

Table 12. Some results from observations of northern white rhinos in Garamba National Park, April 1984—October 1986.

A. AGE AND SEX RATIOS

Age ratio of confirmed known animals

MA	4	22%
FA	5	28 %
S	5	28 %
J	4	22%

B. OBSERVED HOME RANGES

Individual	Size (sq. km)	Dates of observation
M2	185	Mar 84 - Oct 86
M3	112	May 84 - Oct 86
M4	259	Aug 84 - Oct 86
M5	105	Apr 85 - Oct 86
M6	218	Mar 86 - Oct 86
M7	174	Feb 86 - Sep 86
M8	86	Apr 86 - Sep 86
M9	132	Mar 86 - Oct 86
F1 and 1a	138	Apr 84 - Oct 86
F3, 3a and 3b	137	Apr 84 - Oct 86
F4, 4a and 4b	196	Jan 85 - Oct 86
F4 and 4a	82	Jan 85 - Apr 86
F4 and 4b	65	Aug 85 - Oct 86
F5 and 5a	93	Apr 84 - Oct 86
F6 and 6a	57	Mar 86 - Oct 86
3a/4a	90	Jul 85 - Oct 86
Mean range for adult males	183 sq. km (well known only)	
Mean range for adult females	124 sq. km	
Mean range for S2	143 sq. km	
Range for S1	90 sq. km	
Total range of direct Observations	676 sq. km	

C. FREQUENCY OF OBSERVED SOCIAL GROUPS

Group composition	No. Observations	% of total
MA	103	32
FA	6	2
MA+FA	14	4
AU	9	3
MA+FA+S	11	3
MA + FA/s + J/s	27	8
MA + FA + S + J	3	0.9
MA + S/s	3	0.9
FA + S	8	2
FA + J	115	35
FAs + Js	1	0.3
FA + S + J	9	3
FAs + Ss + Js	1	0.3
S	5	2
S	18	6

M = male; F = female; U = unknown; A = adult; S = sub-adult; J = juvenile.

GARAMBA NATIONAL PARK — MANAGEMENT

*Information presented by Charles Mackie
(Garamba Rehabilitation Project)*

The rehabilitation of Garamba is an IUCN project in collaboration with the Zairois Institute for Conservation of Nature, funded by the World Wide Fund for Nature (WWF), the Frankfurt Zoological Society and UNESCO. The objectives of the project are:

- to re-equip the Park;
- to restore the infrastructure;
- to retrain staff to control poaching.

Efforts are directed at the conservation of the entire Garamba ecosystem (not specifically at rhino conservation).

By the end of its initial three-year period, the project will have cost US\$600 000. Two expatriates are employed full-time to assist in the Park management.

Guards are constantly on patrol in the main rhino area, with other guards nearby at a radio base, in constant contact with the Park headquarters. There are 24 patrol posts around the periphery of the Park with 4-6 guards living under uncomfortable conditions in each.

A major constraint to the management of the Park is the dense grass growth, which severely restricts horizontal visibility for at least half the year, and makes patrolling difficult. Hence an aircraft is particularly valuable for surveillance work.

At present, it would not be sensible to attempt to translocate the Garamba rhinos elsewhere; this is against government policy, and the animals appear to be relatively secure, and breeding well. A long-term international commitment to Garamba is necessary if current levels of support are to be maintained until the rhino population has at least doubled; this will require an investment of about US\$1 million, in addition to the US\$0.6 million already spent. To support a field biologist to closely monitor the rhinos and study various biological and ecological aspects, the initial annual cost would be about US\$42 000 with continuation costs of US\$26 000. Generation of revenue through tourism could not be significant until the Park's tourist facilities are considerably improved; if tourism does develop, a procedure exists whereby the funds could be returned directly to the Park.

NORTHERN WHITE RHINOS IN CAPTIVITY

Information presented by David Jones (Zoological Society of London), Ulysses Seal (IUCN Captive Breeding Specialist Group), and Oliver Ryder (Zoological Society of San Diego).

When Dr. Faust of Frankfurt Zoo carried out a survey of northern white rhinos in captivity he determined that there was an old animal at San Diego, another at London, and one at Antwerp which has since died. There were also animals of doubtful origin at Riyadh and a male at Khartoum. The largest captive group was (and still is) at Dvur Kralove in Czechoslovakia. At the invitation of the zoo managers at Dvur Kralove, D. Jones and U. Seal visited this zoo in February 1986. The Czechoslovakian authorities indicated a strong interest in developing a constructive breeding programme and have maintained close liaison with the Captive Breeding Specialist Group (CBSG). Some work has been done to facilitate the management system so that more females can become productive. As part of this plan, the male from London was sent to Dvur Kralove in the summer of 1986.