



BLACK

is back



In 2006, **Jessica Groenendijk** arrived in Zambia's North Luangwa National Park to take over the running of an ambitious black rhino reintroduction programme. After being declared nationally extinct in 1998, the species' return to this remote corner of Africa was the result of many years of negotiations, regional cooperation and dedication.

But, as she was to discover, the hard work was just beginning. ▶

TEXT BY JESSICA GROENENDIJK

JESSICA GROENENDIJK (2)



FRANÇOIS D'ELBEE

ABOVE Five more rhinos arrive in North Luangwa National Park, Zambia.

OPPOSITE A deceptively docile Buntungwa browses in the boma prior to release.

PAGE 34 If their spoor were always so visible, tracking rhinos on foot would be easy. But on the stone-strewn, hard terrain of North Luangwa's rhino sanctuaries, it can take scouts several hours and a number of attempts to find a single animal.

PAGE 35 Subilo, a bull, in excellent condition. While the transmitters were functioning, the rhinos were monitored from a helicopter. This tracking system is highly efficient, albeit more stressful for the animals.

I see it!' someone yelled. Soon everyone had spotted the plane, blinking in the sun. The small crowd watched it approach, then circle the dusty Lubonga airstrip. Bush strips are not designed for giant transporters, especially those with a valuable, living cargo, and the pilot was assessing the length, terrain and the direction of the wind. Thankfully, it had not rained for several weeks and the ground was firm. The plane landed safely, red dust boiling up behind the tyres. Five more black rhinos had arrived in North Luangwa.

My family and I had moved to Zambia a month before. We came not only from another country, as the rhinos had done, but from another continent, South America. So we had little inkling at that stage of all the effort and preparation that had led up to this momentous day.

North Luangwa National Park is a remote, 4 600-square-kilometre wilderness in Zambia's Northern Province. Its mosaic of woodlands and wooded grassland is bisected by several rivers that flow from the Muchinga escarpment in

the west to the Luangwa River, which forms the park's eastern boundary. The biodiversity here is unique and includes several endemic species such as the rare Cookson's wildebeest. It's also largely intact, with the exception of the black rhinoceros.

In 1970, Zambia was one of Africa's major range states for the species, and the Luangwa Valley was its stronghold. However, during that decade and the one that followed, the valley's wildlife was decimated by professional poachers, and elephants and black rhinos bore the brunt of the pressure. By the mid-1980s, sightings of black rhinos had become extremely rare, particularly in remote areas such as North Luangwa, where anti-poaching efforts were underfunded. In 1998, the species was declared nationally extinct.

In 1986, the North Luangwa Conservation Programme (NLCP) was established with support from the Frankfurt Zoological Society (FZS) and it has worked extensively with the Zambia Wildlife Authority (ZAWA) on law enforcement and park management. By 2001, poaching in North Luangwa had been brought under control and the

time was deemed ripe for the return of black rhinos to Zambia.

A reintroduction proposal, a joint collaboration by ZAWA and NLCP, was circulated to interested parties and a feasibility study was commissioned by the SADC Regional Programme for Rhino Conservation (SADC RPRC). North Luangwa was found to be the most suitable location for reintroduction, based on habitat suitability and security considerations.

A 55-square-kilometre area in the centre of the park, straddling the Lubonga River, was selected as the sanctuary in which the newly released rhinos could acclimatise to their new home. A low-impact, four-strand electrified fence would contain them, while allowing for relative freedom of movement for other animals. An initial density of not more than 0.1 rhino per square kilometre was planned, a conservative figure given past documented densities of rhinos in the park.

In an agreement mediated by FZS, South African National Parks (SANParks) donated five *Diceros bicornis minor* (the subspecies that formerly occurred in the Luangwa Valley) to ZAWA in exchange for two captive-born black rhino calves from Frankfurt Zoo. The animals were captured in Marakele and Kruger national parks in March 2003, and the two males and three females arrived in North Luangwa on 28 May.

