



Gorilla Journal

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Community Conservation in the Kahuzi-Biega National Park

Ten Years on Mt. Tshiaberimu: a Positive Outcome

Western Gorilla Tourism: Lessons Learned from Dzanga-Sangha

How Insectivorous are Gorillas?



BERGGORILLA & REGENWALD DIREKTHILFE

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Cover: CCC meeting near the Kahuzi-Biega National Park

Photo: Carlos Schuler

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D. R. CONGO

Community Conservation, a Positive Process in Kahuzi-Biega

The Kahuzi-Biega National Park (KBNP) was created in 1970. Fifteen years later, in 1985, the national park authority ICCN (Congolese Institute for Nature Conservation) initiated a pilot project called KBNP-GTZ "Integrated Nature Conservation in Eastern Congo", with support from Germany, provided by the German Technical Cooperation (GTZ). Today, this project is a component of the Biodiversity and Forest Programme.

Law enforcement on its own has proved insufficient to decrease pressure on the natural resources of the Congolese protected areas; in certain areas, in fact, this approach was even the cause of the pressure, as park staff were considered a nuisance by the local residents who did not understand why access to the resources of the park had to be forbidden while they did not gain anything from the protection of the park. For revenge, they went back into the park in search of resources. This atmosphere has created a large social gap and the cessation of dialogue between the two parties.

The KBNP-GTZ project had to begin with outreach to the population, with the goal of bringing the two parties together again, and creating an atmosphere of discussion which would

eventually result in the development of mutual trust. Why do we need to conserve nature? Why do we need a national park? Why is it in the interest of the local population to protect a park? These are some of the first questions contained in various public awareness messages. This was not easy against a background of a population already suffering through the mismanagement of the second republic and degraded by poverty. Even so, a climate of dialogue was slowly established.

It turned out that the promises of support contained in the public awareness messages are indispensable. The next step is to try and solve certain problems of livelihoods of the population. In order to find solutions, socio-economic studies have been conducted in the administrative entities surrounding the park. These studies have defined intervention zones that are considered centres of development, and criteria for the support of Local Development Initiatives and local NGOs. The requests received from these initiatives and NGOs were mostly oriented towards social infrastructure such as health centres, schools, and bridges.

In 1999, this approach was questioned by studies evaluating the impact of the support provided by the GTZ-KBNP project for the conservation of the park. These studies showed that our development interventions were of a social character and had an impact on the community, whereas the community had aimed more at economic activities with an impact on individual households. This can be easily understood: constructing a dispensary or a school could not prevent someone who is starving or who has no money from returning to the park. Once more the approach had to be re-considered.

An attempt to create small social groups by gathering together local leaders was effective. This may not be sustainable, however, since the tribal chiefs think that the existence of

these small social groups decreases their authority: the leaders of the small social groups are beginning to make decisions on the development of the administrative entities without always consulting the chiefs. In order to address problems, another study has been conducted on stakeholders involved in the park's natural resources in some way or other. At the end of this study, Community Conservation Committees (CCCs) were put into place.

The members of these committees are democratically elected and represent all socio-professional layers of the population concerned with natural resources – such as public administration, education, churches, NGOs, health, trade, police, traditional doctors, pygmies, and conservationists. This committee is a body of conception, coordination and control, not one of execution. It represents the village in all matters relating to conservation and development.

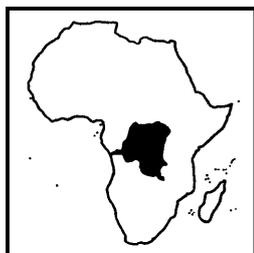
As mentioned before, this is a process, and several stages have to be gone through before such a committee can be set up, i.e.:

1. Sensitization of the population for this process through preparation meetings conducted in each village and with all socio-professional categories participating.
2. Identification of all parties involved in the management of natural resources.
3. The election of members, initially at the village level, subsequently at the level of the entire administrative entity.
4. Signature of the Memorandum of Understanding. This mediates between the population and the park. It is drawn up as a joint agreement between the two parties and signed after general agreement has been reached.
5. The village development plan. After a socio-economic study has been



A protocol between the park and the population is signed.

Photo: Carlos Schuler



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conducted of the local conditions, a conservation-development plan is developed.

6. Training. Capacity building of its members is one of the priorities of the CCC. Training should be delivered according to the needs expressed by the conservation development plan or the state.
7. Follow-up and evaluation. The stakeholders develop and implement a follow-up methodology.

For its operation, each CCC selects a directing body with a spokesperson. He/she will develop a conservation-development plan; this plan is considered a development plan by the united villages, and it does not matter which partner signs it in addition to the park.

All the support from the KBNP is fed through these structures. The advantages of this strategy are the concentration of efforts made, the joint influence of the partners' activities, and the fact that all corners of the region are reached to some extent, be it actually reached by support or at least informed of the possibility of obtaining support.

Another advantage is that the villages concerned feel empowered and work towards good governance. In addition, this approach contributes to making participation effective, from the planning via the implementation and the follow-up stages of activities to their evaluation.

Twelve community conservation committees are currently up and running; 11 of these are located at the highland part of the park and only one at the lowland part. This distribution is justified on the one hand by the inaccessibility of the low-altitude areas and, on the other, by the limited availability of funds to extend the model, although it continues to prove its validity.

Support of Partners

As mentioned above, founding a CCC requires a lot of funds. Until now, 11

CCCs are covered by the Biodiversity and Forest Programme component of the KBNP-GTZ project; only the Nzovu CCC is supported by GTZ Saice-Kindu.

We are especially grateful to the NGOs *Berggorilla & Regenwald Direkthilfe* and *Born Free Foundation*. *Berggorilla & Regenwald Direkthilfe* has funded the schooling of 200 Pygmy children and has also supported other activities related to the CCCs. We thank the *Born Free Foundation* for the support for other activities of the Community Conservation Committees, in addition to everything the organisation has already contributed to the park.

While reiterating our gratitude, we hope that these laudable gestures of generosity will not be the last. Your support makes a great contribution not only to the development of our country, the Congo, but also and especially to the conservation of the endemic species, the eastern gorilla.

The Great Remaining Question: the Continuation of the CCCs

Looking at the life of a CCC up to the implementation of the conservation-development plan, it is clear that these are enormous programs, which aim at sustainable development and require considerable funds, especially as the major cause for having to resort to the natural resources of the park remains the poverty of the local population. Once our country regains its self-autonomy and the park is able to finance itself, we hope that our current and future partners will continue to support the efforts of the ICCN through this participatory management of natural resources approach.

The war will have to come to an end now. The Congolese Government needs to make nature conservation one of its priorities. The ICCN needs to revive tourism in order to generate incomes that will permit the safeguarding of the balance between conserva-



The roof of the primary school in Murhume, Nindja, is covered with metal sheets. This construction was funded by a donation from the Dutch bank Kempen & Co.

Photo: Carlos Schuler



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tion and development that is the aim of community conservation initiatives.

Radar Birhashirwa Nishuli

Recently Berggorilla & Regenwald Direkthilfe supported the CCC at the park corridor in the Nindja region with a generous donation from the bank Kempen & Co. in Amsterdam that we received via the Apenheul Primate Conservation Trust. This corridor is an extremely vulnerable part of the park – by our support we hope to motivate the population to save the park's resources.

News of the POPOF Environment School

It was in 1999 that the *Pole Pole Foundation* (POPOF) initiated an environmental education program in order to mitigate the damage caused to the natural resources of the Kahuzi-Biega National Park. One of the major causes for continuing destruction is the ignorance of the local communities in matters of nature conservation. The program includes a literacy programme for adults and the enrolment of pupils in the Anga school complex, which includes the kindergarten and the primary and secondary schools.

Currently, the numbers of students and adults participating in the programme is as follows:

- kindergarten: 58 pupils
- primary school: 96 pupils
- secondary school: 102 students
- three literacy centres for adults in the vicinity of the KBNP: 409 adults.

It is very encouraging that the secondary school has just been recognized by ministerial decree No. MINEPSP/CABMIN/06/05/2005 of 21 February 2005. The curriculum delivered at the secondary school focuses on two important subjects – agro-forestry and fine arts. This conforms to the national

education program currently in force in the Democratic Republic of the Congo.

The Agro-forestry Department familiarises students with the cultivation of food plants, forest products, animal husbandry, and the maintenance of soils in the vicinity of the KBNP, and so acts as a training ground for the conservation of natural resources in the park. These students will therefore play an important role in the future; they all come from the communities around the KBNP, one of them being in fact the wife of a park guard.

School-leavers from other primary schools in the area are starting to apply for places for further education at this school. Course participation is regular. The fifth classroom of the secondary school is in the process of being constructed with the help of funds donated by *Partners in Conservation* (PIC), its original sponsor.

As the existing classrooms of the nursery and the primary school are in bad repair, a piece of land was purchased for new building by the *Born Free Foundation*.

POPOF's environmental education programme also requires particular attention. We firmly believe that these schools will turn out people who will be useful for the conservation of the KBNP in the future thanks to their greater knowledge. As the saying goes: to solve a problem, you have to get to the bottom of it first.

