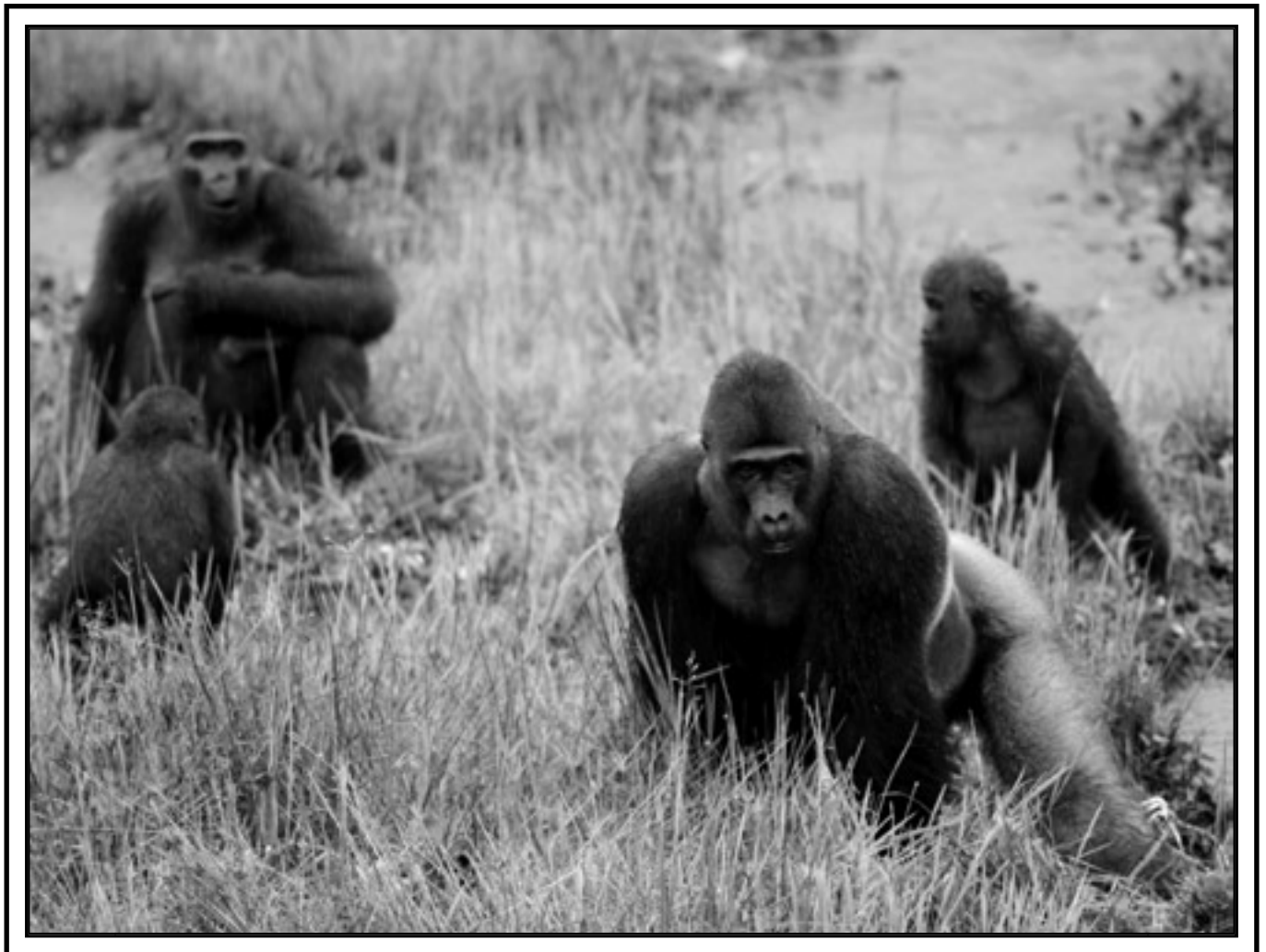




Gorilla Journal

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No. 35, December 2007

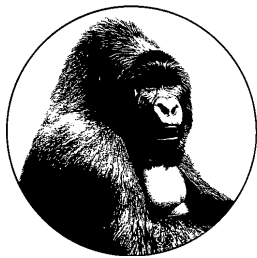


**Severe Problems
in the Virunga
National Park**

**Continuing Hu-
manitarian Crisis
in Eastern Congo**

**Long-term Studies
for the Conserva-
tion of Western
Gorillas: Mbeli Bai**

**Gorilla Conserva-
tion –
Five Questions**



BERGGORILLA & REGENWALD DIREKTHILFE

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Gorilla Journal 35, December 2007

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Cover: The Zulu gorilla group looking at the observation platform during a visit to the Mbeli Bai clearing

Photo: Thomas Breuer

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Patrik Norberg is concluding two Masters degrees in Sweden, one in ecology for which he did specific fieldwork in the Cross River District, and one in African Studies that concern conservation in West Africa.

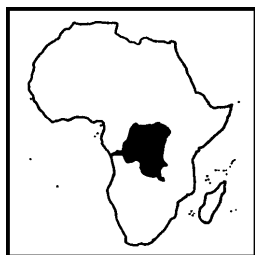
Liz Roodt worked with CARE-Phalaborwa, a wildlife rehabilitation centre. Her volunteer work included the Ngamba Island Chimpanzee Sanctuary in Uganda and the Sanaga Yong Chimpanzee Rescue Centre in Cameroon, before she started in Lwiro, Democratic Republic of the Congo.

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Dr. Iris Weiche started her work with primates in 1990. For her dissertation she studied female gorillas in zoos. Since 1994 she has been active for B&RD, and from 1997 to 2002 she was a member of the Board of Directors. Currently she is lecturing at the University of Tübingen and involved in zoo research, especially on gorillas.



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Inventory of the Fauna in the Low Altitude Part of Kahuzi-Biega

In February 2006, the area of the Kahuzi-Biega National Park was divided up for monitoring purposes. This decision of the Congolese Institute for Nature Conservation (ICCN) has provided the park with 4 monitored sectors. The station head is responsible for all 4 sectors; the rangers of the individual sectors are supervised by the heads of the different ranger posts.

A first step will be to determine the distribution and abundance of species in order to help orient the patrols and to determine the most appropriate location of ranger posts in the various sectors.

To initiate this, the Kahuzi-Biega National Park collaborated with its partner organisation, the *Wildlife Conservation Society* (WCS), in launching an expedition to make an inventory in the low altitude part of the park in March 2006. The inventory was focused on Luyuyu and Nzovu, both of which fall within the domain of Nzovu Post, and on Swiza, which is located in the area of Lulingu Post.

Unfortunately, the inventory could not be completed due to technical problems in the field; a follow-up is therefore required. We would like to ask our project partners to consider the possibility of helping us further in conducting a census in the low altitude section of the KBNP, which could not be surveyed for a long time. Although the presence of monitoring staff is still insufficient in these sectors, this initiative would be a step towards conducting a census in these remote corners.

Good News from the Chimanku Group

On August 30th, 2007, a new baby gorilla was born into the Chimanku group. Now totalling 30 or 31 individuals, this

Primates	Number of nests	Number of surveyed sites
Gorillas	130	25
Chimpanzees	97	35

Other species	Number of animals observed	Observations
Buffaloes	3	Tracks
Pigs	32	Tracks
Duikers	135	Tracks

group contains the highest number of individuals of all the gorilla groups in the KBNP. Remember that the group had two sets of twins 2 years ago.

The birth of the new baby gorilla is a great joy to the KBNP and a morale boost to the rangers, guides and trackers of the park who do not rest day or night in their efforts to protect those gorillas that are still with us. This increase in gorilla numbers is another testimony to the bravery of the KBNP staff who have decided to continue to protect the gorillas even as the situation is deteriorating in the country in general, and the eastern part of the country in particular.

While the park authorities were celebrating the news with the guides and trackers, they took the opportunity to express their gratitude to the various partner organisations who continue to support the efforts of the KBNP staff in the field, including especially *Berggorilla & Regenwald Direkthilfe*.

Radar Birhashirwa Nishuli

News from the Lwiro Chimpanzees

The CRSN – Centre de Recherche en Sciences Naturelles – in Lwiro was built by the Belgians in the 1950s as a centre for natural research including mammals, birds, reptiles and flora as well as seismic activities. The recent wars in the Democratic Republic of the Congo have left the centre without many international researchers and the Congolese researchers that remain are underfunded. During the years of

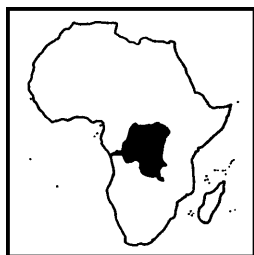
research, CRSN kept 2 chimpanzees and 3 gorillas, as well as other small mammals, reptiles and birds.

The ICCN (*Institut Congolais pour la Conservation de la Nature*) are constantly struggling with the illegal private possession of wild animals like monkeys, chimpanzees and gorillas. Their confiscation efforts would be obsolete if they had nowhere to relocate these animals and they approached the CRSN to accommodate confiscated primates. The research facilities were initially able to accommodate a few animals but are no longer sufficient for the amount of animals currently at the centre.

There are currently 28 chimpanzees and 29 monkeys (of various species) at Lwiro Sanctuary. Many of the chimps were confiscated by the ICCN in and around Bukavu and neighbouring villages. The ages of the current chimps are mixed. We usually receive them as infants and two chimps are now about 8 years old. There is another group of



Balume playing with the chimps



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5-year-olds, about 7 chimps that are 2–3 years old, and the new chimps that have arrived in the past year are between a few months and a year old. The groups are structured according to age but we are slowly integrating the younger ones. As we are able to build larger enclosures, more chimps can be integrated.

AWARE Norway, South Africa and Germany as well as the JGI (*Jane Goodall Institute*) Uganda and *Co-opera* (a Spanish NGO) are actively fundraising for construction materials, salaries for local staff and food and veterinary supplies for the animals.

For now, we aim to provide the best care for confiscated primates with a focus on increasing their enclosure spaces in order for them to form healthy relationships in balanced groups. Balanced feeding, veterinary care and enrichment will ensure their physical and mental wellbeing. Future plans for the primates at the Lwiro Sanctuary include a release project into the adjacent Kahuzi-Biega National Park. This, however, can only be done when their safety back in the forests can be ensured.

About our Work

AWARE was founded by myself and Nicole Geller in 2005. We had worked together at a baboon sanctuary in

South Africa (CARE) and in a few other wildlife rehabilitation centres and sanctuaries in southern and central Africa (SANCCOB and Wildcare in the Cape, Ngamba Island Chimpanzee Sanctuary in Uganda, Sanaga Yong Chimpanzee Rescue Centre in Cameroon). We realized the great problems that are faced by wildlife sanctuaries and rehabilitation centres in Africa. Often, the smaller organisations are insufficiently funded and, although their work is invaluable, they are unable to function effectively. We decided to create an organisation that could support various wildlife projects that needed funding and that we had personally been a part of. We identified Lwiro as a very needy project because it was relatively new and did not have backing from the bigger supporters. I started work in Goma where 5 chimps had been confiscated by JGI-Goma field staff. Their destination was Lwiro and they were moved there in January 2007.

AWARE has added a branch, and we are now AWARE-South Africa (chaired by myself), Germany (chaired by Nicole) and Norway (chaired by Hildegunn Johannesen – who is currently volunteering at Lwiro). We are still a very small non-profit organisation, but our goals are to assist sanctuaries that we have been involved in and to raise environmental awareness in our own countries. Our website is www.aware-africa.org. We also have a blog site that volunteers update at <http://awareafrica.blogspot.com>. Hildegunn has just added some of the latest happenings.

Carmen Vidal (*Co-opera*) has started some serious work since she arrived at Lwiro in September 2006. She has been able to put in new roofing and enclose some areas to increase the spaces for the chimps. She has also been able to carry out the necessary veterinary procedures to ensure the chimps and monkeys get the best

care. Carmen, Hildegunn and Rachel Simmelmann (a volunteer from Australia), along with the Congolese staff, are speeding ahead with construction for both chimps and monkeys, and are also working on reforestation of the surrounding area.

Liz Roodt and AWARE

The History of the Rugendo Family between 1997 and 2007

1997. Led by a silverback of the same name, the Rugendo group consists of 18 animals, including 2 silverbacks, one blackback, 8 adult females, 1 subadult and 6 infants.

1998. After an interaction with Rugendo's son Humba, the Rugendo group splits into two. Eight animals (1 blackback, 4 adult females, and 3 infants) stay with Rugendo, while the other group members join Humba.