The first true indication of a successful reintroduction is the birth of a calf. In June 2005, my husband and I travelled to North Luangwa, to meet then NLCP project leaders Hugo and Elsabe van der Westhuizen and to familiarise ourselves with the operation that we would be taking over the following year. I was with Elsabe when Hugo reported over the radio that he had seen a tiny calf running next to its mother, thus confirming the birth of the first black rhino on Zambian soil for over two decades. It was clear from the excitement in his voice and the tears in Elsabe's eyes how much this meant to them.

The calf, aptly named Buyantanshi – meaning 'progress' – gave ZAWA and NLCP the green light for the next stage of the reintroduction programme. It took three years of sourcing more animals, fundraising and preparation, but eventually another 10 rhinos were relocated from South Africa to North Luangwa. ▶



BERRY WHITE

Arboreal scientists

Since May 2006, I have been assisting ZAWA with the management of North Luangwa's rhinos – improving the design of data-recording sheets, helping to train the monitoring scouts in assessing rhino health and working with vet Pete Morkel to maximise the condition of individual animals. Monitoring involves tracking and observing rhinos, mostly on foot, according to a monthly sighting schedule. I have accompanied the men in the field as often as possible to better understand the conditions and constraints of their work.

One of my first experiences of tracking a rhino was also one of the most unnerving. I was with two ZAWA rhino monitoring officers, who had just spotted Buntungwa, a female with a feisty reputation. One of the scouts had shimied up a tree to get a better view (or so he whispered), while the second, Andrew, led me closer. We crept through the bushes until I too caught a glimpse of grey through a mass of twigs and leaves. Sensing my frustration at not being able to see more of the rhino, he motioned that we would approach from another direction. We gingerly negotiated a patch of thorny scrub and stopped below a termite mound. Andrew peeked round it and then invited me to

look. This time I saw an entire and highly alert rhino. Her head was up and her ears were swivelled. She was restless, aware that something was not quite as it should be, but didn't know where to turn. I tensed as she faced us and then started trotting briskly in our direction.

In such situations, I discovered, it's every man for himself. Andrew bolted. Instinctively, I plunged after him, back through the thorns. We were making more noise than the rhino and the urge to check whether she was after us forced me to glance behind. To my huge relief, I saw her running away. Andrew and I breathlessly gathered our wits, arms stinging from the thorns, while our companion descended from the tree, laughing.

As we retraced our steps, I gradually became aware of an advancing, rushing noise, accentuated with a rhythmic thud. We listened. Judging by the expressions on my companion's faces, realisation of what it was hit us simultaneously. Buntungwa was coming back and she meant business. Once again we scattered, each searching desperately for a climbable tree. As I struggled into the branches, Buntungwa thundered triumphantly past beneath me. Moments later, there was nothing but the echoing thunder of my heart.



JESSICA GROENENDIJK



DAVID ROGERS



FRANÇOIS D'ELBEE

The rhinos – three males and seven females – were transported in two batches. The arrival that my family and I witnessed comprised individuals from Kruger and Pilanesberg national parks; the second contained five animals from the Great Fish River Reserve in the Eastern Cape. They were moved to a holding boma where they soon settled into a routine.

NLCP tried to give as many members of the local communities as possible the opportunity to see the animals. Local government officials and key community figures were brought to the park, as well as truckloads of schoolchildren and other villagers. An official day for chiefs from the area was also arranged, during which the animals were blessed and welcomed, and given new names in the local languages.

During the course of four weeks, all the rhinos were fitted with radio transmitters and released one by one, at night, into a new, 150-square-kilometre sanctuary. Lina, a young female, was the first to be released, as she was not eating the local browse satisfactorily and refused to be tempted with treats such as sugar cane. It was hoped that she would feed better out in the bush but, sadly, despite doing everything we could to help her, she died just over a month later. The post mortem did not reveal a clear cause of death.

Another Eastern Cape rhino, Twashuka, caused some excitement shortly after her release when she walked under a small bridge into the first rhino sanctuary. Owing to concern over interaction with the rhinos already established there, it was decided to immobilise her and bring her back to the boma. The recovery was successful, and she was re-released after two nights.