John Kahakwa

Ten Years on Mt. Tshiaberimu: a Positive Outcome

For the last 10 years there has been a gorilla conservation project in the northern sector of the Virunga National Park, on Mt. Tshiaberimu. The project is managed by the international organisation previously called the *Dian*

Gorilla Orphans

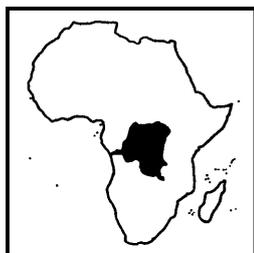
In the Summer of 2006, a total of 7 confiscated eastern gorillas were living in several places in the Democratic Republic of the Congo and Rwanda. Except for 5-year-old Maisha, a female mountain gorilla who was confiscated in December 2004, all are Grauer's gorillas who had been captured in Congo. In October a spacious enclosure was completed in Kinigi, Rwanda, where these gorillas can grow up together until they can be (as it is planned) reintroduced to the wild. Two gorillas called Ntabwoba and Dunia, who had been confiscated in Rwanda, were already introduced to Maisha in September. The other 4 individuals, who had been cared for in Congo, were taken to Rwanda in October to be kept there together with their conspecifics in the small sanctuary.

Summary of publications by the Dian Fossey Gorilla Fund and the Mountain Gorilla Veterinary Project

Fossey Gorilla Fund-Europe (DFGF-E), and now known under the name of the *Gorilla Organisation* (GO), based in London; it was initiated in September 1996 in collaboration with the Congolese *Institut Congolais pour la Conservation de la Nature* (ICCN).

The GO's involvement in the northern sector of the Virunga National Park is a response to the urgent needs to save the gorilla population surviving on Mt. Tshiaberimu ("mountain of spirits").

The GO is convinced that saving the gorillas and their habitat on Mt. Tshiaberimu can only be achieved by knowing and conserving the entire biodiversity of the mountain, by supporting the development of the communities living



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in the surroundings of Mt. Tshiaberimu, and through the promotion of tourism.

There is no question that gorilla conservation has its ups and downs. In the Democratic Republic of the Congo, the GO is best-established and unquestionably is most active on Mt. Tshiaberimu. The insecurity caused by the two wars in 1996 and 1998 has ravaged the area and has added another threat to the gorillas there.

The greatest problem that the project has had to contend with is the invasion of the forest by the local population, who use the forest for agriculture, gold mining and the procurement of timber and firewood (particularly during the period between 1996 and 2001). The GO has made the choice to represent and protect the gorillas living on Mt. Tshiaberimu, and does its best to ensure that the local communities join its efforts to make the project a success.

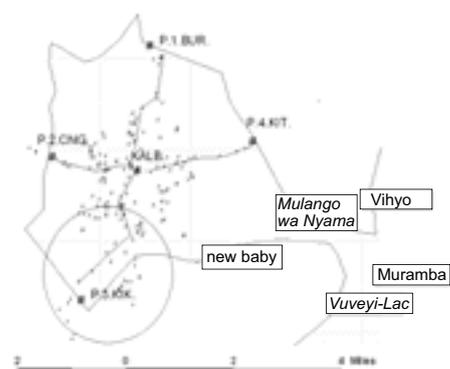
Currently, the project is developing several conservation activities:

1. The gorillas are monitored daily in their natural habitat in order to determine their number and to study their biology and behaviour. Particular emphasis is given to the study of their diet and the way the gorillas occupy and exploit their habitat. Currently, there are 21 individuals in two groups. Both groups are being habituated. Mt. Tshiaberimu and its biodiversity are also under study: it is a forest ecosystem of about 60 km² up to an altitude of 3,117 m, and is a special habitat where several animal and plant species of international importance occur.
2. ICCN patrols are conducted to help combat poaching and deforestation. During the wartime period that tore the country apart, the entire Virunga National Park was invaded by the local population engaging in all their normal activities – such as agriculture, animal husbandry, the construction of buildings, and even

poaching. Mt. Tshiaberimu was no exception; many current problems are the legacy of the rebellion. Once installed in the forest, the population did not want to leave again. Financial support from the GO to the ICCN enabled patrols into the interior of the park, and this combined with public awareness campaigns among schools, local communities, and through the politico-administrative, religious and tribal authorities, ensured that the farmers were resettled from the park in April 2002. This permitted the rehabilitation of approximately 7 km² of land, which is now fallow but it is hoped that it will regenerate into secondary forest in the near future.

3. Socio-economic development is delivered through micro-projects with an immediate impact on the conservation of Mt. Tshiaberimu. In particular, these include obtaining corrugated iron sheets for schools and for the offices of tribal chiefs; the purchase of mattresses for health centres in the vicinity of Mt. Tshiaberimu; support for the maintenance of agricultural access roads; support for the breeding of livestock; and support to agriculture through the distribution of improved seed varieties for replication and agricultural tools. The distribution of seeds and tools is always preceded by the training of the recipients and increasing their conservation awareness. The GO works together with around 10 agricultural grassroots community organisations with over 1,000 members, most of which are women. Thanks to the revenue generated from agriculture through the support of the GO, these organisations have also been able to develop other activities such as the breeding of sheep, goats and poultry.
4. Environmental education essentially focuses on conservation and research activities and those of

the community development program. They all have the essential goal of keeping the local communities informed about the importance of the conservation of the gorillas and their habitat, and strengthening the dialogue between the park and the local communities in order to involve them in nature conservation. Meetings with the local communities include the tribal chiefs and the politico-military administrative authorities. Local development organisations are visited; discussion meetings followed by the showing of nature films are held in the schools; interviews are conducted which are broadcast on radio; strategic sites are visited; and nature quizzes have helped to initiate nature clubs in the villages and schools in the vicinity of Mt. Tshiaberimu. As a result, the conflict between the park and the local population has been markedly reduced, and the inhabitants of the park's surrounding areas are becoming increasingly involved in the efforts to protect the gorillas. Tribal chiefs and land owners, grassroots community organisation leaders and the youth organisations often participate in project activities. For example, plays have been written and songs and poems have been com-



Border of the National Park at Mt. Tshiaberimu and points where gorillas were encountered



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posed featuring the protection of the gorillas.



Mt. Tshiaberimu gorilla

Photo: Rob Poppe

After 10 years of active conservation in the area of Mt. Tshiaberimu, the *Gorilla Organization* can be content with the results. The gorillas are in the process of being habituated and studied. In addition, the invasion of the park (the habitat of the gorillas) has been halted, except in the Vihyo-Muramba sector which still suffers from pressure, as the population is manipulated by heartless politicians. Fortunately, the project enjoys the collaboration of tribal chiefs, land owners, administrative and military authorities, local organisations, the youth, the ICCN authorities, conservation NGOs and many others. In many cases it is the local population who give the baby gorillas born on Mt. Tshiaberimu their names, and each name has a special meaning.

Dian Fossey's work is continued all over the world. Her work has taken root in the Virunga region thanks to numerous conservation and development projects: the Mt. Tshiaberimu project among them. Due to the public awareness campaigns organised by the project, the population living in the vicinity of the park is aware of the situation and pays special attention to the gorillas and their habitat.

Once the gorillas are habituated,

they will present a special opportunity to visit the wonders of the Albertine Rift Valley. We invite all persons of goodwill to join *The Gorilla Organization* to help safeguard the survival of the eastern gorillas and to make sure that Dian Fossey's work will be crowned with success in the Virunga region. We would like to extend our sincere thanks to all those participants of the project who have kept up the work over the last 10 years. The project is currently supported by the *European Commission* in conjunction with UNEP/GRASP. Other donors have included the *US Fish & Wildlife Service* and *Berggorilla & Regenwald Direkthilfe*.

Birth of a Baby Gorilla

At the time when we were waiting to celebrate the 10th anniversary of the gorilla conservation project on Mt. Tshiaberimu, nature too rallied to the cause. We have a saying: "If you do something for us but without us, you do it against us." So as not to be left out, the gorillas therefore gave us a very precious gift: baby Musomboli (which means "voter", as it was born while elections were taking place in Democratic Republic of the Congo).

As if the gorillas knew the project's objectives, the main one of which is the "safeguarding of the gorillas' survival and growth", the Mt. Tshiaberimu gorillas decided to mark the 10th anniversary of the Mt. Tshiaberimu project and the work of the *Gorilla Organization* in the Congo with their own special seal of approval – by increasing their number by one.

It was the Kipura group which fulfilled the task, more exactly the female Kitawite who gave birth on August 5th, 2006. We can now confirm that this birth has increased the size of the Kipura group from 6 to 7 members, increasing the overall number of the Mt. Tshiaberimu gorillas to 21.

*Jean Claude Kyungu and
Jean de Dieu Vhosi*

Cave Dwelling Gorillas in Virunga National Park

We set out at 6 o'clock in the morning on October 25th from an abandoned tourist lodge at Bukima in search of the Kibirizi group, Congo's largest family of mountain gorillas consisting of no less than 32 individuals. This family had suffered a major loss back in 2002 when the adult male silverback was shot by poachers. Now a new wild silverback has taken up residence and is slowly getting accustomed to human presence. We wanted to go and see how he was getting on.

The first sign that we had come across the group was with the sound of crashing branches from a young juvenile playing around in the top of a nearby tree. As we watched, a subadult appeared from the undergrowth, followed by a mother with the newest member of the Kibirizi family, a 3-month-old baby gorilla, wide eyed and clinging to her back. Moving on slowly to find the other members of the group, we stumbled into the mouth of a cave, sunk into the ground and shrouded by vegetation. The cave was a new discovery, but what followed next was even more incredible. As we gathered round the entrance, we could hear grunts and other strange noises coming from within the cave. We moved closer and started



Young male gorilla leaving the cave

Photo: Robert Muir



D. R. CONGO

Rosamond “Roz” Halsey Carr, 1912–2006

While working as a fashion illustrator in New York City, Rosamond Halsey met her husband-to-be, Kenneth Carr, a hunter-explorer, and he persuaded Roz to marry him and return with him to the Belgian Congo in 1949. Their marriage did not last, but Roz’s love of Africa had already taken hold.

