

THE SECRETARY'S AFRICAN TOUR

AN ACCOUNT BY THE SECRETARY OF HIS VISIT WITH HIS WIFE
TO EAST AND CENTRAL AFRICA BETWEEN JUNE AND OCTOBER,
1957.

The objects of the tour were to keep the Society in personal touch with other bodies of like purpose and to give the Secretary direct knowledge of animals of the country, their habitats and the problems of their preservation.

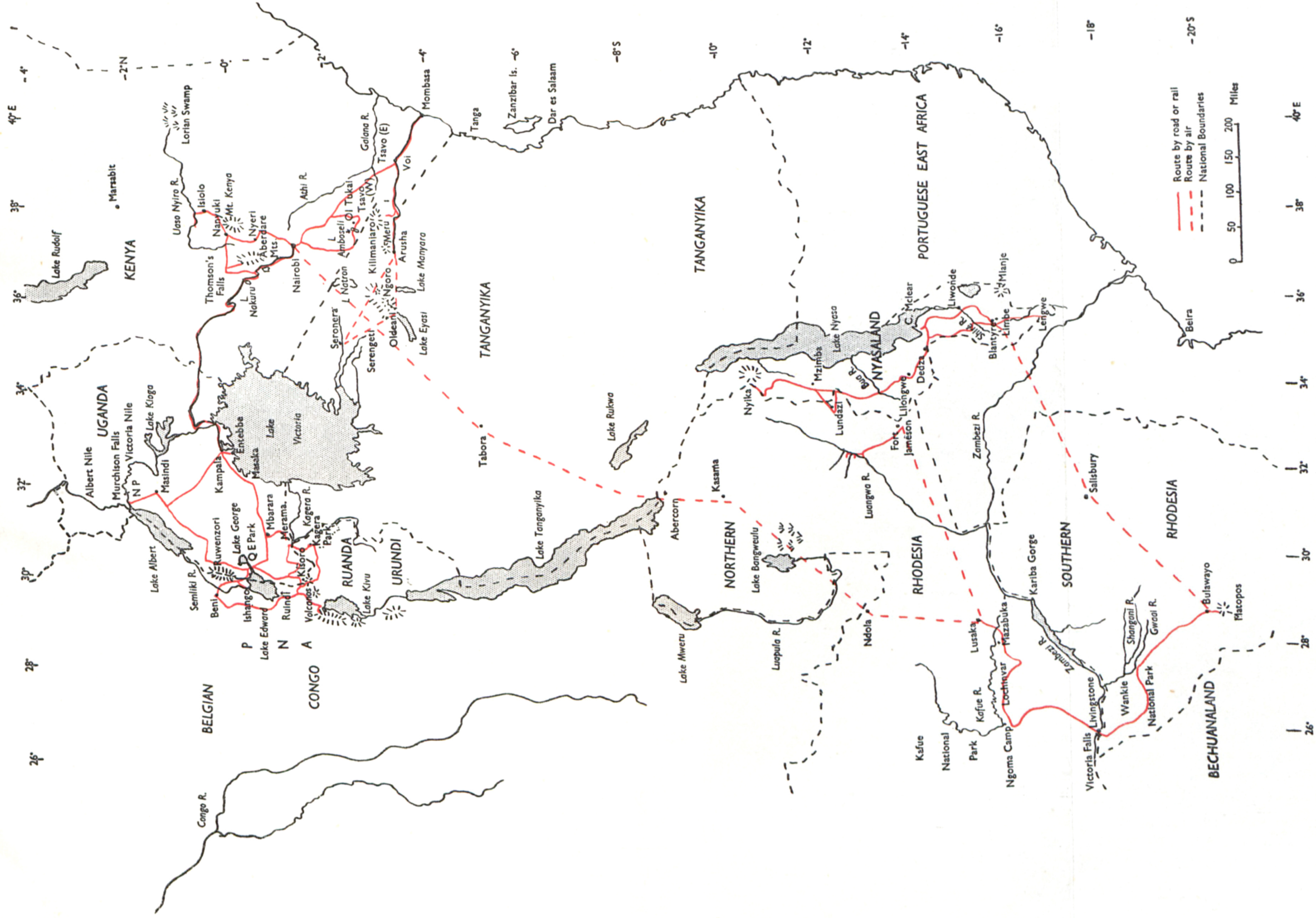
INTRODUCTION

(See Map 1)

On the afternoon of 18th June, 1957, my wife and I left London Airport in a "Britannia", arriving at Salisbury, Southern Rhodesia, the next morning. We were met by Mr. C. H. Vos, Secretary of the Southern Rhodesia Game Preservation and Hunters' Association, Mr. M. Mitton, a member of the Committee, Mr. Aitken Cade, Chairman of the Wild Life Preservation Society, and Mr. J. Craig Allan.

After a drive round Salisbury, which included a visit to the famous Kopje, we were taken to call upon Professor E. B. Edney, Professor of Zoology, Salisbury University, who very kindly showed us round his Department. We were then given luncheon at the Salisbury Club, meeting among others Mrs. J. E. Stumbles, Secretary of the Wild Life Preservation Society; Mr. Stumbles; Mr. C. M. Stewart, Director of Federal National Parks; Mr. E. Davison, Chief Federal Game Warden and Chief Warden, Wankie National Park; and Mr. A. Fraser, Game Warden, Southern Rhodesia. After lunch we returned to the airport and took off in a Dakota to Blantyre, Nyasaland. Here we were met by Mr. G. D. Hayes, Secretary of the Nyasaland Fauna Preservation Society, with whom we were to stay. We reached Mr. Hayes' estate near Limbe at 5.30 p.m. having left London only twenty-eight hours earlier.

We spent three weeks in Nyasaland, including an entrancing three days on the shores of Lake Nyasa, where we were the guests of Mr. Rodney Wood, a naturalist of great knowledge and charm. Then we flew to Bulawayo, where from 8th-11th July we represented the Society and the Nyasaland Fauna Preservation Society, at a conference of the International Committee for Bird Preservation. This included a visit to Matopos National Park, the burial place of Cecil Rhodes. We were then driven



MAP 1.
The Secretary's African Tour.

by Mr. C. W. Benson to the Wankie National Park, where we spent two days. He then drove us on to Livingstone to attend the First Pan-African Ornithological Congress. At Livingstone we were the guests of Mr. Justice Somerhough, a trustee of the Northern Rhodesia National Parks Board, and his wife.

With many other Conference delegates we next visited the Kafue National Park and then Lochinvar Ranch, being most kindly transported by Mr. B. L. Mitchell, Game Biologist, Southern Province, Northern Rhodesia. Then we were met and taken to Chilanga to stay with Mr. F. I. Parnell, the Director of Game and Tsetse Control, and Mrs. Parnell. On 30th July we flew from Lusaka to Fort Jameson and spent the next eight days on a safari in the Luangwa Valley with Mr. R. I. G. Attwell, Provincial Game Officer, Eastern Province.

After that we flew back to Chilanga and on 9th August continued by Central African Airways to Nairobi, getting a good view on the way of the immense swamps of Lake Bangweulu and of the Serengeti National Park, Tanganyika. Next we took a train to Kampala and stayed for two nights at Entebbe with Mr. R. L. Dreschfield, Chairman of the Board of Trustees, Uganda National Parks. While staying at Entebbe we were taken over Makerere College by Professor L. C. Beadle, Professor of Zoology.

On 13th August we hired a car with an African driver and in this we travelled 2,300 miles in Uganda and the Belgian Congo. In Uganda we visited in turn the Murchison and the Queen Elizabeth National Parks and were the guests of the Director, Mr. R. M. Bere, and Mrs. Bere. Then we entered the Parc National Albert, going first to Ishango, the wonderful spot where the Semliki river debouches from Lake Edward, and then to Ruindi. After that we were the guests of Monsieur and Madame C. A. Donis at Rumangabo, M. Donis who is the Director of National Parks, Belgian Congo, most kindly arranged for us, not only an excursion to an active volcano, but also a visit to the Kagera National Park, where the warden, Monsieur J. Haezaert, and his wife most kindly invited us to stay with them. While we were in the Congo we went also to see Lake Kivu and the extraordinary lava beds which have come down from Mount Nyamuragira.

On 30th August we left the Congo and, returning to Uganda at its south-west corner, were met at Kisoiro by Mr. J. R. F. Mills, Game Ranger, Southern Range. Our object here was to see the mountain gorilla which lives on the slopes of Mounts Muhavura, Mgahinga and Sabinio. In this we were gloriously successful.

After visiting the Kayonza Forest, the other home of the gorilla in Uganda, we went to stay with Mr. Mills at his headquarters in Mbarara. On 3rd September we went into camp with him in the Merama Hill area on the Kagera river and, after that, to Lake Mburo closed area. Then we returned to Entebbe to stay with Major Bruce Kinloch, the Game Warden of Uganda, and Mrs. Kinloch. On 8th September we left Uganda by train for Kenya.

Our first stop in Kenya was at Nakuru, where we visited Lake Nakuru with its spectacular flamingoes. We then went on to Nairobi and took over the Land Rover most kindly lent us by the Royal National Parks of Kenya. In this we drove to the Outspan Hotel, Nyeri, and spent a most interesting night as the guests of Mr. E. Sherbrooke-Walker at "Treetops". Then on to Isiolo, in the Northern Province, to stay with Mr. G. H. Dalton, Warden, Marsabit National Reserve, and to visit Uaso Nyiro Camp with him. Next we visited Aberdare Farm at 8,500 feet in the Aberdare Mountains, which is farmed by Brigadier-General A. R. Wainwright and Mr. C. A. Winnington-Ingram, and on which they have established a wild life sanctuary.

On 19th September we returned to Nairobi and stayed with Mr. Mervyn Cowie, Director of the Royal Kenya National Parks, and Mrs. Cowie. With them we went to the Amboseli National Reserve to stay with Mr. F. D. Lovatt-Smith, the acting warden, and then on to stay with Mr. C. W. Marshall, Warden of the Tsavo National Park (West), and Mrs. Marshall. Mr. Marshall sent us on to Tsavo (East) where we stayed with Mr. David Sheldrick, the warden. Mr. Sheldrick is in charge of the great Kenya anti-poaching drive.

On 30th September we left Kenya for Tanganyika first visiting at Loliondo, Mr. C. A. Woolland, vice-chairman of the Tanganyika Wild Life Society, and Mrs. Woolland. Then to Arusha where Mr. Keith Thomas, acting Game Warden of Tanganyika, took us to see Ngurdoto Crater reserve.

From Arusha we were flown by Mr. J. M. Hunter, a member of Tanganyika Legislative Assembly and a trustee of the National Parks, over the Embagai crater and the central plains of the Serengeti National Park to Seronera in Western Serengeti. From here Mr. Myles Thomas, the warden, drove us on to Banagi where we stayed with him and his wife. Two days later Mr. Hunter flew us back over the Serengeti, but by a more southerly course so that we could see the Moru Kopjes, Naabi Hill, the Olduwai Gorge and Lake Eyasi. We then spent two days with Mr. Gordon Harvey, the warden at Ngorongoro, and Mrs.

