: CHRIS THOULESS

Rhino tracking guide in Torra Conservancy.

business, particularly when a committee can get voted out of office and replaced by inexperienced successors. Il Ngwesi in Laikipia is an example of where efficient business management has taken second place to other objectives of a community run operation.

Ultimately conservancies can only be considered successful if there are improvements in the status of wildlife and the environment as well as the social development of the members. In Namibia there is little doubt that this has been the case, although wildlife numbers in Kunene have also benefitted from a decade of good rains. Numbers of black rhinos, lions, elephants and giraffes in Kunene have all increased. The endemic Hartmann's mountain zebra has increased from a few hundreds in the 1980s to over 25,000 today. Less spectacular increases in wildlife have been seen in other regions.

It is less easy to detect increases in wildlife numbers in Kenyan conservancies due to the greater human pressure on grazing and water points, the abundance of illegal firearms and greater vulnerability to poaching. Both wildlife numbers and rangeland condition have improved in core conservation areas, and it is almost certain that the greater protection within conservancies has led to the stabilization of numbers of globally endangered Grevy's zebra and provided new safe space for elephant which are increasingly venturing into areas where they have not been seen for over 30 years.

The increase in lions and elephants in Namibia has led to increased human wildlife conflict, which is only partly offset by increased hunting and tourism revenue. It is important to ensure that local people get direct benefits from tourism, and there are a number of initiatives designed to improve this. For instance conservancies have put a great deal of effort into protecting black rhinos without financial return, so there are plans to develop conservancy-based rhino-tracking tours.

The key lessons from Kenya for Namibia are the importance of education as a benefit from

face the same challenges. Namibian conservancies typically receive more income, because of the combination of tourism and hunting.

There is a difference in the way that Namibian and Kenyan conservancies deal with tourism income and social benefits. In northern Kenya 60% of the proceeds from tourism go to a community managed bank account for benefits and 40% is put towards operational costs. Since a high proportion of income goes directly to social benefits, there is less available for operations and the difference is made up by donors. In Namibia however, all the money goes into a single account. It is only after the operational costs have been covered that money is made available for social benefits. As a result, typically only 10-20% of income goes to social benefits (although the value of game meat is likely to be as much again). As Namibian conservancies receive more income over they tend to spend more on operational costs, rather than providing more benefits. When allowances to the committee form a substantial part of this expenditure, tension between leaders and members is likely to result. In Namibia people feel that the main benefit from conservancies is job creation, and

would rather use additional income to employ more game guards, whilst in northern Kenya most people see peace and security as the single biggest benefit of the conservancy movement, with income and employment being secondary.

One of the main sources of income for conservancies in both countries is tourism. This is mostly through 'joint venture' lodges run by private sector operators. Managing the relationship can be difficult since tourism operators and communities usually see issues (such as cattle grazing in front of the lodge) in quite different ways. The total amounts paid per lodge are mostly in the range of \$20,000-50,000 per year, with some notable exceptions such as Sarara Camp in Samburu, which generates \$120,000 a year for Namunyak conservancy.

In both countries there has been an interest in communities getting a greater share of the profits from tourism, either through the communities owning the physical structure of the lodge or actually running the lodge themselves. However, a conservancy, which is an institution designed for representing local people and managing wildlife, is not the most appropriate structure for engaging in

## CONSERVATION

conservation, and for conservancies to employ professional managers, who have the skills to address the most important issues within their communities, such as water, health care, peace and commerce. Most of the financial benefits from Kenyan conservancies go into supporting secondary school pupils, which spread benefits widely and help invest in the future. Benefits from Namibian conservancies tend to be a much smaller proportion of total income and spent more on peripheral activities such as support to sports teams and for cultural festivals and traditional leaders.

The main lessons from Namibia are the need for support (but not micro-management) from government and allowing communities to benefit fully from wildlife. The legislation related to conservancies is very simple (just a nine page amendment to the Ordinance of 1975) and they are generally left to make and learn from their own mistakes. Although government is involved in approving hunting and meat quotas, the quotas will normally be approved if the request is reasonable and the conservancy is doing a good job of monitoring and protecting its wildlife. The Namibian government has provided enormous support in other ways. Over 10,000 individuals of 15 species, including black rhino and giraffe, have been translocated to conservancies, with



PHOTOS BY: CHRIS THOULESS

Etendeka concession area granted to Anabeb and Omatendeka conservancies.

much of the expense being covered by government. In addition, government gives tourism concessions in national parks to neighbouring conservancies, which are granted 'head concession rights' and enter a partnership with commercial operator. They are allowed to keep 75% of the revenue, with the rest going to government.

There is no doubt that communal conservancies have made a significant contribution to conservation and people's lives in both Namibia and Kenya, and these are the two countries

in Africa where this approach to conservation is making the most headway (since similar programmes in Zimbabwe and Botswana have fallen by the wayside). What is less clear is how sustainable they are. Both have been supported by significant donor funding. Will the programmes survive if this funding dries up? How vulnerable are they to changes in the competitive advantage of conservation compared to other land uses, particularly considering the possible impact of future infrastructure developments such as the Lamu to Sudan transport corridor? As they become more successful and generate more money, will they be strong enough to resist the greed of powerful people and institutions? It is hard to tell, but what is certain is that the longer these conservancies continue to operate and are supported, the greater the chance that they will grow to be an effective force for conservation and community development. They have established themselves in both countries as the most relevant and effective tool through which communities can implement national wildlife policies. Their impact has extended beyond conservation, since a strong conservancy is often the main democratic local level institution through which the voices of rural people can be heard. ●



Chairman and community game/fisheries guards from Sikunga Conservancy in Zambezi Region.

# AMBOSELI

## LEASING LAND TO PROTECT THE FUTURE

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**All over Africa conservation competes with people for space and use. Kenya's Amboseli National Park (ANP) is no exception and today the park is too small to support viable populations of game on which its reputation and income depend. The wildlife depends on unprotected areas outside ANP for dispersal and movement.**

**This article looks at an example of how leasing land can ease the pressures with benefits for communities and conservation – a Payment for Ecosystem Service (PES) programme introduced by the African Wildlife Foundation (AWF).**

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**BY KATHLEEN H. FITZGERALD**



is Vice President of Conservation Strategy for the African Wildlife Foundation. Kathleen has over 20 years' experience in large landscape scale and carnivore conservation. She has completed dozens of land transactions and

published numerous papers and articles on conservation and tools that can be used to protect land and wildlife.

Kathleen graduated from St. Lawrence University with a major in Environmental Studies and Government and has an MS from University of Vermont, where her research focus was on wolves in Canada.



PHOTO BY: DARYL AND SHARNA BALFOUR

Elephants around Mt Kilimanjaro



Landowners having discussions.

PHOTO BY: RASHID ABDUL AWF

the landscape and resulting in habitat loss. If community members do not benefit meaningfully from the conservation of habitat, they will seek other alternative land uses that generate more income but are incompatible with wildlife and the pastoralist way of life.

The sub-division has led to a rise in lodge development in the Kimana area. This has a devastating impact on the habitat. In addition, the tourists in these lodges, despite being located outside the Park, use the Park, adding significant pressure to it. This overcrowding has compromised the tourist experience, which will ultimately result in fewer tourists and reduce the benefits to communities. In 2009 the Ministry of Tourism formed a Taskforce because of 'the growing concerns in government and civil society about the deteriorating status of the environment and the tourism product in the Greater Mara and Amboseli ecosystems.' The Taskforce found that in the ecosystem there are 1,332 tourism beds of which 778 are found in Kimana.

In 2013, NEMA gazetted a one-year ban on all development in the ecosystem. An ecosystem plan is currently being developed, which will strive to plan this landscape properly and regulate development in a way that protects the ecosystem while supporting responsible development.

The African Wildlife Foundation (AWF) recognized that viable economic alternatives had to be provided to communities in the Amboseli Ecosystem to secure important wildlife habitat and in 2008 launched the Payment for Ecosystem Service (PES) lease program. The term PES emerged in the 1990s as a mechanism for rewarding land and resource management practices which sustain and restore ecosystem service functions. An ecosystem service (ES) is "the benefits of nature to households, communities, and economies".

Generally four types of ESs are described in the PES literature:

- Hydrological services
- Carbon sequestration
- Biodiversity protection
- Landscape beauty

The Amboseli ecosystem stretches from Amboseli National Park to Chyulu Hills and Tsavo West National Parks in Kenya to Mt. Kilimanjaro National Park in Tanzania. ANP, 392 km<sup>2</sup>, forms the core of the ecosystem while six surrounding community lands, group ranches, surround the Park. While ANP is renowned for its elephants and magnificent views of Mt. Kilimanjaro, the Park is too small to support viable populations of elephants, predators and certain ungulates. Wildlife is dependent on the unprotected areas outside the Park. If ANP and the wildlife are to survive, the Park must be maintained and strategic dispersal areas and wildlife corridors protected.