Determined to make a go of it on her own, she moved to neighbouring Rwanda where, eventually, she became the manager of a flower farm that grew *Pyrethrum*, which was widely used as source of an insecticide. It was in Rwanda that she spent the next 50 years of her life; she was witness to the end of colonialism as well as the unrest between Hutu and Tutsi, but her passion and devotion for this country and its people never wavered.

In Rwanda Carr also met the mountain gorilla researcher and activist, Dian Fossey. Carr and Fossey remained close friends until Fossey’s untimely death in 1985. Roz reported that her friend would write to her from Karisoke every 10 days without fail. Dian’s death was a great blow to Roz.

In April of 1994, during the horror of the Rwandan genocide, Roz was forced to leave her home in Mugongo and return to the United States. After several months of watching the horror unfold before her eyes on television, she knew that she could no longer play a passive role while so many people she loved obviously needed her, so she bravely returned home to find the farm she loved ransacked and vandalized, and all of her worldly possessions stolen or destroyed. Heartbreaking as that was, it only strengthened her resolve to help, and her attention turned to the orphaned children of the genocide.

The painful process of rebuilding Mugongo began, and a converted building used for drying flowers became a dormitory for children – many who came from a nearby refugee camp. So, at the age of 82, Roz became a mother for the first time and helped to begin the healing process for 40 traumatized youngsters whose parents were killed or lost in the chaos and confusion of the genocide. Thus the Imbabazi Orphanage was born. Over the next 12 years, the orphanage would be forced to move four times and the number of children would vary (sometimes as many as 100).

In 2005, after the completion of new dormitories, Roz and the children were able to move back to the farm in Mugongo for the first time in a decade. Her dream of returning home again had been realized.

On September 29th 2006, Roz passed away at the age of 94 and was laid to rest in the ground of her beloved Mugongo.

If you would like to make a donation to the Imbabazi Orphanage, where Roz’s work will be continued, please make your checks payable to: PIC/Roz Carr Memorial Fund. Your contribution will go directly to the Imbabazi. Please mail it to:

Roz Carr Memorial Fund
Columbus Zoo
Partners In Conservation
Attn: Debbie Elder
P.O. Box 400
Powell, OH 43065, USA

If you would like more information about *Partners In Conservation*, visit the Columbus Zoo website (www.columbuszoo.org) or send an email directly to Debbie Elder at Debbie.elder@columbuszoo.org.

pulling aside the leaves and vines to get a better look. Suddenly a pair of eyes appeared from out of the darkness, looking straight at us, and followed by another. We backed off ever so slowly as two subadult gorillas climbed their way out, followed by a third, blinking heavily as their eyes adjusted to the light. Then a fourth gorilla climbed out, looked at us, grunted and moved off after the others.

Wanting to have a better look inside the cave, we lowered ourselves slowly down into it. The cave was around 1.5–2 m high, about 10 m wide and 10 m deep. Then, in the darker recesses of the cave, we heard movement. As our eyes became adjusted to the light, three more gorillas started moving around in the darkness. We crouched down and moved away from the entrance as we watched two adult gorillas and a juvenile move their way towards the light. Grasping vines, roots and other hanging vegetation, they pulled themselves out of the cave to join the others in the world outside.

I have never seen anything like it! Could it be a strategy used by gorillas to hide from poachers? Or perhaps the cave is used as a shelter during bad weather? More likely perhaps – is the rock full of vital minerals that help with their digestion? This is the fourth cave that has been found in the Gorilla Sector, but it is by far the largest and the only one known to be used by gorillas. We have taken the GPS coordinates and will go back to the cave from time to time to see if it is in regular use or whether this was just a chance happening. The rangers would also be keen to take future tourists there in the hope of catching a glimpse of these rare cave dwelling gorillas!

The Kibirizi family is doing well but is still threatened by poachers who try and snatch infants from their mothers for sale on the black market.

Robert Muir (from his blog on www.wildlifedirect.org/congo-rangers)



D. R. CONGO

Armed Robbery

In the early evening of 1st November, a group of a dozen armed men threatened Claude Sikubwabo Kiyengo and his family in Rwindi, Virunga National Park. They beat him and his wife, while 8 accomplices ransacked his house and stole many valuables, including:

- 1 digital camera and 2 memory cards
- 2 video recorders
- 5 mobile phones
- 1 small radio set
- 2 electric cooking plates
- 1 file case with 6 books
- 20 CDs, 8 of them with documents
- passport and other documents
- clothes, jewelry and cash (300 US\$)

Apart from the Mai-Mai, who had their camp near Lake Edward, the dissident General Laurent Nkunda and his troops occupied the patrol posts in Jomba and Bukima in the Mikeno Sector of the Virunga National Park in December. The rangers had to flee and their whole equipment was pillaged.

Please help us to replace Claude Sikubwabo's lost equipment! His courage needs our support more than ever.

Bank Account:

Account number 353 344 315
Stadtsparkasse Muelheim/Ruhr
Germany
Bank code number 362 500 00
IBAN DE06 3625 0000 0353 3443 15
SWIFT-BIC SPMHDE3E



Address for cheques:

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Decline in the Hippopotamus Population of the Virunga National Park

A census carried out October 23rd, 2006 revealed that there are only 629 hippos left in the Virunga National Park, Democratic Republic of the Congo. In the late 1960s and early 1970s there were around 30,000 hippos living in the park. The aerial census carried out by the *Frankfurt Zoological Society* (FZS), with funding from the *US Fish and Wildlife Service*, showed that this population had declined by 98%.

With the second round of presidential elections in Congo less than one week away, the Mai-Mai and other non integrated local militia groups were poaching at an unprecedented rate because they believed their days in the park were numbered. The Congolese army, who operate in the park without suffi-

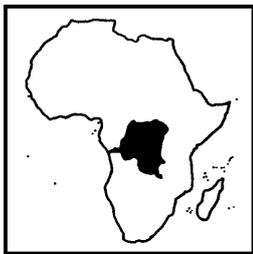
cient rations or salary, have also been accused of poaching the hippos, often in collusion with the militia troops.

The problem had become so serious that the Ugandan military deployed troops along the River Ishasha, which separates Congo from Uganda, to help deter the Mai-Mai from killing the park's largest remaining group of hippos consisting of only 134 individuals. The Mai-Mai and other poachers have been targeting hippos and elephants for their ivory, which is collected regularly from the militia camps and is thought to leave Congo through Uganda and Sudan to be traded illegally on the international black market.

The Mai-Mai have refused to engage in dialogue with the rangers and have recently begun launching attacks on their patrol posts. Despite the fact that over 100 rangers have been killed over the last few years trying to protect

Virunga's wildlife populations, and that they have not received a proper salary for more than a decade, the rangers continue to show remarkable commitment, determination and fortitude. After years of hardship, some support from the European Union and other donors is enabling the Congolese rangers to take control of the situation, but this positive development may be too late for the hippos.

Poaching has now become so prolific, and the threat to rangers so serious, that a combined operation between the park rangers and the UN peace keeping troops is needed. The Mai-Mai camps are well known to both the rangers and the UN, and an operation needs to be mounted quickly. But the UN is preoccupied with the lead up to the second round of elections and the militia forces have taken advantage of the situation. Over the last months



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the park has seen unprecedented levels of poaching, ambushes, violence, and violations of human rights.

Update December 2nd: The situation has gone from bad to worse, and despite significant risks, the ICCN are now sending their rangers to Vitshumbi to protect one of the last main hippo groups. The sudden increase in poaching comes as a direct result of UN and military troops leaving the park in support of operations against the dissident General Laurent Nkunda. The vacuum has been filled by a lunatic group of Mai-Mai rebel soldiers currently living in the park. Many of these soldiers have now moved out of the bush and into Vitshumbi, a fishing village on the edge of Lake Edward, where they are systematically destroying what remains of the hippo population.

Update December 4th: I have just flown over Vitshumbi where less than 2 months ago we had counted over 200 hippos. Today we saw just 13. This follows a massive slaughter over the past week by a group of Mai-Mai some 20 km east of Vitshumbi on the southern shores of Lake Edward. This same group of Mai-Mai attacked Lulimbi, a ranger station in the east of the park. Fortunately no one was killed, but they left a ranger badly injured and made off with 10 rifles and 4 walkie-talkies.

The Virunga Park's best chance now lies in the hands of its elite ranger force, trained by FZS and deployed to help protect the last few hippos from extinction. The Congo rangers are massively underresourced and are outnumbered five-to-one by poachers armed with machine guns and rocket launchers. UNESCO and the EU are engaging at the highest political levels in Kinshasa, but support in terms of patrol equipment, rations and salary supplements is desperately needed on the ground if the rangers are to halt the precipitous decline in hippos and wildlife.

Robert Muir (from his blog on www.wildlifedirect.org/congo-rangers)

Presence of Great Apes in Bas-Congo

The Democratic Republic of the Congo (DRC) has more great apes, in terms of both individuals and taxa, than any other range state (based on known distribution and on the area of suitable habitat). An estimate for the number of individual apes must await the results of extensive field surveys, but even number of taxa has been open to question for some years. This is because of the uncertainty surrounding the continued survival of western lowland gorillas and central chimpanzees in the Bas-Congo region of DRC, adjacent to the Angola (Cabinda enclave) and Congo (Brazzaville) border, north of the mouth of the River Congo. The recent reclassification of chimpanzees in the south east of the country as a new sub-species has increased the number of recorded taxa to 7, if both Bas-Congo sub-species are confirmed to be present.