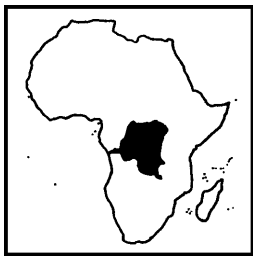
In **1999**, the blackback of the group, called Senkwekwe, becomes a silverback. The size of the group increases to 10 when the adult female Safi gives birth to Katembo on December 1st, 1999 and to 11 when Neza gives birth to Bahati on December 6th of the same year.

During the whole of **2000**, the group size stays at 11 individuals.

In **2001**, Rugendo is killed during a confrontation between regular army troops of the Democratic Republic of the Congo and insurgents. The group now has 10 members.

In January **2002**, Safi disappears, together with her infant son Katembo. The emigration of the adult female Kidole after an interaction with the Mapuwa group on August 6th leaves the group with 7 members.

2003. Infant Bahati of the female Neza is stoned to death in a maize field by residents of Bikenge on January 21st. Adult female Safari gives birth to Bavukahe on December 6th. Three



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weeks later, Neza gives birth again, increasing group size to 6 individuals.

2004. Group size is decreased by subadult Bilali emigrating after an interaction with Munyaga on October 26th.

During the course of **2005**, several members move in and out of the group after numerous interactions with other gorilla groups. On April 10th, the juvenile Matembera immigrates into the group after an interaction with Humba. On May 30th, the subadult female Mburanumwe immigrates into the group, again after an interaction with the Humba group. During this interaction, the juvenile Matembera is re-integrated into the Humba family. On July 9th, another interaction with the Kabirizi group takes place and the female Macibiri immigrates into the Rugendo group. Just one month after this interaction, on August 9th, the immigration of the subadult Mukunda follows yet another interaction between the Rugendo and the Humba groups, increasing the size of the Rugendo group to 10 members.

2006. On January 26th, the adult female Macibiri gives birth to Ntaribi, increasing group size to 11.

On **February 26th, 2007**, Safari gives birth to infant Ndeze. Up until July, the group numbers 12 members. On **July 22nd, 2007**, 6 gorillas are massacred: the 2 adult females Neza and Safari, one subadult female, Mburanumwe, the silverback Senkwekwe



Noel, one of the surviving members of the Rugendo group

Photo: WildlifeDirect

and Macibiri with her infant Ntaribi. At 5 months of age, infant Ndeze was too young to survive on her own after she lost her mother Safari during the massacre. The *Mountain Gorilla Veterinary Project (MGVP)* therefore took her in to care for her (page 8).

Now led by the blackback Mukunda, the Rugendo group currently numbers only 5 members.

Augustin K. Basabose, IGCP, with information from Innocent Mburanumwe, ICCN

Severe Problems in Virunga National Park

In recent issues of the *Gorilla Journal*, we mentioned *WildlifeDirect's* Gorilla Protection blog (www.wildlifedirect.org/gorillaprotection). Here is a summary of the reports on this blog during the last few months, showing the critical situation of the gorillas in the Congolese part of the Virunga Volcanoes.

Killing of Gorillas

26th July 2007: In the Mikeno Sector of the Virunga National Park 3 females of

the Rugendo group were found dead after rangers had heard shots in the evening of the 21st July. On the 24th, the silverback male of the group was also found dead. Two of the females had infants; one of them, Ndeze, was recovered from her brother for hand-rearing, but the rangers fear that the other one, who is only 2 years old, is also dead.

16th August: Rangers found the remains of the female Macibiri, who had also been killed during the massacre. Her 1.5-year-old infant Ntaribi is still missing, but as it was still suckling, it is very probable that it is dead too.

The Charcoal Business

As the region around the Virunga Volcanoes is very densely populated and no forest is left outside the national park, firewood is always rare. Making charcoal from the mountain forest trees in the Mikeno Sector is a multi-million-dollar business – and a severe threat to the national park (including the gorillas).

28th August: Rangers try to crack down on those who are making charcoal in the park. Despite being a difficult trade to hide – the smoke indicates where there is an oven making charcoal – many people are able to profit from the instability and continue with charcoal production. The rangers destroy the ovens.

Many of the women involved with charcoal in the park are the wives of



The dead Rugendo group members
Photo: Altor, IGCP Goma



Remains of the female Macibiri
Photo: WildlifeDirect



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The blackback Kongomani also survived the massacre

Photo: WildlifeDirect

Congolese military who pick up the scraps of charcoal so that they can cook for their families. The military are not paid by the government, so their families do what they can to get by. The majority of men making charcoal in the park come from Rwanda. There it is illegal to make charcoal, so many Rwandans enter Congo to make it here instead. They take advantage of the fact that the Congolese military are not paid, and pay the military protection money to enter the park. Large trucks come out of the park, full of charcoal, and it is assumed that there are powerful networks in place.

The men are arrested and taken to the main station at Rumangabo. They are questioned and, after being reprimanded as well as fined, they are taken back to the Rwandan border. The rangers have received many threats, and one of them was attacked by the military, because of the progress that they have made.

13th December: Rangers estimated that in September 50 people entered the southern sector of the park to make charcoal; that number is now estimated to be at around 500. Donations to provide firewood to the refugees are needed urgently.

Rebel Attacks

3rd September: Bikenge Patrol Post is attacked by rebels and looted. The camp of Patrol Post Jomba is also attacked by rebels; they take weapons, radios, mobile phones and solar panels. The guards and their families are evacuated from these two patrol posts as well as from the Bukima Patrol Post. The rebels destroy all communication antennas for radios and mobile phones and then move their position towards the gorilla sector.

During the night the Ranger Advance Force were attacked by rebels at Bikenge, in the gorilla sector. They all managed to escape and no one

was killed. Heavy fighting can be heard near the Bikenge Patrol Post between the FARDC (Congolese army) and the men of General Laurent Nkunda (see page 9 f.).

5th September: Fighting continues in the gorilla sector near the patrol posts of Bikenge and Jomba between the regular army and the rebels. There are still no rangers in the sector because of this bad security situation, so the gorillas are unprotected.

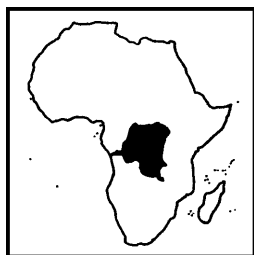
7th September: The Congolese military are now at Bikenge and the rebels are at Jomba. Heavy fighting in the gorilla sector, with many bombs between Bukima and Bikenge. When the guards try to go out to locate the gorillas, they come under attack by armed men, so none of them is able remain in the gorilla sector.

11th September: Rebels and the Congolese army are still present throughout the sector. A ceasefire is in place in the gorilla sector. It is in place for a few days, and then the rebels have to agreed to go through the "brassage" process. This basically means that they become integrated into the regular army. The army is trying to integrate all rebel and militia groups so that the country can move forward – without much success.

12th September: The trackers that were sent to Bukima and Bikenge yesterday were prevented from entering the park to find the gorillas by the army, which currently controls the area after the clashes with the rebels. Jomba is still under the control of Nkunda's rebels.

13th September: A group of rangers at the patrol post of Jomba have started tracking the Mapuwa group. The rebels, who still control this area, returned 2 guns and 2 GPS' to the rangers to enable them to start their work.

The rebels bring 10 tourists to visit the Mapuwa family, although only 8 people should visit at any one time. The tourists come through Bunagana



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New Incident of Gorilla Trafficking

On **25th September 2007**, rangers of the Virunga Park led an operation against a suspected gang of gorilla traffickers, and arrested two suspects. During the operation, they discovered a dead female mountain gorilla, 3 or 4 years old. She had been caught in the Mikeno Sector of the Virunga National Park; the suspects had tried to sell her for US\$ 8,000, but she died from an unknown cause. The rangers believe the youngster could be from one of the habituated groups. The gang had offered two gorilla infants for sale, so it is possible that they had caught another gorilla at the same time.

The dead gorilla, called "Mufabure" by the rangers, was buried besides the other slaughtered gorillas the next day.

Summarized from the blog www.wildlifedirect.org/gorillaprotection

which is just north of the gorilla sector on the Ugandan border. They would have paid up to US\$ 500 each to the rebels. This sort of uncontrolled visit to the mountain gorillas is totally unacceptable.

20th September: The rebels have made Jomba their operational base. They also brought cattle to Bikenge, the other patrol post. This means that they intend to stay for a while. The army still controls Bukima and does not let rangers anywhere near the patrol post. They have dug up all the rangers' crops near the patrol post and destroyed the fields.

25th September: Jean-Marie Serundori goes to the Bukima Patrol Post with members of the UN peacekeeping mission, MONUC. The post is occupied

by about 40 members of the army, with their families. They have ripped out the ceiling of the two patrol post buildings.

In Jomba, the Rugendo family, Mapuwa family and a solitary male are still being tracked daily by the rangers who are being allowed to do their job. All the gorillas of the two families are well and in good health, which at this juncture is a bit of good news.

5th October: Rangers from Jomba are fleeing to Rumangabo. The security situation is even more unstable, and some of the men there, who were following Rugendo, Mapuwa and the male Ruzirabwoba, have escaped through Ishasha (Uganda). The information they had collected regarding the gorillas that they had been tracking was taken from them by the rebels.

7th October: The rebels have re-taken the entire Mikeno Sector and the mountain gorillas of Congo are unprotected and unmonitored. The park director and the rangers can hear heavy shelling at Bukima from where they are at Rumangabo, and have taken the decision to evacuate all valuable equipment to Goma.

11th October: There is fighting going on near Bukima between the rebels and the army. Apparently the rebels are losing. The army re-takes the Bukima Patrol Post area. So now the frontline between the army and the rebels is at Bikenge.

20th October: Fighting has started again at Bukima. Rangers evacuate their families as a result, and ICCN is also going to evacuate more equipment from Rumangabo.

The rebels advanced down to Rugari. This is the community that lies on the main road next to the gorilla sector, west of Bukima. It means that the road between Goma and Rumangabo park station is not secure. This is one of Goma's main arteries. The national army at the military camp 4 km east of Rumangabo have fled, fearing attack by the rebels.

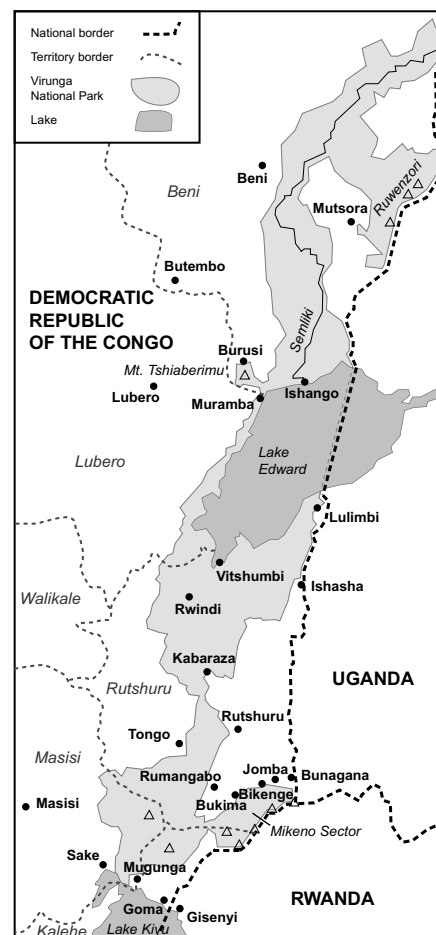
22th October: The situation has calmed a little. The national army have returned to their base with reinforcements. The rebels have been pushed back into the gorilla sector.

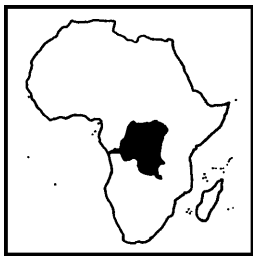
24th October: Fighting has intensified east of Rumangabo toward the gorilla sector and around it. Rangers are still at Rumangabo, but constantly worried that the military base east of the park station will get hit.

The Mountain Gorillas and the other wildlife in the Mikeno Sector of the park are totally and utterly unprotected.

Attacks in the Central Sector of the Park

In the savannah part of the Virunga National Park, Mai-Mai rebels have





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been destroying the wildlife for several years – for example, they almost exterminated the hippo population at the end of 2006. As the ICCN tried to prevent them from doing this, they frequently attacked the rangers. The Mai-Mai in Muramba belong to the Jackson group. They have promised to help villagers poach freely and cultivate within the park, which is of course against the law. They are also promising to put pressure on ICCN to move the boundaries of the park, to the villagers' advantage.

19th May: Mai-Mai rebels attack the Burusi Patrol Post, leaving one park ranger dead and four critically wounded, and kidnapping Officer Monya. This patrol post is the sub-station and also the entry point for the Tshiaberimu area. ICCN have deployed two troops of the Advance Force to track the attackers, as well as contacting the military authorities based at Butembo.