Maasai pastoralists have occupied the Amboseli ecosystem for centuries and pastoralism has been the main economic activity. Tourism has been part of this ecosystem for decades; however, unequal distribution and/or lack of benefits are problematic, as communities do not feel that they adequately benefit from the industry. Due to increasing population and

changing lifestyles, pastoralists have started farming and/or leasing land to farmers, especially in the swamps. Elephants and other wildlife depend on these swamps for water and food; thus, encroaching on farms, which has led to a significant increase in human-elephant conflict.

One of the most severe threats to the Amboseli Ecosystem is habitat fragmentation and loss due to land sub-division and land-use change. In addition, the decrease in water resources due to an increase in population and usage and climate change is putting the ecosystem at a tipping point. Kimana Group Ranch located on the east side of ANP was sub-divided into 60-acre lots allocated to individual owners. The sub-division is primarily due to: a breakdown in communal systems; failure of the group ranch system to deliver equitable benefits; and socio-economic changes such as a more sedentary way of life. Landowners of the sub-divided parcels are selling their lots for development, speculators and agriculture at a rapid pace, which is significantly fragmenting

The most commonly recognized definition of PES contains five components:

1. A voluntary transaction where
2. A well-defined ES (or a land-use likely to secure that service)
3. Is being 'bought' by a (minimum one) ES buyer
4. From a (minimum one) ES provider
5. If and only if the ES provider secures ES provision (conditionality).

(Wunder, S, 2005)

AWF's conservation lease programme in the Amboseli Ecosystem meets these criteria:

1. The transaction between the landowners and AWF is voluntary.
2. The ecosystems service of biodiversity protection exists (critical habitat for wildlife movement).
3. The biodiversity protection service is being bought by AWF.
4. The biodiversity protection is being provided by the land

Owners participating in the programme.

5. Payment is provided on the condition that the landowners provide the agreed biodiversity benefits.

The programme also includes all four ecosystem services.

Due to the rate of land conversion in Kimana, AWF prioritised the area between ANP and Kimana Wildlife Sanctuary as the starting point. AWF helped the communities form landowner associations, which enabled them to make collective decisions while retaining and benefitting from their individual land ownership. AWF started the programme as a pilot with the Osupuko Landowner Association, because they comprised 50 landowners, were first to organise and eager to engage. This lease was discussed with the community in a series of meetings on their land. Women, youth and men participated. The meetings were held in Kimaasai, with translation as needed into Swahili and English. AWF followed globally recognized Free and

Prior Informed Consent processes to ensure communities had the option to accept or oppose the programme, were fully briefed in their local language and exercised their voluntary rights.

The lease outlines the following: conservation purpose; term; land use restrictions; retained rights; payment requirements; how violations are addressed; and other parameters. The purpose of the lease is to 'provide habitat, dispersal and movement areas for wildlife,' to help 'connect conservation areas,' and to 'contribute to the survival of wildlife area in the Amboseli ecosystem and the continued existence of ecotourism as a means of poverty reduction and economic development and overall public benefit by ensuring that wildlife species endure for the benefit of future generations.'

The lease prohibits: development, fencing, logging, mining, dredging, agriculture, resource extraction, non-tourism related commercial activity, and illegal taking of wildlife. Grazing is permitted in compliance with a



Locals displaying their land lease certificates.

PHOTO BY: RASHID ABDUL AWF

management plan. Ecosystem services have a range of values that are generally classified into two groups: ecological benefits/values and socio-cultural benefits/values, some of which can be captured through economic valuation. Many ES functions are not traded in a market, making it necessary to set a price through other methods including:

- **Avoided Cost:** services that allow society to avoid costs that would have been incurred in the absence of those services, ie. Flood control, which avoids property damage.
- **Replacement Cost:** services could be supposedly replaced by human-made systems; ie. natural waste treatment by wetlands that can be replaced by an artificial treatment system.
- **Factor Income:** some ESs enhance incomes; ie. water quality improvements that increase commercial fisheries.
- **Travel Cost:** use of ESs may require travel, such as to protected areas for wildlife viewing. The travel costs can be seen as a reflection of the implied value of the service.
- **Hedonic Pricing:** service demand may be reflected in the prices people will pay for goods; ie. House prices at beaches usually exceed prices of identical homes inland.

In the Amboseli case, there is no “biodiversity market;” therefore, AWF came up with an indirect means of assessing value and established the Willingness To Pay or Willingness To Accept compensation. AWF did a market assessment of tourism and agriculture leases in the region and based its payment on the average value for comparable lands, adjusting comparable lands to the subject leased land.

AWF started lease payment at Ksh 500 per acre (approx USD 6.00) with an annual increase of 2.5%-3%. Landowners wanted direct payment,

so payment is made through electronic transfer to individual landowner bank accounts. AWF helped landowners to set up bank accounts. Payment is made every six months. If there is a violation of the lease, AWF retains the right to withhold payment.

The program resulted in five new conservancies: Osupuko, Nailepeau, Kilitome, Ole Polos and Oltiyani, including 350 landowners and protecting over 20,000 acres. With an average household of seven, the lease program is benefitting over 2,450 individuals, not including employment beneficiaries. AWF recently signed 850 leases with members of the Olgulului Group Ranch, protecting 8,500 acres of habitat in the Kitenden Corridor, extending south from ANP to Tanzania.

There are landowners who chose not to participate. This causes a risk to the sustainability of the programme because if these landowners practice

**WITH AN AVERAGE HOUSEHOLD OF SEVEN THE LEASE PROGRAM IS BENEFITTING OVER 2,450 INDIVIDUALS, NOT INCLUDING EMPLOYMENT BENEFICIARIES.**

incompatible land uses it will have an impact on the integrity of the conservancies. The sale of land in this landscape to speculators and developers remains a significant threat to the viability of the conservancies.

AWF and the communities developed conservancy management plans. A community scout programme was established to prevent poaching and lease violations while providing employment to community members. The scouts are managed with other scouts in the region through the Big Life Foundation.

The conservation leases were signed for varying periods of time, depending on community willingness and availability of funding. The Osupuko pilot lease was initially signed for two years and later extended. The Kilitome Conservancy lease was signed for 15 years. AWF partnered with Tawi Lodge, located in Kilitome. AWF agreed to pay

the lease payment at a decreasing scale for four years, while Tawi lodge opened for business and was able to pay for the lease fees. After year five, Tawi took on the full payment of the leases.

Throughout the process of establishing the program AWF has been collaborating with Kenya Wildlife Service (KWS). Recognising the benefits to the Park and the communities, the KWS Board of Directors approved the payment of the lease program.

One of the challenges with PES programs is sourcing the funds to pay. While the concept of buyer and seller is straightforward, finding willing buyers is challenging. In many cases, buyers have not had to pay for ecosystem services; therefore, instilling the need to pay can be challenging. In this case, AWF was able to enlist the support from a tourism investor who saw the success of their investment furthered by the program. Likewise, KWS recognises the

link between the programme and the sustainability of the Park. The challenge of replicating a conservation

lease programme is sourcing the funding. Kenya should consider a PES policy that incentivizes ES buyers.

Africa is facing unprecedented habitat and species loss. New and innovative conservation mechanisms are needed to halt this rapid decline, such as AWF’s Conservation Lease Program. Despite its success in protecting habitat and providing benefits directly to landowners, the ecosystem continues to be challenged by land conversion around the swamps and decreasing water. Farming is a far more lucrative business than keeping wildlife; therefore, it is difficult to compete with this land use. A clear, enforced and legally binding land use plan would help support proper land conservation and community benefit tools such as PES. In addition, the adoption of a policy around PES would better serve the wildlife, wild lands and communities. ●

# WHAT NEXT FOR CONSERVATION?

## STORM STANLEY TALKS TO THE NEXT GENERATION

Kenya celebrates its 50th anniversary of independence in 2014. Its natural heritage remains part of the economic mix that makes it a leading African nation. How has conservation changed in those five decades and how should it adapt for the coming years? In a two-part series, **Storm Stanley** puts the question to the offspring of some of the leading first generation of conservationists.

BY STORM STANLEY



Was born in Tanzania and grew up in Kenya. During Storm's career, she has been channelled into environmental journalism and reporting. Storm has a MSc. In Environmental Decision-making, and is a NEMA registered Lead Expert specialising in biophysical studies and sound natural resource management.

### ANGELA SHELDRIK

daughter of Dame Daphne Sheldrick, who recently published her Memoir: *Love, Life, and Elephants: An African Love Story*; it recounts a life devoted to rearing and reintegrating elephant orphans back into the wild. Angela describes how the David Sheldrick Wildlife Trust created in the memory of her father, the late David Sheldrick, is enduring, first assisted by her older sister Jill, and now steered by Angela herself.

### WANJIRA MAATHAI

daughter of Nobel Peace Prize winner, Wangari Maathai considers the significance of forestry in Kenya today. Wanjira has expanded the international affairs for The Green Belt Movement where "creating a greener and more just society" is still the mantra of the day. More recently, Wanjira has set up the Wangari Maathai Institute for Peace and Environmental Studies, a legacy in honour of her mother, creating an institutional platform for the next generation of Kenya's environmental decision-makers.

