The Tsavo and the Elephants

P. E. Glover

In 1966 the Ford Foundation made a grant of £78,000 to finance a three-year research project in the Tsavo National Park in Kenya. The big problem to be investigated was the vast and increasing numbers of elephants which were said to be destroying the park by their wholesale destruction of trees. A research programme was started, involving the killing of large numbers of elephants. This aroused considerable controversy, and in May 1968 the Director and a research ecologist resigned. Research has, however, continued under the direction of the author, who is Botanist Warden, aided by a zoologist, both of whom joined the project later in 1968, and a count of the elephants in 1969 showed that they had not increased at all since 1965. Dr Glover's account of the work that is being done, the findings so far, and the changes in the park itself explains why it is important that the work should continue, and for this new funds must be found.

One of the largest big game sanctuaries in the world, covering some 8000 square miles, the Tsavo National Park contains the biggest elephant and black rhinoceros populations in Africa. But, as is now well known, the very large numbers of elephants have brought widespread changes in the vegetation, and for the past ten years the 'elephant problem' has been a matter of great concern to the Director and Trustees of Kenya National Parks. Many discussions have taken place and much has been written. Elephant population dynamics and reproductive rates have been studied; 300 elephants were shot as a sample in 1966, and it was recommended that 2700 more should be killed in the course of further studies.

The most obvious and urgent problem in the park is to discover just what effect elephants are having on their habitat, and what the long-term results are likely to be, both for the elephants themselves and for the other important herbivores. It has been said that the Tsavo is well on the way to becoming a desert, and will become one unless immediate action is taken to reduce the elephants. It is true that they have drastically altered the vegetation pattern, and that in the 1961 drought it looked as if the park was indeed becoming a desert. Today, however, the situation is very different. An upward trend in the annual rainfall, combined with the elephants' destruction of commiphora and other trees, has brought a new vegetation pattern with a higher carrying capacity than has existed there since the writer first saw the Tsavo park in 1951. More plains animals—oryx, zebra, eland, kongoni, buffalo—are appearing, and the variety of species seems to be increasing. In fact, at the moment the park is understocked with plains game, and there is plenty of food with a wide choice of plants for both elephant and rhinoceros.

Periodic aerial counts of all the large animals have been made in

three plains blocks—Manyani, Irima and Ndara—and detailed studies of buffalo, kudu and gerenuk are in progress, covering behaviour, numbers, population dynamics and food preferences. The biomass in each block is calculated after every count. In April 1969 an aerial census, made with the help of officers from the Serengeti Research Institute and Tanzania National Parks, showed that there had been no change in the total number of elephants in the park since the previous count three-and-a-half years before, in October 1965. The figures were 20,300 in 1965 and 20,299 in 1969. (There were, however, some differences in distribution: in Tsavo West they had increased by 200 compared with 1965, but Tsavo East had 2000 fewer than in 1965.) Another difference in distribution was that elephants shown outside the south-eastern boundary of Tsavo West in 1965 were inside the park at the time of the 1969 count. A census in May 1969, by officers of the Kenya Range Management Project and the Galana Game and Ranching Limited, over an area of 2540 square miles outside the north-east boundary of Tsavo East gave a 'projected population of 2964 in the scheme area'.

It is hoped that present investigations will give the Trustees the information necessary to formulate a workable management plan for the park within the next three years. Accordingly we have recommended that no action should be taken to reduce the elephant population until more precise information becomes available regarding their long-term effects upon their habitat and the other animals associated with them.

Large Numbers of Rhinoceros

The very severe drought of 1960–61 caused the deaths of some 300 rhinoceros in one section of the park, and it became evident that an urgent research problem existed to discover what changes were taking place in the habitat and how this was affecting not only the elephant, but rhinoceros and other large herbivores.

A biologist, John Goddard, loaned by the Canadian Government for a two-year study of rhinoceros, found a large and healthy population of between five and seven thousand. His full report is awaited, but it certainly appears that the rhinos are not adversely affected by the large numbers of elephants, as is also indicated by the variety of plant species and the abundance of shrubby and herbaceous vegetation, which has grown up since the 1960–61 drought.

The inherent variability of natural processes means that biological problems are seldom easily or quickly solved. Long-term studies are necessary, and the Research Project, should continue for many years to come. With this in view a working research plan has been drawn up. This includes habitat studies comprising soil surveys, plant sociology (transects, enclosures to test effects of elephants and fire, bush and fire control and root studies), meteorology, animal ecology, including counts of all the large herbivores and studies of the population dynamics of elephant, rhinoceros, buffalo, lesser kudu, gerenuk and oryx; in addition a number of long-term studies are planned including predator-prey relationships, for as soon as staff and funds are available.

Dr. E. W. Russell, in his policy document for the Tanzania parks—*Management Policy in the Tanzanian National Parks* (summarised in ORYX, December 1968) wrote: 'A National Park is an area set aside where man can enjoy, as a privileged visitor, the plants and animals that are indigenous to the environment under conditions as little affected by his presence as possible, and the Trustees of a Park hold it in trust for the benefit of future generations as well as for the present'. This must be the basis of research and management plans in the Tsavo, but to implement such a policy, it is necessary to acquire as much scientific knowledge as possible about existing conditions in the park, and the changes taking place in both the habitat and the animal numbers. This requires a research service to keep a continuous check on the changes and to study specific problems related to the park's fauna and flora.

Provision for a research service of this type already exists in Tsavo National Park, but both immediate and long-term financial support is necessary if it is to survive.

White Rhinos for Whipsnade

A breeding herd of 20 white rhinos from the Umfolozi and Hluhluwe Game Reserves in Natal is to be established at Whipsnade, where the Zoological Society of London has set aside thirty acres for them. White rhinos in the Natal parks have now built up to over 1000; in addition about 500 have been taken to other African reserves, and some sent to zoos. The Parks Board has decided that a wise measure would be to establish breeding groups in other parts of the world and the London Zoo has been designated as the agent for distribution in Europe.

Commonsense Prevailed

The State of Alaska, wanting to give a lease for oil exploration and drilling in Tustumena Lake, in the Kenai National Moose Range, contended in the courts that the bottom of the lake had become its property when statehood was granted in 1959. The court however decreed that President Roosevelt in creating the reserve never intended that this semi-aquatic animal should not have the use of the water, 'nor did he envision the (moose) standing on the shores and extending their necks to giraffe-like proportions in order to enjoy the aquatic vegetation so essential to their continued existence'. Commonsense prevailed and the claim was rejected.

Parrot in Danger

The Puerto Rican parrot will be extinct in ten years if the present rate of decline continues, is the conclusion of Dr Cameron B. Kepler, who is making a WWF-financed survey of the parrot in its only habitat in the Luquillo Forest in Puerto Rico. At a favourite spot where 200 could be seen between 1953 and 1956, only 19 appeared in 1968 and 16 in 1969; a forest-wide census produced only 124. Protective measures taken so far include getting military manoeuvres stopped in all the parrot areas.

A quota for the annual catch of harp seals in the Gulf of St Lawrence and on the 'Front', off Labrador and Newfoundland, in 1971 was fixed by the International Commission for the Northwest Atlantic Fisheries at 245,000, the first time a quota has been fixed for these seals.