31th August: The Kabaraza Patrol Post, 30 km north of Rutshuru, was attacked by rebels. One park ranger was killed and a camp worker seriously wounded with a gunshot in the neck. The ranger, Rugira Sebuja Faustin, had heard strange noises coming from some of the rangers' houses. When he went to investigate he was shot in the stomach and then died from his wounds. Houses were looted. Over the last few days tensions have increased in this area and there are worries that the situation could deteriorate further.

27th October: A ranger was killed and another was wounded. The rangers were on patrol and were ambushed by the Mai-Mai rebels, who are fairly dominant in this area just north of Rutshuru.

Eastern Gorilla Orphans: Update

This year has seen several tragic events involving the deaths of mountain

gorillas in the Democratic Republic of the Congo. As a result of two of these incidents, infants Ndakasi and Ndeze now find themselves without their mothers and are being cared for by the partnership of the *Mountain Gorilla Veterinary Project* (MGVP), the *Dian Fossey Gorilla Fund International*, and the ICCN in Goma.

At 5 and 7 months old respectively, the young gorillas have adapted well to their new situation and receive 24 hour care from their surrogate mothers, a dedicated team of caregivers providing physical and psychological support. This team includes André Bauma, an experienced ICCN mountain gorilla tracker who has reared several of the confiscated Grauer's gorillas currently cared for at the confiscated eastern gorilla interim quarantine facility in Rwanda.

Given their ages, both Ndakasi and Ndeze are dependent on milk for nutrition, therefore returning them to the wild at this point is not possible and decisions about their future have yet to be made. Therefore, round-the-clock care of these infants will continue, with the goal of ensuring that they grow up healthy and as behaviourally normal as possible.

Currently, the confiscated eastern gorilla interim quarantine facility hous-



Ndakasi (also called Kabila) was born in the Kabirizi group. Her mother Rubiga was shot in June 2007.

Photo: MGVP.org 2007



Ndeze with her keeper André Bauma. She was born in the Rugendo group. When her mother Safari was killed at the end of July 2007, her elder brother cared for her until she was taken from him to be hand-reared.

Photo: MGVP.org 2007

es 6 Grauer's gorillas, Ntabwoba, Pinga, Serafuli, Dunia, Tumaini, and Itebero, and two mountain gorillas, Maisha and Kaboko.

Lucy Spelman

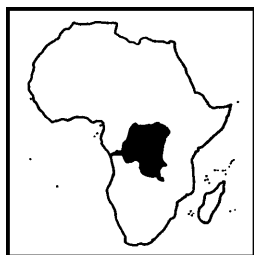
More about the orphans on Lucy Spelman's blog:

<http://discovery.blogs.com/quest>

Continuing Humanitarian Crisis in Eastern Congo

The population of eastern Democratic Republic of the Congo has been suffering incredibly from war for more than a decade. Hopes were high that the elections would bring peace to the region – but the hopes have been dashed. The people are desperate. At the beginning of November more than 30 people, including several MONUC peacekeepers, were wounded during a demonstration by hundreds of civilians displaced by fighting in North Kivu.

The reason for the people's frustration is the insecurity that has threatened their lives for years. Just a few examples of the atrocities reported by MONUC in the course of July 2007:



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- It was alleged that elements of the Bravo Brigade arbitrarily executed five male civilians from Kisharo village, Rutshuru Territory.
- Four villagers in Kisigari locality – between Goma and Rutshuru – were reportedly killed by FDLR troops in separate incidents.
- A FARDC soldier allegedly raped a Hutu woman and then chopped her to death, together with her three-month old baby, in Rutshuru Territory.
- A medical doctor was allegedly shot dead by armed men in uniform in Muranga, Goma.
- Five soldiers from the 2nd Integrated Brigade in Butembo, North Kivu, entered a local bar and extorted money from the patrons. One of the five, it is alleged, shot a young man who refused to hand over his motorbike.
- It is alleged that men wearing FARDC and PNC uniforms, accompanied by some armed civilians, raped a 16-year-old girl and a woman in the Keshero neighbourhood of Goma. According to the victims, the assailants also took mobile phones, around US\$ 1,500, jewellery and food.
- The Katwiguru refugee camp, in the territory of Rutshuru, was allegedly looted by armed men in FARDC uniform.
- In Bukavu a civilian was shot dead by three PNC officers. According to reliable sources, the three PNC officers were robbing a private residence when the victim surprised them.
- Ten armed men in uniform, believed to be FDLR combatants, attacked Bulwe in Walungu Territory and abducted four women. The following day, the FARDC with the support of MONUC found two of the women, one of whom was dead and the other one seriously wounded.
- The localities of Bwuma and Kiwazi were burnt, it is alleged by the FDLR. An employee of the local Red Cross

received serious bullet wounds as a result of an attack carried out on his private residence by Mai-Mai elements.

- Three FDLR/Rasta elements attacked the village of Nyabishaka, looted several houses, and also abducted two women.

Innumerable brutal crimes like these have been reported for years. A special problem has been that the frequency of sexual abuse is extremely high. Statistics are difficult to obtain. Between June 2006 and May 2007, 12,867 survivors of sexual violence were identified by UNICEF in eastern Congo; 4,222 of them were children (3,740 girls and 482 boys). In some villages, two thirds of all women are thought to have been raped, but until recently remaining silent was all that stood between the women and complete disgrace in the eyes of their families and communities. The stigma which is associated with having been raped is particularly strong in the Congo, especially for women who become pregnant as a result of the rape; the additional stigma of carrying the enemy's child makes it more likely that they will be abandoned by their families. In addition, many victims will never see a doctor, out of shame.

According to MSF, all armed groups have been involved in the widespread sexual violence. A *Newsweek* report in November 2006 estimated that 250,000 women were raped in that conflict, and thousands of them were injured severely. Often the perpetrators make sure that they do not kill the victim but inflict as much damage as possible. It is estimated that, by the end of 2007, the total number of rape cases requiring surgery will reach 450, compared with 250 in 2006. Given that many of the perpetrators are HIV positive, HIV/AIDS is rapidly becoming a concern for victims. In the first fortnight of September, MSF recorded a 100% increase in the incidence of rape.

Responsible Parties

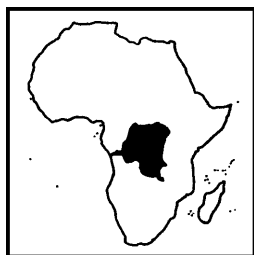
The rebel movements that are the main source of insecurity and human rights violations operate broadly all over the region because of the complex alliances promoted by the military regimes that dominate the political landscape.

The FARDC is the national army. Apart from them, four main groups are responsible for the continued insecurity in South Kivu: the FDLR and the Rastas; insurgents or "dissidents"; armed Banyamulenge fighters who refused to join the national army; and elements of the Mai-Mai, a former Congolese militia group that has largely been absorbed into government forces.

The president of the FDLR, Dr. Ignace Murwanashyaka, who is based in Germany, said that former Congolese president Laurent Kabila supplied his group with arms. He is accused by Rwanda of being one of the persons responsible for the 1994 genocide. It is estimated that the FDLR has 9,000 fighters. They collect taxes and have instituted a reign of terror on the Congolese population in areas they control.

General Laurent Nkunda, a Tutsi who was born in Rutshuru, sees himself as the protector of his co-ethnics, especially the Banyamulenge, whom he wants to protect from "extermination". Nkunda has an estimated force of 4,000 men based primarily in Masisi, North Kivu, and has refused to integrate his men into the regular army; he claims political leadership of his own movement, the CNDP, and has set up a parallel administration in Masisi, installing his supporters in administrative, police, and intelligence services. Rwanda allegedly supplies him with ammunition and fighters. Nkunda accuses the FARDC of supporting the FDLR in their fight against him.

Then there are local Congolese factions or armed groups, such as the Rasta and Mai-Mai, whose composition is unclear. Residents say the Ras-



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ta are a combination of Kinyarwanda-speaking bandits and Congolese with no political agenda, their only objective being to rob and plunder the civilian population.

Government policy towards the FDLR has followed a confusing and contradictory course, with the army sometimes supporting, sometimes attacking this group composed largely of Rwandan combatants. The FDLR is supposedly committed to overthrowing the current government of Rwanda, but in recent years its members have attacked Congolese civilians more than they have engaged the Rwandan military.

The shifting configurations of the conflict in the past year have seen all forces variously fighting each other: Nkunda's forces fighting the Congolese army, the FDLR fighting the Congolese army, and Nkunda's forces (under Congolese army authority in "mixed brigades" as well as separately) fighting the FDLR. The Mai-Mai fighters under Kabamba have carried out operations with the FDLR against Nkunda.

In January 2007, the Congolese government tried to integrate rebel troops into the national army to form mixed brigades; one of them is the Bravo Brigade. It is claimed that hundreds of those once under Nkunda's command left the units to which they had been assigned under mixage and rejoined Nkunda's forces. Due to the failure of attempts to integrate Nkunda's troops into the army permanently, the crisis has become much worse since May 2007. After the most recent call for "brassage", by October of 2007, 750 of Nkunda's men had surrendered; of these, 500 had been transferred to camps for the merger process. Furthermore, 800 Mai-Mai fighters from the Jackson Group also turned themselves in and were gathered at Lubero.

Renewed fighting flared up on 25th August, 2007, between the troops of General Nkunda and both FDLR and

FADRC in Masisi and the Virunga National Park.

People Forced to Leave their Home

The FARDC troops, especially the Bravo Brigade deployed in Rutshuru Territory, commonly attack and abuse civilians, saying that the civilians are FDLR supporters. The FDLR then conducts reprisals against the people.

Thousands of people flee their villages when the army or rebels attack them, and try to find protection in refugee camps – according to UN estimates at least 437,000 civilians have been displaced in North Kivu in one year since the end of 2006. But they

are not secure in the camps either. Officials running three of the six displaced persons camps at Mugunga, 15 km from Goma, reported that women are raped in the camps or outside when they go to fetch water or wood, allegedly by the FARDC. People fleeing the fighting in Sake, west of Goma, set up these camps in Mugunga, next to the Virunga National Park; one of them, the Lac Vert Camp, is partly located within the park.

An NGO reported that in eastern Congo there were "several thousand" children in the army, in rebel groups and in foreign armed groups. All parties to the conflict in North Kivu have used

Who Is Involved?

Banyamulenge: Congolese Tutsi pastoralists of Rwandan origin living in the highlands of South Kivu.

Brassage: The process of integrating former belligerent troops into a new national army (FARDC) by breaking up groups formed along ethnic, political and regional lines, and dispersing them throughout the country.

CNDP: Congrès National pour la Défense du Peuple (National Congress for the Defense of the People). Political movement of the dissident general Laurent Nkunda (who broke ranks with the Congolese army in December 2003), unveiled in July 2006.

FAR: Forces Armées du Rwanda. Former Rwandan army (under Habyarimana), which fled to Congo after the 1994 genocide.

FARDC: Forces Armées de la République Démocratique du Congo (Armed Forces of the Democratic Republic of the Congo), the name used for the Congolese national army since the beginning of the transition.

FDLR: Forces Démocratiques de Liberation du Rwanda (Democratic Forces for the Liberation of Rwanda), Rwandan Hutu rebel group formed in 2000 that emerged from the FAR and members of the Interahamwe who fled Rwanda after the genocide. Today, most FDLR combatants play no role in the genocide. Some are too young and others are Congolese who joined the groups.

Interahamwe: An extremist Rwandan Hutu militia group that was responsible for the bulk of the 1994 genocide.

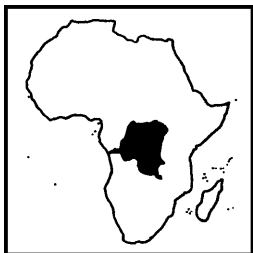
Mai-Mai: Local militia, mostly in eastern Congo.

MONUC: *Mission de l'Organisation des Nations Unies en République Démocratique du Congo* (UN Mission in the Democratic Republic of the Congo), UN peacekeeping force.

MSF: *Médecins Sans Frontières* (Doctors without Borders), international organisation of doctors for emergency medical aid.

PNC: Police Nationale Congolaise (national police force).

Rastas: Dissident FDLR faction



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children, but since the beginning of the most recent fights the number of recruitments has risen dramatically. The children are recruited in refugee camps and schools; the FDLR also sweeps villages and takes all the children with them. Forced recruitment of adults is widespread too; frequently, young men who resist or escape are subsequently executed.

Business

Much of the fighting is driven by the desire to control natural resources, and many Congolese believe control of the lucrative regional trade networks is the real reason for the war. A study by the Goma-based *Pole Institute* puts official exports – mostly tin, tungsten and quinine – from Goma in 2006 at US\$ 32 million, while imports totalled US\$ 108 million. Rich countries in America and Europe have been directing this trade too, as the UN Security Council documented in 2001 to 2003.