### SABA DOUGLAS-HAMILTON

daughter of Dr Iain Douglas-Hamilton who is recognised as one of the world's leading authorities on elephant conservation; has forged a career as a wildlife filmmaker in her own right. Immersed in the lives of elephants from when she was a baby, Saba discusses how she is becoming more involved in her father's conservation NGO Save the Elephants.

**How long have you been interested in the natural world? How did you become involved in conservation?**

**ANGELA:** I was born into it! I was lucky enough to have been brought up in Tsavo National Park, the daughter of Tsavo's founding warden, David Sheldrick. I have been surrounded by nature and wild places all my life so I came to embrace conservation by osmosis!

**WANJIRA:** All my life. My mother encouraged us to plant flowers and trees especially on Earth Day. Conservation wasn't my first career choice. I was working in the USA in October 2004 when my mother was announced as a Nobel Peace Prize winner. The Green Belt Movement (GBM) had the spotlight on it and my mother asked if I could help expand the International relations. I realised how much I enjoyed working for the GBM by connecting people to the environment in a way no one else was doing. I could see at a grassroots level how the environment was such an essential part of people's survival.

**SABA:** I was born into a family of elephant conservationists. Everything in our lives from as early as I can remember was all about elephants. I

met my first elephant when I was 6 weeks old. We grew up partly in Lake Manyara national park in Tanzania, and partly beside Lake Naivasha on my grandparents' farm. As a child you cannot help but absorb the intellectual and emotional environment around you. My interest in conservation has been there from the very beginning.

**Has it been a natural progression for you to follow in your parent's footsteps, and become a conservationist?**

**ANGELA:** It has been more of a 'calling' – I feel it is my responsibility. Raising elephants who live as long as we do in an ideal world, from infancy until they are old enough to assimilate into the wild herds once more means you can't just pack it in and walk away from it. We might have an elephant for 10 years. Together with Jill (Angela's older sister), my mother and a dedicated team we have built the Trust up and devoted our lives to it.

**WANJIRA:** I had a very privileged role in being able to work with my mother. My expectation on myself is to ensure her amazing legacy lives on and thrives. I am really excited to be the project leader and co-chair of the Wangari Maathai Institute. The institute is a



PHOTO BY: MICHAEL NICHOLS COURTESY OF NATIONAL GEOGRAPHIC

Angela Sheldrick at the David Sheldrick Wildlife Trust which was created in memory of her father, the late David Sheldrick.

partnership between the GBM and the University of Nairobi and links the work of the GBM with academia, bridging a gap that is frustrating development – the knowledge-practice gap. Many graduates know a lot of theory but few have practical experience that allows them to hit the ground running after graduation. We will be offering courses in creative activism, transformation leadership and teach practical skills and tools for change. To be part of the development of this Institute is a dream come true. I am very happy not to be taking the reins of the GBM (currently held by Pauline Kamau) although I continue to give support and direction as the Vice Chair of the Board.

**SABA:** I don't think I have followed in my father's footsteps, I've been hugely inspired by him but have danced around quite a bit more with my own career. In our family my father is the scientist, while my mother Oria is creative. I studied social anthropology

at university – and only later joined the world of conservation. Initially with Save the Rhino Trust in Namibia and then helping my father expand Save The Elephants (STE) in 1997. But I found conservation too depressing – although you win a few battles, on the whole you are losing the war. Instead I discovered that my metier was wildlife film-making, combining all the things I loved most - exploring the remotest places possible. Being a TV presenter was a way I could try to inspire more people to care about the natural world. My parents have dedicated their entire lifetime to saving one species. I would also like to contribute to the wild world and hope that I can be even a tiny bit like them.

**Can you remember a defining moment in your childhood when your mother/father inspired you?**

**ANGELA:** There hasn't really been just one defining moment, but many.

My mother is an inspirational person to many people all over the world, including Jill and myself. I have these incredibly clear memories of my mother working day and night raising baby orphans that came into our care. In the days before keepers it was all down to my mother's passion and commitment – '24/7'. My mother pioneered milk formula for raising infant elephants; and there was always a lot of heartache when an orphan didn't make it.

**WANJIRA:** Here in Kenya, exams are splashed over the newspapers, and about the age of 10 there was a time when the exam results (between primary and secondary school) were messed up and some students faced the reality that they would likely miss out on continuing to high-schools of their choice. I remember my mother being very concerned about this issue. She decided to put an advert in the newspaper with a letter to the children affected. Her letter told them to have



PHOTO COURTESY: WANJIRA MAATHAI

Wanjira Maathai with the Late Wangari Maathai founder of the Green Belt Movement and the 2004 Nobel Peace Prize Laureate.

courage and keep their heads up, it was a really positive letter to all these children she didn't even know. I was deeply moved by her capacity to extend her caring beyond her own family. She was always involved with communities, trying to lift the bottom rungs up; everything she did she displayed great persistence, commitment, and patience.

**SABA:** There are many, many times. Some of my earliest memories as children (Saba has a younger sister 'Dudu' who is a political risk analyst) – were sitting in an open topped Land Rover being charged at by enormous elephants – to me they were like *Tyrannosaurus rex*. But my father's way of dealing with the situation was to turn the engine off! That way the elephants would eventually calm down. From early on I could see that we were dealing with very intelligent, sentient

beings - I absorbed my parents way of being around elephants deep into my soul. With elephants you often feel you can sense what they were thinking and vice versa.

### What is a normal working day for you?

**ANGELA:** That is one thing we don't have here at the Trust. Every single day is different, it is the thing I like most about the job – the unpredictability. It could be sending veterinary assistance into the field one day and rescuing an elephant the next, or mobilising an anti-poaching task force, and dealing with the daily orphanage routine. More often than I like to be I am tied to the computer. The Trust has grown organically, as it was never a premeditated idea that the David Sheldrick Wildlife Trust was going to

be about raising elephants. Originally, the Trust focused on rhino protection initiating some of the early Rhino sanctuaries throughout Kenya. My mother and Jill were very much at the helm of the Trust in those early days, as I was still at school. 35 years later the Trust has raised over 150 orphaned elephants along with all our other field projects which include Anti-poaching, Community Outreach, Mobile Veterinary Units, and Saving Habitats. We have just launched a new initiative – Sky Vets so that no case of an injured or sick wild animal needs to go unattended.

**WANJIRA:** An ideal day is being able to spend time with my children in the morning, and not feel rushed, dropping off my daughter at school, and a yoga session or some gym time. I arrive at the office (the Wangari Maathai Institute);



PHOTO BY: SAM GRACEY

Saba Douglas-Hamilton daughter of Dr Iain Douglas-Hamilton who is recognised as one of the world's leading authorities on elephant conservation.

visit the Orphanage every day during term times, in fact there is need to limit the numbers to 250 as it could potentially climb to the thousands of visitors, and that would be impossible to accommodate. Our project has been broadcast on Kenyan TV in programme such as "Elephant Diaries". Kenyans today are very media savvy and they use the social media a lot.

**SABA:** The benefits that national parks bring are probably not understood nearly enough. I'm not just talking about economic benefits from tourism revenue, but maintaining the health of ecosystems and biodiversity too. Most protected areas are being encroached upon in a way that is totally unsustainable. If you look at the Maasai Mara or even Samburu there's been a mushrooming of illegal lodges, camps and development that is destroying these fragile areas – killing the golden goose. Kenya has got to wake up to how unique and special its environment and wildlife are or we are going to lose them. Conservation has had to become much more people-oriented than it was in the old days which can sometimes dilute its effectiveness.

**WANJIRA:** During my tenure at the GBM, I heard about and saw increasing (environmental) devastation: lack of water, siltation of rivers, the impact of Climate Change in recent times, and of course all of this is connected to the health of our forests. The GBM is probably responsible for the heightened environmental awareness in Kenya today. The work of GBM continues to evolve and is now focused on the protection of critical watershed areas around Kenya's five water towers. But we need all hands on deck. The protection of our forests and restoration of their integrity will demand a level of public-private partnership we have not yet seen. The Green Belt Movement will be intensifying such partnerships for greater collective impact. We have to get it right. And if we don't get it right, another generation will be adversely affected.

respond to my emails, have meetings, and I like to be home by 5.00pm. I am lucky to have a husband who loves to cook, and this gives me time to get the children ready for dinner and bed. I sometimes pick up my work again once the children are asleep with conference calls with the West happening late into my evening.

**SABA:** I've had amazing experiences filming polar bears in the Arctic and gorillas in Central Africa. My most usual day would be working on 'Big Cat Diary' as part of the 'Leopard Team' in the Mara. We'd wake up at 4.30 a.m. and were out of camp by 5.00 am, often driving for an hour or so in the dark through thick mud to get to our leopard's territory. Once there we would switch off the engine and listen, hoping

to hear the alarm calls of Egyptian geese, monkeys, impala or baboons that might give the leopard's position away, then drive on and repeat the process until we found her. Once we had her we couldn't lose her, and this would sometimes mean watching a single rosette on her coat for five hours hidden among leaves and bushes, followed by a sudden high-octane rush as she pounced on a wildebeest calf.

