

*An aerial reconnaissance of Garamba National Park
with a focus on northern white rhinoceros*

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Summary

An aerial reconnaissance of the southern (rhino) sector of Garamba National Park was undertaken between August 14th and 24th 2005 at the request of the Institut Congolais pour la Conservation de la Nature. The survey was funded and executed by the European Union with technical input from ICCN, ACF and WWF-CARPO staff.

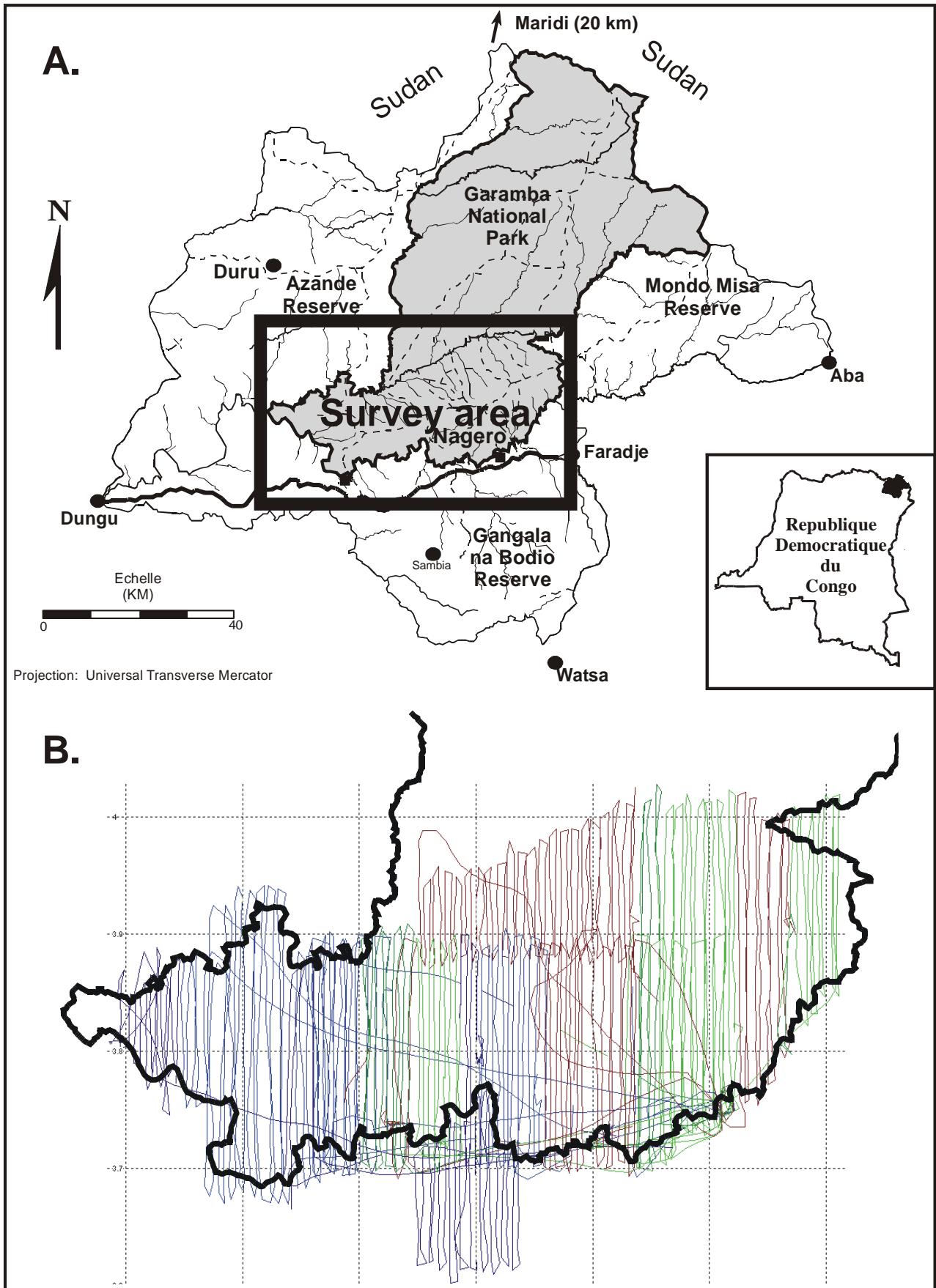
Almost all of the park's wildlife is reported to be limited to the southern sector of the park. A total of 32.4 hours of transects were flown between the Dungu and Garamba rivers (1,610km²). A small proportion of the Gangala na Bodio hunting reserve was also covered (130km²). Atmospheric conditions were excellent (stable air and clear visibility), but observations were constrained by long grass. The situation in the Park headquarters at Nagero was calm and the survey team received full cooperation and the necessary support from ICCN staff in Garamba.

- Rhinoceros: four individuals were observed - A solitary adult male and a group of one adult male and two adult females.
- Elephants: an estimate of 1,202 elephants was made based on a total count of all individuals encountered
- Giraffes: 48 giraffes were observed, mainly in the eastern part of the area covered.
- Carcasses: one fresh elephant carcass was encountered, with ivory removed. 27 old carcasses (< one month) were seen.
- Poaching: 13 small poachers' camps were seen on the rivers bounding the park. These may have been fishing camps. Besides the three carcasses, there was no evidence of active poaching in the park. Poaching appears to be largely concentrated in the dry season.

