

Status of northern white rhinos and elephants in Garamba National Park, Democratic Republic of Congo, during the wars

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Since early 1997, Garamba National Park in the north-east of the Democratic Republic of Congo (DRC—previously Zaire) has been subjected to the effects of two wars within the country. The park is home to the last known wild population of northern white rhinos (*Ceratotherium simum cottoni*) and the densest elephant population in DRC. Figure 1 shows how poaching levels have increased during the two recent wars, as indicated by the number of contacts for patrol effort. The poaching there in recent years has been primarily for meat. Patrol monitoring indicates that 70–80% of the poaching gangs' members are Sudanese, usually 'SPLA deserters', using weapons from the ongoing war in adjacent southern Sudan. The others are local Congolese. The increase in poaching during the active phases of the two DRC wars, however, was not caused by influxes of Congolese poachers or the occupying military. The same poachers were there throughout, but the anti-poaching effort of guards was temporarily stopped or reduced and the general breakdown of law and order was exploited.

Figure 1 shows how the poaching increase was greatest during the first war in 1997. For several months when the military forces arrived, guards were disarmed and no efforts could be made to control poaching. Without resistance, poachers were able to move south through the park to areas where elephant, rhino and hippo were concentrated. The second war in 1999–2000 had an initial active phase that included a two-month occupation of park headquarters by the Ugandan-backed rebel forces when project personnel and conservateurs were moved out. During this phase, there was little reduction in anti-poaching effort, because park guards continued their anti-poaching efforts and monitoring. The Ugandan forces acted positively towards conservation efforts and prevented the sale of bushmeat; a small increase in poaching was checked. The current phase of the second war

largely involves a jostling for power and resource exploitation rather than open combat. Peace talks are under way.

The effect of increased poaching and military actions on wildlife was measured by systematic aerial sample counts of large mammals. These counts were carried out over the park after the first war in May–June 1998 and after the main phase of the second war in June 2000. Estimate count results for elephants from systematic aerial surveys before, between and after the active phases of the two wars in DRC are 11,175 in 1995 (standard error 3679), 5874 in 1998 (standard error 1339) and 6022 in 2000 (standard error 1046).

Half of the elephants were lost during the first war, but there was no significant change during the initial phase of the second war. These elephants have now further gained in value by their genetic significance. It has long been noted that they appear morphologically and behaviourally as an intergrade between forest (*Loxodonta africana cyclotis*) and savannah (*L. a. africana*) types, and now genetic studies show that they are intermediate and cannot be clearly classified as either forest or savannah subspecies.

The rhinos are monitored by means of systematic block counts using individual recognition, backed by ongoing standard recording of rhino observations. This means that the population present can be found cumulatively where an individual missed in one survey is seen in a subsequent survey. Table 1 summarizes the cumulative results of surveys and reconnaissance flights before, between and after the wars.

An intensive aerial rhino survey was carried out in April 2000 using the stratified block count method, but it was curtailed at the end when the plane developed an engine problem. Twenty-four animals were found, including seven new calves, one of which was probably less than a week old. The other five, which were among the minimum number seen in 1998, were subadult

Figure 1. Poaching in Garamba National Park, 1993–2000.

Table 1. Population dynamics of northern white rhinos between surveys over war periods (combined totals of different individuals seen over a series of surveys during the preceding six months)

	Surveys in 1996	War	Surveys in 1998	War	Surveys in 2000
Min (–max.) population est.	29		26 (–31)		30 (–36)
Births		+4		+7	
Known poached		–2		–2	
Previously known animals not seen (missing or dead)			5		1

males, three of which would recently have left their mothers on the birth of her new calf. At this stage they are their most nervous and secretive, hiding in long grass and very difficult to see. During the systematic sample count of large mammals over the whole park and other reconnaissance flights in June of the same year, another individual not seen in April was observed, bringing the total to 25. In August during reconnaissance flights, two of the young males that had been missed in April were found, and purely by chance two more of the younger ones were found outside the park. This brought the total seen in 2000 to 30. Of the new calves, all born between the end of 1999 and April 2000, four were male, one was female and the sex of the other two could not be determined.

The age and sex structure of the population at the end of 2000 was

Total confirmed individuals	
Male adults	6
Female adults	6
Male subadults	5
Female subadults	4
Male juveniles	5
Female juvenile	1
Male infant	1
Unsexed infants	2
Total	30 confirmed August 2000
sex ratio	17♂: 11♀ + 2 unknown
adult : subadult + juvenile ratio	12 : 18

It has not been possible to do a survey in 2001. There are no reports of major poaching, but it has been reported that guards found a rhino carcass in April and a rhino horn was offered for sale to a consultant across the border in Sudan in May.

Distribution was mapped on each of the surveys and was each time associated with the central protected areas and the long–short grass mosaics. The burning

programme at each period of unrest had been designed to ensure that substantial areas of long grass remain in the most protected central southern area to afford maximum protection for the rhinos while creating mosaics with short grass patches so that they could alternate rapidly between grazing and cover. These areas were found each time to be favoured by the rhinos.

Factors that have been key in maintaining the rhino population relatively stable despite the circumstances have been that the guards have maintained their patrolling and protection as much as possible during each period of unrest and that the supporting partners with the National Congolese Parks Institute have maintained their ongoing commitment to protect the park. The International Rhino Foundation is currently the main supporting partner for Garamba, along with the US Fish and Wildlife Service. A larger umbrella programme has been developed by the main supporting partners with the Congolese National Parks Institute and UNESCO and UN Foundation to support the five World Heritage Sites in DRC, one of which is Garamba, throughout the armed conflict and in the future. Garamba personnel were key in developing the programme in which rhinos, elephants, gorillas and other key species of the park were central to its World Heritage status.

The umbrella programme aims to provide financial support and capacity building for field staff. The economy of the country had declined well before the wars started, which meant that the government could not financially support the parastatal agency to which the park belonged. The UN Foundation is the core funding agency, operating through UNESCO with NGO partners implementing the programme in the field. These NGO partners are also committed to continuing their own support. The UNESCO umbrella is key to providing active diplomatic support, which will facilitate the essentially neutral field operation of conservation staff even within a somewhat insecure and politically unstable region.