Harvey. This visit included a whole day in the crater. After this we returned to Mr. and Mrs. Hunter's farm on Mount Oldeani. Then Mr. Hunter took me for a flight along the south easterly slopes of the Ngorongoro Highlands to see the forests, and along the westerly shores of Lake Manyara where a national park may be established. The next day he flew us back to Arusha where we stayed with Mr. and Mrs. A. J. R. MacEwan, a member of the Committee of the Tanganyika Wild Life Society, and where Mr. Hunter and I discussed the Serengeti Committee's report with the Minister for Natural Resources and the Provincial Commissioner. Later we went to see the Director of National Parks, Lt.-Col. P. G. Molloy, for the same purpose, and I was able to thank him for making arrangements for our visits to Seronera and Ngorongoro. We then took the train to Mombasa and spent an interesting afternoon visiting the Ivory Room through which passes a large part of the ivory obtained in Africa.

On 11th October we embarked on S.S. *Rhodesia Castle* and reached London on 2nd November.

For all the help which we received in Africa, to our hosts and to everybody who treated us with so much kindness, we offer our heartfelt thanks.

From the time of our arrival at Salisbury to our departure from Mombasa we covered about ten thousand miles. But this did not include the great distances we were taken almost daily while we were in the national parks and reserves. It was these drives, usually in a Land Rover driven by the warden himself, which were the very backbone of our African tour. Such experiences cannot be bought; but they show the goodwill which our Society has gained in East and Central Africa. May I add a tribute to the wardens of the national parks and reserves of Africa? They are selfless men, reasonable, unwearying, dedicated to their work of wild life preservation.

A report on each of the territories follows, in the order in which we visited them. Our time was all too short, indeed on the average we spent only a little more than two nights under each roof during the four months we were in Africa.

NYASALAND

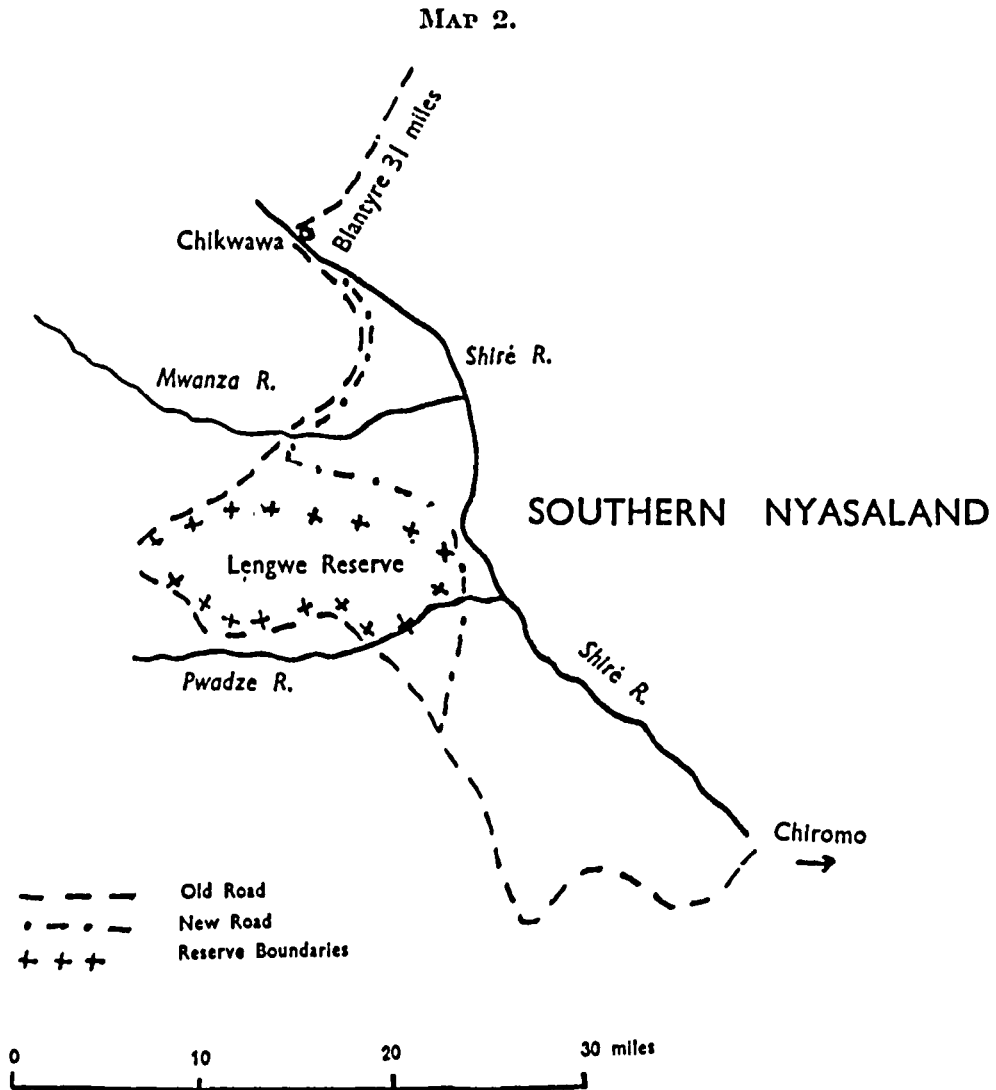
(Visited 21st June to 7th July)

Throughout our visit we were the guests of Mr. G. D. Hayes, Secretary of the Nyasaland Fauna Preservation Society, and

Mrs. Hayes, whose estate, Naminkweya, is near Limbe. Among many interesting places to which we were taken, the Lengwe reserve and the Nyika were the most important.

The Lengwe Reserve. 50 square miles. (See Map 2)

This is the Nyala reserve in which our Society has been so long interested. It is in the main flat, open woodland but there are



many patches of dense "nyala" thicket. Besides the nyala, which are increasing, bushbuck, greater kudu and duiker are permanent residents. Elephants and buffaloes come in from time to time, especially during the hot weather.

The reserve is administered by the Game and Tsetse Department which has three African game guards permanently

stationed there. Supervision is not easy as there is only one European game officer in the Southern Province of Nyasaland. Control of poaching is difficult owing to the many villages nearby.

A few years ago it was proposed that the road from Chikwaya to Chiromo which used to skirt the westerly side of this reserve, should be made to run straight through it. But at the suggestion of the Nyasaland Fauna Preservation Society and ourselves, this was changed and the new road now follows the reserve's eastern border. Unfortunately it comes between the reserve and both the Mwanza and the Shire rivers. If Africans start making gardens beside the road as seems likely, it will interfere with the wild animals' way to water during the dry season. It is true that there are three ponds within the reserve, the largest half an acre in extent, but these become mere mud wallows from September to November.

The problem of permanent water in the Lengwe is being considered by the Nyasaland Fauna Preservation Society. Mr. Hayes drew my attention to a place five miles north of the reserve where the main road crosses the Mwanza river. Here the bridge, no higher itself than the low banks of the Mwanza, is laid on a concrete apron which goes to the rocky foundation of the sandy river bed, the sand supporting the apron on both sides. This concrete apron, forming a sub-surface dam, has resulted inadvertently in the Mwanza river holding water throughout the year. Probably similar sub-surface dams could be made in the beds of other sand rivers, rivers which run only during the wet season, so that they would hold some water permanently either on the surface or very near it.

The Nyika Plateau

On 30th June, towards the end of our motor drive northwards through Nyasaland to the Nyika, we called on Chief N. A. Katumbi, who was one of the two Africans representing Nyasaland at the Festival of Britain. His territory lies at the base of the Nyika into which it extends, and includes the Vwaza marsh of about 20 square miles. In 1956 Chief Katumbi suggested to the Nyasaland Government that this marsh, in which the animals were being exterminated, should be made a reserve. In response the Government declared it a controlled area under Chief Katumbi's jurisdiction and he has forbidden all shooting for the present. Animals in the Vwaza include buffalo, bushbuck, eland, elephant, kudu, Lichtenstein's hartebeest, reedbuck, roan, sable, waterbuck and zebra.

We stayed on the Nyika from 1st to 3rd July. It was early in the dry season and some controlled burning was going on, to prevent the whole Nyika blazing later in deliberate illegal fires.

The Colonial Development Corporation's forestry project had been abandoned earlier in the year, but their trial plots were left in the care of the Nyasaland Forestry Department. A European forest officer visits the area at intervals; a small African staff lives there permanently. It surprised me to learn that the C.D.C. did not consult the Chief Conservator of Forests, Nyasaland, before establishing its forestry experiment on the Nyika.

The Nyika is a magnificent area of high hilly grassland. In the narrow valleys there are patches of indigenous forest and sometimes little streams. There are many kinds of mammals and birds, though none are in vast numbers. Rather it is on account of its associations of animals and plants and because of its beautiful scenery, that the Nyika should in my opinion, become a permanent nature reserve.

There are already many rough roads over the Nyika; any great extension of them would be hard on wild life, for on this undulating grassland there is little cover and animals can both see and be seen easily. A road already passes too close to the Kaulime Pool, an important drinking spot in the west centre of the Nyika.

The only estimate I could obtain of the number of animals on the Nyika was that of Colonel D. G. Edwardes, who left the place in 1954 after two and a half years spent there. In the visitors' book in the rest house, he records as a "guess":—eland, 500; roan, 300; zebra, 250; warthog, 100; reedbuck, 75; hartebeest, 2; leopards, many; lion, 2 or 3 prides; hunting dog; serval, many; jackal.

On our second evening, as it was getting dark, the forest officer, Mr. C. A. Hampton, arrived at the rest house to say that he had just seen two lions on a zebra kill which had lain all day on the road to Kaulime pool. Would I come with him to see if they were still there. In a minute we were off in a Land Rover and after a while came upon the remains of the young zebra. No lions, so we drove past, went on for fifty yards, turned round and waited. Giving up hope at last we set off homeward and then just beyond the zebra, lolloping away from us along the road in our headlights, was a young lion. Soon he took to the Nyika which here sloped towards a wooded valley. Quickly we followed, bumping downward. Now and then we caught a glimpse of him

and twice he turned and stood full facing us, until at last the slope became too steep and rough so we left him—the first lion I saw in Africa.

INTERVIEW WITH THE CHIEF SECRETARY

On 5th July Mr. Hayes and I called upon the Chief Secretary, Mr. C. W. F. Footman. Mr. Hayes pressed the view of his society that the Nyika should become a national park under a board of trustees. I gave my amateur view of the value of the Nyika as a nature reserve and suggested that its scientific importance could be estimated by a brief ecological survey such as Professor Pearsall had just done on the Serengeti. We suggested that a European forest officer should be stationed on the Nyika permanently.

The Chief Secretary saw difficulties in our suggestions for the Nyika. To keep a European there permanently would cost too much and so would an ecological survey. The future of the Nyika could not be decided until the progress of the forest plots, left by the Colonial Development Corporation, was known, and this might take eight years; he thought that forestry and nature conservation could well go hand in hand. To this we replied that any great development in the area would mean the disappearance of the larger animals, one of the Nyika's greatest attractions.

The Chief Secretary was sympathetic towards Mr. Hayes' suggestion (mentioned earlier) for providing water in the Lengwe reserve and asked Mr. Hayes to write fully to him about it.