**Do you think our designated protected areas and primary old-growth forests are understood by local people in light of a more populous Kenya than your parent's time?**

**ANGELA:** Yes, I am sure the public do understand. 250 school children

### In what ways would you like to see conservation progress here in Kenya? What are the conservation priorities?

**ANGELA:** All protected areas are under tremendous threat right now. Firm land use policies need to be enacted into law. The government needs to identify viable balanced ecosystems, which can be saved. When you are dealing with a burgeoning population - the issue is 'Habitat' - once it has gone, it has gone forever. Every single year both habitat and wildlife gets whittled away more and more. The Bushmeat trade has devastated parts of Kenya. Wildlife needs the rangelands and the migratory corridors. For elephant these corridors have been indelibly etched into their instincts since the beginning of time. It has not been addressed properly by the government.

There is a very difficult balance to strike between environmental issues and development issues, but they do not need to be incompatible if they are approached in a sustainable manner. Kenya's greatest asset is its wild places full of wildlife. So much relies on tourism, without our robust tourism income it would be a disaster. In our over-populated world, ever more humans are seeking solace, turning to the peaceful wild places for soul food - and sadly humanity is losing these wild places.

**WANJIRA:** With regard to the GBM's approach to protecting and enhancing tropical forests, the focus for the next 5-10 years is ensuring that the critical watersheds within Kenya's five water catchment areas are rehabilitated and protected. By focusing on the water hot spots - we can restore ecosystem integrity. We all drink this water, and we all depend on it for our survival. A lot of people might not realise that when we turn on the taps the water comes from one of these watersheds. It really is the centre to our survival. If we lose this, we also lose out on life as we know it. Community awareness and environmental education are important

too. Unless we understand what we need to do, the linkages won't be made and the cycle continues.

**SABA:** First and foremost we need to have the political will. Then almost anything is possible. Protected areas and the buffer zones beyond them have to be properly managed by people who care and know what they are doing. Currently, there is a huge amount of illegal activity going on from poaching and cutting down of forests, to illegal tourist camps and poisoning of wildlife, and all of this needs to be stopped. We need proper legal processes for when people break the law. We need to recognise the importance of traditional knowledge and find a way to make the old ways of life viable. It breaks my heart to see the annihilation of Kenya's traditional cultures - many of which will be gone in a generation or two. And we need to win the hearts and minds of new, young champions for the environment, in schools, universities and the work place by exposing them to what lies on their doorstep and explaining how a healthy environment underpins everything.

### How can people living outside Kenya help conservation in general and in particular the escalating elephant and rhino poaching apocalypse?

**ANGELA:** By lobbying their own governments, creating awareness, through education, contributing funds to conservation charities like ourselves who fight on the front line. There needs to be a multi-pronged approach. Anyone and every one can make a difference and there is not just one 'quick-fix' solution. Equally important are agencies and institutions who bring awareness to

countries like China and create pressure on the consumer countries to halt the custom of buying ivory and rhino horn - there is an urgency as time is running out.

**SABA:** Right now we need all the help we can get to fight the illegal trade in ivory and rhino horn. Anyone who works in Asia should help share awareness about what's really happening on the conservation frontline. Ivory doesn't fall out each year like antlers, it has to be chopped out of an elephant's head with an axe after it has been brutally killed. Rhino horn is NOT a hangover cure, try aspirin instead. Lion bone is just like human bone - find an alternative. Pharmaceutical companies should get involved and champion a particular animal, for example, they could do huge advertising campaigns against the use rhino horn. Personal contacts are a great way to spread the word.

### Do you have a message that you would like our newly elected President Uhuru Kenyatta - to hear?

**ANGELA:** While we embrace progress, let us not forget the greatest and most unique asset of all - Kenya's wildlife and wild places: rich biodiversity, primary forests and balanced ecosystems. This is what makes us unique in the world. More emphasis and importance needs to be placed on both.

**WANJIRA:** I wish President Uhuru Kenyatta and his administration very well. I was extremely encouraged by his inauguration speech - the environment is clearly a priority for him - and I hope that he sees through the promise of ensuring our natural resources are managed better. It can be done - if we all pull in the same direction. ●

### To know more or donate please contact:

[www.sheldrickwildlifetrust.org](http://www.sheldrickwildlifetrust.org);

[www.greenbeltmovement.org](http://www.greenbeltmovement.org);

Wangari Maathai Institute at University of Nairobi, Kabete Campus:

[wmi.uonbi.ac.ke](http://wmi.uonbi.ac.ke); [www.savetheelephants.org](http://www.savetheelephants.org)

# THE RINGNET FISHERY

## SHORT TERM FISHERY GAIN OR LONG TERM LOSS?

**SWARA readers were first introduced to the ringnet fishery and related conservation issues and conflicts in SWARA 2010-03. Some of the sections below have been taken from that edition to describe the fishery again for this update. This article focuses on the current fishery management weaknesses and challenges and threats to Marine Protected Areas and coral reefs from the ringnet.**

### STEVE TROTT



is a marine zoologist and Chairman of Watamu Marine Association. WMA is made up of 30 groups and organisations from the community, tourism and conservation sectors in Watamu. WMA runs

sustainable tourism and ecotourism projects, community waste management and recycling enterprises and marine conservation and research programs.

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The ringnet fishery in Kenya originated from Tanzania in the 1990's. The method was first introduced in Vanga, Kwale District with the majority of the fishermen being Tanzanians. With time, the use of this gear has been introduced along most of the Kenya coast and current reports indicate there are more than 20 ringnet vessels operating in the Kenya inshore sea area.

Ringnets are long continuous stretches of netting measuring up to about 300 metres in length and a depth of approximately 10 - 30 metres. They are used to encircle a shoal of fish and intended for use in deep sea waters. In Kenya, the gear is operated by motorboats using a crew ranging between 10 to 40 fishermen. Surface shoals of fish are located by sight

while sub-surface shoals are located by SCUBA divers or snorkelers. The net is then lowered by the crew to encircle the shoal, trapping the fish, and then hauled into the boat after the bottom of the net has been closed off by a process called pursing.

The introduction of ringnets in Kenya was sanctioned by the Department of Fisheries (DoF) with the anticipation that it would develop the marine fisheries sector by increasing food security and creating jobs. This fishery was expected to employ and enable local subsistence fishermen to target a broad range of open water pelagic fish species beyond the reefs that run the length

of our coastline. It was also expected to operate beyond five nautical miles from the shore in sea areas which are under-exploited. By so doing, this would reduce fishing pressure on the Kenya inshore fishery sea areas, which have become highly unproductive with most of the fishing concentrated in shallow waters where resources are highly overfished and depleted.

The reality however, is that the fishery has been developed without adequate consultation and agreements with stakeholders and insufficient research and detailed assessment of the potential ecological and socio-economic impacts. Furthermore, the DoF is mandated



Ringnet boat fishing over a coral area at a depth of only 8 metres in the Protected Watamu Marine Reserve.

PHOTO BY: STUART SIMPSON



Ringnet boat setting nets over a coral reef in the Watamu Marine Reserve.

to put in place Management Plans for commercial scale fisheries. To be successful, management plans require extensive and all inclusive stakeholder representation and input to ensure that a fishery will not cause resource use conflicts or have negative or destructive impacts. The draft Ringnet Fishery Management Plan is still lacking in that respect and it is yet to be gazetted by the Ministry. Not being gazetted means that the fishery is not yet officially recognised and therefore does not have the necessary license conditions or regulations which are the only way of ensuring that a commercial scale fishery operates in a sustainable manner and in accordance with the Fisheries Act and laws. Also, mechanisms have not been developed that would allow for close and effective monitoring of the fishery due to a lack of DoF patrol boats and surveillance capacity.

The reality is that ringnet boats operate without adequate controls and

generally target shoaling fish in shallow coastal waters less than 30 metres depth and less than 2 nautical miles from the shore. Fish are much easier to catch using this method in shallow water and with the type of boats available and affordable to the ringnet investors (10 metre long motorised dhows). Fishing close to shore also considerably reduces fuel costs. These are the same fishing grounds used by the coastal community subsistence fishermen using traditional dhows, canoes and fishing gears.

A serious concern is the use of ringnets in Marine Protected Areas (MPAs). In the Malindi / Watamu Marine Reserve ringnets have been operating almost continuously since 2008. They target shallow water coral reef areas where there are high densities of reef fish. It is feared that such intensive fishing over a small area may have already severely damaged the ecological well being of the Reserve for years to come.

The Kenya Wildlife Service (KWS) has also voiced its opposition to ringnets operating in the Reserves and has attempted to stop them, resulting in conflict between KWS and the DoF. The Wildlife Act states that only traditional methods of fishing should be carried out in the Marine Reserves. Ringnet fishing is clearly a commercial scale, intensive and non-traditional fishing method. However, the DoF continues to license ringnet boats without appropriate conditions which creates legal loop holes and permits them to fish in the MPA. Allowing ringnets in the MPA goes against all conservation and sustainable fisheries management principles.