Great apes recorded in DRC

1. bonobo, *Pan paniscus*, endemic to the central region, south of the curve of the River Congo, and north of the rivers Kasai and Sankuru,
2. mountain gorilla, *Gorilla beringei beringei*, Virunga Volcanoes on DRC's eastern border with Rwanda and Uganda,
3. eastern lowland or Grauer's gorilla, *Gorilla beringei graueri*, found in the three provinces of Grand-Kivu and Ituri, in the east of the country; also endemic to DRC,
4. western lowland gorilla, *Gorilla gorilla gorilla*, formerly known to be present in the Mayumbe region of Bas-Congo, but suspected by some to be extinct in DRC,
5. central chimpanzee, *Pan troglodytes troglodytes*, reportedly surviving in Bas-Congo, notably near the Kuimba Mission and in/around the Luki Biosphere Reserve (confirmed

in 2005, Inogwabini, pers. comm.) in forests contiguous with those in Cabinda and Congo (Brazzaville),

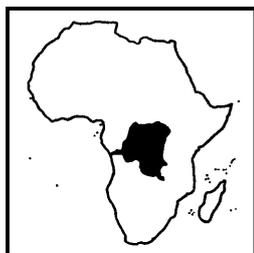
6. eastern chimpanzee, *Pan troglodytes schweinfurthi*, widespread in the north of Equatorial and Oriental Provinces and east of the River Congo (Ituri, North Kivu, South Kivu*, Maniema* and Katanga* – asterisk denotes former taxonomy, see below),
7. *A newly described sub-species, *Pan troglodytes marungensis*, now includes all the DRC chimpanzee populations south of Rutshuru down to Marungu (Groves 2005).

Gorillas in the Mayumbe region were considered to have survived "at least until the 1960s" but were thought to be "almost certainly extinct" by Verschuren (1975), cited in Lee et al. (1988). The possibility of individuals occasionally entering from Cabinda and from Congo Brazzaville was acknowledged, but no confirmation was forthcoming.

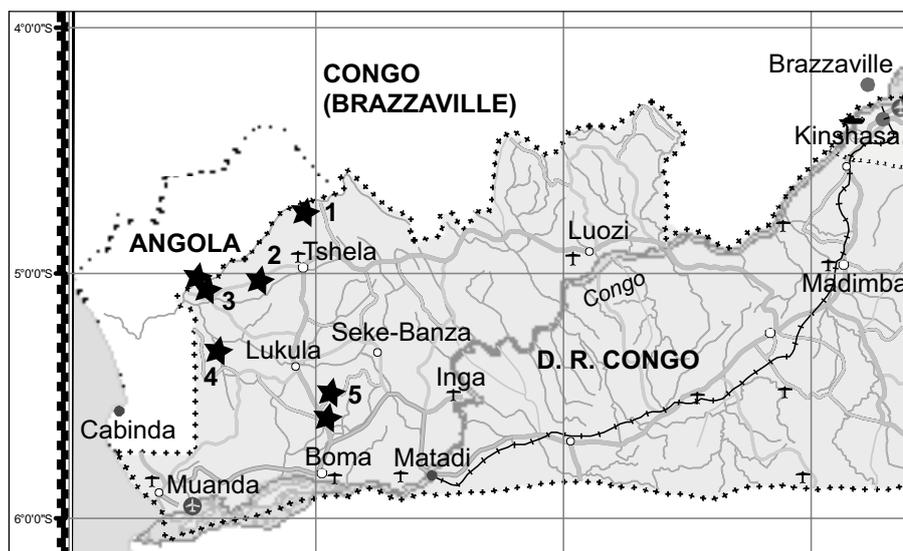
At the DRC National Workshop on Great Apes in 2002, it was considered a priority to survey the forests of Mayumbe and Bas-Uele (Ndembo Longo 2002). Despite this, no surveys have been carried out until now. Notes on the reported presence of apes in the region were provided by zoologists Omari Ilambu Omer and Inogwabini Bili-Isia of WWF, who had visited the region in 2001, and seen a skin of a gorilla shot in 1996 in Tsanga Nord. WWF teams have now surveyed the Luki Biosphere Reserve, south of the target area, finding chimpanzees but not gorillas (Inogwabini, pers. comm.).

Prior to the GRASP (*Great Apes Survival Project*) Inter-Governmental Meeting (IGM), a four-day trip to Tshela and the surrounding region of Bas-Congo was undertaken to ascertain which great apes survive there.

Following this encouraging reconnaissance, the need for a more detailed survey was listed in the DRC National



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Map of Bas-Congo with the sites where great ape traces were found (asterisks). 1: Konde-Phemba, gorilla reported; 2: Tsanga-Nord, gorilla verification; 3: Tsina Kongo, chimp nests; 4: Kivinda, claims of gorillas; 5: Lusanda-Sundi, chimps captured
 Map: Ian Redmond/Angela Meder

Great Ape Survival Plan (NGASP, published September 2005). A second visit to the region was carried out in May 2006, including a walk across the Madiakoko forested chain of mountains that protrudes into DRC from Cabinda. A questionnaire-based survey of more villages in the region has been undertaken by François Ntedika, and a more detailed census of apes in the Madiakoko Mountains is planned. A summary of gorilla reports in recent years (Omari and Inogwabini, pers. comm.):

Kivinda – claims of gorilla reported in 2000,

Tsanga-Nord – gorilla killed in 1996, skin seen by Omari and Inogwabini in 2001.

Method

In 2005, I travelled by air to Matadi, by road to Boma and north to Tshela, aided by the DRC Ministry of Environment, Nature Conservation, Water and Forests. With the assistance of François Ntedika, the Tshela District Coordinator

for Environment, 2 days were spent on motorbikes visiting villages on the edge of likely forests and interviewing village chiefs, hunters and farmers. Courtesy calls were made to regional officials, during which the purpose of the trip was explained in the context of the GRASP NGASP and IGM.

GPS readings were taken in the centre of each village, at the river on the Angola border and at a recent chimpanzee nest site. We visited Konde-Phemba first because a leopard had been reported killed there in August, which suggested there were still areas with wildlife populations close by.

Results from 2005 visit

No news of gorilla sightings were found in Tsanga-Nord, and it seems likely the species is no longer found in this area, which is largely cultivated now.

In the village of Konde-Phemba (47.5 km north of Tshela, altitude 1,000 ft), we were told that gorillas are occasionally seen in the rainy season when nuts are fruiting (October–December).

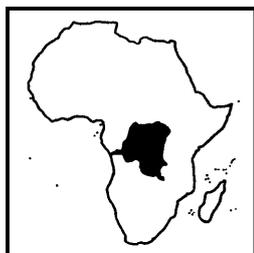
Last year, Mme Lidi saw a lone silverback in her fields. In the late 1990s a 12-year-old girl was killed by a silverback when a woman and her two children disturbed him while working in their fields – the mother ran to grab her baby and fled, but the girl was left behind and was attacked, later dying of her injuries. This occurred about 6 km east of here. The mother has since moved to live in Congo Brazzaville.

Discussion with the men convinced me they knew the difference between chimpanzees and gorillas, and that gorillas often nested on the ground, whereas chimpanzees nest in trees. To the north-east was a forested chain of mountains called Madiakoko, which everyone agreed was the best place to find gorillas.

In the village of Tsina Kongo, (3 hours west of Tshela, altitude 650 ft), near the forest of Mabuba (to the west, NW and SW), M. Kumbu-Kiza told us he had not seen gorillas since 1977/78 when many animals crossed over the dried up River Tshiluango to Cabinda during a drought. Chimpanzees are still here, and elephants come every year in the rainy season, October–December.

We continued west to village of Kayinzobe. There, M. Mbatshi-Mavungu Boniface, Chef de Groupement, told us he knows of a community of chimpanzees in the forest to the west. No gorillas now, but there were when he was young – the forest guards spoke of them. We walked to the river bank – on the Cabinda side there was forest and no signs of human activity, but I was warned that the border is patrolled and that this made it unsafe to cross.

On our way back, we met a farmer, M. Mavungu-Muanda, who led us to a patch of forest virtually surrounded by fields, in which a group of fewer than 10 chimpanzees had stayed for about 3 weeks in late July/early August. We eventually found and photographed nests. He explained that Muyumbe



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people do not eat chimpanzees or gorillas for fear that it would lead to them giving birth to one. Hunters do not set snares, but just use a shotgun. From this, it would seem that loss of habitat to agriculture, and shooting crop-raiding apes, is the primary reason for the decline in numbers.

Time did not allow a visit to Kivinda to follow up the claims of gorilla sightings in 2000.

Results of 2006 visit

From Kinshasa I flew to Matadi on 27th May, and was met by M. Gaby (the Minister's GRASP representative for Bas-Congo). We headed towards Tshela, spending the night en-route. On Sunday morning we met up with Ntedika in Tshela and hired motorbikes to head up to the forest of Madiakoko. We spent the night in the village talking to hunters and walked across the mountains the next day. We saw chimpanzee nests but were unable to reach the area where gorillas are reported in the time available. We were picked up by M. Gaby and returned. The discussions with the hunters revealed that some gorillas reside permanently in DRC, but others cross the border seasonally from Cabinda. They feed on nuts in the deeper forest in the rainy season and come to the forest edge – where they are more often seen in fields – during the dry season (May–October).

François Ntedika has written a very useful report on his survey in 13 villages, along with accounts for the first sum of BFF funding. He signed for US\$ 1,000 which will enable him to extend his surveys to several other villages (and also develop the film of photographs taken during the earlier work).

