also a further 60 elephants nearby which may have been indicative of some form of protective aggregation.

7. The overall group size of elephant in the communal land is larger than in the Park, while those elephants associated with both areas have an intermediate group size. However, there is considerable variation. For example Spider has been consistently associated with ten other elephants during the dry season in the highlands on the southern boundary of Matusadona, but her group size increased threefold during the wet season when she moved further south into the communal land.

The radio tracking results so far have helped to establish that some elephants are resident in the Park, certainly in the northern escarpment, but that others in the highlands move in and out seasonally. Nearly all movement takes place to the south and west and not northwards over the escarpment. Other elephants adjacent to the Park appear to be permanent residents in the communal land. However, there is considerable interaction between these elephants and those that move in and out of Matusadona. Obviously

more information is still required, particularly since the past two rainy seasons in and around Matusadona have been rather dry and this may have confounded the results somewhat. Nevertheless the management options are becoming clearer. If culling is to take place then it should be limited to the northern escarpment area. In seeking to protect the woodlands of the southern highlands it may be preferable to disrupt the seasonal movement of elephant into the Park. This can be achieved through selective hunting or aerial harassment of elephant along the southern and western Park boundaries. Elephant alive outside the Park are preferable to their being killed in the Park. Indeed the disruptive option has already been implemented with a certain measure of success. Finally it is perhaps important to state that appropriate fire management action is also being taken.

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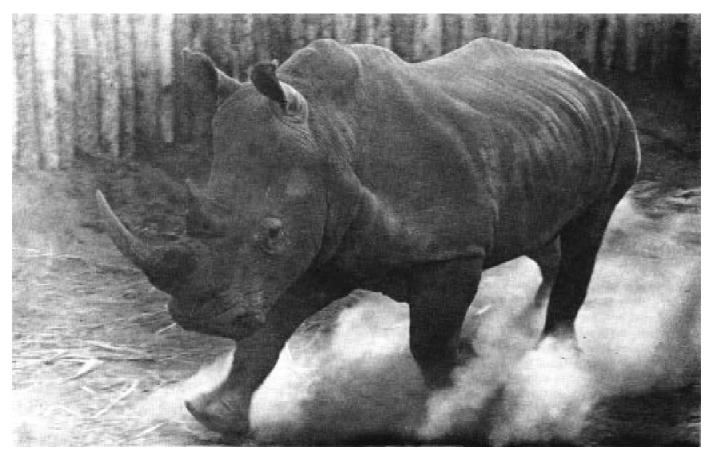


Figure 5. Southern White Rhino.

Rhino Rescue in Southern Zimbabwe

Between 30 and 40 Southern white rhino are being captured in southern Zimbabwe to rescue them from the worst drought to hit the region in living memory.

The last indigenous Zimbabwean white rhino was shot by hunters earlier in the century, and the country's current population of around 200 animals has been redeveloped from stock supplied by the Natal Parks Board. Most of these animals are located in National Parks such as Hwange, and in smaller "Recreational Parks" including Lake McIlwaine, close to Harare, and the Matopos outside Bulawayo. These areas have escaped the worst of the drought; but two separate populations on privately held ranches in the south of the country – the hardest-hit region would almost certainly have died by

the end of the 1983 dry season.

One of the threatened rhino populations, first thought to number 25 animals, was located on the Humani and Lone Star ranches in the south-eastern corner of the country, close to the Gonarezhou National Park. While browsers such as kudu and eland will probably survive, thousands of grazers including zebra, wildebeest and impala and possibly some of the white rhino have already died.

When it became apparent, early in 1983, that Southern Zimbabwe was facing a severe wildlife crisis, plans for the capture of several valuable species were made by the Zimbabwean Department of National Parks in conjunction with the ranches involved.

The Department and the ranches targeted sable antelope, Lichtenstein's hartebeest, and the remaining white rhino for capture and captive feeding until they can be re-released hopefully by next March.

Two National Parks capture teams moved into the area in June. While one team concentrated on the threatened antelopes, the other successfully located and caught 17 white rhino, using darts loaded with M99 and administering the 50-50 antidote after the animals had been transported to the pens on Lone Star ranch. Six have since died from a combination of stress and extreme poverty. The remaining 11 have adjusted to a diet of sugarcane tops supplied by neighbouring sugar estates. While the second

team continue with the antelope capture, the rhino unit, led by the Department's Management Unit Warden Clem Coetsee, moved a couple of hundred miles west to Doddieburn, a former ranch that is now State Land.

Here, a further 22 white rhino are thought to be threatened by the drought and are being captured and penned. Three are destined for Algeria, together with a number of cheetah. Five will be moved on to other ranches where grazing is still available; and the rest will be released into the 5200-square-mile Hwange National Park.

The rescue operations have depended heavily on public support. The ranches in the south-east launched a "Save our Sable" fund which has so far raised some Z\$15,000 to pay for the captive feeding of the antelopes and white rhino: and the Bulawayo branch of the Wildlife Society has been instrumental in obtaining crates, feed and other essential items to help with the capture on the Doddieburn ranch. Possible further developments include the establishment of a nationwide fund to help finance any future rescue operations that may be needed. Zimbabwe experiences a ten-year drought cycle and the situation could well deteriorate further next year. Local conservationist agencies are now seeking around Z\$150,000 to finance the capture and transport equipment that may be needed to avert a full-scale wildlife disaster if the 1983-84 rains fail to materialise.

Dick Pitman

Reports Confirm Northern White Rhino Close to Extinction

The final reports are now in and as previously indicated by Kes Hillman, very few Northern White rhinos remain now in the wild. The total world population is probably less than 100, possibly considerably less. At least 13-20, possibly more are at Garamba National Park in Zaire. One or 2 remain at Murchison Falls National Park in Uganda.

In Southern Sudan, some almost certainly still remain in the Shambe area, particularly in the north west, but at a very low density. There may be some in Southern National Park, but again at a very low density and severely threatened by next season's poaching. A few individuals probably still remain in the Meshra area, but with little or no future possibilities there.

There may still be a population, possibly even a reasonable one, in the Golongossa hunting reserve in western C.A.R., but this must be further investigated.

There may well be other relict populations scattered around, but we know of nothing substantial. There could especially be further hopes in C.A.R., but none of these countries are easy places to search for or find rhinos. There are believed to be 17 in captivity, the largest group being at Dvur Kralove in Czechoslovakia.

It is suggested that the priority actions are:

- Conservation action first and foremost for the rhinos in Garamba in the context of re-development of functional conservation in the Park and of other aspects of the ecosystem, with close monitoring on the progress of such, and contingency plans. (see Robert Malpas' article)
- The"intermediate' aid to Shambe and further aid to anti-poaching and/or rhino capture in Sudan as seen fit
- 3. Negotiation of the possibility of catching some rhinos in Sudan for temporary improved protection.
- 4. Negotiation of the possibilities of forming a second breeding nucleus by amalgamating singletons and others with no future.
- 5. Investigation of the situation in C.A.R.
- 6. Consideration of aid for the group at Dvur Kralove if required.

AERSG are still concerned that there be guaranteed plans for captive breeding should *in situ* conservation efforts fail.