It is worth analysing here, the perceptions of many coast stakeholders as the impacts of ringnet fishing have raised a wide range of issues and concerns from scientists, conservationists, the tourism industry and the general public, including:



PHOTO BY: GVI SHIMONI

Dolphins in the Kisite-Mpunguti Marine Park dangerously close to a ringnet.

- Ringnets target shoaling reef fish in shallow waters less than 30m depth which results in intensive over-fishing in localised areas. The fringing reef line in particular is an important area for restocking the inshore lagoons with fish. The operation of the ringnet in these areas reduces the natural fish recruitment into the lagoons and further reduces the potential catches of the artisanal fishermen without motorboats who rely on the lagoon or its outer edge for their subsistence and livelihood.
- The destructive knock-on ecological impacts will result in a general depletion of marine life and production in the targeted and surrounding areas.
- Due to heavy fishing intensity over a relatively small sea area, recovery periods of fish populations and habitats may be long and severely limited.
- Ringnet mesh size is often below the stipulated 2 inch (or 50mm) minimum size permitted by the

DoF resulting in a high catch of juvenile and small fish and depleting fish stocks.

- Over-fishing in coral reef areas damages the long term health of the reef ecosystem and its biodiversity.
- Very limited research and stakeholder consultation has been conducted by the DoF on the potential impacts of ringnets before they were permitted.

**Socio - economic negative impacts and concerns include, but are not confined to:**

- The ringnet is a commercial scale fishery catching fish by the ton causing an oversupply of fish in local markets and unfair competition with subsistence fishermen using traditional gears. The price of fish sold to the fish shops in the Watamu area from the ringnet fishermen is around KSh70 per kilo rather than KSh120-150 per kilo which the subsistence

- fishermen sell at. Therefore, the ringnet operators are competing against poorer local fishermen and traders and taking business away from them, flooding the market by selling cheap fish for bulk profit.
- Significant reduction in fish catches for local artisanal fishermen and subsequent loss of earnings.
- Potential long term reduction of fish protein in the diet of local fishermen families leading to malnourishment and poor health.
- Increased poverty among local fishing communities resulting in a strain on social resources and infra structure.
- Stakeholder conflicts resulting in social unrest and divisions in the community.
- The opportunity for ring net owners to potentially corrupt poor Beach Management Units (local fishermen and fish traders groups) members and government officials from the high profits made.
- Weakening of the Beach Management Units (BMU)

democratic structure and loss of public faith or support in them.

- Threats to livelihoods of tour boat operators, dive operators, sport fishermen and businesses in the tourism industry whose clients visit Kenya to see and enjoy a healthy and vibrant marine world.
- Subsequent loss of revenue to KWS and the Kenya government as clients and tourists do not return to Kenya or use the marine resources because of over-fishing and a degraded marine environment.
- Lack of community faith and trust in the DoF to manage fisheries and marine resources for the benefit of the people.

### The only Positive Impacts apparent are:

- High financial profits for a handful of individual ringnet owners (mostly business investors who have no understanding of sustainable fisheries management) and who have no interest in developing sustainable fisheries for the benefit of coastal communities.
- Short term profits for fish traders and dealers supporting the ringnet fishery.
- Limited seasonal employment for a small number of fishermen (mostly migrant fishermen from Tanzania)

In Watamu, 5 years on since the ringnet was permitted to operate in the Marine Reserve, the question still remains: Why is the Department of Fisheries supporting a fishery that is clearly unsustainable, destructive and not welcomed by the majority of stakeholders?

In October 2013 more than 30 Watamu businesses, associations and community groups sent a petition to the Coast Director of Fisheries requesting that the ringnet be banned from the MPA. The Watamu BMU also opposes the ringnet and is seeking legal advice on what actions can be taken to stop it. At the time of writing this article (December 2013) there were six ring net boats from Tanzania and Kwale on the

PHOTO BY: STUART SIMPSON



Dangerously overloaded ringnet boat breaking Kenya maritime laws.

south coast fishing daily in the Watamu Marine Reserve.

To sum up, it appears that the DoF is committed to increasing the Kenya marine fisheries catch even if that means permitting a fishery that cannot be adequately managed and controlled and allowing it to fish in Marine Protected Areas.

All stakeholders are in favour of developing the potential for artisanal fishers to exploit deeper waters beyond the fringing reef and the five nautical mile zone where fish harvests will be increased. Current efforts in regard to the inshore fishery should be directed towards reducing it and encouraging protection measures to ensure these fisheries recover.

There would be greater support for developing marine fisheries if the DoF engaged in all inclusive stakeholder consultation and participatory management processes with coast communities when developing fisheries policy. Fisheries management should not be seen as an exclusive agreement between the DoF and fishermen but as a partnership in agreement with the community as a whole. It is not too late to turn the tide of over-fishing

but that can only happen if the DoF takes on board valid concerns and recommendations of stakeholders and commits to developing sustainable fisheries for the benefit of all and for the preservation of our national marine heritage.

### Immediate recommendations could include:

1. To hold all inclusive and representative stakeholder consultation meetings to assess stakeholder input and opinion on the ringnet fishery.
2. The DoF must show that it is fulfilling all of its legal requirements in relation to the fishery.
3. Thorough and comprehensive ecological and socio-economic surveys/studies related to the fishery should be undertaken by recognised independent expert organisations/ individuals.
4. The fishery should only be considered for gazettelement if it can be demonstrated by the DoF that it can be adequately managed and monitored on all levels. ●

# NASTY OR NICE? THE REAL RHINO

**FELIX PATTON**



is a rhino ecologist, who writes and broadcasts about the species from Africa and Europe. He has an MSc in Conservation Biology and a PhD based on research into individual rhino identification

and social behaviour. He is a frequent contributor to SWARA.



PHOTOS BY: FELIX PATTON



**Crocodile, lion and buffalo – killer species**  
Bottom Left: A 5 month old calf meets a 4 year old sub-adult for the first time.

**G**ive a dog a bad name’ or ‘mud sticks’ – these expressions can aptly be applied to the much maligned rhino. While many people believe it is wrong to kill the animal for its horn and give generously to rhino conservation, far more consider the rhino to be a ‘nasty’ animal not worthy of their support. Stand by a rhino paddock at any zoo and you will hear parents warning their children that the rhino they are looking at is aggressive and dangerous so, from an early age, a negative image is established. At

a time when rhinos are being killed indiscriminately with over 900 poached so far this year, the public image of the rhino needs to be put right if they are to be saved from extinction.

So is the rhino an inherently nasty, aggressive and dangerous beast? Nothing could be further from the truth! For a start, there is little evidence that rhinos have killed humans unlike hippos, crocodiles, elephants, buffalo and lions.

The hippo is a territorial, violent-tempered, unpredictable animal and is considered the most dangerous beast in Africa because of how hostile it is towards humans. One report suggests that they cause over 200 deaths per year upsetting boats, often without provocation, and biting the occupants with their huge canine teeth and sharp incisors. Most deaths occur when a victim gets between the hippo and deep water or between a mother and her calf. A Chinese tourist was killed in Kenya in 2013 when she tried to take a close up photo of a baby hippo and was mauled by its mother.

Crocodiles are very dangerous especially since most victims do not realise that their life is being threatened before the crocodile attacks them or that crocodiles can run after their prey. Over

2,000 deaths worldwide are reportedly caused by crocodiles. A crocodile named ‘Gustave’ has been credited with killing hundreds of people at the Rusizi River in Burundi.

While the elephant is the largest land mammal on earth, they do not seem scary to most people. They can be bad tempered and get very angry very quickly often trampling their victims (reportedly 600 worldwide every year) to death. Elephants have been known to attack villages and are especially aggressive in areas where poaching is rife. In Zimbabwe, an elephant was reported to have trampled to death a poacher who was attempting to kill it!

The Cape buffalo is known within Africa as ‘the Black Death’ or ‘Widowmaker’ and reportedly gores and tramples to death over 200 humans a year. Often a lone male hidden by a





A black and a white rhino greeting each other.

Below: White rhinos are sociable and often found in large groups.

bush is disturbed and acts violently. Even lions are very scared of meeting a buffalo in this way.

Lions are unlikely to hunt humans and will normally run off rather than be confrontational. However, if they are suddenly disturbed, they will not hesitate to protect themselves especially a female with new cubs. Once a lion has tasted human flesh and blood they will become “man-eaters” – the most famous being the Tsavo Man-Eaters of 1898 who killed numerous construction workers building the Kenya-Uganda railway. Lions are thought responsible for over 250 deaths worldwide each year.

Public perception rarely distinguishes between furry cuteness and killer instinct. Many of the animal kingdom’s cutest species are among its most prolific killers – lions, tigers, polar

bears to name but three - whereas you would be hard pressed to find a report of a rhino killing a human or another animal. In most cases, a rhino will detect the presence of a human using its excellent senses of smell and/or hearing and will run off. If taken by surprise or if one gets too close, a rhino will try to “push the offender away” with their size, weight, agility and acceleration causing not-necessarily-intended injury. If it does charge, it will usually run off when the intrusion is no longer detected.