On my return to Kinshasa I passed on a photocopy of the report to Inogwabini who was planning to visit François Ntedika and deploy his census teams in the most promising parts of the forest. We should have confirmation of presence of gorillas in this part of DRC

in the coming weeks. The DRC government has expressed an interest in pursuing the idea of a tri-national protected area with Angola (Cabinda) and Congo Brazzaville.

Conclusion

From these preliminary visits, we can conclude that fragmented pockets of forest still support a chimpanzee population of sorts even in cultivated areas (viability unknown), but that gorillas only survive in the larger areas of surviving forest. Killing of crop-raiding apes and habitat loss seem to be the main causes of the decline in great apes here, but a concerted conservation education effort might be able to reverse the decline – particularly if attitudes to apes could be made more positive.

François Ntedika is willing to continue interviewing villagers to establish the most promising forests for apes, and, based on his results, a full census of the most promising forest blocks should follow. The possibility of creating community reserves, trans-frontier protected areas and other conservation activities can then be assessed in order to protect this important population of gorillas and chimpanzees.

This gorilla population is of particular importance both nationally and internationally. At the national level:

1. The confirmation of extant *Gorilla gorilla gorilla* and *Pan troglodytes troglodytes* populations in the country is an important fact for DRC's NGASP and Biodiversity Strategy and Action Plan.
2. The political impact of gorillas being in the west of DRC must also be recognised. To date, gorillas and the revenues generated by gorilla tourism have been seen as relevant only to eastern DRC, with all the problems associated with Kivu Province. If the Government is made aware of the potential for such development, we can anticipate strong support.

At an international level, these populations are probably not numerically highly significant, but they are of genetic interest, being the furthest south populations of both taxa. Moreover, as discussed at the IUCN Workshop on Central African Apes (Brazzaville, May 2005), the threat of Ebola is most severe in areas with high population density of great apes; thus, small, isolated populations such as these present the best hope of survival in the event that Ebola (or other contagious diseases) cause a population crash in areas previously thought to be strongholds of the species.

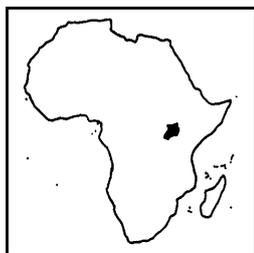
Finally, the recent inclusion of all gorillas in Appendix I of the Convention on Migratory Species and the trans-frontier nature of this population indicate that this could become the subject of a tri-partite conservation agreement between DRC, Angola and Congo Brazzaville.

Ian Redmond

My stay in DRC to help complete the NGASP and assist in preparing for the IGM was supported by the Born Free Foundation and UNEP, through GRASP. The DRC Government facilitated my mission, and covered the cost of the return air fare and the vehicle to Tshela in 2005; I thank the Secretary General of the Ministry of Environment, Nature and the GRASP Focal Point in DRC, M. Leonard Muamba, and the Minister's representative in Bas-Congo, M. Gaby. I am grateful to Lisa Steel of WWF for the use of her GPS, and to Omari Ilambu Omer and Inogwabini Bili-Isia of WWF for their information and guidance.

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UGANDA

Report on my Trip to Uganda

The 21st Congress of the *International Primatological Society* (IPS) was held in Entebbe from June 25th to 30th, and was opened by the Ugandan President Yoweri Museveni in person. The central topic for the conference was "Primate Conservation in Action". *Berggorilla & Regenwald Direkthilfe* presented a poster on this topic, illustrating projects in Uganda that we have been supporting over the past few years. Many gorilla researchers from Africa, Europe, America, Australia and Japan attended the conference, as did some of the partners from the conservation projects supported by us. Many interesting talks were given and some speakers have summarized the results of their studies for the *Gorilla Journal* (pp. 16 and 20).



Alex Mugale

As Yvonne Verkaik has moved on to other tasks, she had suggested the employment of her colleague Alex Mugale as our new assistant. Alex is 28 years old; she was working in education and employed in the Kampala office of the *Rhino Fund* for approximately 3 years. She has been working for us since August 2006 and she has already represented *Berggorilla & Regenwald Direkthilfe* at an international meeting of gorilla conservationists.

After the IPS meeting I travelled to Kisoro to meet various cooperation partners, to visit their facilities and hotels and to make a trip to the Mgahinga National Park. The *Travellers Rest* in Kisoro has been completely renovated. The rooms have been equipped in very good taste, the restaurant is good and guests can sit on the terrace of a well-kept garden.

Various hiking opportunities are offered in the Mgahinga Gorilla National Park, giving visitors a chance to visit different attractions such as the golden monkeys (*Cercopithecus kandti*), or to hike through the individual habitats of the park. I myself went on a



The new visitor centre in the Mgahinga Gorilla National Park

tour to a cave that was once used by Pygmies. A car park and an education building are now located directly adjacent to the park entrance. A beautifully paved walkway between the *Hagenia* trees planted by Ursula Karlowski takes the visitor to the Visitor Centre, which was opened in July 2006. It is an impressive building with large rooms and enormous windows. This is now the place where you register for a visit to the park. It must be said, however, that all these facilities are located in-



The buffalo wall marks the border of Mgahinga Gorilla National Park. All photos on this page: Angela Meder



At the IPS congress: above Ben Beck (left), below Miki Matsubara and Colin Groves



UGANDA



The women's cooperative in Uganda knitting sweaters for the rangers on the Congolese side of the Virunga Volcanoes (above); finished sweaters ready for transport (below, left) and the rangers wearing them.

Photos: Angela Meder (2), Claude Sikubwabo (1)



side the park; some of the park's land had to be paved over for this purpose.

There are still numerous exotic trees inside the park, some of which have now reached a considerable height; they are to be removed one by one, and the natural vegetation is regenerating slowly. The buffalo wall built by Klaus-Jürgen Sucker still works well. Sometimes it gets destroyed by elephants, but reportedly the damage is usually repaired quickly. Unfortunately, bamboo shoots are still taken out of the park as part of the permitted multiple use activities. It seems that sometimes bamboos do not take root in peoples' home gardens as the soil is not suitable, and the people receive permission to collect new plants from the park.

The habituated gorilla group still migrates between the three countries. As it cannot be predicted how long the gorillas will stay in any one country, tourists are not taken to them unless they have already been in Uganda for a fairly substantial period. During my visit on July 4th, they had been in the country for several days, but it was still not possible for tourists to visit them.

Waltraud Ndagijimana invited me to visit her in Mutolere near Kisoro. I also visited the women's cooperative, which was in the process of knitting sweaters for the rangers of the Virunga National Park. In July, the women were still working on this assignment; by now the sweaters have arrived in the Congo, and we were able to give the next or-

der to the cooperative: sweaters for the rangers in Rwanda.

Angela Meder



Waltraud Ndagijimana

Gorilla Permit Prices

If you want to visit the gorillas in Bwindi, you now have to pay US\$ 375. The fee was increased in August 2006 (previously it was US\$ 360). According to Moses Mapesa, the head of the *Uganda Wildlife Authority* (UWA), gorilla tourism contributes half of the tourism earnings of Uganda. Of the additional US\$ 15, US\$ 10 will benefit the tour operators directly, and will be an incentive towards selling the gorilla permits.

The entry fees for the national parks and the fees for other activities within the national parks were also raised. Detailed information can be downloaded at http://traveluganda.co.ug/pdf/uwa_tariffs_2006_2008.pdf



CROSS RIVER

News from Nigeria

Third Cross River Gorilla Workshop Completed

With funding from the WWF African Great Apes Programme, the *US Fish and Wildlife Service*, *Fauna and Flora International* and the *Wildlife Conservation Society* (WCS), an international "Action Planning for Cross River Gorilla Conservation" workshop and conference was held in Calabar, Nigeria from April 26 to 29, 2006. Hosted by WCS and the *Nigerian Conservation Foundation* (NCF), this meeting built on partnerships and success from previous Cross River gorilla workshops held in Calabar, Nigeria in 2001 and Limbe, Cameroon in 2003. The meeting involved representatives from the Federal Republic of Nigeria and the Republic of Cameroon, the Cross River State Government, as well as technical experts from local and international organizations and institutions.

Based on a series of site-specific measures and recommendations arising from the workshop, an action plan for the conservation of the Cross River gorilla is now in preparation. The plan includes sections on the socioecology of Cross River gorillas, threats, population fragmentation, landscape ecology, ecotourism and gorilla habituation, the development of transboundary protected areas, legislation, education and awareness, community conservation and enclave management as well as monitoring and research needs.

Gorilla Census of Afi Mountain Wildlife Sanctuary

A sanctuary-wide gorilla survey was conducted in June 2006 by the WCS as part of continued efforts to monitor gorillas in the Afi Mountain Wildlife Sanctuary. Since 2004 regular surveys have been conducted in the sanctuary to monitor ranging behavior and to obtain a reliable estimate of population size

of the Afi gorillas. Six teams surveyed the mountain over a period of 7 days, including staff from WCS and the Cross River State Forestry Commission (CRSFC) and experienced local gorilla trackers. Eleven gorilla nest sites were found although only 4 of these were judged to be "fresh" (1 to 3 days old).

Data from this survey suggest the presence of at least 15 and perhaps as many as 27 gorillas on the mountain located in the northern and south-central sectors of the sanctuary. Evidence of other wildlife remains scarce although levels of poaching were observed to be considerably lower than in previous surveys. The reduced poaching is likely to be due to intensified anti-poaching activities in the sanctuary, supported by *Fauna and Flora International* (FFI) and NCF. Unfortunately, however, in spite of efforts to eradicate farms from within the sanctuary, encroachment remains a growing problem.

Crop Raiding by Gorillas: a Sign of Successful Conservation?