A pregnant cow, Julila, and her two-year-old calf were released the same night, a few minutes apart, and initially stayed together close to the boma. However, during the second night, Julila managed to slip underneath the sanctuary fence, perhaps through a small seasonal gully, leaving her calf behind. After some discussion about the pros and cons, her pregnancy very much on our minds, Julila was herded back into the sanctuary with relative ease using a helicopter (a section of the fence was removed and she was steered through the gap).

Two days later she broke out again and this time we decided to leave her. She clearly preferred the area she had found and we disturbed her as little as possible,

periodically checking her whereabouts by radio tracking. A patrol team was permanently deployed on the Muchinga escarpment overlooking her area.

Meanwhile, Julila's excitable calf, Twikatane, was also keeping us on our toes. For two days, her faint signal appeared to indicate that she was stationary, in an area that we suspected lacked water. Concerned that something was up, we tracked her on foot and found her stuck, headfirst, in a small gully in the bank of a dry stream. Although unharmed, she was dehydrated. Ropes were used to lever her out of the hole and she was taken back to the boma to recover. She was re-released on 30 June, after which she moved east of the Lubonga River and slowly ventured into the northern part of the sanctuary.

we managed to identify the calf as female. She was named Twibukishe – 'we remember' – in honour of the hundreds of black rhinos that had vanished from the Luangwa Valley

The rhinos' movements were monitored by plane for the first weeks after their release, to keep disturbance to a minimum. Later, radio tracking was carried out almost exclusively on foot, particularly during the rainy season when most roads become impassable. Data on the animals and their movements were entered into the WildB database, developed by SADC RPRC. Tracking became a little more difficult when, six months after release, the transmitters stopped working. Although we had expected them to last longer, the transmitters had served their purpose during a crucial time in the rhinos' reintroduction.

Where possible and without interfering, photographs were taken by scouts during their monthly efforts to find each animal, and were used to assess the rhinos' condition. The spoor of a calf was found with Julila's tracks on 6 October, four months after the release, but no attempt was made to see the infant for several weeks. Then, at the end of November, the scouts reported sighting a calf the size of a warthog from a distance. Julila is a wily mother and managed to elude attempts to photograph the pair for several months. Eventually, to our delight, we managed to identify the calf as female. She was named Twibukishe – 'we remember' – in honour of the hundreds of black

rhinos that had vanished from the Luangwa Valley by the late 1980s.

Most of the new rhinos lost some condition following their release and through the dry season – as was the case in the earlier reintroductions – but their health generally stabilised as the rainy season progressed. However, at the end of February 2007, the behaviour of Chikuse, a young female from the Eastern Cape, started to cause concern. She became unresponsive in the presence of people and vehicles, and by early March, it was evident that she was not well. She spent long periods standing listlessly with her head held low and sleeping close to the road. She died on 10 March.

Chikuse's rapid deterioration and death were unexpected. Before the rhinos were introduced, 160 pyrethroid-

treated tsetse targets had been placed in key locations in the larger sanctuary, with the aim of reducing the tsetse fly population and giving the rhinos time to develop a resistance to the trypanosome parasite, which causes sleeping sickness. The targets were replenished every month and their density was highest in the vicinity of the release site, from which Chikuse never moved far. Prior to release, the rhinos were also injected with a prophylaxis that would have protected them for two to four months against trypanosomiasis, so their susceptibility to the disease should have been low.

However, Chikuse's youth, lack of confidence and inability to adapt to her new environment resulted in a loss of condition, chronic stress and a depressed immune system, making her vulnerable to parasites and infectious agents. It is probable that the cause of her death was clinical trypanosomiasis. We became concerned that some of the other rhinos were similarly affected, and a concerted effort was made to observe their behaviour.