Africa’s Black and White rhinos behave differently due to their social inclinations. Although larger and heavier, the white rhino is a social animal often found on open plains in small groups. Approached with care, the White rhino is accepting of human presence. In fact, it is an inquisitive animal and will stand and stare within a

few metres of a vehicle or run alongside it if it is moving. The Black rhino on the other hand will run off if it detects a human presence but will (mock) charge a vehicle or person that gets too close. It is this one, rare, behavior that has cast all rhinos as “dangerous”.

It is often reported that black and white rhinos do not get on with each other, sometimes fighting or simply avoiding contact. Black and white rhinos have inhabited Solio Game Reserve for over 30 years. The individuals there today were most likely born and have lived together in the reserve at a uniquely high density. Their behavior is believed to be more like it was in years gone by when there were thousands of rhinos sharing the same space so they had to get on with each other. Solio rhinos can be seen greeting each other when they meet and sleeping





**Top:** Rhino mothers form strong bonds with their calves.  
**Middle:** A rhino calf seeks reassurance by rubbing against its mother.  
**Bottom:** A rhino female stands patiently as its calf suckles.

side by side. Black rhinos are more nervous than Whites and will respond energetically to any wrong sound or smell. The presence of an undisturbed white rhino or two has a calming effect on the nervy black.

What should epitomise the rhino? What should define its image? Take away the reaction to an invasion of its privacy by humans and how do rhinos behave?

Rhinos form close bonds and associations throughout their 30 to 40 year life. Bonding starts with the mother and its calf, who live together for the first two to three years of the life of the new calf. A tonne-and-a-half female towers over its forty kilo calf and will defend it to the death. The calf continually seeks reassurance by rubbing up against the mother and uttering a high pitched squeak. When sleeping, the mother and calf will always be touching. The calf will issue a different squeak when it requires to suckle which it does on a 'little and often' basis. The mother will always make herself available standing quite still for the two to four minutes



Top Left: A white rhino social group of female, calf and male.

Middle: Black rhinos sleeping together.

Top Right: A rhino calf. Cute or what?

Bottom: A black rhino using buffalo for security.



PHOTOS BY: FELIX PATTON

the calf spends while the calf treats the mother equally as gently by not butting the udder as is the case with cattle.

It is the role of the mother to teach the calf how to fend for itself. This is done by playing with the calf and by the calf copying its mother. Sometimes the previous calf of the mother, or the independent calf of another mother, joins the pair and takes on some of the teaching role. Play fighting, with the pair going head-to-head as in a real fight, is not an uncommon sight.

The calf has to learn what and how to eat. It starts by mimicking the mother while actually relying on suckling. As the mouth hardens and stomach develops, the calf gradually starts to eat some herbage being guided, in the case of the Black rhino, as to the bushes and plants to choose.

During this time the father, or more accurately the male in whose territory the female resides, plays no part in the upbringing of the calf but may be seen together as a family taking on a guardianship role and keeping other males at bay.

When the female is ready to have a new calf, a few hours or days before the birth, it turns on its current calf and chases it away. Having been used to intimacy with, and the protection of, its mother and while still being quite small, the calf invariably teams up with an older rhino and will stay with it for many years.

Black rhinos mix together at night as has often been observed many times on moonlight censuses. An unfortunate consequence of these gatherings is that poachers find it easier to locate and kill rhinos during their night-time intrusions. Rhinos may be found with other animals usually as a form of self-defence. Buffalo herds and oxpeckers both offer a great early warning system,

running or flying off at the first sign of danger.

Far from being aggressive, the rhino should be viewed as essentially a peaceful, sociable, passive vegetarian with strong motherhood instincts and a desire to be left alone to carry on the life it has known for 10 million years. Perhaps then there would be a greater groundswell of support for the costly efforts to stop the current slaughter and the rhinos' potential descent into extinction.

Anyway, how much cuter can you get than a baby rhino? ●



# AMOS

## A HUNTING TRACKER'S SON TURNED CONSERVATIONIST'S

FELIX PATTON



is a rhino ecologist, who writes and broadcasts about the species from Africa and Europe. He has an MSc in Conservation Biology and a PhD based on research into individual rhino identification

and social behaviour. He is a frequent contributor to SWARA.

**A**mos Njoroge Njege is a head driver/guide for the exclusive safari operators Tamimi Kenya. A Kenyan, you could say that Amos was born into conservation as his parents worked at the Mundui Private Sanctuary on the shores of Lake Naivasha in the Rift Valley area of Kenya.

Amos's father was a tracker who used to find elephants for hunting safari clients. "My father used to tell me stories about the wildlife and their behaviour which aroused my interest and my dream was to be involved in conservation" says Amos.

However, when Amos was twelve years old, his father retired and moved the family of five sisters and three brothers to a two-acre shamba (smallholding). He also insisted that, after leaving high school, Amos went to polytechnic to train in carpentry and joinery so he had a trade.

As luck would have it, Amos went back to Mundui on a three-month attachment doing repair jobs during which time Lord Enniskillen, the owner, promised him a job once he had obtained his certificate. In 1998, Amos joined Mundui as a maintenance man and gardener but which also involved helping with the annual wildlife census.



Additional responsibility for keeping the wildlife in the reserve supplied with water was added two years later.

Lord Enniskillen noted Amos's interest in conservation and sent him on a week long workshop at the Elsamere Field Study Centre in Naivasha after which Amos used to visit local schools to give talks about the environment. Lord Enniskillen enabled Amos to learn

to drive and obtain his licence and, when he was away, Amos was tasked with keeping an eye on the animals.

Having assisted in the capture of a hippo in Naivasha, Amos was offered a two-week work experience with the rangers at Lewa Wildlife Conservancy where he first came across and learned about rhinos. A course in bird identification and guiding with the

South Lake Conservation Group opened up further opportunities and Amos also volunteered with the National Museums of Kenya to carry out bird censuses.

Having gathered all this experience, in 2007 Amos was appointed as a driver at the Hippo Point Private Estate and Wildlife Sanctuary on Lake Naivasha where hippos were the star species among a host of other wild and bird life. Under his own auspices, he took and achieved the bronze level of the Kenya Professional Safari Guides Association and immediately started to study for the silver award which he achieved in 2013.

Amos says “I believe if you want to progress and do the very best in your job you have to be prepared to educate yourself and get the appropriate qualifications even if you need to pay for it yourself”. He took up a chance to spend another week at Lewa, this time with the research team on an intensive course especially devoted to tracking lions and data analysis. A year later he was offered a job at Lewa as a driver/guide based at Kifaru House, where he learned a lot about rhinos and took a four wheel driving course including anti car-jacking and defensive driving.

The opportunity arose to join Tamimi in august 2010 as the principle driver/guide at the newly opened Solio Lodge which was too good to resist. “Where so many other wild areas have been destroyed by tourism with lots of vehicle



PHOTOS BY: AMOS/TAMIMI

**Top: learning to identify bird species.  
Middle: Taking a guest on a nature walk.  
Bottom: Talking rhino conservation with guests.**

tracks degrading the environment, at Solio I saw a much more natural habitat and was told that that was how Tamimi intended to keep it”.

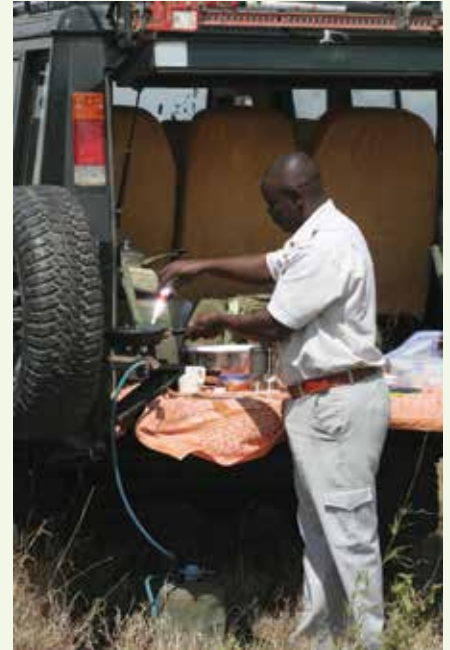
Amos sees his role of a driver/guide as more than safely showing his guests the wildlife but also in gently teaching them about what they cannot see in terms of the wider ecosystem and how the different species contribute to its creation. “The guests I come across are



really interested in conservation and to learn more about it and not just get told about the animals in a way they could read from a book” says Amos. “It’s a challenge for me and I am always keen to learn from visiting experts and by trawling the internet”. True to his ideals of continuing his education, Amos achieved the Certificate of Ornithology – Fundamentals of Ornithology in April 2013.

The driver/guide is an ambassador not just for the company but for the local community and the country. The range of subjects that guests ask about is huge from geography to politics, from wildlife to home life. Sometimes guests want to visit the local schools and offer to finance improvements to the facilities. The more amiable and knowledgeable the guide is, the more

CONSERVATION CHARACTERS



PHOTOS BY: AMOS/TAMIMI

Top left: planning is an important part of the job.  
Top right and middle: cooking and serving up a bush breakfast.  
Bottom: keeping his vehicle in good order.



satisfied the guest and the more empathetic they are towards Kenya, its people and its wildlife.