In January 2006, WCS received reports of crop raiding by gorillas from Kakwagom Irruan and Bitiah, 2 of the 16 communities surrounding the Afi Sanctuary, located adjacent to the northern sector of the sanctuary. At least 6 farms were reported to have been raided and a number of stands of banana and plantain were destroyed. Although local people report that this is the first time in more than 20 years that farms have been raided in the area by gorillas, this incident has resulted in considerable tension within the communities concerned.

It is not clear why some gorillas have exchanged the relative safety of the sanctuary for surrounding farmlands. It is known that gorillas routinely migrate to the northern sector of the sanctuary during the dry season, generally a period of food scarcity, to exploit particular plant species, but they have not been previously reported to have left the

confines of the sanctuary. With farms extending ever closer to the boundaries of the sanctuary there is always an increased chance of gorillas straying onto local farms and raiding crops especially during periods of food scarcity. Reduced levels of hunting within the sanctuary, a result of intensified anti-poaching measures by a combined team of CRSFC rangers and community scouts, may have encouraged gorillas to roam further afield.

Whatever the reason, the situation puts gorillas in the area at risk of reprisal, injury or even killing by aggrieved farmers and must be addressed urgently. In view of its importance to the conservation of the Afi gorillas, it is recommended that the CRSFC and NGO partners work with the local communities of Kakwagom and Bitiah to explore ways in which to improve the protection of these community forests.

Counting Gorillas in the Mbe Mountains: Genetic Analysis of Dung

Between December 2005 and August 2006, WCS conducted 5 mountain-wide gorilla surveys of the Mbe Mountains. These surveys have focused on the collection of gorilla dung for subsequent genetic analysis, from which it is hoped that a more accurate and reliable estimate of the population size of Mbe can be produced based on mark-recapture techniques. Survey methodologies used in the past have not been very effective in providing an accurate estimate of population size. If successful, this pilot study could be extended to Afi and Okwangwo where current estimates also need to be refined. A total of 88 dung samples were collected during the exercise and are already being analyzed by the laboratory of Todd Disotell in New York.

Renovating Research Camp

With funds provided by *Berggorilla & Regenwald Direkthilfe*, WCS has



GORILLAS



The old Mbe research camp (above) and the new one (right)

Photos: Andrew Dunn



almost completed the construction of a simple research camp in the Mbe Mountains, with only the roof now remaining to be completed. The camp will undoubtedly improve the living conditions of researchers and other visitors. The construction of the camp has taken rather longer than expected, as the difficult terrain meant that all building materials had to be conveyed up the mountain by porters. Using local labor for the construction of the camp did provide some much-needed, albeit temporary, employment opportunities.

Creating a Community Wildlife Sanctuary in the Mbe Mountains

Situated between the Afi Mountain Wildlife Sanctuary and Cross River National Park, the Mbe Mountains are community-owned land and lack any formal protection status. The nine communities surrounding Mbe recently agreed to work together to create a protected area in the Mbe Mountains and are currently in the process of establishing the Mbe Mountains Conservation Association. In recent months WCS have been working with the 9 Mbe communities and the CRSFC to negotiate and provisionally demarcate the boundary of a core protected area in the mountains.

Inaoyom Imong and Andrew Dunn

With your donations we now started buying the material for a new ranger post at Bumaji (see Gorilla Journal 32). Hopefully the construction work can be started before the next rainy season starts. However, we still need more funds – every donation is welcome!

Western Gorilla Tourism: Lessons Learned from Dzanga-Sangha

While innovative nature tourism ventures continue to surface all over the world, governments with struggling economies and wildlife conservation organizations with funding shortfalls have become increasingly eager to find ways to boost tourism revenues. These additional revenues are sought primarily to: 1) contribute to national treasuries, thus potentially placing a long-term fiscal value on biodiversity, and 2) secure long-term funding in order to maintain ongoing field conservation efforts. This strategy becomes increasingly more urgent as host governments often concede to profiting from acute and intense natural resource exploitation practices, while

at the same time these resources are, in most areas, in steady decline.

In Africa, high-profile, large and often rare animal species such as gorillas, elephants and large carnivores are major draws for tourists. For example, gorilla tourism has been very popular since the 1970s with eastern gorillas. Since then, in times of peace, gorilla tourism in Rwanda, Uganda and D. R. Congo has attracted large numbers of visitors, and this has generated important revenue in addition to increasing national and international awareness of the plight of the highly endangered mountain gorilla.

It is common knowledge among experts that gorilla tourism does not come without risks. Disease transmission, socio-ecological disturbance and increased vulnerability to poachers are among some of the risks for which gorilla tourism programs may be responsible. Like other tourism programs, there are further potential drawbacks: inflated economic expectations, failure to recover financial and structural investment, unequal and unjust revenue sharing policies, and a potentially negative cultural influence on local societies.

The lack of long-term impact assessment studies certainly limits our ability to evaluate the ratio of pros and cons of existing gorilla tourism programs. Nevertheless, it is generally accepted that if today the mountain gorilla population is still thriving, this is partly due to the international reputation and consequent support generated from gorilla tourism. As a result, national governments and international research and conservation projects in Central Africa have tried to recreate the experience of mountain gorilla tourism models with the most widespread and numerous of the gorilla species: the western lowland gorilla.

Despite considerable efforts invested at numerous sites, attempts to habituate western lowland gorillas, a pre-



GORILLAS

requisite to ensuring consistent gorilla viewing, have found limited success. Among the most important limiting factors is the difficulty following gorillas' trails (especially because of long daily-path lengths overlapping with neighboring groups and large home ranges) and the poor visibility in dense lowland forests. Additionally, the nature of previous encounters with humans (exposure to hunting, for example) and finally, the individual character of each gorilla undergoing habituation (receptive, aggressive or frightened), all play a role in the eventual success or failure of habituation efforts.

The Primate Habituation Program at Dzanga-Sangha: its "raison d'être"

Despite these seemingly insurmountable obstacles, efforts to develop gorilla tourism in Central Africa continue to be made. In the southwest Central African Republic, the *World Wide Fund for Nature International* (WWF)-backed Primate Habituation Program is one such effort. The program was initiated in 1997, under the auspices of the Dzanga-Sangha Project, a partnership between the government and WWF since 1988, joined in 1994 by the German Technical Cooperation (GTZ). Preserving biodiversity, while attempting to regulate long-term use of the reserve's natural resources, is the shared objective of these diverse partners. Thus, tourism may potentially be viewed as a "rational" use of natural resources: if well managed, the environment may generate economic benefits over the long-term, as opposed to the immediate gains acquired by intensive, short-term exploitation practices.

In light of the fact that the success of any conservation project also depends on its acceptance and support from the local and national community, tourism can be used to help bridge the often tense relations between protected area managers, local residents and na-

tional authorities, while simultaneously increasing national and international awareness of the conservation issues specific to participating countries, and thus potentially ensuring the protection of their flagship species.

Supporting tourism at Dzanga-Sangha is consequently expected to generate ancillary benefits in the form of: 1) enhanced political support and international accountability for efforts to conserve endangered species, 2) reduced poaching via persistent surveillance of the group's home range, and 3) increased donor support.

Gorilla habituation and tourism operates from Bai Hokou camp, located in the Dzanga-Ndoki National Park. From 1998 to 2006, three gorilla families have been followed; two have been visited by tourists and one is presently undergoing habituation. For the first two families, nearly 4 years of habituation efforts were required before careful consideration was given to open them

to tourism. The level of habituation of the groups visited by tourists allows for timed contacts at a distance of about 15 m. At this distance visibility is often obstructed and, on average, gorillas are in view during half the duration of the visit (resulting in one hour of visual contact). Over 700 visitors observed the habituated groups at Bai Hokou from late 2001 to 2006. Political unrest, culminating in a successful "coup d'état" in 2003, undoubtedly limited the number of international tourists willing to visit the Central African Republic. By the end of 2006 over 200 tourists visited the gorillas at Bai Hokou indicating that the demand for tracking will likely be higher during subsequent years.

Lessons Learned

The habituation of western gorillas is a long, arduous process: Tracking gorillas at Dzanga-Sangha is only possible with the aid of experienced BaAka (hunter-gatherers). Despite



Ndimbelimbe, a juvenile gorilla with the first habituated group at Bai Hokou: group Munye

Photo: Chloé Cipolletta



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the BaAka's superior forest skills, successful tracking is difficult and even large gorilla groups may seemingly "disappear" without leaving a trace. Even after hiring a few exceptionally capable trackers, identifying and consistently staying with a target gorilla group is a considerable challenge. Moreover, avoiding dangerous encounters is difficult throughout the process. The dense structure of the forest undergrowth increases the risks of surprising gorillas at close range; thus, it is important to provide warning upon approach, always letting the animals know your position (at Bai Hokou, as at nearby Mondika gorilla camp, a non-threatening, tongue "clacking" sound is used to announce our presence).

Health concerns are always present: The risk of disease transmission can be minimized by developing sound guidelines which take into account the health of gorillas and humans alike; but no matter how many precautions one takes, prolonged proximity with humans presents a continual threat to the gorillas' wellbeing.

However, habituating gorillas at Dzanga-Sangha has also meant providing them with continuous surveillance from poachers. To ensure that the benefits outweigh the potential risks, all regulations must be strictly adhered to, and a long-term presence with the habituated groups assured.

Gorilla habituation is very costly: The investment required to embark on a habituation program and the high costs of maintaining a large team working in a remote area, where logistics are very challenging and complex, has produced significant net financial losses for the gorilla tracking program at Dzanga-Sangha. Bearing in mind that it takes years to habituate a group, and considering that at any moment the group could disintegrate along with its entire financial investment, immense financial risks are involved.