THE NYASALAND FAUNA PRESERVATION SOCIETY

I was asked to speak at a meeting of the Nyasaland Fauna Preservation Society on 5th July. The Provincial Commissioner, Southern Province, Mr. W. H. Rangely, was in the chair. Mr. R. G. Willan, Chief Conservator of Forests, was present. I chose international nature conservation as my subject, mentioning especially the International Union for the Conservation of Nature and the International Committee for Bird Preservation. I made a plea for greater co-operation between societies in Africa interested in the preservation of wild life.

During a discussion on possible junior membership of the Nyasaland Fauna Preservation Society, I gave the reasons which had influenced our Society against a similar step. It was decided not to adopt a junior membership but to concentrate upon education in the schools, both European and African. I said that the International Union for the Conservation of Nature had

literature about conservation, which might be adapted for Nyasaland. If this were done, the Union might possibly arrange to have it translated into Chinyanga, the native language.

A suggestion was made that all Colonial Office cadets during their years post-graduate course should be instructed in nature conservation. I said that our Society would try to get this done. I also agreed to represent the Nyasaland Fauna Preservation Society at the forthcoming conference of the International Committee for Bird Preservation at Bulawayo.

INTERNATIONAL COMMITTEE FOR BIRD PRESERVATION

Conference 8th–10th July, 1957, at Bulawayo

Mr. Edwin Cohen and I represented the British Section of the Committee. He as leader had appointed me to put forward our views on :—

Agenda No. 2. Protection of Birds of Prey

I told the conference how in Britain the Protection of Birds Act, 1954, had helped to protect birds of prey, mentioning, of course, the work of the Royal Society for the Protection of Birds.

Agenda No. 5. Oil Pollution of the Sea

After reading a statement on the present situation, prepared for me by Miss P. Barclay-Smith, I pointed out that the United States had not yet ratified or even signed the International Convention for the Prevention of Pollution of the Sea by Oil, 1954. This lack of co-operation, which had been mentioned at other conferences, was the chief obstacle to our work of ridding the sea of the abomination of oil pollution.

This was well received by the American delegation, though it caused quite a stir. Dr. Dillon Ripley, leader of the delegation, said that he had never before heard criticism of the United States attitude towards this question. He promised investigation immediately the delegation returned to America.

Agenda No. 10. Protection of Endemic Island Species, with special reference to Gough Island

Dr. M. W. Holdgate's article on Gough Island (later published in *Oryx*, iv, 3) was discussed. Dr. G. J. Broekhuysen, who had taken part in the South African expedition to Tristan da Cunha, made useful suggestions. Dr. J. M. Winterbottom,

leader of the South African delegation, agreed to take up at once the question of stopping the importation of alien animals into Gough Island.

Agenda No. 12. Reports of Bird Preservation in other African Countries

Representing the Nyasaland Fauna Preservation Society, I produced the new Nyasaland Bird Protection Bill and described its main provisions. It follows the British model in totally protecting all birds with their nests, eggs and young, except for schedules of birds which receive modified protection or none at all.

Among other points of special interest at the conference were :—

(1) A discussion on the diminution of white storks and black storks and an agreement to arrange for 1958, a census of their nesting and wintering areas and to obtain reports of their migrations.

Homeward bound on 17th October at 8 a.m. lat. 22° 55' N., long. 38° 30' E. (middle of the Red Sea), we saw 12 white storks crossing the bows of our ship flying S.W.

(2) A suggestion was made that protection should be removed from the secretary bird because of the damage it did to eggs and young of game birds, particularly francolins. Mr. R. Smithers, Director of Bulawayo Museum, confirmed from his examination of crop contents that such food was taken.

Colonel J. Vincent (Chief Nature Conservator, Natal) opposed removal of protection. He said that the secretary bird was rare and its populations might be very vulnerable. He thought any removal of protection and a consequent attitude of "now we may shoot secretary birds" might be disastrous.

Note.—No recommendation was made. The suggestion to remove protection from the secretary bird seems to come from politically powerful landowners who want to increase the stock of francolins for shooting on their estates.

(3) Dr. J.M. Winterbottom said that they were facing attempts by fishing interests to remove protection from the South African gannet. These birds nested in colonies on six small islands off the coast of South Africa and were protected for the guano which they produced. As usual, in propoganda of this sort, unscientific calculations had been made to show that the value of fish eaten by the gannets far exceeded the value of the guano they produced.

1ST PAN-AFRICAN ORNITHOLOGICAL CONGRESS, LIVINGSTONE
16th–20th July, 1957

A report of this conference will be published. On one evening when there was a cinema show, open to the general public and crowded, I was most kindly allowed to say a few words about the work of the Fauna Preservation Society and to distribute our pamphlets.

NORTHERN AND SOUTHERN RHODESIA

(Federal matters. See Map 3)

National Parks are a Federal matter but "land" is Territorial and no Federal national park can be set up unless the Territory will hand the land over to the Federation. National parks in Southern Rhodesia are Federal. In Northern Rhodesia the status of the only national park is insecure; there is no national park in Nyasaland. If national parks are established in Northern Rhodesia or Nyasaland they may well be territorial national parks.

Federal national parks are governed by a national parks board under the Minister for Home Affairs. There is a Director of National Parks, Mr. C. M. Stewart, and a Chief Federal Game Warden and Chief Warden, Wankie National Park, Mr. E. Davison. Mr. Davison has under him four game wardens, three tourist wardens and about a hundred African staff.

The Southern Rhodesia Game Department is under Mr. A. Fraser. He has four game rangers. He administers the game and fish laws and is also responsible for the destruction of all dangerous game where necessary, including that in the tsetse control areas, though tsetse control is a Federal matter.

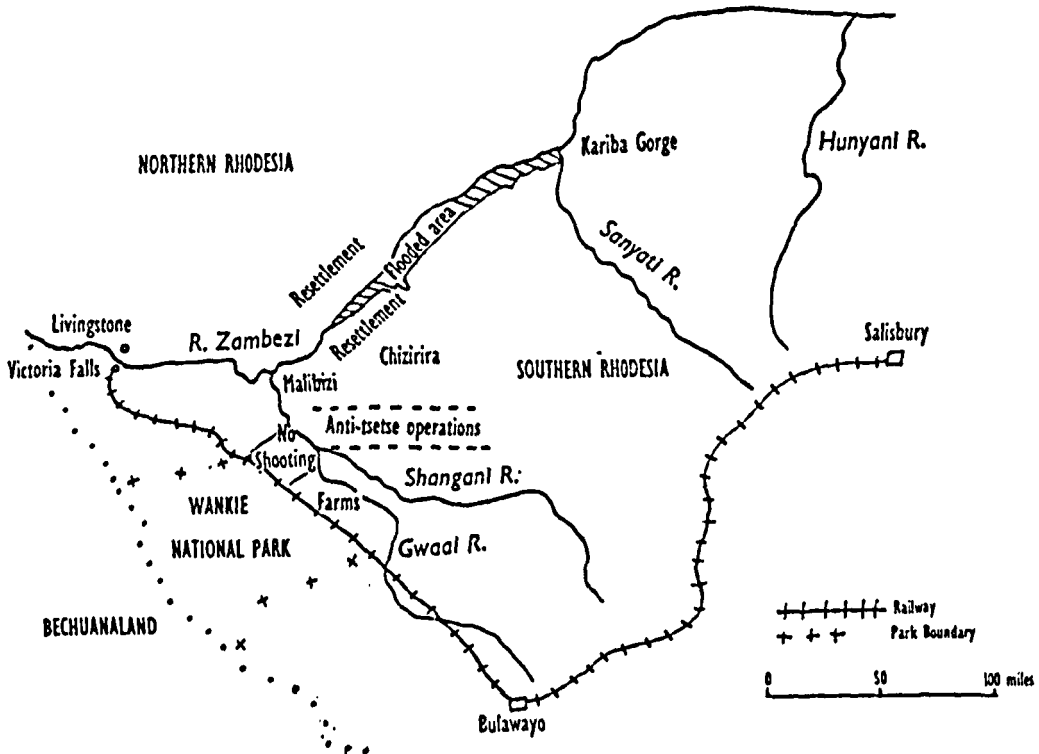
THE WANKIE NATIONAL PARK

This is a splendid reserve in which a very great variety of large animals and a wonderful array of birds can be seen easily, for the roads pass near the water holes. It has been long established and the animals are confident. In a day and a half we saw buffalo, jackal, eland, giraffe, greater kudu, impala, ostrich, reedbuck, roan, steinbuck, tsessebbe, warthog, wildebeest and zebra. We were unfortunate not to see sable, elephant or lion.

Accommodation is in rondavels with a "boy" to light fires. Visitors do their own cooking, tins of food can be bought in the camp shop.

The south-west border of the Wankie marches with Bechuanaland Protectorate, whence African poaching parties come in. If caught in Southern Rhodesia they can be dealt with, but if they get back to Bechuanaland they can not be prosecuted there for offences outside the territory. Neither can they be extradited to Southern Rhodesia because under the Fugitive

MAP 3.



Offenders Act 1881, Part 2, extradition can only be obtained when the offence carries a maximum penalty of 12 months' imprisonment or more. In Southern Rhodesia the maximum penalty for poaching is nine months' imprisonment.

Extradition would be made possible between all British territories if they would all make the maximum sentence for poaching at least twelve months' imprisonment.

Poachers also enter the Wankie through the European farms which touch the north-east border, eastwards of the non-shooting area.

Note.—I did not find the problem of extradition acute in other territories. It seems to be solved on practical rather than legal lines. Could not the Southern Rhodesian Government increase their maximum penalty for poaching to at least twelve months' imprisonment?

THE KARIBA LAKE AND TSETSE CONTROL OPERATIONS

The building of the Kariba dam and consequent formation of Kariba lake will flood nearly 2,000 square miles of country, of which 900 are in Northern Rhodesia and 1,100 in Southern Rhodesia. Problems of resettlement arise in both countries.

In Northern Rhodesia 6,000 families, some 30,000 Africans, will have to be resettled in rather small colonies, because the hinterland of Gwembi (Zambesi) District is very hilly and broken, mostly suitable only for wild life. The flooded area in Northern Rhodesia is not good game country, but it holds something approaching 750 elephants. Conflict between them and man is inevitable. Though some elephants will have to be destroyed, indiscriminate killing would increase elephant damage. Care in elephant control, killing only when necessary, will lessen both the slaughter and the damage.

Elephants can live in the steep escarpment country north of the Kariba lake and it would be well to form reserves for them in the uninhabited country now, especially north of the south-west end of the flooded country. This would help also the small number of other animals displaced by the new lake, for example, buffalo, eland, impala, kudu and warthog.

In Southern Rhodesia, Africans from the flooded area will be moved into the country immediately south of the new lake. It is tsetse infested, but I was told that it would be sprayed and immediately settled. The question of the wild life displaced in the flooded area of Southern Rhodesia is bound up with the game slaughter in anti-tsetse operations, for this will soon start between the fences which have been put up ten to twenty miles apart south of the Chizirira hills. There are perhaps 3,000 elephants from the borders of the Wankie National Park north-eastwards to the Sanyati river. Untold damage will result if they are indiscriminately harassed. There is great danger also of many of them being driven west and south-west from both the resettlement and tsetse-control areas into the Wankie. The park already contains between 2,000 and 3,000 elephants, as many as it can hold. Tsetse fly also might come in.