Weapons and munitions have continued to flow into the Great Lakes Re-

gion and to those forces known to flagrantly abuse human rights in eastern Congo. They are transported across the borders or arrive in airplanes and are allegedly paid with minerals, animal products like ivory, and timber from eastern Congo. It is difficult to find out details of this trade, and it is dangerous to propagate confidential information in general. Journalists have been arrested, threatened, tortured and even murdered if they published critical reports. Influential persons are earning enormous sums of money with lucrative illegal businesses, and are willing to prevent others from disturbing their activities by any means at their disposal.

Summary of information from various sources by Angela Meder. Reports and documents with details on the situation in eastern Congo are available from the following organizations, among others: Global Witness, Human Rights Watch, International Crisis Group, Médecins Sans Frontières, MONUC, OCHA, Pole Institute, Refugees International, United Nations Security Council.

Activities of the IGCP in the Mikeno Sector

The *International Gorilla Conservation Programme* (IGCP) works closely with the governments of the Democratic Republic of the Congo, Rwanda, and Uganda in conserving the mountain gorillas (*Gorilla beringei beringei*) in the afro-montane forests of the Virunga Massif and the Bwindi Forest. In particular, the IGCP collaborates with the protected area authorities responsible for the conservation of the fauna and flora of the region, i.e. the Congolese Institute for Nature Conservation (ICCN) in the Congo; the Rwandan Office of Tourism and National Parks (ORTPN) in Rwanda and the *Uganda Wildlife Authority* (UWA) in Uganda.

Ranger-Based Monitoring

In 1996, the IGCP initiated the Ranger-Based Monitoring (RBM) program in collaboration with national park authorities. This program focuses on

Waiting for Peace

Since the beginning of September the rangers have been unable to protect the mountain gorillas in the southern sector of the Virunga National Park – rebels are keeping them from patrolling the park. Our donations for rations and clothing for the rangers are in Congo, and can be used as soon as the situation may improve.

It is obvious that the ranger posts occupied by Nkunda's troops will have to be renovated completely as soon as the rebels leave. Donations will then be needed for their construction and renovation. Although it is not yet clear when this work can be started, we are al-

ready collecting funds in order to make sure that the work can begin as soon as possible.

We want to make sure that the destruction that the war has caused will be repaired quickly. Please support our efforts to do this!

Bank Account:

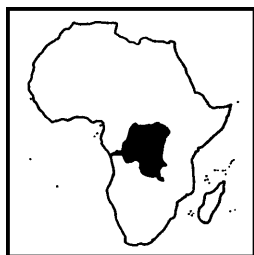
Account number 353 344 315
Stadtsparkasse Muelheim/Ruhr
Germany
Bank code number 362 500 00
IBAN DE06 3625 0000 0353 3443 15
SWIFT-BIC SPMHDE3E



The rangers of the Mikeno Sector have been waiting for months to resume their patrols. The patrol posts are still being occupied by rebels.

Address for cheques:

Berggorilla & Regenwald Direkt-hilfe
c/o Rolf Brunner
Lerchenstr. 5
45473 Muelheim, Germany



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Group	National Park	Dec. 2006	Jan.–Aug. 2007		Aug. 2007
		Total number	Dead/disappeared	Born	Total number
Kwitonda (in Rwanda since Nov. 05)	VNP	17			17
Mapuwa	ViNP	15	3 disappeared		12
Lulengo	ViNP	2	2 disappeared		0 ?
Ruzirabwoba	ViNP	1			1
Humba	ViNP	9			9
Kabirizi	ViNP	32	1/1 (+1 orphan)	1	30
Munyaga	ViNP	7	2 transferred	1	6
Rugendo	ViNP	12	6 massacred on July 22 nd (+ 1 orphan)	?	5
Pili Pili	ViNP	4	3 transferred to Mareru		1
Karateka	ViNP	1			1
Buhanga	ViNP	1			1
Mareru	ViNP	1	3 individuals transferred from Pili Pili		4

Composition of the Mikeno gorilla groups between December 2006 and August 2007

Up until December 31st, 2006, 85 habituated gorillas were followed regularly in the Mikeno Sector of the Virunga National Park (ViNP). In August 2007, only 70 animals were followed by monitoring teams in this sector. These gorillas are divided into 6 groups plus 4 lone animals. They were recently supplemented by a new infant that was born to Bilali in the Munyaga group during the night of August 20th to 21st. The Kwitonda group has stayed in the Volcanoes National Park (VNP) in Rwanda since November 2005 and currently includes 17 members; thanks to cross-border collaboration, the rangers of the Mikeno Sector have already visited the Kwitonda group several times, accompanied by VNP rangers. During the night of April 24th, 2007, twins were born to Mugeni. Unfortunately, only one of them survived into the following day, and the second twin also died due to disease on May 20th.

routine monitoring conducted on a daily basis by park staff.

The RBM program encompasses a standard system of data collection in protected areas; the possession of reliable data enables the protected area authorities to develop plans and implement conservation activities with greater efficiency and better collaboration from all stakeholders. Moreover, these data will actively influence decision-making relating to protected area management, will help to define a set of ecological regional tasks, and will identify the threat level affecting both ecosystems.

IGCP supports both the ranger patrols who are responsible for monitoring, and the administrators who analyse and interpret the data in line with the park's management plan. IGCP is

convinced that collaboration between protected areas will increase the efficiency of each individual protected area. This will make a substantial contribution to the protection of the parks of the Virunga Massif and Bwindi, resulting in an increase in the mountain gorilla populations. Due to the success of joint efforts in combating poaching in the protected areas, the park administrations continue to organize joint patrols with the support of the IGCP, uniting the staff of the two adjacent protected areas in the prevention or mitigation of conflicts arising between people and the fauna and flora of the Virunga and Bwindi ecosystems. Thanks to the RBM program, threats to biodiversity and the achievement of conservation objectives are easily identified within these two blocks of forest.

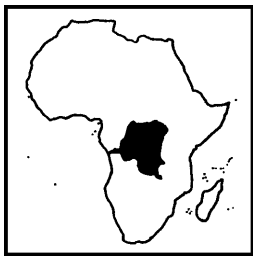
The RBM program allows the identification of indicators that will facilitate the follow-up and evaluation of conservation activities.

In addition, the RBM program helps to identify priorities for scientific research, through the accumulation of accessible data stored in the regional information systems set up by IGCP.

Training

The RBM program includes a training course for monitoring supervisors and field staff. The course covers all aspects of monitoring and the use of field equipment – such as GPS, compasses and orientation maps – but also includes census techniques, gorilla identification, and so on.

The data collected through the RBM program need to be analysed and in-



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terpreted to ensure appropriate use in protected area management. Therefore training is also delivered in the use of important computer programs such as Access, ArcView, and Excel.

In fact, IGCP involvement guarantees comprehensive training for the units in charge of control and monitoring in the various protected areas enabling them to analyze the data that they have collected, and ensuring that the authorities of the protected areas have a regional vision of the processes tak-

ing place in and around the parks they are managing.

Collation of Reference Documents

The RBM program is a dynamic initiative. In Mikeno, as in the other protected areas that include gorilla habitats, IGCP is developing a range of reference documents including gorilla identity cards, an index of nasal prints, and various maps and topographical lists, and is providing logistical and financial support for the collection of data and their analysis. The RBM program is continually adapted to take into account changes in technology and the equipment available to facilitate the better management of protected areas.

Income-generating Activities for the Communities around Mikeno

Information collated from socio-economic surveys conducted by IGCP, WCS, and CARE is used as a comparative database for the evaluation of the changes in resource use and efficiency of conservation interventions. In order to respond to the needs of the residents of Mikeno, IGCP in collaboration with ICCN is supporting several development initiatives (small income-generating activities) to improve the living standards of the local population and, consequently, to decrease the pressure on the park's resources.

Monitoring the Level of Change Underway in Gorilla Habitats

IGCP collaborates closely with the European Space Agency and UNESCO in the development and use of remote sensing and other satellite-based techniques in order to monitor the gorilla habitats. Thanks to this collaboration, the information is continually incorporated into an RIS (Regional Information System). The use of satellite images permits the monitoring of changes in vegetation

cover and human use of areas in the vicinity of the two forest blocks. Various organizations already use these remote monitoring methods in the region of the Albertine Rift (particularly WWF, WCS, USAID, UNEP and WCMC). Links to these organizations have been established in order to avoid repetition of activities and to allow new initiatives to profit from the programs and expertise already in place.

Augustin K. Basabose, IGCP

Oil Extraction on the Borders of Uganda and Congo

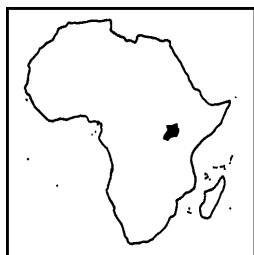
Oil deposits have been prospected in the Albertine Rift some years ago, and in 2007 exploration started in Uganda. The Government signed a memorandum of understanding with the Irish Tullow Oil Company to start oil production in the districts of Hoima and Buliisa, in the Lake Albert Basin, in 2009. This is the company which operates most of the oil and gas exploration fields near Lake Albert. A proposed refinery will produce diesel, kerosene and "heavy fuel oils" for electric power generation. The other companies licensed to produce oil are Heritage Oil and Gas Limited (Canada) for the Pakwach Basin and the Semliki Basin, Tower Resources for the Rhino Camp Basin, and Dominion Petroleum for an area east and south of Lake Edward.

The Ugandan Government and the communities are eagerly awaiting the first production. At the end of April, Tullow Oil had already opened 276 km of roads and installed water boreholes in major villages. The oil executives said that they had also started building schools and health centres, and that they are planning to continue to fight poverty in the communities, for example by constructing maternity centres. Certainly, the population is optimistic that the oil business will further



Pictures from the ranger-based monitoring activities led by Augustin K. Basabose

Photos: Augustin K. Basabose



UGANDA

improve welfare. Heritage Oil and Gas announced that “the nation will reap 70% of the revenue” from oil exploitation. In June, that company donated a vehicle to UWA that will be used to monitor the Murchison Falls Park.

Compared to other oil producing countries, Uganda’s resources are rather limited. In October, Tullow Oil confirmed new reserves and announced that Uganda could now produce more than 30,000 barrels of oil per day. The discovery of more reserves could still increase this number. Nigeria, which has the largest oil reserves in Africa, produces 2.2 million barrels per day.

The oil fields are close to the Congolese border and extend to Congo (where Tullow Oil has licenses too). Ownership disputes are almost inevitable and have already started. At the beginning of August, Uganda accused Congolese government troops of attacking Heritage Oil installations on Lake Albert. According to the Ugandan army UPDF, Congolese soldiers attacked a floating barge and killed an expatriate geologist. Another attack about 100 km north of the Bundibugyo District shores elicited an exchange of fire involving private guards and UPDF soldiers. In the days that followed, Kinshasa accused Heritage Oil of carrying out illegal oil prospecting in the Congolese part of Lake Albert. The Congolese and the Ugandan army were heavily deployed on the border after the incident.

In September it was agreed that oil fields that straddle the common border should be jointly explored and exploited, and the costs and proceeds shared proportionately. The Ugandan President had already signed such an agreement with Mobutu in 1990.

Let us hope that the Ugandan people will really profit from oil exploitation – unlike the people of other oil-producing African countries, where corruption flourishes and the population remains poor. Moreover, econo-

mists warn of the danger that resource exploitation will destroy agriculture and most non-mining sectors. In the scramble for oil (20% of the remaining reserves are now in Africa), it is likely that human rights and democratisation will be neglected.

Experts also warn of ecological and social disasters if the oil drilling companies do not put measures in place to safeguard the environment. The Albertine Rift is regarded as one of the most ecologically sensitive areas with several national parks (some of them World Heritage Sites), including Ruwenzori, Kibale, Queen Elizabeth, Semliki and Bwindi National Parks on the Ugandan side and the Virunga National Park on the Congolese side. Pollution and destruction of the natural vegetation will devastate their biodiversity.

Summarized from various articles in the Ugandan newspapers New Vision and The Monitor

More Gorilla Groups Will Be Habituated in Bwindi

Despite the serious concerns of many experts, the *Uganda Wildlife Authority* (UWA) is planning to habituate 2 more gorilla groups in Bwindi Impenetrable National Park. This will bring the total number of habituated groups there to 6.

UWA will then earn even more revenue from gorilla tourism, which currently contributes up to 70% of UWA’s revenue. UWA has been partially funded by the *World Bank* during recent years and will now have to find alternatives for this funding – and the expansion of gorilla tourism is the most promising possibility.

The groups that will be habituated range near Ruhija (this group is already partially habituated) and Rushaga. UWA estimates that it will take two years before they can be visited by tourists.

There are several reasons why the habituation of more groups is regarded as problematic. One problem that has often been discussed is the transmission of diseases. In some cases, it has been proven already that diseases were transmitted from humans to gorillas. The more gorillas are habituated, the more this danger increases.