The silverback Mlima; in the foreground BaAka tracker Molongo

Photo: Chloé Cipolletta

And yet, profits may be easier to make than to distribute: The system of revenue sharing in place at Dzanga-Sangha allocates 50% of its tourism revenues to the project's running costs, 10% to a government fund designated to support forest management efforts, and 40% to local NGOs. It has been extremely difficult to implement an appropriate and fair use of these NGO funds. This could be due partly to the non-cohesive social nature of the main village of Bayanga. Built on logging and coffee exports from several decades ago, Bayanga is a migrant community made up of people from different regions and various tribes from throughout the country. Consequently, self-interest has often prevailed over communal interest and previous efforts to allow the community leaders to distribute the communal returns have proven ineffective.

Limited viewing during gorilla tracking at Dzanga-Sangha versus mountain gorilla viewing: The low

level of visibility in the dense Dzanga-Sangha forest means that even at a close distance it is sometimes impossible to see the gorillas, never mind take a memorable photograph. Additionally, to maximize the likelihood of seeing the gorillas, it is important to limit the number of daily visitors. A maximum of 4 visitors is allowed at Bai Hokou (as opposed to 8 for mountain gorilla sites), but even so the 4th visitor has difficulty achieving rewarding views of the group.

However, many tourists have already seen mountain gorillas: There is a high demand for gorilla viewing in general and for western lowland gorillas this demand is increasing steadily. Many visitors have seen mountain gorillas and now want to see their lowland counterparts. Additionally, as there are so few mountain gorillas and their tiny habitat is much more fragile and easily disturbed, the prospects for western gorilla tourism, despite many obstacles, has potential.



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Recommendations

The following recommendations have emerged from 9 years of habituation and tourism experience specific to Dzanga-Sangha, and they may not be applicable to other potential western gorilla habituation programs, as site-specific differences may warrant different habituation practices. In any case, they may help identify not only the potential advantages associated with a successful gorilla tourism program, but also the potential obstacles and difficulties faced throughout the entire process.

All aspects of a gorilla tourism program must be well planned: realistic budget, availability of key personnel, assurance of long-term funding, government and local support, judicial backing for law-enforcement efforts, political stability, and so on. If these essentials cannot be met, it might be better to inject available (but perhaps, insufficient) funds already acquired for a habituation program into direct conservation activities such as law enforcement, judicial reform, and conservation education.

To improve a tourism program and augment its revenue generating potential: increase the number of habituated groups for tourism (if strict guidelines are followed and long-term commitments can be met), continue to diversify tourism activities in the area and, very importantly, market it appropriately in order to avoid misleading potential tourists when comparing western gorilla with mountain gorilla tourism. Western gorilla tourism must be marketed for what it is: the observation of a different gorilla species with a very different suite of behaviors, ranging patterns and habitats. Our experience is that tourists who know what to expect (an amazing and adventurous gorilla tracking experience as opposed to a fulfilling gorilla viewing experience with mountain gorillas), usually come away with one of the most rewarding experi-

ences of their lives. Even though one rarely achieves unobstructed views of silverbacks on the ground at 7 m, the prospect of seeing a partially obscured 200 kg gorilla, 30 m high in a tree, is equally if not more astonishing to many visitors.

A major obstacle to building a successful tourism program in western gorilla territory is that, logistically, Central Africa is far behind the rest of Africa – it is more expensive and less comfortable, and transportation is much less reliable. For a western gorilla tourism program to be successful over the long-term, there must be serious commitments from host nations to improve these aspects of the tourism market. Without such dedication, most habituation undertakings will not attract the anticipated visitors.

To increase local awareness and support for gorilla conservation efforts: projects should incorporate a valid system of revenue sharing, promote a system to limit immigration into the protected area complex (not only by restricting immigration, but also by prioritizing the hiring of local residents), and attempt to integrate wildlife conservation topics into the local and national educational curricula. At Dzanga-Sangha, not unlike elsewhere in Africa, students show an intense interest in learning more about their environment and are very curious to know and understand *why* it is biologically important to preserve and protect endangered animals such as gorillas.

Carry out appropriate impact assessment studies:

- Monitor the health of both the gorillas under surveillance and the humans who work with them;
- Assess attitudes of the local population at different stages of gorilla habituation, to understand the evolution of why the population may support or object to tourism efforts;
- Continual data collection on the focal gorilla group in order to fully under-

stand the impacts of habituation on their overall socio-ecology;

- Assess tourist evaluations to help the program evolve and thus, to better meet the needs of the tourists (while respecting the needs of the gorillas).

Secure long-term funding: Tourism alone may not provide the long-term answers to funding shortfalls, but the endangered western gorillas are a captivating species and their international profile helps generate the funding needed to support long-term efforts. The Dzanga-Sangha Project recently garnered over US\$ 2 million to initiate a trust fund. These funds were generated no doubt partly due to the prominence of the Primate Habituation Program.

The international community has shown a keen interest in protecting wild gorilla populations, and apes in general. African great apes are more closely related to humans than to other primates. Their survival is in the interest, if not a moral duty of, the global human community: the costs and sacrifices linked to their protection should be supported not only by countries that harbour them, but also those in a better financial position to provide support for the apes' continued survival.

David Greer and Chloé Cipolletta

Ebola

In a study published in *Science* 314, Dec. 2006, Magdalena Bermejo and her colleagues estimate that 5,500 gorillas died from Ebola in the Lossi Sanctuary, Congo Republic, between 2001 and 2005. This is only a fraction of the total number of gorillas killed by this disease; Ebola is a severe threat to the survival of western lowland gorillas.



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Suggested reading

Homsy, J. (1999) Ape Tourism and Human Diseases: How close should we get? A critical review of the rules and regulations governing park management and tourism for the wild mountain gorilla *Gorilla gorilla beringei*. International Gorilla Conservation Programme. http://www.mountaingorillas/our_work/our_work.asp

How Insectivorous are Gorillas?

More than we think! Based on studies of mountain gorillas (e.g. Fossey & Harcourt, 1977), gorillas in general were thought to mainly eat leaves, stems, shoots and bark (> 90%). This idea of the overwhelmingly folivorous gorilla had to be changed when lowland gorillas appeared to include more fruits in their diet, these being much more available in lowland forests (Tutin & Fernandez 1985). Nor could gorillas any longer be called exclusively vegetarian, as Tutin and Fernandez (1983) published the first evidence of regular termite feeding by western lowland gorillas in Gabon. Even so, deliberate insect-eating by mountain gorillas was considered minimal to negligible (Harcourt & Harcourt 1984).

During the following years, however, more evidence of deliberate and regular insectivory was found, especially in western lowland gorillas (Nishihara 1992; Remis 1997). Gorillas seem to prefer ants and termites, which are absent, or less abundant, in mountain areas. As with fruits, gorillas seem to include ants and termites in their diet when available but, since insects only make up about 3% of the western lowland gorilla diet, not much attention was paid to this part of their behaviour. Until recently, only one study had been conducted – a comparative of insect-eating by sympatric chimpanzees and gorillas by Tutin and Fernandez (1992). These authors suggested that insect-eating by gorillas is nutritionally important, because gorillas eat ants

deliberately and regularly, as chimpanzees do.

During the next 10 years, no recorded studies focused on gorilla insectivory. In contrast, insectivory by chimpanzees was studied more often; chimpanzees mostly use tools to gain ants and termites, which makes it more interesting to investigate. Recently, however, ant and termite eating by gorillas has been the subject of more attention, and it is more interesting and important than has been thought.

At the northern periphery of the Dja Biosphere Reserve in Cameroon (two sites: Ntonga and “La Belgique”, 45 km apart), the insect diet of unhabituated chimpanzees and gorillas was studied in detail (Deblauwe et al. 2003; Deblauwe & Janssens, submitted). Gorillas at the Dja periphery have the highest frequency of insect-eating (percentage of faeces with insect remains) and the highest prey diversity ever recorded. Both are even higher than those for the sympatric chimpanzees. At “La Belgique”, on the other hand, the estimated biomass of important prey eaten by gorillas is lower than that eaten by chimpanzees.

At both sites the most important prey species are different for gorillas and chimpanzees. The ants *Oecophylla longinoda*, *Crematogaster* spp. and *Tetramorium aculeatum*, and the termites *Cubitermes* spp. and *Thoracotermes macrothorax*, are the most important prey for gorillas, while for chimpanzees these are the army ants *Dorylus* spp. and the termites *Macrotermes* spp. Gorillas forage for ants and termites with their hands, while chimpanzees use tools to obtain termites and probably use their hands to catch army ants. After having investigated the accessibility of these prey species, it becomes clear that tool-use alone cannot explain the prey preferences, in contrast to what Tutin and Fernandez (1992) suggested. There are important differences in the nutritional composi-

tion of the gorilla and chimpanzee termite prey species and in their nutritional contribution to the ape diet, which might help to explain the variation in prey choice. Chimpanzees select fungus-growing termites high in protein, energy and manganese, while gorillas select soil-feeding termites high in iron and ash with possible anti-diarrhoeal characteristics. Termite eating in western lowland gorillas might therefore be a high quality alternative for geophagy. At this moment data analyses of the spatio-temporal availability of ants and termites and of the seasonality in the insect, plant and fruit diet of both apes at “La Belgique” are still ongoing.