Mr. Davison considers elephant sanctuaries essential to the success of both the resettlement and the anti-tsetse operations and has recommended to Mr. P. B. Fletcher, Minister for Lands, that they should be established in both the Chizirira hills and Malibizi, of which Malibizi should be a national park. I am told that Mr. Fletcher has agreed to the proposed elephant

sanctuaries, though he has not implemented them, but that he opposes handing over Chizirira to the Federation as a national park.

A SUGGESTION ON ELEPHANT CONTROL

The elephant is a valuable creature to the African. Its meat, priced only at 1s. a pound, equals the annual production of six village families and no elephant would do that much damage in one year. Its danger to human life is often exaggerated. In the Southern Province of Northern Rhodesia elephants have killed only one European and two Africans since 1954—the European was elephant hunting with soft nosed bullets.

The usual method of elephant control is to investigate complaints of damage to African gardens and, if the complaint is substantiated, to try to kill the offenders. Often complaints are not genuine but made to obtain elephant meat. Even when the damage is real the culprits may have moved off. Would it not be possible in some districts to try "farming" the elephants—Divide the district into elephant areas and decide how many elephants each could afford to lose annually without reducing the capital stock. That number of elephants would be promised to the African inhabitants yearly, irrespective of elephant damage to crops. If such damage was reported, an elephant would be shot in the area and this would count as one of the annual quota. False complaints of damage would have no purpose and the African might begin to regard the elephant as a valuable natural resource.

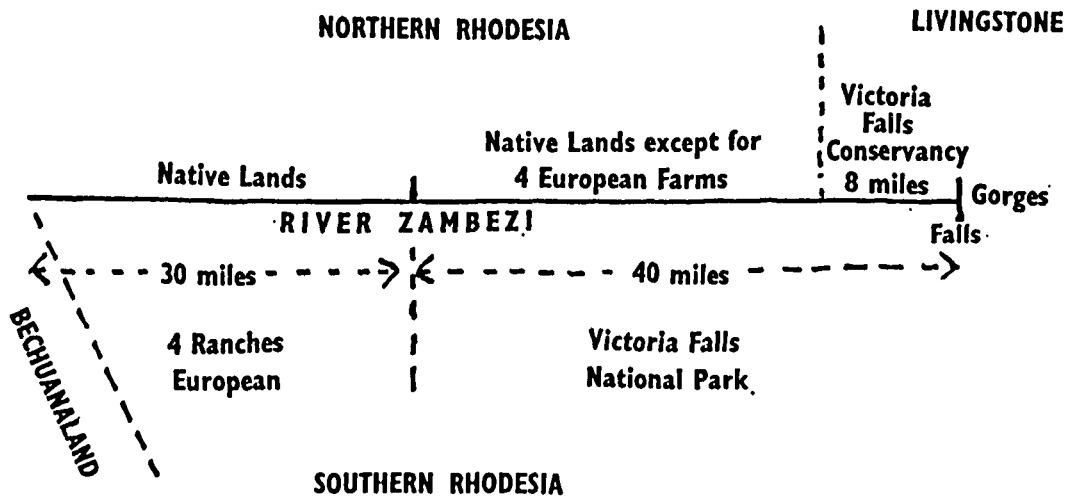
VICTORIA FALLS NATIONAL PARK (FEDERAL) AND VICTORIA FALLS CONSERVANCY AREA (NORTHERN RHODESIA)

(See Diagram)

The Victoria Falls National Park comes under Mr. E. Davison for wild life and development but under the warden, Mr. J. C. Tebbit, for policing and tourism—in practise, a not very important distinction. There is not very much wild life because of poachers, who sometimes even cross the Zambesi in canoes, and consequently, not very many visitors. During the last five years, the Southern Rhodesian authorities have broken up and obtained prison sentences against three organized gangs of poachers who had tents, food, nets, firearms, spears and other weapons. Small raids are now taking the place of these organized parties. Poaching could be almost stopped if offences were treated more

seriously by the lower Courts in Northern Rhodesia, where the High Court has constantly to call in cases for review and to enhance the sentence. In 1955 an African was caught chasing a duiker with dogs in the Conservancy area, but was not charged because his excuse that he was only returning home and was trying to call his dogs off the duiker, was accepted.

The Victoria Falls Conservancy Trust holds eight miles of



the Zambesi bank from the Falls westwards. Would it not be possible to extend this holding thirty-two miles further westwards, and combine it with the park on the south bank into one federal Victoria Falls National Park?

NORTHERN RHODESIA

Kafue National Park.—This park is not yet officially open and, owing to lack of roads, we saw only a comparatively small part of it, never being more than five miles from the eastern border. Much of it had recently been burnt over. We had also the disadvantage of being about fifty people—all from the Ornithological Congress—although we broke up into parties when going round the park. On the other hand we had the great advantage of not being entirely restricted to our cars as is usual, for we were often allowed to leave them and proceed on foot under a very unobtrusive escort.

The ornithologists especially found this park extremely interesting. Those of us who were less specialized, had many interesting hours, among the best those in a boat on the Kafue river. We saw a variety of animals including eland, Lichtenstein's hartebeest, hippopotamus, impala, reedbuck, oribi, puku,

waterbuck and wildebeest. Nevertheless, there was not either the variety or concentration of animals found in some other parks, and I think that visitors whose chief object was to see "game", might at present be disappointed.

The main visitors camp is at Ngoma and is an extraordinary place, surrounded with concrete posts and diamond mesh netting. It is on the hotel principle and has entirely separate accommodation, cooking and feeding arrangements, but all on the same scale, for Africans, Europeans and Asians; Hindus and Mohammedans have separate kitchens.

There are four chalets to hold twenty-four Europeans, four two-roomed chalets to hold eight Asians, one two-roomed chalet to hold four Africans. Each of the chalets could quite easily have been built to take half as many people again. There is no house for a caterer. I cannot see that Ngoma will be sufficiently used to pay for itself, in fact as Mr. Justice Somerhough said, "it is the world's biggest white elephant." The choice of situation, a little hill, seemed quite good until we saw in other places what a camp could be like in a well chosen site. Unfortunately we could not visit the four much simpler camps in the north of the park.

A note on a discussion with the Member about the legal status of the Kafue National Park is given later.

THE RED LECHWE AND THE KAFUE FLATS

(Visited 26th-28th July)

See Map 4 and article in *Oryx*, III, No. 1.

Numbers and Distribution

The only red lechwe whose numbers are fairly accurately known are situated as follows:—

Kafue North Bank	10,000
„ South Bank	17,500
Busanga (Kafue National Park)	200

There are also some in Barotseland, some in the Caprivi strip and some on the Samaraka flats on the Zambesi. There are probably 30,000 remaining in Northern Rhodesia altogether, and that is virtually the world's total population. In 1932, Captain C. R. S. Pitman on his faunal survey of Northern Rhodesia, said that he believed the estimate of 250,000 lechwe for the Kafue flats alone was no exaggeration.

The lechwe is a highly specialized animal which feeds mostly in very shallow, grassy flood plains. Those on the north bank of the Kafue are concentrated from April to September, when the floods are high, in the neighbourhood of Lieut.-Colonel and Mrs. R. A. Critchley's ranch, Blue Lagoon, where they are protected. As the waters recede, they move southwards into Luwato controlled area and then westwards into Native Reserve land towards the Shimalula pools; these are about thirty miles west of Blue Lagoon. This regular pastoral movement is probably beneficial to the health of the lechwe herds on the north bank.

Most of the lechwe on the south bank of the Kafue are concentrated from October to December, when the waters are low, on the flood plain and lagoons of Lochinvar ranch and about two miles east and west of it. In December when the Kafue rises and the floods begin, the lechwe are gradually driven into higher ground, that is deeper into Lochinvar and west and south-west of the ranch. Dispersal continues until, by May, the lechwe are at the maximum flood line and even in the wooded country behind it. Then they follow the receding waters and go back to Lochinvar.

Although the lechwe feed in the flooded plains, they do not like to remain for long hours in the water, but need dry land to stand on sometimes. In Lochinvar and the land to the west, this is provided by firm termite hills, but east of Lochinvar, the soil is different, the mounds are not so firm, neither is the grass so palatable. Mr. J. M. C. Uys, the game ranger, who told me this, thinks it may account for the lechwe movement as the floods rise, being so much to the westward.

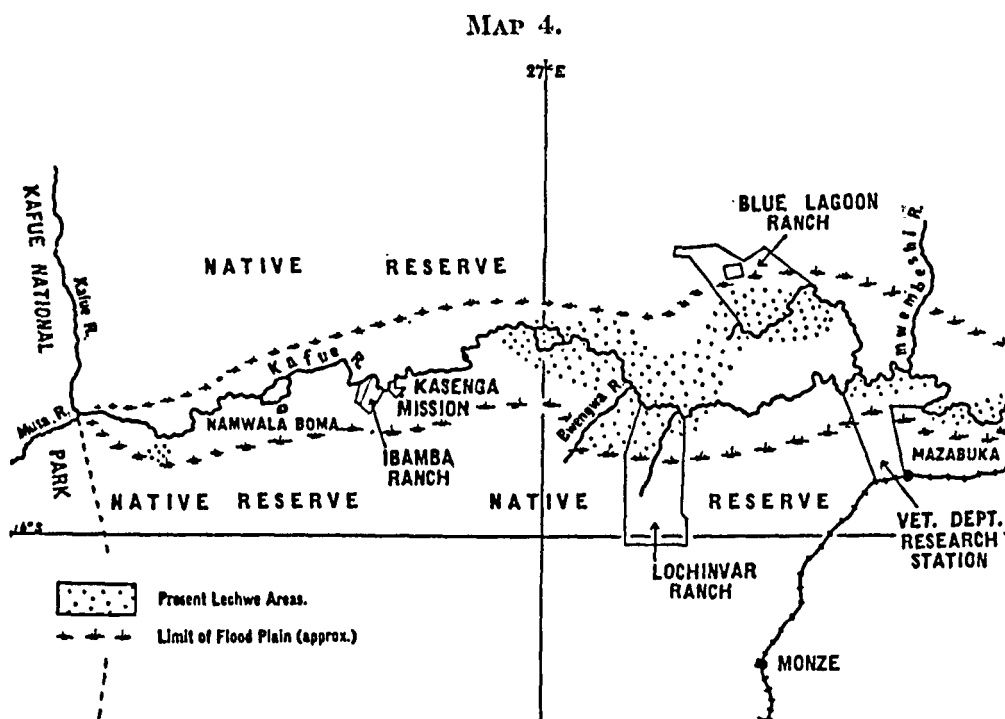
Lambing starts in June, reaches its peak in mid-July, and continues into August and September. The ewes, when they are heavy with young, spread out from Lochinvar on to the small islands in the Kafue river which lie at the end of sand spits. Here they are safe from cheetahs and hyaenas, but lose the protection from man which Lochinvar gives.