As the head of the driver/guides and spotters, Amos has to coordinate all their activities. Guests mostly arrive by aircraft and have to be picked up and dropped off at the appropriate times. Each party has to be allocated a driver/guide and game drive times and routes planned in a way that vehicles do not mass around a sighting.

Of course there are some menial tasks to be carried out. Amos has a vehicle allocated to him – a long wheel base Toyota landcruiser, which has to be kept clean and in perfect running order. Washing inside and out, daily oil, water and tyre condition checks, on site repairs and minor servicing are essential. The most embarrassing thing for the driver is to breakdown carrying guests due to a drivers neglect so the routine must be strictly adhered to.

People skills are an essential requirement of a driver/guide especially as some clients can be very demanding. The objective is to give the guest an interesting and enjoyable experience and what that means for one person can be very different for another. Keeping guests safe can also be a challenge as tourists do some crazy things. “One lady nearly gave me a heart attack





Top: teaching conservation and giving gifts to local school children.  
 Bottom: receiving the prestigious Silver Award of the Kenya Professional Safari Guides Association.

when she intentionally slipped from her roof top seat onto the bonnet of the vehicle to get some better photos of a lioness” says Amos.

In addition to game drives, the Lodge offers nature walks and bicycle rides which requires Amos to act as the guide but he has his limits - “I once tried the

horse riding safari but nearly came off, so never again” he exclaims.

During the off-season times, Amos visits local schools on the days they have their Wildlife Clubs of Kenya period to teach about conservation taking along videos especially prepared for schools and leading Question and Answer

sessions. Amos is adamant that “we especially need to teach the children about the importance of trees which help keep the environment clean”. Books are taken to the schools bought from income earned from the tourists which helps show how important it is to protect the wildlife on Solio.

Having decided early in his life that he wanted a career in conservation, Amos has done everything in his power to fulfil his passion. He is a prime example of someone who has, through the force of his personality and willingness to work at (and fund) his own education, achieved his ambition.

The job of the driver/guide based on a reserve is very different to that of the driver/guide who takes tourists on a tour of several reserves. By being based in one area has enabled Amos to get to know individual animals, to learn more about animal behaviour, to see rhino calves growing into adults, to see lion prides develop and so much more about how a reserve can change over time. As Amos puts it “and I get paid as well!” ●





SERENA HOTELS  
SAFARI LODGES AND CAMPS  
HOTELS • RESORTS

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# PROTECTING THE FRAGILE ENVIRONMENT

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BY VICTORIA NYAMUNGA

The environment and nature is a huge nest for the survival of humanity, which is why Serena Hotels has embarked on a vigorous environmental sustainability venture across its operations, guided by an eco-policy that is about action to save the environment, not words. Our activities include energy conservation, water and waste management, environmental training, biodiversity (through turtle and butterfly conservation) and tree planting, among others.

Our lodges are fitted with water meters and the amount of water being drawn from local water sources is measured daily to

ensure that our water saving initiative is making a difference. Most Serena lodges are in remote places and are therefore not connected to the national electricity grid. As such, we have to generate our own electricity, which is mainly done by diesel powered generators. Inverter systems have therefore been installed and this has led to reduced fuel consumption and reduction of noise and air pollution.

Serena Hotels is also committed to finding sustainable solutions for waste management despite operating in countries where recycling and other waste facilities are limited. Garbage is sorted at all lodges and, in the case of Kenya, sent back to Nairobi for handling by professional garbage disposal

companies. Glass and plastic are recycled while non-recyclable matter is disposed in the most environmentally friendly manner. Wet waste is retained at the lodges and composted into holes systematically dug into vegetable gardens and tightly covered by steel covers to keep animals and birds away. The resultant manure is used in the vegetable and flower gardens.

When it comes to environment training, Serena Hotels recognizes that to obtain the desired impact from its work in the environmental arena, both staff and the communities in which it operates need to understand the importance of environmental responsibility. All lodges have an onsite naturalist and environmental committee that



Butterfly hatchling at Serena Beach Resort & Spa



provide training to all members of staff on environmental policies/practices like saving water.

To achieve biodiversity, we have been engaging in butterfly and turtle conservation projects at Serena Beach Resort & Spa since 1993. The overall objective of the programme is turtle conservation by way of providing a safe haven to eggs laid in doomed nests, facilitating transfer of eggs to safe havens and providing incentives to local fishermen to protect turtles and turtle eggs. A turtle adoption scheme has enabled guests to adopt turtles and cash donations are used for paying local fishermen who report and protect the turtles and their nests.

Our turtle conservation project which protects the nesting sites of Green, Olive Ridley and Hawksbill Turtles continues to grow significantly, and is of benefit to the local fishermen as well as the turtles that are preserved in the process. The fishermen are encouraged to participate with a financial incentive scheme, for reporting any threatened turtle nests and eggs. Since inception of the project by Serena Beach Resort & Spa over two decades ago, about 500 turtle nests have been protected as reported and secured with the help of the local fishermen, beach operators and Kenya Wildlife Service Rangers. During this period 33,491 eggs have been secured at the Hotel hatcheries of which 26,647 hatchlings (80%) have been released into the Indian Ocean.

Kenya boasts of some 870 species of butterfly, 35% of which are to be found in the

Coastal forests. However, due to the radical shrinkage of these forests, most of the butterflies had largely disappeared from Kenya's coast and this necessitated the launch of the project in 2002 where we breed and re-introduce indigenous butterfly species to the coastal landscape. Serena Beach Resort & Spa has succeeded in breeding 65 species to date. In year 2012, about 21,161 hatched butterflies were released and during the 10 year period (year 2003 to year 2012), 202,302 hatched butterflies were released.

Besides these, we have the tree planting activities which is our biggest venture so far. The benefits to the natural environment are immense and our lodges work with thousands of guests, local communities, school children and visiting dignitaries to the "Serena Greening Initiative".

Serena Hotels has established tree and shrub nurseries at all its properties. Naturally, we use the majority of our seedlings to plant around our own properties, but we are also committed to meeting the needs of the local community. At Lake Manyara Serena Lodge for instance, the nursery supplies seedlings to the neighboring communities and this has not only contributed towards a greener environment, but has also provided resounding ecosystem for the local birdlife, whose variety of species has already more than doubled.

Serena Hotels Greening Initiative is spread across the Mau Nderit Forest, Homba Forest, Nairobi City Park and at every Serena Property across East Africa

and Mozambique. Over 20 million trees have been planted over the last 13 years through the various re-forestation programs. Our major success stories have been in the Homba Forest in the Mount Kenya National Park (UNESCO World Heritage Site) that suffered from the adverse effects of deforestation and to date over 10 million trees have been planted; and at Amboseli National Park where the destruction of forests by elephants is well on the way to being reversed.

Our green initiatives also go a long way to ensure long term environment sustainability and include the use of solar energy, invertors, and the 3Rs- reduce, re-use and recycle.

Overall, our policy is to ensure that all aspects of the business have the least harmful effect on the environment by implementing an environmental management system that will conserve and improve the usage of energy and raw materials; reduce wastage to a minimum and to recycle materials to the maximum; recognise that wasting energy causes avoidable pollution; avoid pollution of air, land and water wherever possible; improve the working environment; seek to achieve environmental excellence in all our business operations; discuss environmental issues regularly at the highest levels of the company; train and regularly consult employees on good environmental practices; encourage our suppliers and subcontractors to act in accordance with our environmental standards; be fully aware of any environmental legislation and ensure that regulatory requirements are met and, where feasible, improved upon. ●

#### For more information call:

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# PORTFOLIO - BEAUTY ON WINGS



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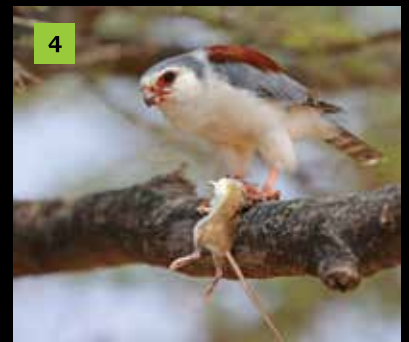
PHOTOS BY: BARELLI LORENZO



2



3



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1. Flamingoes
2. White-browed Coucal
3. Chanting Goshawk
4. Pigmy Falcon
5. Roseate Tern
6. Tacazze Sunbird
7. Vulturine Guinea fowl
8. Nubian Woodpecker
9. Crested Guinea fowl

— PORTFOLIO - BEAUTY ON WINGS —

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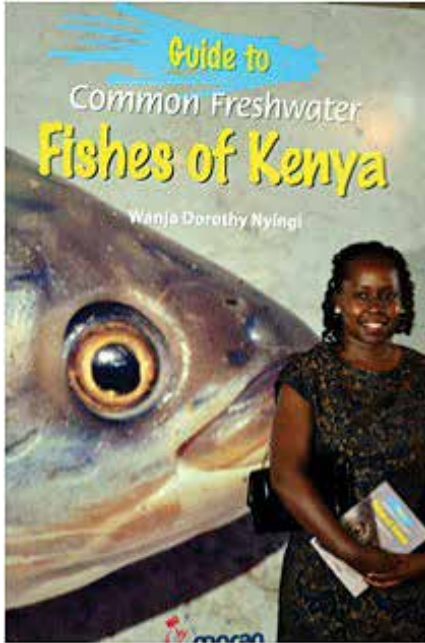


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**Guide to Common Freshwater Fishes of Kenya**  
**By Wanja Dorothy Nyingi**  
**Moran Publishers, 136 pages**

**Available from National Museums of Kenya and TextBook Centre**

Fish are one of the most fascinating and important components of Kenya's biodiversity. One of the great challenges facing understanding and appreciating the diversity of fish in Kenya has been the lack of an accessible guidebook. As many of us who occasionally bother playing around fish with rods and lures can attest, often one pulls something out of the water that one doesn't immediately recognise and this can be very frustrating.