Inter-site comparisons demonstrate a similar frequency of insect-eating (percentage of faeces with insect remains) by gorillas in Gabon (30%; Tutin & Fernandez 1983, 1992) and the Congo Republic (24%; Nishihara 1992), which are mainly primary forest sites, while higher frequencies are found at the predominantly secondary forest sites in Cameroon (78–96%; Deblauwe et al. 2003; Deblauwe & Janssens, submitted) and the Central African Republic (42–73%; Remis 1997; Cipoletta et al., in press). Mountain gorilla groups in Bwindi feed more on army ants (*Dorylus* spp.) when ranging in secondary habitats than when ranging in open and mixed species forest (Ganas & Rob-



Isra Deblauwe analyzing a gorilla fecal sample in the camp site “La Belgique”



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bins 2004), although the availability of ant and termite prey species at these sites should be measured in a standardized way, before these differences can be attributed to quality differences between primary and secondary forest in the plants and fruits available to gorillas (Deblauwe et al. 2003; Ganas & Robbins 2004).

Insect prey choice by western lowland gorillas also differs between sites. Although *Cubitermes* termites are available at Lopé in Gabon, gorillas there do not eat them (Tutin & Fernandez 1992). Apart from Lopé, they are eaten to a certain extent at all other sites where insect-eating by gorillas was recorded, which indicates that local traditions may exist across gorilla populations (Tutin & Fernandez 1992; Deblauwe et al. 2003). Although Cipolletta et al. (in press) emphasize the importance of investigating ecological factors first and try to explain the difference in *Cubitermes* eating by the lower abundance of mounds in Marantaceae forest – *Cubitermes* is abundant at Lopé and preferred by local gorillas (White et al. 1995) – this still cannot really explain the lack of this termite in the gorilla diet at Lopé.

Lopé has the second highest density of herbs after Ndoki in Congo (Doran et al. 2002). Although gorillas at Ndoki

prefer the swamp forest (Nishihara 1992), which also has low *Cubitermes* mound availability (Deblauwe, unpublished data), they still eat this termite deliberately. It seems that insectivory by gorillas is more complex than we assumed. Next to ant and termite availability, the techniques used by gorillas to forage on termites and ants should be investigated at different sites, as these might also reveal local gorilla traditions (Cipolletta et al., in press).

On a recent visit to Bwindi National Park (Uganda), I recorded the presence of *Cubitermes* in the forest there. It seems the abundance of mounds is very low, but it would be interesting to investigate the distribution of *Cubitermes* mounds in the Bwindi gorilla home ranges, as these termites have so far never been recorded in the mountain gorilla diet.

In conclusion, western lowland gorillas are as insectivorous as chimpanzees, but probably for different nutritional reasons. Future studies need to focus on prey availability, measurements of insect food intake (if possible through direct observations), nutritional analyses of prey, plant and fruit species, and sex-age class differences in insectivory at different sites.

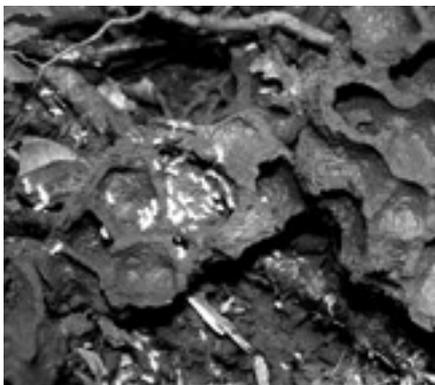
Isra Deblauwe

I would like to thank MINFoF, MINRE-SI, Service de la Conservation de la

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Left: piece of a *Thoracotermes* nest, broken by gorillas, with many larvae and some workers at the left; right: *Oecophylla* ants



READING

James D. Paterson and Janette Wallis (eds.)

Commensalism and Conflict: the Human–Primate Interface. Special Topics in Primatology Vol 4. Norman (American Society of Primatologists) 2005. XVIII, 483 pages. Paperback, US\$ 60. ISBN: 0-9658301-3-6

An overview about primates as pests – and the consequences for their conservation – begins this book. 20 case studies from America, Africa, Madagascar and Asia follow.

The recurring theme is crop-raiding and its consequences, but many other aspects are included; studies that deal with disease transmission, ethnology, history of human–primate relationships, impact of tourists, primates as pets, people's attitudes towards conservation, and attacks by nonhuman primates on humans. Each study proposes solutions to particular problems, makes recommendations, and recounts experiences or success stories. Reasons for increasing conflicts and the adaptations of primates to humans and their behaviour (which is especially important in primates) are also discussed. Although each situation is different, the many approaches and suggestions provide useful hints for the management of similar problems.

Nicholas E. Newton Fisher, Hugh Notman, James D. Paterson and Vernon Reynolds (eds.)

Primates of Western Uganda. New York (Springer) 2006. XVI, 516 pages, 86 illustrations. Hardcover, US\$ 119. ISBN 978-0-387-32342-8

After a taxonomic and biogeographic introduction on the primates of western Uganda, 23 chapters discuss the ecology, behaviour and physiology as well as the conservation of primates in particular areas. Chimpanzees are the subject of 12 chapters (which reflects the present focus of primate studies in the region); 4 contributions are about gorillas. This volume is not a general

overview for tourists, but a collection of research articles about primates living in a certain region – a book for ecologists and primatologists, with a conservation slant. Each chapter is an individual contribution dealing with some specific question that its author has studied in detail; none has been published before, and each contains valuable, detailed first-hand information.

Christina J. Campbell, Agustin Fuentes, Katherine C. Mackinnon, Melissa Panger and Simon K. Bearder (eds.)

Primates in Perspective. Oxford (Oxford University Press) 2006. 736 pages. US\$ 52.95. ISBN 978-0-19-517133-4

Juan Carlos Gómez

Apes, Monkeys, Children, and the Growth of Mind. Cambridge, Mass. (Harvard University Press) 2006. 352 pages. Paperback edition (hardcover published 2004), US\$ 19.95, £ 12.95, Euro 18.50. ISBN 978-0-674-02239-3

Volker Sommer (ed.)

Homosexual Behaviour in Animals. Cambridge (Cambridge University Press) 2006. 392 pages, 47 line diagrams, 20 half-tones, 25 tables. £ 70, US\$ 125. ISBN 978-0521864466

UNEP

Africa Environment Outlook 2. Nairobi (UNEP) 2006. 600 pages, US\$ 60. ISBN 92-807-2691-9

Elisabeth Porter, Gillian Robinson, Marie Smyth, Albrecht Schnabel and Eghosa Osaghaio (eds.)

Researching Conflict in Africa: Insights and Experiences. UNU. 184 pages. US\$ 28. ISBN 9280811193

UN

African Governance Report 2005. New York (UN) 2005. 386 pages. US\$ 40. ISBN 9211250986

Benoît Verhaegen and Jean Omasombo-Tshonda

Patrice Lumumba: acteur politique de la prison aux portes du pouvoir. Paris (L'Harmattan) 2005. 406 pages, Paperback. Euro 37. ISBN 978-2747563925

Kingsley Moghalu

Rwanda's Genocide: The Politics of Global Justice. New York (Palgrave) 2005. 252 pages. Hardcover, US\$ 39.95. ISBN 978-1-4039-7081-7

Mwamba Tshibangu

Joseph Kabila, la vérité étouffée. Paris (L'Harmattan) 2005. 266 pages, Euro 24. ISBN 978-2747593106

Rosie Cooney and Barney Dickson (eds.)

Biodiversity and the Precautionary Principle. Risk and uncertainty in conservation and sustainable use. London (Earthscan) 2005. 272 pages, figures, tables, maps. Paperback £ 22.95, US\$ 39.95. ISBN 978-1844072774. Hardcover £ 80.00, US\$ 145. ISBN 978-1844072767

David Humphreys

Logjam–Deforestation and the Crisis of Global Governance. Earthscan Forestry Library. London (Earthscan) 2006. 272 pages. Hardcover, £ 29.95, US\$ 55. ISBN 978-1844073016

Daniel Jordan Smith

A Culture of Corruption. Everyday deception and popular discontent in Nigeria. Princeton (Princeton University Press) 2006. 289 pages, 10 halftones. Hardcover, US\$ 27.95, £ 17.95. ISBN 978-0-691-12722-6

Jennifer Rietbergen-McCracken, Stewart Maginnis and Alastair Sarre (eds.)

The Forest Landscape Restoration Handbook. Earthscan Forestry Library. London (Earthscan) 2006. 160 pages.



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Hardcover, £ 39.95, US\$ 69.95. ISBN 978-1844073696

Michael Lockwood, Graeme Worboys and Ashish Kothari (eds.) Managing Protected Areas. A Global Guide. London (Earthscan; Published with IUCN) 2006. 800 pages. Paperback £ 49.95, ISBN 1844073033, hardcover £ 120.00, ISBN 1844073025

Alex de Waal

Aids and Power. Why there is no Political Crisis – yet. London (Zed Books) 2006. 176 pages. Hardcover £ 39.99, US\$ 60, ISBN 978-1-84277-706-0. Paperback £ 12.99, US\$ 19.99, ISBN 978-1-84277-707-7

Tim Allen

Trial Justice. The International Criminal Court and the Lord's Resistance Army. London (Zed Books) 2006. 176 pages. Hardcover £ 36.95, US\$ 60, ISBN 978-1-84277-736-7. Paperback £ 12.99, US\$ 19.95, ISBN 978-1-84277-737-4

I. Redmond, T. Aldred, K. Jedamzik and M. Westwood

Recipes for Survival: Controlling the Bushmeat Trade. Report 2006. London, WSPA. Can be downloaded from www.wspa.org.uk

A good update, new references; good summary of the problem with special information about the threats to apes and other nonhuman primates; contains appendices about organisations and endangered species.

Donations

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