

## STATUS OF BLACK RHINO

The primary aim is to increase the numbers and distribution of the black rhinoceros in southern Africa. The classification of Groves (1967), as to subspecies, will be followed.

That is:-

- Diceros bicornis minor - Zululand, and reintroduced elsewhere.
- Diceros bicornis bicornis - S.W.A.
- Diceros bicornis michaeli - Addo Elephant National Park (introduced from Kenya).

### Natal (Brooks):

By the 1930's, the black rhino had disappeared from South Africa (excluding South West Africa) except in the Zululand reserves of Hluhluwe-Umfolozzi and Mkuzi. They then numbered 150. This increased to 480 by end-1983, distributed as follows-

Hluhluwe-Umfolozzi	ca 300 - natural population at 0.33 per sq. km.
Mkuzi	120 - natural population at 0.39 per sq. km.
Ndumu	30 - reintroduced.
Itala	25 - reintroduced.
Weenen	4 - reintroduced.

The overall density is 0.31 per sq. km, or one animal per 3.23 sq. km.

The policy has been to spread animals around, and since 1962, 131 have been moved. The rate of increase of the rhinos through reproduction is estimated at 4.5%, which allows 19 animals per year to be taken off the three populations at ecological carrying capacity (Hluhluwe-Umfolozzi, Mkuzi and Ndumu). The sex ratio in both of the two largest populations is 1:1, and at Hluhluwe-Umfolozzi the population comprises 84% adult/subadult (older than 3 and a half years) and 16% immature. Over the last decade, however, the proportion of immatures has declined from 22% to 16% in Hluhluwe-Umfolozzi and this obviously affects the policy on removal. For a number of years, Hluhluwe has had a poor recruitment rate. No intent as yet to maximise production of young rhinos.



The potential expansion of the Zululand population itself is limited to a maximum of about 90 in the Eastern Shores Nature Reserve (St Lucia), 35 in Itala, and 6 in Weenen; about 130 in all. Forestry permission is still needed for the first introduction.

"Carrying capacity" is a difficult figure to calculate. The ecological carrying capacity of an area is assumed to have been reached when negative feed-backs (from food and social pressures) result in a stable population size. Black rhinos indicate clearly when they have reached carrying capacity - among other things, calves have an increased mortality rate, calving intervals are increased, the age at puberty is delayed, and there is intensified aggression among adults.

There is very little competition between other browsers and the black rhino, but in Etosha there is competition between rhinos and elephants.

#### Kruger National Park (Hall-Martin):

When the Kruger National Park was proclaimed in 1926 only 4 or 5 black rhino remained, and by 1940 the species was extinct. Reintroduction began in 1971 with 20 animals from Zululand, and 12 in 1972 from Rhodesia (now Zimbabwe). By 1982, 70 animals had been moved to the Kruger National Park, including two in 1981 from Addo (these two had originated in Zululand and were both minor). The sex ratio of these introductions was 38 males to 32 females. Animals have moved up to 70 km from their release point, with subadult males moving the furthest.

Recruitment rate is about 9% p.a., and there is on average one immature animal with every adult female. The population comprises about 39% immatures - this is a "young" and expanding population. By end-1983, the total population was estimated at 104 (Hitchins had estimated 113). At a density of 0,19 animals per sq.km, the Kruger National Park could hold 3 500 animals in suitable habitat; the population west of Skukuza is "fairly dense" at 0,19 per sq. km. The Kruger National Park and two reserves in S.W.A. (Etosha could carry 1 000 and Bushmanland 500) are the only places in the R.S.A. and S.W.A. that could therefore hold a genetically viable population if this is one holding a minimum of 500 animals.

The Kruger National Park rhinos are genetically "mixed" as they originate from Zululand (mostly) and Zimbabwe, in the proportion of 57 to 13 of the initial introductions. However, once upon a time the rhinos of these two areas were genetically continuous and so a mixing in the 1970's in a third area is not foolish. [In fact, artificially keeping them apart would rather be considered foolish - Collinson].

Pilanesberg Game Reserve (Anderson):

Nineteen animals have been introduced, first 11, then 8, all from Hluhluwe-Umfolozzi. No mortality in the translocation process. There are 8 males and 11 females, and two calves (possibly a third) have been born - thus a current population of 21. There has been an improvement in physical condition. The Reserve intends to introduce 35 animals. Two estimates of carrying capacity for Pilanesberg are both 120 (Hitchins, Goodman).

If black rhinos are ever removed, the policy would be to send animals first to Zululand, then to other conservation areas, and lastly to private land owners.

South West Africa (Joubert):

No physical differences, particularly with regard to skull measurements, could be discerned between bicornis and minor animals.

In 1965 there were fewer than 100 black rhinos in the whole of the country, and less than 30 lived in Etosha. Fifty animals were then translocated to Etosha from private farms along the Ugab river (now Damaraland) and private farms south of Etosha. At end-1983, there were a known 302 and an estimated 350 rhinos in Etosha, a safe environment. This population is expanding, and animals could be removed to the existing Mahango and Khaudum Game Reserves in north-east S.W.A. and to the proposed Bushmanland Game Reserve.

There are an estimated 41 desert rhinos in Damaraland in four areas, of which two are considered relatively safe (Unjab River catchment, lower Hoanib River), comprising 25 animals. These, with ten others, are north of the veterinary fence (the "red line"). The 6 animals south of the fence and the estimated three in the western Caorivi are in danger, as are the estimated five animals in north-west Kaokoland.

Thus, S.W.A. has a minimum number of 351 rhinos, and an estimated population of 400.

The carrying capacity of white rhinos in South West African reserves is approximately 1 000 plus.

THERE IS CONSIDERABLE CONCERN OVER THE FUTURE OF THE DAMARALAND BLACK RHINOS.