Twashuka began to be seen more frequently near the boma and, one night, she entered one of the holding pens. When the monitoring scouts and I observed her in the field the following morning, I noticed that she did not cut off branches of browse cleanly. ▶



OPPOSITE, TOP Veterinarian Pete Morkel measures Twashuka's anterior horn in preparation for the implantation of the transmitter. The arrow head, drawn with a marker on her right ear, indicates where a notch will be made to aid identification in the field.

OPPOSITE, MIDDLE The Muchinga escarpment rises behind the Mwaleshi River, a tributary of the Luangwa River and a dry-season lifeline for North Luangwa National Park.

OPPOSITE, BOTTOM Buntungwa, who would later give the author a run for her money (and everything else), relaxes in the boma.



BERRY WHITE

Twashuka, a few days after her release. A year and a half after her arrival in North Luangwa, we saw her browsing peacefully in full view of the NLCP base camp. What luxury to be able to observe her from the comfort of an armchair!

ACKNOWLEDGEMENTS

The reintroduction of black rhinos to North Luangwa National Park is a major conservation achievement for the Zambia Wildlife Authority (ZAWA) and a remarkable regional and international conservation effort by the governments of Zambia, South Africa and Namibia, under the umbrella of the SADC Regional Programme for Rhino Conservation. Implementing organisations include ZAWA, SANParks, the North West and Eastern Cape parks boards in South Africa, Frankfurt Zoological Society's North Luangwa Conservation Programme and Frankfurt Zoo. The current project contacts are Ed Sayer and Claire Lewis.

Financial support for the programme has been provided by Conservation Foundation Zambia, the US Fish and Wildlife Service, Save the Rhino Trust Zambia, the Beit Trust, David Back, the Prince Bernhard Fund for Nature, the European Association of Zoos and Aquaria, Save the Rhino International and the Frankfurt Zoological Society. The three rhino births, so important to the success of North Luangwa's population, are largely thanks to the hard work, skills and quiet dedication of ZAWA's officers. Under difficult conditions, they are making a significant contribution to the wellbeing and security of Zambia's rhinos and the country's natural heritage.

She watched us, head hanging low, for five minutes, then lay down. Although this was not much to go on, we decided that the symptoms were too similar to those displayed by Chikuse and called a vet. On 5 April, Twashuka was darted and treated with Samorin, a long-acting antibiotic, and Dectomax to guard against parasites. The procedure was a success and she was observed in the field a few days later, browsing well.

On 9 May 2007, we received a message that three ZAWA rhino-monitoring officers had found the spoor of another small rhino. Eventually, we determined that the new calf – the third to be born in North Luangwa – belonged to Twatemwa, a cow introduced in 2003. It was named by schoolchildren from the neighbouring Mukungule Game Management Area in a competition organised as part of the NLCP Environmental Education Programme. After much debate, the panel of judges settled on 'Twatasha', meaning 'thank you'. The students who thought of this name wished to thank South Africa for its generous contribution to the North Luangwa reintroduction effort.

The rhino sanctuaries are adjacent to one another and, once it has been determined that the animals have established home ranges (especially the males), they will be joined to create a single, secure area of about 200 square kilometres. The long-term goal is to remove all the fences and have a free-ranging rhino population in the park.

SADC RPRC, in agreement with IUCN guidelines, recommends starting a new black rhino population with a minimum of 20 unrelated animals. By 2006, North Luangwa had a total of 16 individuals, but as some of the animals are related, it was important that we obtained more to complete the reintroduction.

Further agreements were made between ZAWA, the Namibian Ministry of Environment and Tourism, SANParks and the North West and the Eastern Cape parks boards during the course of 2007. On 28 May 2008 another five rhinos – two bulls and three cows – arrived safely in Zambia. Since then, two more calves have been born. With a final reintroduction of five animals confirmed for 2009, the stage will be set for a strong breeding population to re-establish the species in Zambia, and ensure its future in a country where it once roamed in its thousands. ■

You can read about the early days of the North Luangwa Conservation Project, when rhino reintroductions were still a dream, in 'Creating balance' in the October 2002 issue.