The publication of this delightful little book fills a large gap in our knowledge and ability to identify fish in Kenya. Dr Nyingi has put together a compact publication that will prove useful to anyone interested in identifying the fish that they catch or observe in rivers, lakes and wetlands across the country. Inspired by the work of Dr Luc De Vos, the late curator of Ichthyology at the National Museums of Kenya, this is an

outstanding work that he would have been very proud of.

Kenya's freshwater fish diversity presented in this book covers species like the enigmatic African Lungfishes, the strange Elephant Snout-fishes, Stone-bashers, Catlets, Labeos, Squeakers, Suckermouts, Pipefish and the bizarre Nile Pufferfish are just some of the wonderful species featured, alongside the more familiar Nile Perch and many different kinds of Tilapia. The use of common names for the different fish species make this a very accessible work and hopefully this will encourage more interest in our fish diversity.

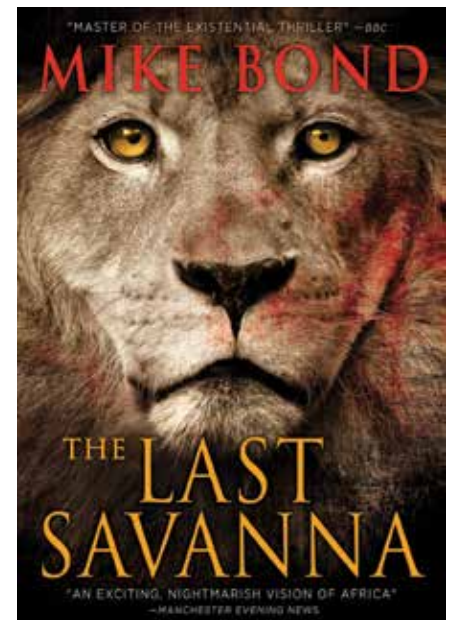
The diversity is presented in the context of the major inland freshwater basins of the country: Lake Victoria, the Rift Valley and inland lakes, Athi River and coastal rivers, the Tana River and the Ewaso Ny'iro system. Each short species account includes valuable details on the distribution, behaviour and some natural history of the fish. This provides a useful baseline from which naturalists and anyone interested in fish can now reference their observations across the country.

One of the striking things that comes across in this guidebook is how localised some of the fish diversity is. For example, Lake Turkana in Northern Kenya has 48 recorded fish species, and a large number of these are endemic. With this lake now threatened by large-scale developments on the Omo River, this highlights how important it is to document and understand the biogeographic patterns of our precious biodiversity in order to more effectively conserve it.

The book also provides basic information on the importance of each species in terms of fisheries. This is very useful baseline data as fisheries management and biodiversity conservation can sometimes clash. The most infamous example is the introduction of the Nile Perch into Lake

Victoria, where the fish had evolved without this voracious predator and were consequently largely gobbled into extinction. Today we continue introductions of exotic species like the charming Rainbow Trout (an important sport fish), without really thinking about the long-term ecological consequences on streams and species evolved over millions of years in isolation without this predator. This book highlights the beauty and diversity of Kenya's fishes and why they are worth learning more about. ●

**Reviewed by Dino J. Martins**



**The last Savannah**  
**Mike Bond**  
**Mandevilla Press, 320 pages**  
**Weston, CT 06883**

Conservation lends itself to thrillers. The essence of both is conflict and colour – meaning detail to both human and natural characters. This novel exudes all three from the opening page and maintains an exhilarating piece until the closing line 253 pages later. It opens with an Eland aching for water; a lioness, a lion and a Samburu warrior watching this conflict play out with his mind on a prize pelt

and the money it will bring.

Conflicts abound. There is Macadam the cattle farmer in Laikipia, locked in a marriage with Dorothy that has turned as cold as the ice in her many glasses of consoling gin and tonic. There is Macadam at war with himself about “staying on” in Kenya while Dorothy yearns for suburbia and the U.K. And there is Macadam and his aching heart, which yearns for a married woman, Rebecca, who ended a passionate liaison years earlier to stay married to the unappreciative father of her children.

And there are the raiding Somali ivory poachers and their booty. The government enlists Macadam and his men are enlist to hunt them down and kill them. The plot, like the tracks Macadam and his men follow, crosses and crosses again. One group of Somalis is encountered and captured. Another has gone its separate way and comes across Rebecca and her paleontologist husband on the edges of the Chalbi desert. She is taken captive by the group, which is fissured by the marital dreams of its youngest member, the headstrong Warwar, who sees in a ransom a bride price to match his dreams.

But the real conflict is the natural backdrop of northern Kenya against which the drama plays out. Its pitiless presence becomes another central character and is wonderfully described. “The moon rose yellow as maize, deformed like a melon that has lain too long on one side. On the ridge beneath the moon, a clan of hyenas yodeled like demon children...” Bond knows his flora and fauna too, right down to his bird calls.

He has a loyal following in the public and the critics and it is not hard to see why. It is a highly entertaining and gripping read and will find echoes with anyone who enjoys the human and the natural landscape of Kenya. ●

**Reviewed by Andy Hill**



## **ACROSS THE RAVAGED LAND**

**By Nick Brandt**

**Hardcover: 120 pages**

**Publisher: Abrams (1 Oct 2013)**

Wikipedia defines wildlife conservation as the protection of endangered species and their habit. It is in that context that this book, the third and final volume of Brandt’s trilogy about our disappearing world, must be seen; not so much as a gloomy rehearsal of all we know about the human-wildlife conflict and its toll in ivory and skin, but a celebration of what we might lose if we do not act. Anyone reading this magazine will already know that our environment is, and has been for some time, at a critical crossroads and where to strike the balance between humans and the rest of the planet remains less of a global campaign than an interlinked but often isolated series of skirmishes. If you read this magazine you will probably know that too so what is the point of this book? Who will ready it?

I hope many unconverted people do and these stunning images – is

an overworked adjective, even in this magazine, will become part of the international awareness that has done so much in recent months to advocate for affirmative action against ivory and rhino poaching. The artwork is in a class of its own and, for the first time in this series, includes humans in the shape of the rangers at the frontline

of conservation. There are images of our wonderful landscape populated by hunters’ trophies. It won’t please the “consumptive use” lobby but it will remind us that wildlife on legs and wings is preferable to wildlife on walls and trophy cabinets.

This is not a comfortable coffee table book. It shocks, arouses and makes us wonder – and it is a sense of wonderment that we want to leave our grandchildren. There are a couple of thoughtful and provocative essays too. My only sadness, apart from being confronted again by a gathering sense of loss, is that this is the latest in many, many books about our disappearing world – and the vast majority are written by Europeans and Americans. When are we going to see something of equally lavish production, skill and potential reach by a Kenyan or a Tanzanian or Rwandan? After all, it is they who share the land and the landscape and who, wildlife apart, stand to gain the most from sound management of our embattled environment. ●

**Reviewed by Andy Hill**

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SOUK BOOKSHOP, DAGORETTI ROAD  
BOOKSTOP, YAYA CENTRE**



PHOTO BY: BRIAN FINCH

Zebra grass Mouse



PHOTO BY: RICHARD ANNIS

Striated Grass Mouse

# KNOW YOUR MICE!

**G** rass Mice ( the *Lemniscomys* Genus) are endemic to Africa with 11 species. Of these four occur in East Africa. The Buffoon Grass mouse (*L. maaculus*) occurs in Uganda and Western Kenya. The Single-striped Grass mouse (*L. rosalia*) occurs in the Maasai steppes and Tsavo grasslands of Tanzania and Kenya respectively.

The other two are more widespread and can be seen in or near Nairobi. The

one often seen in gardens in the Nairobi area is the Striated Grass mouse (*L. striatus*) and is shown in photograph 2. Note that the stripes are in fact lines of blotches. The second one is the Zebra Grass mouse (*L. zebra*) and is found in drier habitats than those preferred by the Striated Grass mouse. This mouse is shown in photograph 1, which was taken along Nairobi's Icross Road which joins the Magadi Road. Note that the

stripes are continuous and are more in number. I am not sure if this species has been photographed before but given the occurrence of the Striated Grass mouse in and around Nairobi, Brian Finch and I thought readers might be interested in seeing the differences. ●

**Nigel Hunter**, EAWLS

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