Another problem is the effect of habituation on the gorillas’ behaviour. As several studies have shown, their behaviour is changed by the contact with visitors. The larger a group, the greater is the effect. Each of the habituated gorilla groups is already visited by 8 tourists per day, which is considered a critical number – fewer would be safer. It is not yet clear what effects the altered behaviour will have on the gorilla population in the long term. Moreover, habituated gorillas do not stay away from humans like wild gorillas do – for example, they raid crops in the fields of the local population, and this results in conflicts that have already led to the killing of at least one mountain gorilla.

Nyakagezi Group still Crossing the Border

At the beginning of July 2007, the Nyakagezi group returned from Rwanda to the Mgahinga Gorilla National Park – but as usual, it only stayed for a limited time. At the end of March the family had crossed the border into Rwanda with a total of 11 members, but by the time it came back the number had shrunk to only 7. This is the only habituated group in Mgahinga, so gorilla visits in this park depend on their presence, and proceeds from tourist visits to them are shared between Uganda and Rwanda.

After a short stay in Uganda, the group returned to Rwanda, but since then they have crossed the border several times.



CROSS RIVER

News from the Cross River National Park

The *Wildlife Conservation Society* (WCS) is presently conducting a study of the villages in Cross River National Park's Okwangwo Division enclaves and the immediate vicinity, to find out where and when gorillas disturb human farming. For a comparison, I visited the northern outreach of Afi Mountain and a community forest belonging to Kakwagom Irruan, where crop raiding incidents by gorillas have been recorded recently during dry seasons. Demand for farmland due to increasing population pressure is high here, and plantations extend far up the mountain.

My team and I walked from Butatong to Obudu Cattle Ranch in 10 days and in each village we assembled the communities and held discussions about the damage inflicted by both small and large mammals in the local plantations. What we have found so far is:

- Except for Okwangwo all communities have seasonal visits by gorillas during the dry season when food and water resources are less abundant in higher elevations.
- A much greater problem during all seasons is the damage done by small mammals.
- Among larger mammals wild pigs (red river hog) are responsible for more damage than any primate.

The levels of education and awareness in the area are rising and there seems to be no immediate threat that primate hunting will become socially accepted again in the near future. Still, among the communities there is a good deal of worry concerning matters such as transportation and the availability of medical treatment. Cash crops were introduced by different NGOs, but it is very difficult to convert them into money since there is no road for vehicles, and alternative forms of livelihood are needed. If this does not

happen, the situation concerning gorillas may change radically. For the enclave villages (Okwangwo, Okwa 1 & 2) the urgent question is whether the communities should be relocated or whether they will continue to struggle for a more practical living in their present location. If these villages' activities continue to increase, the national park will be cut in half and, essentially, cease to function effectively.

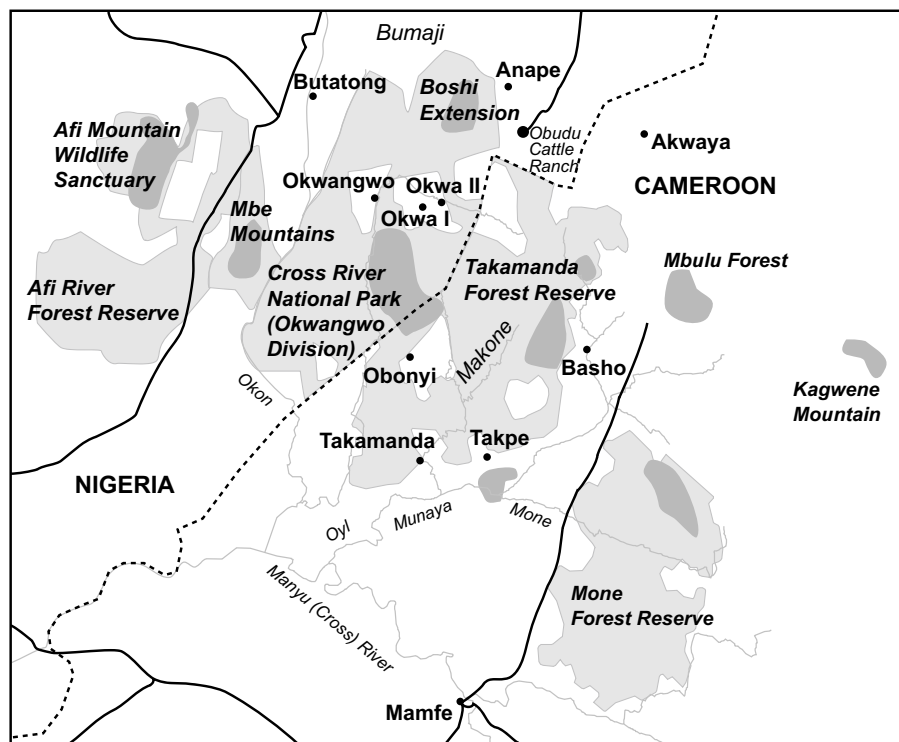
The possibility of having a protected area with several groups of gorillas ranging freely within it is a real hope for the future!

Conclusions Concerning Crop-raiding Gorillas

After trekking from Butatong to Obudu Cattle Ranch in September, I continued with my team in early October to the Bumaji villages, where the situation in many respects is similar to that of the enclave (Okwangwo, Okwa 1 & 2) and Balegete villages; destruction of crops is mainly due to every day damage by small mammals and red river hogs. Gorillas are irregular dry season visitors but have a lot of harmful consequences for individual farmers because of their destruction of banana and plantain plants, when they do appear.

In Bumaji two incidents of recent (last 5 years) killings of gorillas were acknowledged during discussions with farmers in the community. The local residents are generally inadequately educated on gorilla/primate behaviour and the killings have supposedly happened because farmers (or women collecting bush mango) felt physically threatened. Obviously such killings may occur for economical motives, or for food/protein, even if this was not actually admitted during interviews. I did not attempt to find out more about these incidents since it could evoke unnecessary tension, and it was not the primary aim of my research.

Compared to areas visited earlier, the Bumaji villages apparently have a





CROSS RIVER



Survey team, Mache: Patrik Norberg with park rangers Ernest and Samson Akabo and local guides Raymond and Peter Oshika from the village of Yagwebe

rather negative relationship to the national park; their main concern is the exclusion of 7 villages (Bakufiko, Bakie, Bagabo, Uno, Bago, Bamariko and Bumfua) from being support-zone villages, a concept which is supposed to include all villages within 5 km of the national park border. According to park ranger Samson Akabo, the support-zone villages scheme (a concept left over from the creation of the national park that no longer receives major funding) is still functioning and occasional money is handed out, through the national park, to villages included in the scheme for road maintenance and scholarships. It is also from support-zone villages that most national park personnel are employed. The exclusion of these particular Bumaji villages apparently induces less respect for the national park and nature conservation, and it may be a major threat to present non-hunting policies and future biological abundance.

I concluded my visit in Bumaji with a survey of gorilla evidence in the upper Mache area, with the intention of comparing to data collected by WCS in March 2007 that found 79 gorilla nests in 5 days. The March report further mentioned that (according to local residents) there should be more evidence

of gorilla presence in October. I spent 2 full days with two park rangers and two guides from the village of Yagwebe, resulting in 36 gorilla nests being identified. Considering the amount of time spent surveying, it was a marginal difference: 18 nests per day in October compared to 15.8 nests in March. No primates was seen or heard by anyone in our team during our 2 days hiking in/out and 2 days surveying.

My report concerning gorilla damage on crops will indicate what kind of habitual range the species presently occupies. The national park was spatially constructed in a hasty manner by using old colonial forest reserves without taking time to include all ecological aspects. A review of borders in the Okwangwo Division is urgently required for the Cross River gorillas to receive their desperately needed sanctuary.

Patrik Norberg

Updates on Cross River Gorilla Conservation in Cameroon

A number of practical actions in support of the conservation of the critically endangered Cross River gorilla have taken place in recent months and we are all preparing for a very active dry season during which we hope to achieve some of the important recommendations of the recently published *Regional Action Plan for the Cross River gorilla* (which can be downloaded from the Takamanda-Mone Landscape Project page in the Cameroon section of WCS's website – <http://www.wcs.org/media/file/CrossRiverGorillaActionPlan.pdf>).

Progress can be summarised under the following headings:

Protected Area Creation

Two sites of particular importance to the Cross River gorilla are currently under creation in Cameroon: the proposed

Kagwene Gorilla Sanctuary and the proposed Takamanda National Park.

The proposed Kagwene Gorilla Sanctuary has been a base for long term gorilla research since 2003, and our team of locally recruited staff continue to both study and protect the genetically important gorillas of Kagwene from our research camp perched on a grassy ridge high in the forest. In recent months we have upgraded the research camp to provide basic but comfortable accommodation for our research staff as well as for Ministry eco-guards, who should be posted to the sanctuary once it has been officially created. As an additional incentive to our government colleagues to complete the creation process, we have also completed construction of an administrative office for the Conservator in the nearby village of Njikwa with funds from the *US Fish and Wildlife Service* in collaboration with *Fauna and Flora International*.

The nearby proposed Takamanda National Park is another important part of the Cross River gorilla conservation jigsaw as it harbours a further 2 of the 7 known Cameroonian Cross River gorilla sites, in addition to one site where gorillas range across the border between Cross River National Park (in Nigeria) and Takamanda. In the course of the last 12 months we have led the process of creation for this proposed park in collaboration with the Ministry of Forestry and Wildlife, a complex task involving numerous village and regional level consultative meetings. This work is being co-financed by KfW (*Kreditanstalt für Wiederaufbau* – the German Development Bank). As part of reviewing various biological baselines (such as those previously reported in *Gorilla Journals* 18 and 22) for Takamanda, all known Cross River gorilla groups in the area have been revisited and, although it is difficult to compare numbers of these elusive animals over time, we can say that gorillas are still ranging in the same areas



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as they were when first visited almost 10 years ago and no recent reports of poaching have been received.

Landscape Management

The wider process of Cross River gorilla conservation must obviously take place across the whole Cross River landscape, spanning an area of roughly 12,000 km² shared between Nigeria and Cameroon. Work by Richard Bergl and Linda Vigilant (see *Gorilla Journal* 34) has presented an important preview into how gorillas from different sites are related to one another and has even helped provide evidence of migration between different sites. The need to conserve potential corridor areas linking Cross River gorilla sites and core protected areas is clearly crucial in the long term and it is one of our most pressing priorities.

Research

In the coming dry season, with funding support from the *US Fish and Wildlife Service* and *Arcus Foundation*, we intend to survey large tracts of potential gorilla habitat in SW and NW Provinces in Cameroon in an effort to complete our picture of Cross River gorilla distribution.

Surveys will be preceded by questionnaire surveys in villages in likely areas to assess the likelihood of nearby gorilla presence. Survey teams, headed by our experienced gorilla researchers, will then systematically survey likely forest areas, often focusing on the remote, steep hillsides that the gorillas seem to prefer. If a fresh gorilla sign is located, genetic samples will be collected in an effort to further understand the relatedness of individuals between different sites. It says something about the difficulty of assessing numbers of Cross River gorillas accurately when we still talk of undertaking this kind of work after 10 years of working in the region!

Conservation Education

A crucial part of our program, which often dovetails with our protected areas creation focus, are our conservation education activities. Last year, we initiated work in 43 remote villages surrounding the proposed Takamanda National Park, and in early 2008 we will be extending this program to the communities surrounding the proposed Kagwene Gorilla Sanctuary. Activities are conducted by our "outreach team" in both schools and general community settings and, with the support of organisations such as the *Margot Marsh Biodiversity Foundation*, *Columbus Zoo*, the *Great Apes Trust of Iowa*, *Zoo Boise* and *KfW*, we have been able to develop a number of materials that are tailored to the local settings and conservation challenges.

Trans-boundary Coordination

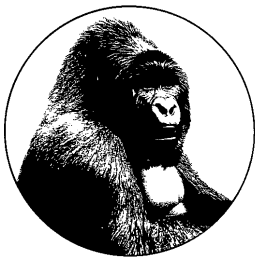
The creation of the proposed Takamanda National Park provides a practical way of initiating the kind of actions proposed in previous International

Cross River gorilla conferences on the ground. Management Plans for Takamanda and Cross River National Park are soon to be written and provide an opportunity for conservation strategies to be harmonized. Of particular importance are those endangered and threatened species that range across the border between the two areas including the forest elephant, Cross River gorilla and almost certainly the drill and chimpanzee (*Pan troglodytes vellerosus*). In early 2008, with funding from the *USFWS US Fish and Wildlife Service* and the *WWF Africa Great Apes Programme*, the first joint Cross River gorilla survey and patrol will be undertaken by eco-guards from both sides of the border, paving the way for much greater collaboration at all levels of park management in the future.