There is a significant probability that we may not have observed all the rhinoceros because of the long grass. However the reconnaissance was very intensive and we believe that the total number of rhinoceros is unlikely to exceed 10 individuals. Some anti-poaching activities are continuing but resources for patrols (fuel, rations, ammunition etc.) are very limited, and morale amongst park personnel appears to be very low. We do not believe that the existing capacity to protect wildlife in Garamba is sufficient to ensure the survival of the remaining rhino and elephant population beyond the end of the next dry season, 6 to 8 months from now.

Methodology

Low level transects were flown at an altitude of between 300 and 350 feet, at an average of 182 km/hr and at 500 metre intervals using a high-wing light aircraft. Flight-lines were flown using a GPS and a radar altimeter was used to maintain a consistent altitude. Two quadrants of 200km² were flown each day (see map). Key observations (rhinoceros, large herds of elephants etc) were photographed.



A. Garamba National Park and surrounding hunting reserves

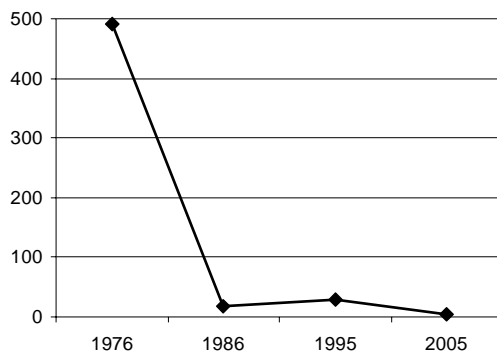
B. Southern sector of the park with flight paths registered using GPS tracklogs

Results

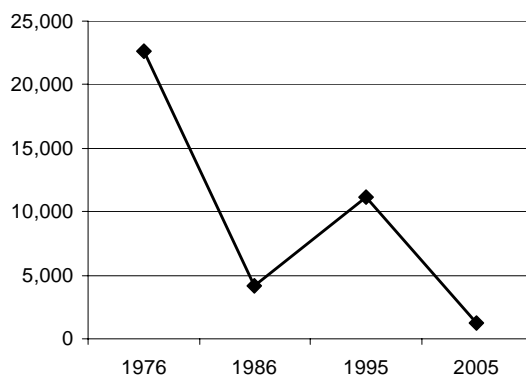
Observation:	Rhino- ceros	Elephants	Giraffes	Carcasses (< 1 month)	Carcasses (> 1 month)	Poaching camps
Total:	4	1,202	48	1	27	13

Trends (1976 to 2005)*

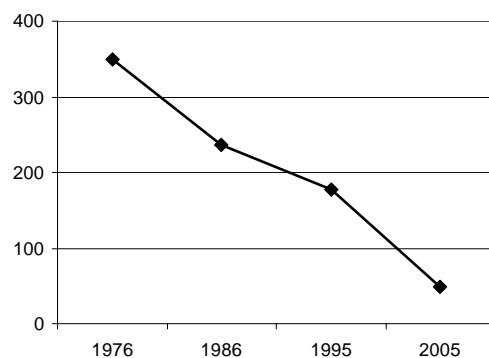
Rhinoceros



Elephants



Giraffes



* Sources:

Savage, J.M. Woodford, M.H. and Croze, H. 1976, *Report on a mission to Zaïre*. FAO W/K1593 KEN/71/526 - ZAI/70/001.

Hillman-Smith, A.K.K. 1989, *Ecosystem Resource Inventory*. Unpublished manuscript of the Garamba National Park Project.

Hillman-Smith, A.K.K. 1997, *Garamba National Park, Research and Monitoring Programme Annual Report*. Internal Report.

de Merode, E., K. Hillman-Smith, A. Nicholas, A. Ndey, and M. Likango. 2000. *The spatial correlates of wildlife distribution around Garamba National Park, Democratic Republic of Congo*. *International Journal of Remote Sensing* **21**:2665-2683.

Estimates based on aerial survey data, but methods vary (1976-1995 use sample counts, 2005 is a total count). All data apply to the whole of the National Park (2005 data assume that negligible numbers of animals can be found north of the Garamba river, based on a short reconnaissance flight in the northern sector, and on the evidence of staff in Garamba).



Photo: Inogwabini Bila

Single Adult Male rhinoceros seen on 16th August 2005



Photo: José Telo

Group of three rhinoceros, one adult male, two adult females seen on 21st August 2003

Concluding Remarks

The aerial reconnaissance was flown at the height of the rain season when the grass is long (over two metres high in some areas). This was a constraint to the detection of rhinoceros. For example, quadrant 3 was repeated a second time, yet the solitary male rhinoceros detected on the first flight was not seen on the second flight, probably hidden in the long grass. Nevertheless, the flight was extremely intensive, and at low altitude. There is a fairly high probability of having failed to detect some rhinos, but in our judgement the overall number of rhinoceros in the park is extremely unlikely to exceed 10 individuals. We would recommend that a more comprehensive survey should be undertaken in the mid to late dry season (march/april) in 2006 to provide a more precise assessment of the large mammal abundance in the park.

Some rhinoceros sightings have been reported outside the national park in the Domaine de Chasse Gangala na Bodio, in the Pangba and Sambia region. One quadrant was flown over the Pangba area, but no sightings were made. However, the canopy cover was relatively high (about 40%), and we cannot come to any conclusion with regards to the rhinoceros outside the park. Aerial survey techniques alone are not appropriate for locating rhinoceros in the more heavily wooded areas outside the park.

Significant poaching of rhinoceros and elephant has been reported in the last 18 months. An assessment of the management capacity in Garamba is not the subject of this report, however, it was noted that low morale of rangers and wardens and insufficient anti-poaching resources indicate that the remaining rhinos and rest of the large mammal assemblage in Garamba remain extremely vulnerable to poaching.