The south bank population includes 12,000 on Lochinvar ranch which, with Blue Lagoon, is the great hope of the red lechwe's survival, and 700 on the Veterinary Research Station at Mazabuka. There are indications that about 65% of the lechwe on the south bank are males. If so, it may be because more females than males are usually killed in the periodical native hunts called *chilas*. It is not only that females are more easily caught, but because African hunters like to give ewe skins to their wives. For ten miles the Kafue borders

Lochinvar, so there are about 1,200 lechwe to the mile of waterfront; this is probably 200 per mile too many for the grazing and may mean that there are already 2,000 too many lechwe on Lochinvar.

The Chilas and Protection

The red lechwe is totally protected throughout Northern Rhodesia except for the chilas, for which special permission is given each time by the Minister. During these chilas as many



Approximate Scale 1 inch = 33 miles.

lechwe as possible are surrounded and killed by men armed with spears and accompanied by dogs.

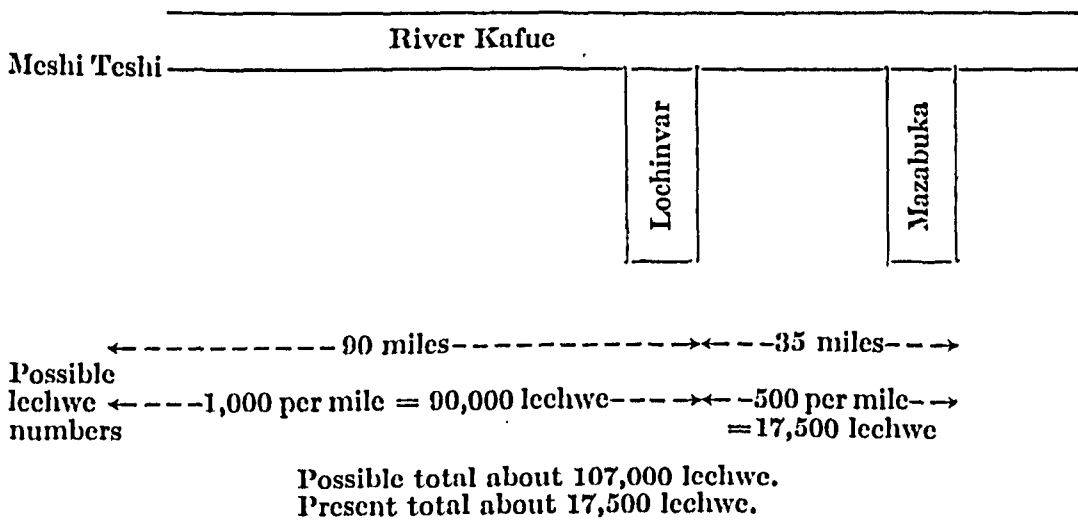
No official figures of the number of lechwe killed during the 1957 chilas have been published, but Colonel Critchley told me that in the chilas of 20th and 21st June, 1957, the toll of lechwe ran into thousands and that the majority were gravid females. In each of the last two years, probably 20 per cent of the lechwe population south of the river has been destroyed, which is more than the population can stand, even if it is to remain only at its present level.

It is surprising that very soon after the chilas, the lechwe return to the same ground. It seems that the animals are not permanently disturbed by a quick slaughter, but that they cannot stand being continually harassed. This is a point well worth

noting, for if control of the lechwe should ever be necessary, the swift sudden swoop of a properly organized and controlled chila might be the best way of doing it. This is by no means to recommend continuance of the chila now. The lechwe should be allowed to spread and multiply until they have regained a considerable part of their past numbers; there is ample room for them.

At one time, probably during the present century, the lechwe country included the whole Kafue flats, reaching southwards until the rising woodland country was reached, and westwards as far as the great bend of the river at Meshi Teshi. Except for Lochinvar and Blue Lagoon, nearly all this huge area is devoid of lechwe now.

DIAGRAM TO SHOW THE INCREASE OF THE RED LECHWE WHICH MIGHT BE ACHIEVED ON THE SOUTH SIDE OF THE KAFUE RIVER, UNDER REASONABLE MANAGEMENT



It is interesting to see that the above total of a possible 107,000 for the south bank of the Kafue only, is not far from half 250,000, the actual population of both banks estimated by Captain Pitman in 1932.

Ecology

We were driven by Mr. B. L. Mitchell, game biologist, the length of the Kafue flats from Meshi Teshi to Lochinvar. For the first sixty miles we saw no animals, and hardly a bird. But as we approached Lochinvar, lechwe, zebra and wildebeest appeared. Then came the wonderful array of birds—thousands of white-faced and fulvous tree-ducks, spurwing geese, wattled

cranes, open-billed storks, egrets, spoonbills, harriers, kites and many others. Mr. Mitchell then told me that the African fishing village within Lochinvar took a catch unequalled in Northern Rhodesia, and suggested that there was an ecological connection between the lechwe, the birds and the fish. Might not the lechwe, by feeding in the shallows and steadily manuring the ground, give rise to a wealth of small plant and animal life, which in turn, supported the whole fauna, birds, fish and mammals?

To the south, the rising woodland bordering the flats, forms the natural limit to the lechwe population. If the chila could be stopped for some years, or even restrained, might not the lechwe expand to something like their previous range? Thus not only could the wonderful faunal display of Lochinvar be greatly extended, but, through the controlled "cropping" of the lechwe, there could be increased protein supply for the African and perhaps also better fishing along the whole of that part of the Kafue? In fact, is not there a possibility that a valuable natural resource is now being wasted? I think a scientific investigation should be made, to confirm or refute this suggestion.

But there are difficulties. The chila is traditional; even its restriction is not easy. Then there are the African cattle which, from about August to November, as the floods recede, are driven from the forested land to the south to graze on the edge of the flats. Although cropping the lechwe might provide a far greater meat supply than the Africans get from grazing on this land—remembering the poor quality of the cattle and the little economic use to which they are often put—yet the Africans' close relationship with his cattle cannot be ignored. Nevertheless there might be little competition between the cattle and the lechwe, because the lechwe graze so much in the shallow water itself.

Another factor in the fate of lechwe is the success or failure of the polder experiments in wheat, barley and rice growing, which are going on a little further down the Kafue river. But even if these show that wheat, barley and rice can be grown economically on the flats, would the carbohydrates produced be more use to the African than the proteins from "cropping" the lechwe?

One cannot leave out of consideration the possibility of disease in the lechwe herds, especially if there is overcrowding as there seems now to be at Lochinvar. Disease might come from cattle or be conveyed to them. To my untrained eye the lechwe

seemed in rather poor condition, but their lean period, the height of the floods, was just over. Mr. Uys said that they had had a good season.

Preserve Lochinvar

Our party from the ornithological congress were fascinated with Lochinvar and indeed it is a wonderful place. Besides the birds and the lechwe, the ranch can boast buffalo, eland, impala, hippopotamus, oribi, reedbuck, wildebeest, zebra, cheetah, lion and many other animals. On the evening of 27th July, Professor Van Oördt called a few of us together, saying "We must preserve this wonderful place". Present were: *Netherlands*: G. J. van Oordt, G. A. Brouwer; *Northern Rhodesia*: C. W. Benson, J. N. E. Johnson, B. L. Mitchell, J. M. C. Uys; *France*: J. Dorst, L. Hoffmann; *Germany*: E. Schüz; *U.S.A.*: R. T. Peterson; *Great Britain*: C. L. Boyle.

At this meeting it was agreed that:—

- (1) Lochinvar ought to be preserved for the sake of its wonderful birds, its lechwe and its other animals.
- (2) This should be done through the agency of the Game Preservation and Hunters Association of Northern Rhodesia, of which Lt.-Col. R. A. Critchley is President.
- (3) Certain other steps should be taken towards the achievement of the object.

THE LUANGWA VALLEY (See Map 5)

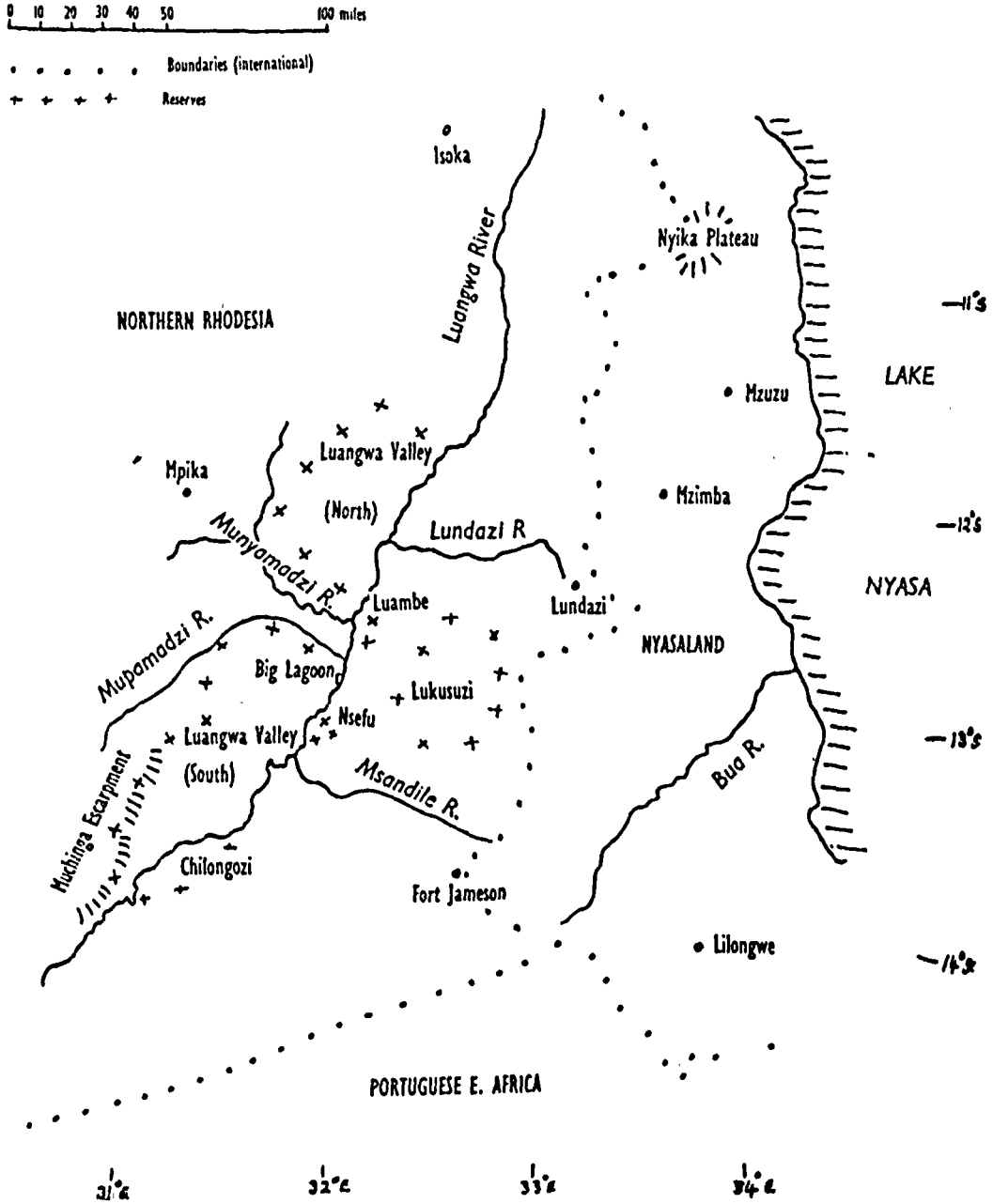
We spent from 30th July to 5th August in the Luangwa Valley, one of the finest and wildest parts of Africa that we visited; it showed us also the working of controlled areas, and camps for visitors on the "provide for yourself" system. We were under the guidance of Mr. R. I. G. Attwell, the Provincial Game Officer, Eastern Province. With us were Mrs. Attwell, Miss G. Rhodes, Mr. R. E. Moreau and Colonel W. P. Stanford.

