the meantime it is encouraging to know that yet another country is starting to investigate this invaluable marine resource.

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BLACK AND SQUARE-LIPPED RHINOCEROSES IN BOTSWANA

The distribution of the Black Rhinoceros (*Diceros bicornis*) has shrunk drastically within historical times in Botswana. As indicated by the records of early travellers, hunters, and missionaries, the species was once widespread and probably only absent from the very dry central and southwestern Kalahari. Smithers (1971) summarizes those early accounts. The reduction in range and numbers can be attributed to the excessive hunting of the species in early times and to large-scale habitat changes, including the drying-up of permanent rivers and springs in most of Botswana (Campbell & Child, 1971). The widespread bush encroachment in northern Botswana would seem to be very favourable for the Black Rhinoceros; however, permanent surface-water is scarce and might limit any major population increase.

Today, the Black Rhinoceros is confined in small numbers to the Okavango Delta, the vicinity of the Kwando River (near the Caprivi), and in the northwestern parts of the Chobe National Park.* Individual animals have been reported from northeastern Botswana, adjacent to the Wankie National Park, and it is thought that they wandered across the border into Botswana.

So far no detailed survey has been carried out to assess the total Black Rhino population in Botswana and its present distribution. Smithers (1971) gives a figure of approximately 20 animals, based on visual sightings and spoors. However, it seems quite probable that an intensive survey would reveal a higher number, especially in the Okavango Delta and northwestern Botswana—areas which are very thinly populated and remote from any permanent human habitation.

The Square-lipped or White Rhinoceros (*Ceratotherium simum simum*) became extinct in Botswana probably somewhere around 1890 (Bryden, 1893). Historical records assembled by Smithers (1971) indicate a former distribution in the eastern and northern regions of Botswana, including Lake Ngami and the area around present-day Ghanzi where Andersson (1856) shot both species. The reasons for the extermination of the White Rhino can be seen in the same causes as were mentioned for the reduction of the Black Rhino. However, individual White Rhinos have been contacted in northeastern Botswana; they were probably stragglers from the Wankie National Park, Rhodesia.

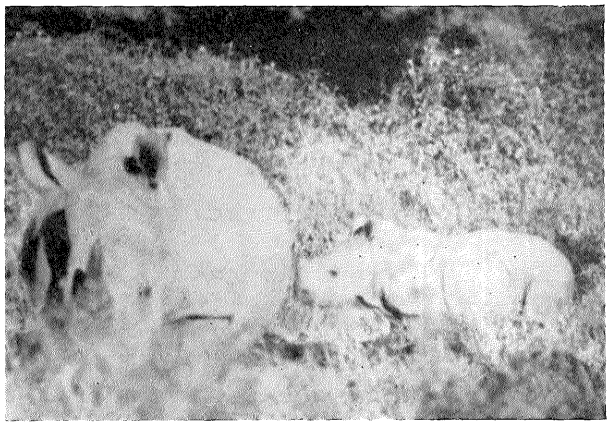

Fig. 1. *Introduced White Rhinoceros with calf born in Chobe National Park, Botswana. Photo: A. C. Campbell.*

In July 1967, four White Rhinos (2 males and 2 females) arrived at the Chobe National Park.† They were donated by the Republic of South Africa and originated from the Zululand reserves in South Africa. They were kept in a paddock of approximately 18 acres (7·3 ha) in the Chobe National Park and on 29 November 1971, the first calf, a male, was born (Fig. 1).

The Department of Wildlife and National Parks is considering the re-introduction of more White Rhinos to the Chobe National Park and to Nxai Pan National Park or the Makgadikgadi Game Reserve. After a short period of settling down in a paddock, they will all be released into the Parks—including the five animals in the Chobe National Park.

Both rhinoceros species are fully protected in Botswana, the last Black Rhinos to be killed being shot by a poacher in 1936 in northwestern Botswana. Recently, a Black Rhinoceros was shot to the west of

* For location map, *see* page 8 of this issue, in the paper of Director A. C. Campbell on The National Park and Reserve System in Botswana.—Ed.

† Regarding the translocation of rhinos in Southern Africa, several notes have already been published in this Journal.—Ed.

the Kwando River in the Caprivi, north of the Botswana frontier, and, as the species is absent from the eastern Caprivi (Rautenbach, 1971), it is believed that this animal had come from Botswana, although it could also have come from southeastern Angola where Black Rhinos are still recorded.

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CANADIAN GOVERNMENT ANNOUNCES $5,000,000 FUND FOR FEDERAL–PROVINCIAL CROP DEPREDATION PROGRAMME

The Canadian Ministers of the Environment and of Agriculture, the Hon. Jack Davis and the Hon. H. A. Olson, recently announced that the Federal Government is prepared to provide $5,000,000 for a five-year federal–provincial programme to reduce the problem of crop depredation by waterfowl on the prairies.

If accepted by the provinces, the programme would go into effect forthwith. Damage to grain crops during the five-year period of the agreement could be reduced substantially by lure crops, the Ministers said, and the remaining damage would be covered by a form of crop insurance to farmers which would be negotiated with the provinces. The three prairie provinces would match the federal contribution to this programme, if agreements are reached.

In the first year of the programme's operation, the Federal Government would put up $1,000,000, to be divided between a joint federal–provincial lure crop programme and—as an interim measure—the existing provincial crop damage compensation programmes. Similar amounts would be made available for the following four years of the plan.

Mr Davis and Mr Olson said that the Federal Government has been concerned about the severity of the crop depredation problem on the prairies, which are the major breeding grounds for ducks in North America. Annual damage caused by ducks trampling swaths and eating unharvested grain has been estimated to average about $6,000,000. While the Federal Government is not legally responsible for damage caused by migratory birds, the Ministers pointed out, it nevertheless believes that the many thousands of Canadians who enjoy waterfowl hunting on the prairies would not want to see waterfowl populations seriously diminished in order to reduce economic hardships suffered by farmers whose grain is spoiled by ducks.

When Mr Davis met with prairie resource ministers in March, the formation of a federal–provincial committee to study prairie waterfowl management problems was recommended. This new committee met in Edmonton in April, 1972, under the chairmanship of Dr John S. Tener, Director of the Canadian Wildlife Service, to consider a CWS proposal for dealing with the problem. After benefiting from these and other discussions, the proposal was approved by the Federal Cabinet.

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ESTABLISHMENT OF A QUETZAL CLOUD-FOREST RESERVE IN GUATEMALA

The establishment of a reserve of virgin cloud-forest on private land with resident populations of Quetzals (*Pharomachrus mocinno mocinno*) and Horned Guans (*Oreophasis derbianus*) was the primary objective of a joint International Union for Conservation of Nature and Natural Resources and World Wildlife Fund project. An area of approximately 1,000 acres (405 hectares) above 5,000 feet (1,524 metres) elevation on the southern slopes of Volcano Atitlán in southwestern Guatemala was chosen.

As of April 1972, no other private or public reserve had been officially established to preserve the national bird of Guatemala, the Quetzal—one of the most beautiful birds in the world. Exploitation and destruction of its habitat, the 'cloud-forest', or lower-montane wet forest, classified by Budowski (1965), are proceeding at a rapid rate in Guatemala, the rest of Central America, and southern Mexico. A minimum of conservation practices, game laws, and conservation