Aaron Nicholas and Ymke Warren
For further information or to contact us to know more please visit <http://www.wcs.org/international/Africa/Cameroon> and follow the links for the Takamanda-Mone Landscape Project.



Inauguration of the administrative office for the proposed Kagwene Gorilla Sanctuary
Photo: Aaron Nicholas



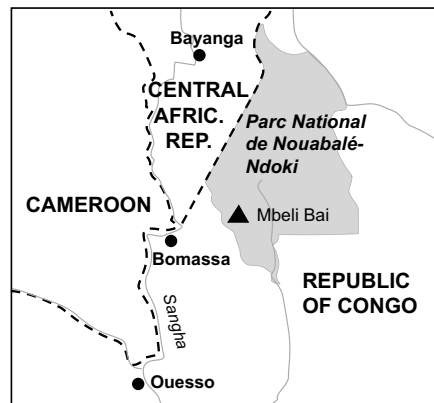
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Long-term Studies for the Conservation of Western Gorillas – Mbeli Bai

Large mammals, including western gorillas, chimpanzees and forest elephants, are important flagship species because it is often the largest and most charismatic threatened species that raise public support for conservation. Additionally they can play substantial roles in rain forest ecology through processes such as seed dispersal. Of course, large mammals exhibit slow life histories making data acquisition time-consuming, and in addition they are extremely difficult to study in the rain forest because of the dense vegetation, so their populations have to be estimated by indirect methods, such as dung and nest counts.

When conservationists in the 1990s were looking at maps of Western Equatorial Africa, they quickly realized that in the decades to follow, increased logging activities would cause major changes in forest cover in the area. Furthermore, increases in logging activities are often accompanied by increases in illegal activities, the most notable of these being bushmeat hunting. More recently, western gorilla populations in Gabon and the Republic of Congo have experienced tremendous declines due to Ebola outbreaks. This year, western gorillas were classified as critically endangered by the IUCN (page 22) and it is therefore necessary, now more than ever, to assess their vulnerability to these threats.

Currently there are less than a handful of habituated western gorilla groups, and it has taken years to get to the stage where gorillas can be followed and observed daily. While data from these habituated groups can provide us detailed information on the daily activities, ranging patterns and social behaviours of western gorillas, there is still a lack of knowledge on species-



typical group dynamics, life-history patterns (e.g. mortality) and other important demographic parameters.

Luckily, associated with the increased conservation activities in Western Equatorial Africa, was the discovery of forest clearings, called “bais” in the local languages. Bais are focal points in the rain forest, attracting large numbers of many different mammals because of their mineral rich soils, plants and clay that appear to be of particular nutritional importance to them. It has already been shown that forest buffaloes show clumped distribution around bais, and that bais are located in the middle of the home ranges of bongo (a large forest antelope). Large numbers of elephants and gorillas come to these clearings, and their consequent visibility means that individuals can be identified and tracked over time. Bai studies are advantageous as they allow for the collection of demographic data on many different groups that make regular visits to the clearing.

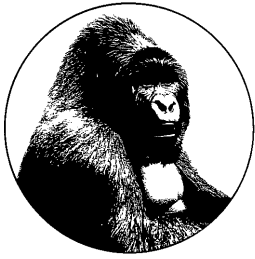
The swampy Mbeli Bai in the southwest of the Nouabalé-Ndoki National Park is the largest of several forest clearings in the region. This park suffers little from human disturbance, and therefore represents an important stronghold for western gorillas and other large endangered forest mammals. Together with the adjoining Dzanga-Ndoki National Park in the Central Af-

rican Republic, and the Lobéké National Park in Cameroon, it forms the core protected zone of the Sangha Trilateral Conservation Landscape, which harbours one of the largest remaining populations of great apes in Africa. In addition to western gorillas and forest elephants, Mbeli Bai is visited by sitatungas, forest buffaloes, black-and-white colobus monkeys, and two species of otter.

In 1993 and 1994 my colleagues from the *Wildlife Conservation Society* (WCS) conducted pilot studies at Mbeli Bai with the aim of finding out if western gorillas make regular visits, and if they can be individually identified. In February 1995 monitoring of the gorilla population started with the aim of providing detailed data on western gorillas’ social organization, life-history patterns and population dynamics.

Working at a forest clearing is very different to following a habituated group in the forest. Our research is very passive and consists principally of waiting for the animals to come to the clearing where we can observe them with spotting telescopes. Our research demands a huge amount of patience; after hours (or even sometimes days) without gorillas, two different groups may enter the bai simultaneously, demanding our full attention and vigilance for data collection. Generally at least two observers sit on the 9 m-high platform at the edge of the forest clearing during all daylight hours and it generally takes new observers at least 3 months to learn the identity of the gorillas – over the course of a year, the bai is visited by about 130 gorillas belonging to 14 social units, and 13 solitary silverbacks.

We do not aim to follow the groups into the forest, as we want to guarantee that they have an absolutely undisturbed life. Only on rare occasions do we enter into the swampy clearing to get gorilla dung samples; these are analyzed for parasite load by the Field Veterinary Program of WCS. Ad-



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ditionally the Mbeli Bai Study is contributing towards a great ape monitoring and surveillance program in the Nouabalé-Ndoki National Park through visual health observations and parasitological analysis. Genetic analysis of the gorillas is done at the Max Planck Institute for Evolutionary Anthropology.

We are present at the bai for approximately 10 hours every day, which provides us with detailed data to further our understanding of the ecological and social factors that determine the gorillas' bai visiting patterns. This research is complemented by monthly monitoring of more than 400 fruiting trees in the study site (including the *Nauclea* trees around the bai that attract many gorillas in September/October of each year). Analyses of the bai visitation and grouping patterns of other large mammals, especially elephants, provide important information on the role of bays in determining large-scale associations and population structure in large forest mammals.

Because of the differences in their environment, such as higher density and diversity of fruit trees and more patchily distributed herbaceous vegetation, western gorilla ecology and behaviour is expected to differ from that of their counterparts in the Virungas. Indeed, studies at other sites, using indirect methods or following habituated groups, have demonstrated that western gorillas exhibit a more frugivorous diet, longer daily path lengths, increased inter-group encounters and larger group spread.

In the past years our picture of western gorilla social structure and socioecology has changed tremendously as a result of the insights we have gained from our observations in these forest clearings, and results from Mbeli Bai have contributed substantially to this new understanding.

Currently, after 12.5 years of almost continuous monitoring, we have a much clearer picture of western gorillas

and can compare our knowledge with the long-term results on mountain gorillas from the Karisoke research centre in the Virunga Volcanoes (Rwanda). We have been able to show that, while up to 50% of groups are multi-male in mountain gorillas, western gorilla groups contain almost exclusively only one fully adult silverback; a large proportion of adult males are solitary, and this has wide-ranging effects on the variability in male-reproductive success.

As in mountain gorillas, female western gorillas show both natal and secondary transfer and also involuntary transfer. Involuntary transfer happens after group disintegration after the presumed death of the harem holder. During such occasions we have observed females transfer with their unweaned offspring. Although we have not yet made direct observations of infanticide we witnessed two infanticide attempts by silverbacks of other units, and many females were seen without their unweaned offspring after they had transferred to other groups.

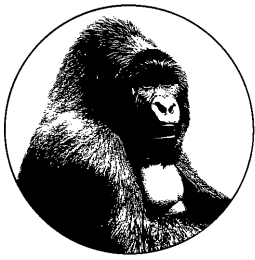
Increased encounter rates among social units (a consequence of the high population density, longer day ranges and potentially greater home range overlap), and the presence of many solitary silverbacks in a population, can also affect the nature of interactions between silverbacks. It could lead to increased levels of male-male aggression, but also to a more peaceful pattern of interaction because mainly familiar males could reside in a population – a scenario known as a male-network structure. Furthermore, because of the absence of multi-male groups, it is not surprising to find higher rates of group disintegrations for western gorillas.

It has been argued that the less stable nature of food availability and the increased predation risk in western gorillas' environment, and their lesser degree of folivory, should have direct effects on mortality and lead to slower physical maturation (for example affecting the age when western gorillas become adult). Currently we are investigating if this prediction holds true for the Mbeli Bai gorilla population – we



Female Petunia with her male offspring Asta

Photo: Thomas Breuer



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could already confirm at our site that western gorillas are weaned at a later age than mountain gorillas. This information is crucial for scenarios of population recovery from the threats listed above, because higher mortality or lower birth rates would lead to lower annual growth rates. This emphasizes the importance of long-term studies to provide baseline demographic and life history data of undisturbed primate populations.

The Mbeli Bai Study has also reported many spectacular behavioural observations such as twin births ($n = 3$), silverback splash displays, and the first observation of tool use in free-ranging gorillas.

In addition to baseline population data, the Mbeli Bai Study has been expanding its research into the surrounding forest and has conducted a study

to determine the ecological factors that potentially affect western gorilla distribution and density.

In addition to our conservation-oriented research, we also train Congolese research assistants as well as educators to promote wildlife conservation and the Nouabalé-Ndoki National Park – most effectively through our conservation education program “Club Ebobo” which we have been running since 1998. Our study at the forest clearing offers many local children the opportunity to see the mammals, which would not be possible in the dense forest.

A permanent research presence at the bai provides an effective deterrent to poaching and an important early-warning system for population perturbations in what is a highly strategic location. Mbeli Bai was a major elephant poaching area prior to the creation of the Nouabalé-Ndoki National Park in 1993; since the creation of the park and the initiation of the Mbeli Bai Study that followed, poaching levels in and around the bai have declined to zero.

In conclusion, we encourage other scientists and conservation managers to consider the valuable and time-effective conservation-related research that can be conducted at forest clearings, as well as the positive influence having a presence at these clearings can have on conservation activities.

Thomas Breuer

Our sincere thanks go to the Ministère de l'Économie Forestière et de l'Environnement for permission to work in the Nouabalé-Ndoki National Park, and the staff of WCS's Congo Program for crucial logistical and administrative support. I am particularly grateful for my predecessors Claudia Olejniczak, Richard J. Parnell, and Emma J. Stokes for their contribution to this long-term project. Many different research assistants have helped in collecting data at Mbeli Bai and their help is highly appreciated. The long-term continuation

of the Mbeli Bai Study would not have been possible without the continuous support provided by our long-term supporters, notably the Columbus Zoo and Aquarium, Cincinnati Zoo and Botanical Garden, Sea World & Busch Gardens Conservation Fund, Toronto Zoo, WCS and Woodland Park Zoo. I am currently writing up my data to obtain a PhD and I am supported by the Max Planck Society.

Conserving Gorillas – Five Questions

In thinking about conservation of a species, I find that five questions are useful. Why conserve, i.e. what threats does the species face? What should be conserved, i.e., what populations should we concentrate on? How many animals should be conserved to protect a viable population for perhaps a millennium? Where should we protect that number? And finally, how should we manage the conservation?

Why Conserve Gorillas?

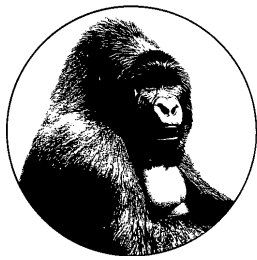
Like so many other species, gorillas are threatened by increasing destruction of their habitat and its environs. Part of the increase in destruction is caused by an increasing human population needing more land to support itself. A strong correlation exists between human density and deforestation rates, including across the nine African countries that harbor gorillas – and the human population is increasing more rapidly in sub-Saharan Africa and in host countries of gorillas (over 2% annually) than anywhere else in the world. Add the world's increasing consumption of forest products (a five-fold increase in the last half century from gorilla countries), and it is difficult to see how any forest is going to remain outside of protected areas.

The ravages of the viral infection, Ebola, on western gorilla popu-

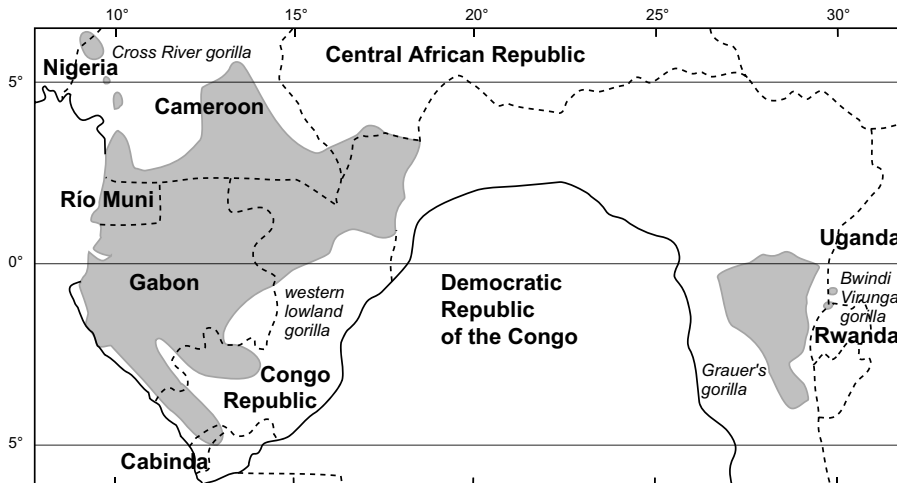


The young silverback Coriander standing bipedally scanning the bai for other gorillas – Coriander has been known to researchers since the pilot study in 1993.