Starting from Fort Jameson we drove north-westwards, through brachystegia and mopane woodland, to cross the Luangwa river a little south of its confluence with the Mupamadzi. There we entered the Southern Game Reserve, and soon saw buffalo, a fine bull eland, elephants, impala, puku, waterbuck, zebra, and a young rhinoceros down on all four knees suckling its mother. Soon we reached Big Lagoon, a comfortable camp of four rondavels to take eight visitors. All food must be brought but African staff prepare and serve it. There is an open-sided dining room, and a refrigerator.

MAP 5.

LUANGWA VALLEY

(Almost the whole Valley outside the reserves is a controlled area.)



The morning after our arrival we went early down to the river. Hippopotamus stood on the far bank, or lay awash, grunting and blowing. An elephant, with an attendant egret, crossed at the deepest point; the tip of its trunk held upwards like a periscope. There were crocodiles, a wood ibis colony, Egyptian geese, guinea fowl and a flight of green Nyasa love birds.

Among many other interesting sights in this reserve were three giraffes, very unusual visitors, and a zebra killed by lions the previous night, little but the hoofs remaining.

Nsefu Reserve

This reserve was established in 1949, in co-operation with Chief Nsefu, and is part of his controlled area, which is itself within the much greater Kunda controlled area. But Nsefu's area, presumably because it includes his reserve, contains more wild life than any other part of Kunda; so other native authorities have repeatedly asked to be allowed to shoot there, as if it were within their own territory. This sets at nought the principle of controlled areas, and the Game Department has so far, been able to refuse.

The visitors' camp at Nsefu resembles Big Lagoon. It is beautifully placed on the river bank, and takes twelve people on the "provide for yourself" principle. All profit goes to Nsefu's Treasury. The 1956 tourist fees came to £800, and of this, £700 was paid to the Treasury as profit. In 1957, fees amounted to £1,200. The Treasury does well from this, for both the camp and the road to it, which has to be remade yearly, were built and are maintained by the Public Works Department at no cost to the Treasury. Moreover, the reserve is policed by the Game Department, whose game guards escort visitors on foot to see animals.

In this fine sanctuary, we saw five rhinoceros, two cheetah, puku, waterbuck, and a herd of three hundred buffalo, and we walked down a path almost lined with elephants to the beautiful "wood ibis glade".

Luambe Reserve

This is another Native Authority reserve. It is on native trust land, belonging to Senior Chief Mwase Lundazi, and has been established for a trial period of ten years. It is policed by the Game Department. The speciality of this reserve is Cookson's wildebeest, a fine upstanding sub-species with very distinct stripes; but it holds the other animals of the Luangwa valley

also. Among birds we enjoyed seeing were common and wood sandpipers from Europe.

At one spot during a walk in this reserve, we disturbed two buffaloes which ran off. Later on, returning by the same way our game guard noticed a few tick birds rise from cover, and fly off; but no animal stood up. This, to him said, "Something wounded." Mr. Attwell sent us forward, and presently we heard a shot. Returning we found a buffalo dead. Besides the game guard's shot which killed him, he had an earlier wound in his leg, which may have stopped him charging us, and a bad suppurating abscess on his belly, both probably caused by the same bullet.

Luambe camp, built by the Chewa Native Authority, has three double bedrooms and a dining room. It is on the "provide for yourself" principle, with African staff.

Controlled Areas

Except for the game reserves almost the whole of the Luangwa Valley is a controlled area. Residents, entirely African, may shoot up to their game licences, which cost 5s. yearly. Others may only shoot under a special permit, issued by the Game Department, in which is laid down what animals may be shot; it is in fact, a modification of the game licence. The special permit fee is £2 for a week's shooting, and it goes to the native treasury in whose area the permit operates.

A special case of hunting in a controlled area is the Government Safari Scheme, which operates along the east bank of the Luangwa, away from the reserves. The charge is £600 for a fortnight's safari, and it has so far been undertaken mostly by Americans. In return for half the profits, the Native Authority of the district in which each safari takes place, forbids other hunting in a specified zone for six months of the year.

Northern Rhodesia introduced controlled areas in the hope that the European hunter would thus be controlled, and that the Native Authorities would appreciate the financial advantage of game preservation, and would help the Game Department to stop African poaching. There was no thought that the presence of European hunting parties would in itself restrain poachers, nor has it done so. The scheme has certainly controlled the European hunter, chiefly the biltong hunter, and he is no longer a menace; but, except in areas of the Government Safari Scheme, which produces a very high return, the Native Authority has not effectively restrained African poaching, and the wild life situation is steadily deteriorating.

INTERVIEW WITH THE PROVINCIAL COMMISSIONER.
EASTERN PROVINCE

On 6th August, Mr. R. I. G. Attwell and I met Mr. M. G. Billing, P.C., Eastern Province. We discussed :—

- (1) *The possibility of combining the Northern and Southern game reserves into a national park.* When Mr. Billing was Provincial Commissioner, Northern Province, where these reserves mostly lie, he had proposed that they should be joined by a corridor about fifteen miles wide along the Luangwa ; but his suggestion was not put into effect.
- (2) *The importance of the Luangwa in wild life conservation.* Mr. Billing said that a government decision on the future of the valley was most important. Was game to be allowed to take its place in the valley's economy by retaining reserves and controlled areas, or were agriculture and cash crops to take the place of game ?
- (3) *Education of Africans in Nature Conservation.* I suggested that the International Union for the Conservation of Nature might help with literature, and mentioned the possibility of Dr. F. F. Darling holding conservation courses in Edinburgh.
- (4) *Possible limitation of firearms.* In the Luangwa valley snares and game pits have almost disappeared. Would they return if all firearms were taken from Africans ? Which do the most damage ?

INTERVIEW WITH THE MEMBER

On 29th July, Mr. F. I. Parnell, Director of Game and Tsetse Control, and I, discussed the following points with Mr. H. A. Watmore, Member for Agriculture and Natural Resources.

(1) *The status of the Kafue National Park*

This park is a national park in name but not so legally, because it is in native trust territory and has not been excised from it. The critical point is whether or not the term " public use " covers a national park ; if so the land to form it can be excised. Mr. Watmore said that it had recently been decided that a national park was undoubtedly " public use " and that therefore, the way was clearer to make the Kafue a true national park.

To achieve this, is most important. If the decision is final and a national park is "public use", it will be of great importance, and not only in Northern Rhodesia.

(2) *The Kafue Flats, Lochinvar and the Red Lechwe*

Mr. Watmore appeared interested in the possible ecological relationship between the lechwe, the birds, and the fish, and seemed to take kindly to the idea that a scientific inquiry should be made into it. He was also interested in the spread of the lechwe, the possibility of managing them to provide proteins for Africans, and in the tourists aspect of Lochinvar.

An expression of international interest should greatly help in the preservation of Lochinvar as a wild life sanctuary.

NORTHERN RHODESIA GENERALLY

- (1) Native Trust Land occupies most of Northern Rhodesia, except for Native Reserves. There seems to be no definite decision upon what can be done in Native Trust Land. The future of the game reserves depends on this and on Africans coming to realize the value of wild life conservation.

This question concerns forest reserves also.

- (2) It is very important that the Kafue should be made a true legal national park.
- (3) The African is still to a large extent, dependent on game for proteins, because the tsetse fly often makes it impossible to keep cattle. Sometimes even where there are no tsetse and cattle are kept, little economic use is made of them, for cattle are largely a sign of wealth. From any point of view it would seem right to preserve the game at least until the tsetse is conquered, and until the African makes better use of his cattle. I believe that, even then, much of Northern Rhodesia will still be more valuable as a source of protein from game management, than for either cattle raising or growing cash crops. The value of the tourist trade must also not be forgotten.
- (4) I was given as a scientific opinion, that if wild animals are protected in a reserve, but harassed outside it, they will eat out the vegetation in the reserve and starve, rather than move from it. This, if true, may have an important bearing on preservation within

reserves and parks. With ever increasing population pressure on reserve boundaries, wild life management within reserves and even in national parks may become the normal practice.

UGANDA

MURCHISON FALLS NATIONAL PARK (See Map 6)

Ecological Problems.—The following notes were made following a visit to the park, and after a talk with Dr. H. K. Buechner, Professor of Zoology, State College of Washington, who had been working in the park with the aid of a Fulbright grant.

The Uganda Kob.—The kob, one of the principal animals in the park, inhabits chiefly the area along the Albert Nile from Buligi north-eastwards to the Little Aswa river. The short grass country in the neighbourhood of the Lolim Valley is specially attractive both to them and also to lion, another important animal in the park. At present, the greater part of this area is outside the park and merely an elephant sanctuary; both kob and lion come and go freely over the park boundary. Dr. Buechner considers it very important to include in the park this Lolim Valley neighbourhood, for its agricultural or other development would endanger both kob and lion populations.

Elephants.—Dr. Buechner considers that the area spreading eastwards from Rabongo Hill towards Atura Ferry is very important for elephants. He thinks the park boundary should be moved eastwards to include Rere Hill and the country north-east of it to the Victoria Nile.

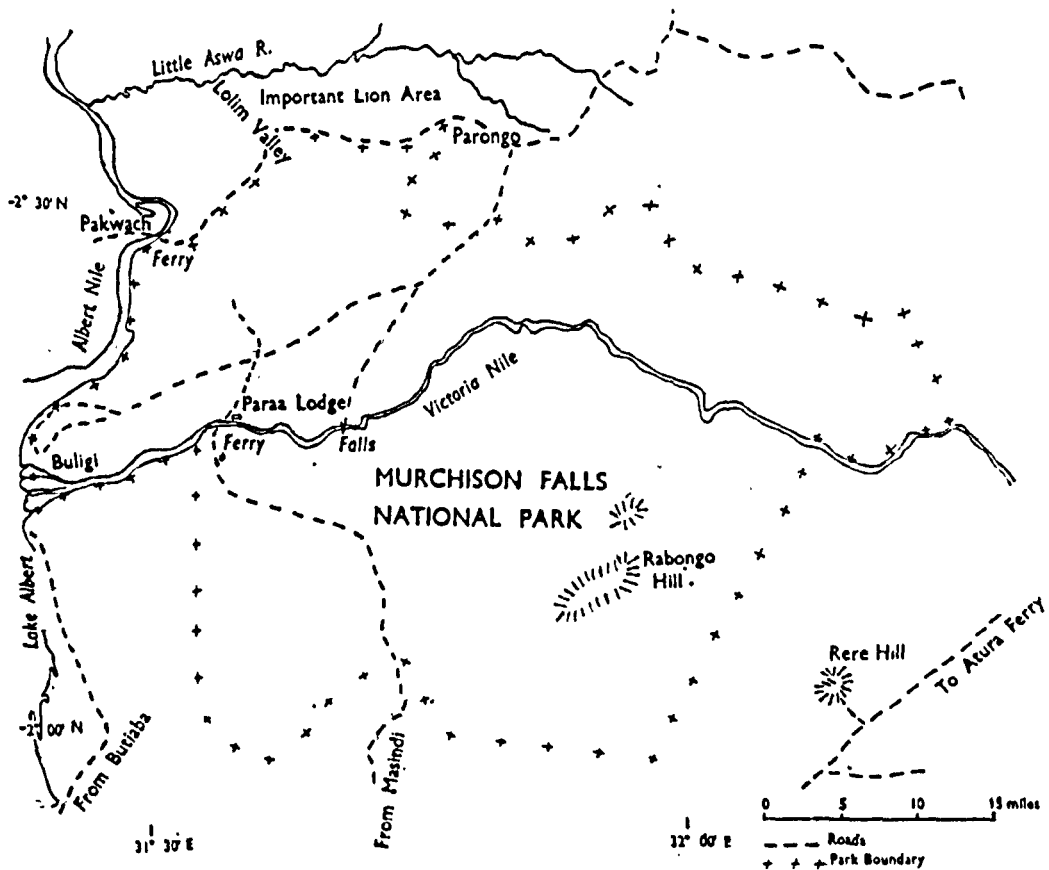
Obviously, the south-east boundary of the park is merely a straight line, taking no notice of geographical or ecological conditions. But it would be difficult to get the proposed addition, for the area was once part of the Bunyoro Game Reserve and was given up in order to establish the Murchison National Park.

Dr. Buechner has done aerial counts of elephants in the south part of the park at what were thought to be times of extreme high and extreme low density, but they gave the same number each time, about 4,000; so it may be that there is no great elephant movement after all. Perhaps also the elephant population is steadily increasing. A count made early in October 1957, gave 5,000.

Vegetation.—Anyone entering the park from the south must notice the number of dead and dying trees, in the south-central part. Many are broken seemingly by elephants. Dr. Buechner

says that these trees, terminalia, are dying out. Their disappearance is merely being hastened by the elephants. But I wonder whether elephants can continue in the area if all the trees disappear.

MAP 6.



QUEEN ELIZABETH NATIONAL PARK

Overgrazing by hippopotamus

The problem of overgrazing by hippopotamus on the banks of the Kazinga channel continues, especially on the Mweya peninsula. No one seems certain that the problem is a new one, or whether the hippopotamus have increased since the park was established. It has been suggested that erosion started with bush clearing in an anti-tsetse scheme of the nineteen-thirties. Small experimental plots are being kept free from hippopotamus to discover whether the vegetation will recover. The results so far are inconclusive. An investigation has been carried out by Dr. G. A. Petrides, whose report has not yet

been published; but Mr. R. L. Dreschfield, Chairman, Board of Trustees, tells me that he expects Dr. Petrides to recommend that 7,000 hippopotamus shall be destroyed immediately, and 1,000 a year in the future. This, Mr. Dreschfield considers, would be a difficult business, I agree. He adds that no action, beyond limited experiments, will be taken until the trustees have before them the results of all the research done, and to be done in this matter, and have taken into account, the advice which they have received from many sources throughout the world. They will then be able to consider fully, the courses open to them. Dr. Petrides' research work is being continued by Dr. W. M. Longhurst.

This hippopotamus question concerns not only the Kazinga Channel, but the whole of Lake Edward and I discussed it with Monsieur Jacques Verschuren, naturalist to the national parks of the Belgian Congo. We were at Ishango, where the River Semliki leaves Lake Edward on its way to Lake Albert. Here, there are also a great many hippopotamus, and conditions, including overgrazing, seem very similar to those in the Kazinga Channel. Monsieur Verschuren said that the concentration of hippopotamus in the Semliki was greater than in the Kazinga and that the Belgian authorities did not think any immediate action to control their hippopotamus was necessary.

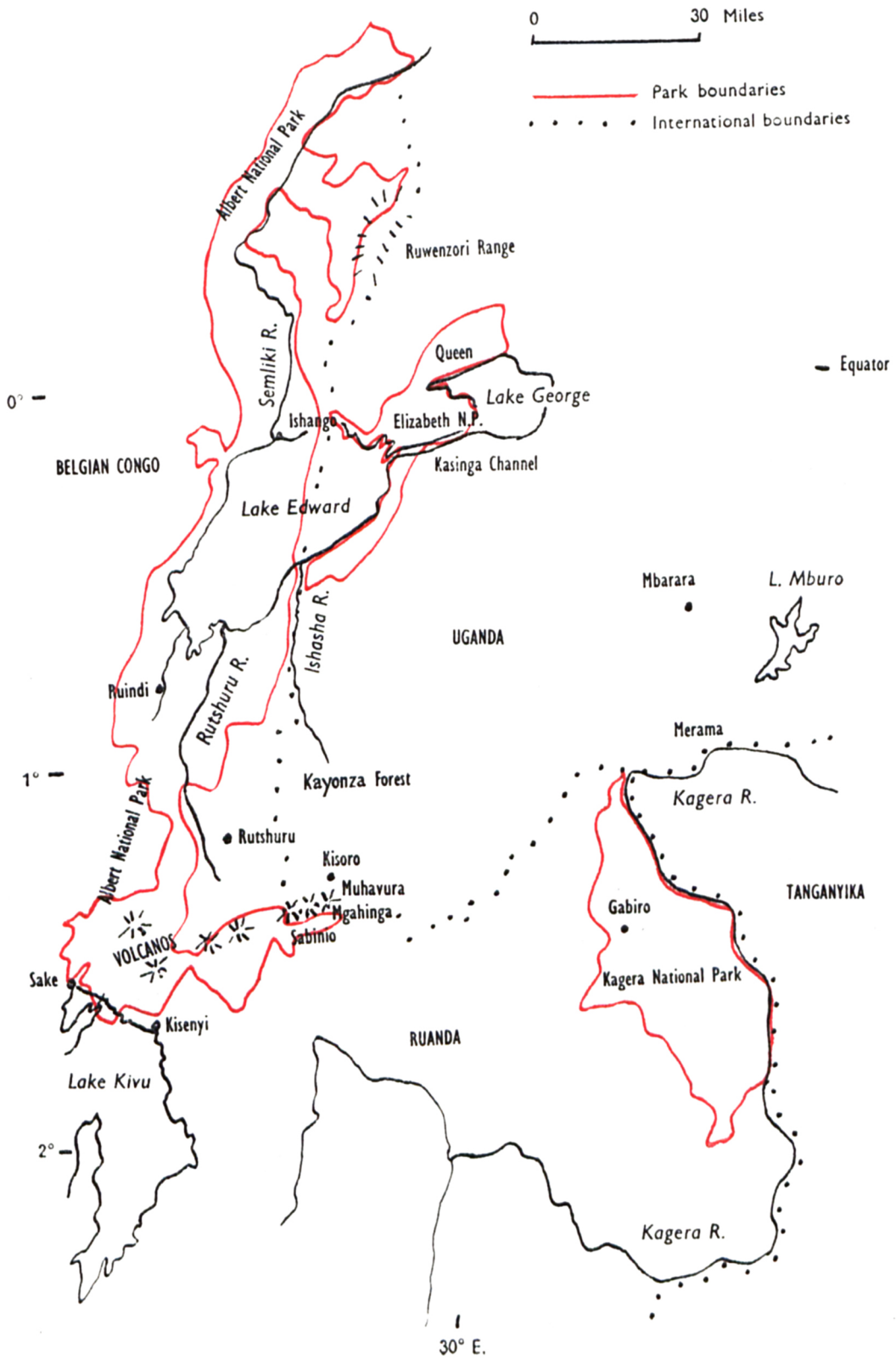
A very important game area: (See Map 7)

A road runs from the Ishasha river on the Congo border $0^{\circ}42'N$. $29^{\circ}38'E$. to Katunguru in the Queen Elizabeth Park, through the Kizegi game reserve. Kob are present, but most important is a herd of a thousand topi. Mr. J. R. F. Mills, Game Ranger, Southern Range, who showed me this country, said that Major B. G. Kinloch, the Game Warden, had recommended most strongly that both the area north-westwards from the road to the Congo border and the rest of the Kigezi game reserve which adjoins the Parc National Albert—it was included in the P.N.A. for that very reason—should be added to the Queen Elizabeth Park (roughly where the words Ishasha R appear on map 7). Mr. Dreschfield thinks this very important, and that the idea should be pursued.

Arrangements for visitors

In each national park there is a safari lodge for visitors, the equivalent of a hotel. It is managed by a board of directors, half of whom are nominated by the trustees of the parks and half by a hotel company: called National Parks Lodges,

MAP 7.



Uganda, Ltd. Each takes fifty visitors, and has a dining room, a sitting room and a bar. African servants wait on visitors. Individual accommodation is in cottages near the hotel. In each camp there is a shop. The Queen Elizabeth Park itself is already highly developed for visitors. Development in the Murchison, building and road making, proceeds apace, but it does not seem to be disadvantageous to at least many of the animals. A particular herd of wild elephants, for instance, will walk quietly through Paraa Lodge in the middle of the afternoon.

In both parks there are facilities for camping and standing camps for visitors in organized parties, who do not want the expense of a hotel. These camps have been used principally by parties of Africans, amongst whom have been students from Makerere University College. All accommodation is open to people of any nationality.

PARKS PROBLEMS

I think both parks can absorb all the visitors for whom arrangements are already made or planned, without serious disturbance to the wild life in them; but it would be a good thing to fix now, the maximum number of visitors each park shall hold and the limit of road building. Mr. Dreschfield says the limit of safari lodges will be fifty members. He thinks that in the Murchison over-development is prevented by the long grass areas, where roads would not give visibility, and that in the Queen Elizabeth Park, the Maramagambo Forest cannot be opened up.

Nevertheless I think it would be advisable now to set a limit to development in both parks.

The success of the Uganda national parks, which has been great, owes much to the personality and work of Mr. Dreschfield, who, being the Attorney-General and living at Entebbe, has the ear of Government. Mr. Dreschfield believes that the only way to ensure the preservation of wild life in Uganda is to make the national parks popular, for nothing will save them if they have not the support of the population. He is therefore prepared to sacrifice what, on a short view, might seem best for protection if, in the long run, it will save both the parks and the animals.

I indeed agree that popularity is very important, particularly in Uganda, but I think conservation can be made the basis of popularity.

At present there is no national parks office at either Entebbe

or Kampala. The Director of National Parks, Mr. R. M. Bere, lives at the Queen Elizabeth Park. If Mr. Dreschfield were to leave Uganda it would be most important that adequate representation to Government of the "National Parks" point of view should continue.