Photo: Thomas Breuer



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lations has received much attention recently (page 22). This disease and the bushmeat trade might have more than halved populations in some areas. The bushmeat trade is exacerbated by commercial logging. Hard on the heels of the logging roads, penetrating deeper into the forests than any other form of exploitation, comes small-scale settlement and commercial hunting. Concrete evidence of the susceptibility of gorillas to hunting comes from the extraordinary countrywide foot-survey of Gabon conducted 25 years ago by Caroline Tutin and Michel Fernandez. They estimated a 70% drop in gorilla numbers in heavily hunted areas, and back then the bushmeat trade was not as intense and widespread as now.

What Gorillas to Conserve?

To avoid taxonomic argument, I write as if only one species (superspecies) of gorilla existed, and I refer to the sub-populations by their common names, not their scientific names.

Perhaps the first source for anyone wondering what species need conserving globally is the *IUCN Red List of Threatened Species*.

According to the *Red List* for 2007, the Cross River gorillas of Nigeria and Cameroon are Critically Endangered. The population numbers less than 250

adults, splintered among a number of sub-populations; it is surrounded by some of the densest human populations on the continent; and despite increased protection, it seems likely that the population is decreasing. It used to be the case that 300 km separated this from the next western gorilla population, but in 2003, reports were published of a population just north of the Sanaga River of Cameroon, halfway between Cross River and the next western population. The forests in which this Ebo population live are extensive, but heavily hunted.

Western gorillas are still by far the most numerous – several tens of thousands – despite heavy casualties from Ebola and the bushmeat trade. Nevertheless, fears that the population will soon experience, or might already have experienced, the criterion crash of 80% over three generations (about 100 years) have put it into the Critically Endangered category in the 2007 *Red List*.

To give some perspective on that status, while a total of about 30,000 western gorillas might exist in 6 widely separated protected areas, each of 5,000 km² or more, the population of the critically endangered kakapo (a New Zealand parrot) numbered just 90 individuals in 2005.

The eastern lowland, or Grauer's, gorillas of eastern Democratic Republic of the Congo are classified on the *Red List* as Endangered. There might be about 15,000 of them, but the chaos in eastern Congo must be sorely affecting them. The fact that 4 million people died THERE from killing, mutilation and starvation in the 5 years to 2004 indicates such a complete civil breakdown that it seems very possible that the gorilla population will soon meet the Critically Endangered criterion of an 80% decline in numbers in the next century.

The *Red List* is currently recalculating the status of the 700 or so mountain gorillas. I have argued for some time now that mountain gorillas need to be downgraded to Endangered from Critically Endangered. A Critically Endangered listing requires an observed, projected, or inferred declining population. Neither the Bwindi nor the Virunga population of mountain gorillas is declining. Indeed, the Virunga population has been increasing ever since the 1980s, when was begun the successful tourism program, which the *Red List* states is a threat to the Virunga gorillas. Data to substantiate this increase has long been published, and we now know that the Bwindi population is either increasing or stable.

However, the recent (October 2007) rebel take-over of the entire Congolese sector of the Virunga Volcano protected area of Congo, Rwanda and Uganda does not bode well for the Virunga population, given so many killings of gorillas by rebels in the region (page 5). The appalling civil situation in eastern Congo is so long-standing, so ignored by the rest of the world, so apparently intractable, that I am going to have to change my mind about the future trends of the Virunga population. If 4 million people there can die there in 5 years, why not a few hundred gorillas?



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How Many Gorillas Should We Conserve?

A variety of analyses, both biogeographic and genetic, indicate that, very roughly, a population of 5000 large-bodied animals might allow persistence for a millennium: 5,000 gorillas need 5,000 km² of good habitat. One population of 5,000 gorillas is not sufficient, however. The apparent near-eradication of gorillas by Ebola over much of one of the largest and apparently safest national parks, Odzala in the Republic of Congo, shows how important it is to have more than one population fully protected.

Where Should Gorillas Be Conserved?

Conservation does not have enough money or people to do all that is necessary. Therefore, a sensible rule of thumb might be to concentrate at any one time on areas or populations in the greatest need of protection, and areas or populations on which conservation effort would be most efficiently expended.

Need: While populations of less than several thousand gorillas are probably not safe for millennia, nevertheless, in order to ensure protection of variety, the westmost and eastmost populations of gorillas (Cross River, mountain) should surely continue to be protected, small as the populations are.

Efficient expenditure: Seven protected areas in Africa cover 5,000 km² or more each, and might each contain, or might have contained, over 5,000 gorillas. Six of them are in 4 West African nations: Cameroon, Central African Republic, Republic of Congo, and Gabon. The seventh is in eastern Congo. These seven protected areas are separated one from another by scores of kilometers.

How Should We Conserve Gorillas?

Africa is extremely poor, and its people in dire straits. Perhaps half

of the people in gorilla countries are subsisting on less than a dollar a day, and have an expectation of healthy life of only about 40 years (compared to the majority-world average of about 55 years). Therefore, funding for conservation must come largely from outside the continent. Given what minority-world governments spend on their armed forces and on subsidizing environmental damage, plenty of money is available.

I have already identified in the previous section where conservation effort should be concentrated. The pejorative term “paper parks” is often applied to majority-world protected areas. However, not only do we know that protection can be successful in majority-world countries, but the average size of protected areas is greater in those countries than in minority world countries. For instance, sub-Saharan Africa’s median protected area is 205 km², compared to Europe’s 6 km². Moreover, several African countries spend (or spent) on their protected areas a greater proportion of government expenditure than do/did western countries.

Conclusion

Stories in the media of the gorilla’s demise in the wild in the next 25 years are exaggerated. The gorilla is going to be around for much longer than the Sumatran orangutan. Nevertheless, over the next 100 years, a huge crash in gorilla numbers outside of reserves is bound to occur.

At the same time, the dedication, even unto death, of some of Africa’s park guards and other protectors of wildlife, the willingness of many of Africa’s leaders to establish as national parks huge swathes of their territory, their willingness to expend a greater proportion of their country’s income on protection of wilderness than do many developed nations, and the remarkable story of the success of mountain go-

rilla conservation in eastern Africa are grounds for hope.

Alexander H. Harcourt

This article is based on Part 1 of chapter 14 of Gorilla Society by myself and Kelly J. Stewart, University of Chicago Press, 2007. Substantiating data and sources for the contents of this article can be found there. Our book benefited enormously from commentary by many friends and colleagues, but particularly from Martha Robbins.

Western Lowland Gorillas in Danger

Over the last 15 years the Zaire strain of Ebola virus has emerged repeatedly in gorilla and chimpanzee populations in Gabon and Republic of Congo (Congo Brazzaville) causing massive die-offs. Here I briefly review the impact of Ebola on gorilla populations, discuss the potential for future population impact, and describe ongoing efforts to protect remaining gorillas through vaccination.

The impact of Ebola on gorillas was first recognized after the 1994 and 1996 Ebola outbreaks in humans in villages on the fringes of the Minkebe forest block in north-central Gabon. The first human outbreak was caused by contact with the carcass of an infected chimpanzee and, in many independent reports, local villagers described finding carcasses of both gorillas and chimpanzees in the forest. Subsequent surveys conducted jointly by the *World Wildlife Fund* (WWF) and Gabonese Water and Forests Ministry suggested gorilla mortality rates on the order of 95% over an area covering 20,000–30,000 km².

There was then a lull until 2001, when human outbreaks flared up in the Mekambo region of northeast Gabon, again prompting reports of dead ape carcasses in the forest. The outbreaks then spread eastward into Congo, ultimately causing massive ape die-offs



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A male *Hypsignathus monstrosus*, one of the fruit bat species that may be a reservoir host for the Ebola virus

Photo: Xavier Pourrut

at the Lossi Sanctuary and Odzala National Park: probably the largest protected area population of great apes in the world. Surveys by the *Wildlife Conservation Society*, WWF, the Congolese and Gabonese Forest Ministries, the European Union's ECOFAC program, and the University of Barcelona confirmed not only the extent of impact on ape populations in Congo, but also the massive impact at two Gabonese parks (Mwagne and Ivindo) situated between Mekambo and the 1996 outbreak site in central Gabon. Together these Ebola outbreaks appear to have killed about one third of the world's protected area population of gorillas.

The underlying cause of the outbreaks appears to be a spreading epidemic in the reservoir host for Ebola, which genetic research by the Centre International de Recherches Médicales

de Franceville in Gabon suggests is bats. As the bat epidemic has moved across Gabon and Congo, the virus has "spilled over" from bats to apes, with subsequent chains of secondary transmission amongst apes. Several large protected areas in Congo, Cameroon, and the Central African Republic lie in the putative future spread path.

In parallel to the Ebola crisis, poaching continues to cause serious declines in western gorillas. Most of the impact is not caused by subsistence hunting but rather by commercial hunting in which gorillas and other large mammals are hunted in remote areas and then transported large distances to urban markets. The emergence of commercial hunting as a major threat to gorillas has been fostered by an explosion of mechanized logging, which has created road access to once inaccessible areas and

built towns full of bushmeat customers (salaried logging employees) in these areas. Although gorilla hunting is illegal in all range countries, protection efforts are chronically understaffed, underfunded, and confined largely to a few protected areas.

Both Ebola and poaching have already had massive impacts on gorilla populations and both represent serious threats to gorillas in the future. Consequently, the World Conservation Union IUCN recently upgraded western gorillas to the highest threat status (Critically Endangered) on its *Red List of Threatened Species*. Unlike most such cases, the change in status was not due to the dwindling of western gorillas to very low numbers. Accurate abundance estimates are not available but western gorilla numbers are probably in the tens of thousands. Rather, western gorillas fit a second criterion of risk, rapid decline: in particular, a decline of 80% in three generations or less. Gorilla generation time is about 22 years, survey data suggests a decline of at least 60% in the last 25 years, and the causes of decline are continuing. Therefore, western gorillas easily met the rapid decline criterion

Although many at first felt that the Ebola situation was hopeless, there are growing signs that controlling Ebola impact on wild gorillas and chimpanzees is feasible. Six vaccines have successfully protected laboratory monkeys against Ebola and would likely work on gorillas and chimps in the wild. Coordinated by the Max Planck Institute for Evolutionary Anthropology, a consortium of research institutions, government laboratories, non-governmental organizations, and private biotech is now working to adapt these human vaccines for use on gorillas and chimpanzees in the wild. The major stumbling block now is money to fund the laboratory and fieldwork necessary to implement a wild ape vaccination program. For more information on this



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program and how you can help, go to: EbolaGorilla.org. The *IUCN Red List of Threatened Species* is available at www.iucnredlist.org.

Peter D. Walsh

In October 2007, a report was published in the Proceedings of the National Academy of Sciences by researchers of the CIRMF (Centre International de Recherches Médicales de Franceville) who found a new lineage of the Ebola virus isolated from wild apes in the Gabon/Congo region. It is capable of genetically merging with other strains to create new variants. This ability has important implications for vaccine development; a vaccine that is made up of weakened viruses could merge with the wild virus to form new strains, making the spread of the virus in humans and apes harder to predict and control (PNAS 104: 17123–17127).

News from Paris

From 22 to 24 October 2007, representatives of 9 gorilla range states, donor countries, UN bodies, inter-governmental, regional and non-governmental organizations as well as scientific institutions met in Paris to negotiate measures for the conservation of gorillas under the Convention on Migratory Species of Wild Animals. At the meeting, the partners accepted the *Agreement on the Conservation of Gorillas and their Habitats*, or for short: *Gorilla Agreement* (http://www.cms.int/bodies/meetings/regional/gorillas/gorilla_meeting.htm).

The parties agreed to (in short):

- accord strict conservation for gorillas,
- identify sites and habitats for gorillas occurring within their territory and ensure the protection, management, rehabilitation and restoration of these sites,
- coordinate their efforts to ensure

that a network of suitable habitats is maintained or re-established throughout the entire range of all species and sub-species,

- coordinate their efforts to eradicate activities related to poaching, and to take concerted, energetic measures to control and monitor them,
- reinforce and support capacity building measures of the judiciary and law enforcement agencies,
- support initiatives to stop the spread of Ebola and other infectious diseases and to find a cure for Ebola,
- investigate problems that are posed by human activities and endeavour to implement remedial measures,
- cooperate in emergency situations,
- ensure that humanitarian agencies take into account the environmental impact of their relief efforts,
- take all efforts to prevent conflicts between humans and gorillas through appropriate land-use planning,
- cooperate in the development, harmonisation and enforcement of national policies and legislative measures,
- analyse the training requirements to identify priority topics and areas for training, and cooperate in the development and provision of appropriate training programs,
- initiate or support research into the biology and ecology of gorillas including the harmonization of research and monitoring,
- develop and maintain programs to raise awareness and understanding of gorilla conservation issues,
- exchange information and results from research, monitoring, conservation and education programs,
- cooperate with a view to assisting each other,
- encourage awareness-raising about the importance of protecting gorillas.

Immediately following the close of the meeting, delegates from the Central

African Republic, Democratic Republic of the Congo, Republic of Congo, Nigeria and Uganda signed the Resolution and Final Act. The Agreement will remain open for signature in Paris for 6 months from 26 October 2007 to 25 April 2008 in Paris. The agreement will be legally binding, unlike previous declarations from the range countries, such as the GrASP Kinshasa declaration in 2005.

During this meeting, the *UN Environment Programme* (UNEP) announced a new initiative for the Virunga National Park. The aim is to assist the Democratic Republic of the Congo to better manage its economically-important nature-based assets. The Congo's resources have been a source of tensions and conflict, but they also represent a major opportunity to fight poverty and push economic growth if they are intelligently and sustainably managed, according to UNEP's Director Achim Steiner. Some of the activities in the Virunga National Park that the agreement includes are the establishment of a forum with local people as well as humanitarian, security and environmental actors to develop sustainable livelihoods around the park, joint patrols of the MONUC with park rangers as soon as the security situation permits and support to UNHCR staff and international NGOs to provide sustainable energy sources for internally displaced people. UNEP will also try to improve the cooperation between Congo, Rwanda and Uganda to stop the illegal transport of natural resources such as charcoal across the borders.

Various documents and further information are also available on the Ngagi Gorilla Agreement Website of the Convention on Migratory Species at www.naturalsciences.be/science/projects/gorilla – maps, tables with priority populations, status reports and action plans can be downloaded for each gorilla subspecies, for example, from <http://www.naturalsciences.be/science/projects/gorilla/doc>.



READING

Harcourt, Alexander H. and Kelly J. Stewart

Gorilla Society: Conflict, Compromise, and Cooperation Between the Sexes. Chicago (University of Chicago Press) 2007. 416 pages, 33 halftones, 68 line drawings, 9 tables. Hardcover US\$ 75, ISBN 978-0-226-31602-4. Paperback US\$ 30, ISBN 978-0-226-31603-1.

Having initially been given the opportunity to study mountain gorillas with Dian Fossey 30 years ago, "Sandy" Harcourt and Kelly Stewart are now among the most distinguished "gorillologists". Their book *Gorilla Society* summarizes the results of field research conducted to date on the two gorilla species and their various subspecies.

The book focuses on the socioecology of gorillas. In the first part, the concepts of socioecology are comprehensively explained, such that even readers unfamiliar with them can follow the explanations in the second part. Harcourt and Stewart justify the book's limitation to one primate species based on the premise that gorillas form a model from which conclusions can be drawn for other species. The gorillas' inter- and intra-specific variability is another reason: gorillas lend themselves particularly well to the study of what causes these differences, differences that might also be present in other primates.

Central to the approach is the analysis of the different social strategies existing among gorilla females and males, i.e. females focusing on food, males on females. Both strategies are dealt with comprehensively in separate chapters.

The section defining the outlook for future research is particularly interesting. For instance, it is pointed out that methodologies need to be comparable. Comparisons between the two gorilla species and studies of various populations are still incomplete. Fieldwork on the western lowland gorilla still exhib-

its gaps, one reason for this being the fact that this species usually cannot be observed for the whole day, but only through certain windows such as when the group visits open swamp areas. It makes captivating reading to learn that while in the western species encounters between individuals or gorilla groups are often peaceful, among male mountain gorillas encounters usually result in fights, injured combatants and occasional infanticides. It is assumed that the western gorillas also commit infanticide, but perhaps to a lesser degree.

The obligatory chapter on gorilla conservation is also included; it is good to see that the authors show explicitly how conservation can benefit from research on gorilla socioecology.

Although the book is based on scientific findings, its way of simplifying these findings and, for example, separating statistical results from the body of the text, makes it easily digestible. It thus has wide audience appeal: from interested laymen to newcomers to the subject, primatologists specialized in other species, and anyone interested in a readable overview of gorilla field work to date and theories of gorilla behaviour.

Iris Weiche

Tara S. Stoinski, H. Dieter Steklis, Patrick T. Mehlman (eds.)

Conservation in the 21st Century: Gorillas as a Case Study (Developments in Primatology: Progress and Prospects). Springer 2007. 376 pages, hardcover, US\$ 125. ISBN 978-0-387707204.

Josep Call and Michael Tomasello (eds.)

The gestural communication of apes and monkeys. Abingdon (Lawrence Erlbaum Associates) 2007. 264 pages. Paperback US\$ 34.95, ISBN 978-0805853650. Hardcover US\$ 80, ISBN 978-0805862782.

Craig Stanford

Apes of the Impenetrable Forest. The Behavioral Ecology of Sympatric Chimpanzees and Gorillas. Prentice Hall 2007. 160 pages. Paperback. US\$ 21.60. ISBN 978-0-132432603.

Frans De Waal

Chimpanzee Politics: Power and sex among apes. Baltimore (The Johns Hopkins University Press) 2007. 276 pages, 135 illustrations. Paperback, US\$ 24.95, £ 16.50. ISBN 978-0-8018-8656-0.

Alexandra Zimmermann, Matthew Hatchwell, Lesley A. Dickie and Chris West (ed.)

Zoos in the 21th Century. Catalysts to conservation? Cambridge (Cambridge University Press) 2007. 352 pages, 63 line diagrams, 2 half-tones. Hardcover £ 75, ISBN 978-0-521-85333-0. Paperback £ 35, ISBN 978-0-521-61858-8.

Chris Margules

Systematic Conservation Planning. Cambridge (Cambridge University Press) 2007. 304 pages, 65 line diagrams, 1 half-tone, 10 colour plates, 14 tables. Hardcover £ 75, ISBN 978-0-521-87875-3. Paperback £ 35, ISBN 978-0-521-70344-4.

Congo Basin Forest Partnership

The Forests of the Congo Basin: State of the Forest 2006. 255 pages.

Luca Tacconi (ed.)

Illegal logging. Law enforcement, livelihoods and the timber trade. London (Earthscan) 2007. 320 pages. Hardcover, £ 39.95. ISBN 978-1-84407-348-1.

T. L. White, W. T. Adams and D. B. Neale

Forest Genetics. Wallingford (CABI) 2007. 704 pages. Hardcover £ 100, US\$ 200, Euro 160, ISBN 978-1-84593-



READING

285-5. Paperback £ 50, US\$ 100, Euro 80, ISBN 978-0-85199-348-5.

K. Reynolds, A. Thomson, M. Köhl, M. Shannon, D. Ray and K. Rennolls (eds.)

Sustainable Forestry: from monitoring and modelling to knowledge management and policy science. Wallingford (CABI) 2007. 560 pages. Hardcover, £ 85, US\$ 170, Euro 135. ISBN 978-1-84593-174-2.

State of the World's Forests 2007. Rome (FAO) 2007. ISBN 978-92-5-105586-1.

The report can be downloaded at <http://www.fao.org/docrep/009/a0773e/a0773e00.htm>

Dorothy L. Cheney and Robert M. Seyfarth

Baboon Metaphysics: The Evolution of a Social Mind. Chicago (University Of Chicago Press) 2007. 358 pages. Hardcover, US\$ 27.50. ISBN 978-0226102436.

Saleem Ali (ed.)

Peace Parks. MIT Press 2007. 432 pages, 20 illustrations. Paperback US\$ 29, £ 18.95, ISBN 978-0-262-51198-8. Hardcover US\$ 72, £ 46.95, ISBN 978-0-262-01235-5. Also available from IUCN, www.iucn.org

The Shame of War: sexual violence against women and girls in conflict. United Nations, Office for the Coordination of Humanitarian Affairs; earth print EP-Lib 2007. 137 pages, paperback, US\$ 25. ISBN 92-1-132025-9.

Geoffrey Blundell (ed.)

Origins: the story of the emergence of humans and humanity in Africa. Cape Town (Double Storey Books) 2006. 168 pages. Paperback, £ 15.95, ISBN 978-1770130401.

Stephen Browne

Aid and influence: do donors help or hinder? London (Earthscan) 2006. 192 pages. Paperback £ 17.99, US\$ 32.50, ISBN 978-1844072026. Hardcover £ 60, US\$ 110, ISBN 978-1844072019.

Elijah D. Mushemeza

The Politics and Empowerment of Banyarwanda Refugees in Uganda 1959–2001. Fountain Publishers 2007

Joshua B. Rubongoya

Regime Hegemony in Museveni's Uganda: Pax Musevenica. Basingstoke, New York (Palgrave Macmillan) 2007. XVI, 283 pages. Hardcover, £ 40, US\$ 69.95. ISBN 978-1403976055

Cassandra R. Veney

Forced Migration in Eastern Africa: Democratization, structural adjustment and refugees. Basingstoke, New York (Palgrave Macmillan) 2007. XIII, 304 pages. Hardcover, £ 40, US\$ 65. ISBN 978-1403976109

Peta Ikambana

Mobutu's Totalitarian Political System: An Afrocentric analysis. London, New York (Routledge) 2007. XI, 126 pages. Hardcover, £ 69, US\$ 95. ISBN 978-0415980289

News from the Internet

A new section of the Primate Specialist Group website is dedicated to the Best Practice Guidelines being produced by the Section on Great Apes: <http://www.primate-sg.org/best.practices.htm>

1) **David Morgan and Crickette Sanz: Best practice guidelines for reducing the impact of commercial logging on great apes in western equatorial Africa.** IUCN, in collaboration with the Center for Applied Biodiversity Science 2007. ISBN 9782831709918. The guidelines can be downloaded as

PDFs at: <http://www.primate-sg.org/BP.logging.htm>

2) **Benjamin Beck et al.: Best Practice Guidelines for the Re-introduction of Great Apes.** Gland, Switzerland (IUCN/SSC Primate Specialist Group) 2007. Available for download at: <http://www.primate-sg.org/BP.reintro.htm>

Oates, John F. et al. (eds.): Regional action plan for the conservation of the Cross River gorilla (*Gorilla gorilla diehli*). IUCN/SSC Primate Specialist Group and Conservation International 2007. ISBN 9781934151020. <http://www.primate-sg.org/PDF/CRG.Action.Plan.pdf>

Human Rights Watch issued a 92-page report: *Renewed Crisis in North Kivu* (<http://hrw.org/reports/2007/drc1007/>). Direct PDF download: <http://hrw.org/reports/2007/drc1007/drc1007web.pdf> (644 KB)

The website of the *Bushmeat Crisis Task Force* (BCTF), www.bushmeat.org, was relaunched recently. The new site combines information previously distributed across three public interfaces: the main BCTF site, the Bushmeat Information Management and Analysis Project portal (Bushmeat IMAP) and the BCTF Information CD. The most notable improvement in the site is reorganization of BCTF publications and short reports into topical areas important to understanding the bushmeat trade

The *The Last Great Ape Organization*, LAGA, is a very successful wildlife law enforcement NGO in Cameroon, led by Ofir Drori. LAGA now has a new website: www.LAGA-enforcement.org



BERGGORILLA & REGENWALD DIREKTHILFE

Donations

We thank every individual, company and institution who supported us between June and October 2007!

We received major contributions and donations from Klaus Baumgarten, Bündler Kaufhaus, Colibri-Umweltreisen, Gisela Ebeling (class 7 c), Elisabeth Engel, Marianne Famula, Irmgard Friedrich, Daniel Hänni, Gabriele Holzinger, Lore Marholdt, Karsten Otte, Kurt Rathfelder, Birgit Reime, Frank Seibicke, Cecile Vischer, Heinz Zaruba and Johannes Zerhusen. The company Steiff donated part of the proceeds

from selling the plush baby gorilla Mary Zwo to the Zoological-Botanical Garden Wilhelma, Stuttgart, and the Wilhelma forwarded this support directly to us. We thank the Wilhelma for the arrangement of this donation from the company Steiff.

We are very grateful to our donors and thank them for their contributions – as well as all the other supporters whom we could not name here.



Rwandan rangers with sweaters they received earlier this year by the Great Ape Trust of Iowa

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Baby gorilla Mary Zwo, born in Münster and now hand-reared in Stuttgart, below with her keeper and her plush counterpart designed by Steiff

Photos: W. Rietschel (above), A. Meder (below)





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