THE MOUNTAIN GORILLA (see *Oryx*, III 6, pp. 284 and 287-97. Map on p. 289).

In Uganda the mountain gorilla lives in the Kayonza Forest, an isolated area of some sixty square miles, forty miles south of Lake Edward, and also on the slopes of the Birunga volcanoes, Muhavura, Mgahinga and Sabinio. It is completely protected everywhere, but such protection is useless if its habitat is destroyed.

The Kayonza Forest

We visited the "Impenetrable Forest" as it is called on 1st September. It is by no means impenetrable, as tropical rain forests at low levels can be. It is mountainous, extremely steep and thickly forested. It is uninhabited but some prospecting for minerals goes on.

Little is known about the gorillas or other fauna of the Kayonza Forest. It is not a game reserve, for the terrain alone has been considered sufficient protection. I cannot support the notion that legal protection for fauna is unnecessary in any area, merely because the area seems at the moment unlikely to be threatened by development. I recommend that an investigation should be made into the Kayonza forest now, with a view to establishing there a game reserve or national park, before it is too late.

The Birunga Volcanoes

This is the history of the protection of the gorilla on the northern slopes of the volcanoes Muhavura, Mgahinga and Sabinio:—

March, 1930: Sir P. Chalmers Mitchell, as Secretary of the Zoological Society of London, wrote to the Under-Secretary of State asking that the same protection should be given to the gorilla and its habitat in Uganda as was given in the adjoining Parc National Albert.

Later, 1930: A gorilla sanctuary of 18 sq. miles on the slopes of the volcanoes was gazetted, but the protection to the habitat which the P.N.A. affords has never been given.

1939: Whole forest area on north side of the volcanoes made a forest reserve.

1941 : Forest reserve 13 sq. miles marked on the ground.

1950 : Forest reserve reduced to 9 sq. miles. The gorilla sanctuary remains as before but is of no significance as it is the habitat which matters.

December, 1954 : The forest reserve was partly opened to bamboo cutting on permit.

August, 1957 : The land between the 1941 and the 1950 forest reserves seemed to have been cleared to a large extent.

We spent the nights of 30th and 31st August at the 'Travellers' Rest, Kisoro with Miss Donisthorpe who had been studying the gorillas for six months, and Mr. J. R. F. Mills, Game Ranger, Southern Range. On 30th we went by Land Rover the few miles to the gorilla sanctuary and at 7,000 feet left the car and continued on foot, lead by game guard Reuben, who with his patrol had located the area where the gorillas had been feeding early that morning. Both sides of the path we followed were cultivated, and long before cultivation was left behind we saw gorilla dung and fresh remains of vegetation eaten by gorillas. We continued upwards. At about 8,500 feet, when we were merely following a gorilla trail, we heard movement in front of us. Then from the thick forest came a coughing roar, apparently only a few yards away. A few minutes later after creeping low through the undergrowth we came into a fairly open place and there was a party of gorillas. Mr. Mills, who was in front, counted five, I myself saw only two. The more obvious one was thirty yards away by the side of a tree, clear from the waist upwards, with his right arm stretched out grasping a creeper. The gorillas then moved away up the mountain and Reuben said it would be useless to try to see them further.

The gorillas we saw were well below the bamboo forest, which clothes the higher parts of the volcanoes, and were in fact well below the reserved forest line. There would be no legal objection to Africans cultivating and building at the place where we saw the gorillas. Mr. Mills told me that the soil was suitable for cultivation, and might well be so right up to the saddle between Mahavura and Mgahinga. The reserved forest area is only nine square miles and limited bamboo-cutting is allowed in it. I believe that if the reserved forest is further reduced or the gorilla habitat further invaded by building or cultivation, gorillas will no longer be able to exist on the Uganda side of the volcanoes. I discussed the gorilla problem with Mr. Bere who said that the only hope for the gorilla and its habitat in the Uganda section of the Birunga volcanoes lay in a national park, for in this way alone could the gorillas be preserved

in such a small area. This was probably also true of their ultimate fate in the Kayonza forest.

By law a national park cannot be declared in Uganda without previous consultation with the local authority concerned, in this case the Kigezi District Council. Mr. Dreschfield would be very pleased if a national park were declared in the gorilla area, with the approval of the local population.

I am sure that a national park should be established on the Birunga volcanoes and it must be done soon if the gorilla is not to disappear from this corner of Uganda. The great beauty of the volcanoes already attracts many visitors and there still is the added value of the possibility of seeing gorillas, which now that they are completely protected seem to tolerate man more easily than would at one time have seemed possible. For this we must be grateful not only to the Game Department and to Reuben, but to Mr. Baumgartel, of the Travellers' Rest, Kisoro. His great contribution to the preservation of the gorilla is complementary to the complete protection for the gorilla and its habitat given in the Parc National Albert on the southern slopes of the volcanoes.

Even more important for the future of the gorilla in Uganda is the Kayonza forest. It might be thought that here a "strict nature reserve" is appropriate classification, but because of local conditions I suggest a national park there also.

VISIT TO AFRICAN AUTHORITIES

On 3rd September, Mr. Mills and I called on Mr. K. K. Nganwa, Nyanzi (Prime Minister), Ankole Native Government, who had just returned from a visit to England and America. Mr. Nganwa stressed the importance of educating Africans in nature conservation and said how difficult it was to get people to look ahead. He had previously refused the appointment of honorary game ranger because, he said, it would prejudice his work for game preservation in the eyes of the local people.

On 4th September, after visiting Merama Hill (see next paragraph), we called on area chief Kesi. R. Katabarwa, in whose district it is. I explained the purpose of my visit to Africa and tried to encourage him to preserve wild life in his district.

MERAMA HILL AND LAKE MBURO

On 4th and 5th September we camped with Mr. Mills in the Merama Hill triangle, an area of 100 square miles S.S.W. of Ruborogoto. Here we saw game preservation at its lowest level,

that is on the ground. We visited the game guard camp, consisting of two aluminium huts, saw game pits and heard a report from chief game guard Agustino, who brought in a collection of wire snares, foot traps, bows, arrows and poison. Game guard Agustino has done exceptionally good work in this area.

During the morning we counted eland 89, zebra 64, roan 8, oribi 37 plus, reedbuck 143 plus, warthog 7, topi 53, impala 15, waterbuck 7, duiker 3, total 426 of ten species. This was the only place in Africa where we saw any quantity of wild animals outside national parks, reserves or controlled areas, but it must be remembered that we travelled almost always from reserve to reserve.

After leaving Merama we visited Lake Mburo area, again received reports from game guards and saw many animals. Mburo is temporarily closed to hunting and the Game Department considers that when it is again opened, the hunting should be more severely limited that is done by an ordinary game licence. This amounts to a controlled area but Uganda does not like this term.

BELGIAN CONGO

We spent a fortnight in the Belgian Congo, received great hospitality and enjoyed every day of it. For our introductions we are profoundly grateful to Professor van Straelen, Head of the Scientific Institute of the Belgian Congo and a vice-president of our Society. The object of the Belgian Congo parks is the preservation of nature, but it has been found possible to allow visitors, without detracting from the biological value of the parks. We visited only the Parc National Albert and the Parc National de la Kagera.

In all the parks visitors are confined to their cars and must take a game guard with them. These guards are highly trained, among their duties is ostentatiously to pick up rubbish thrown by tourists out of car windows.

PARC NATIONAL ALBERT

First we stayed at Ishango, where the Semliki, as a broad swift-flowing river, leaves Lake Edward to flow northwards into Lake Albert. From the camp, which is on the east bank of the Semliki where a cliff slopes steeply down, there is a wonderful view of the wide sandy beach opposite and the slowly rising ground.

Numbers of small fish frequent this spot and every now and then a large yellowish-black one wells up to the surface,

turns slowly over and sinks again. During the day black cormorants and eastern and pink-backed pelicans fish actively, or sun themselves quietly on the shore. As evening approaches they fly off to roost elsewhere, but before they go waterbuck and elephant arrive for their evening drink.

Hippopotamus abound. One afternoon I went down the cliff and presently a huge ripple came over the water in my direction. A hippopotamus clambered out and came trotting quietly along the path towards me. I stood ready to photograph him but when he was perhaps fifty feet away the game guard dragged at my arm and the hippopotamus turned quietly into the bushes.

Ishango has accommodation for eight people. There is a dining room and a cook, but visitors bring their own food.

Ruindi camp is in the rift valley ten miles south of Lake Edward. It has accommodation for fifty people in rondavels or in cottages with bathrooms. Meals are supplied at a restaurant.

Among the animals we saw were buffalo, elephant, hippopotamus, hyaena, kob and topi; especially interesting was the large yellow bat, *Lavia frons*, which haunts the euphorbias.

Rumangabo.—On 27th August we reached Rumangabo, the headquarters of the Belgian Congo National Parks. As a very special privilege we were allowed to accompany a patrol which was visiting the new volcano, Mugogo, which had erupted three weeks before in the middle of a bamboo forest. It was a huge heap of cinders like a coal mine slag heap with oozy cracks along its sides, the top smoking, and within the crater, thin sulphurous streams.

We also drove down to Lake Kivu and passed over the immense lava beds which have resulted from the successive eruptions of Mt. Nyamuragira and other volcanoes, the sequence of eruptions being distinguishable by the amount and kind of vegetation on the cooled lava.

RUANDA-URUNDI

Our next visit was to the Kagera National Park in Ruanda, part of Ruanda-Urundi, a trust territory not strictly speaking part of the Belgian Congo. Ruanda is thickly populated and there is constant pressure to throw the whole Kagera park open to cultivation and grazing. In the west there are African cattle people, Watusi; in the south, mines. Poachers from Tanganyika cross the Kagera river and enter the eastern side of the park. There is no official arrangement for the extradition of poachers between Ruanda Urundi and Tanganyika, but there

is excellent personal co-operation between the warden of Kagera, Monsieur J. Haezaert and the Tanganyika game ranger on the eastern side of the Kagera river, Mr. B. Cooper.

Kagera National Park has an area of 470 square miles. It was created in 1934 in two parts, strict reserve and annexed area. Africans were living in both parts but in August, 1957, those living in the strict reserve, Banyaeambo, were evacuated and compensated. In the annexed area Africans can still settle, cultivate and graze their herds. They are not allowed to capture or kill animals but as they may dig pits to protect their shambas, the enforcement of the game laws is extremely difficult. Africans do not use firearms in the area but poaching is rife with spear, trap, pit and poisoned arrow.

There is no African support but much hostility towards Kagera Park and the only hope of keeping it seems to be to attract visitors. Kagera is not easy to reach and up to now there have been neither many visitors nor much accommodation for them. But a government hotel to hold forty is being built and will be finished in 1958.

There are many animals: we saw zebra, impala, topi, oribi, buffalo, waterbuck, eland, roan, grey duiker and others. The Kagera river and its papyrus swamps, inhabited by Stuhlmann's monkey and sititunga give the park a special interest, though it is sad to say that all the large crocodiles have been poached from the river. There are no longer nests or eggs, nor are there likely to be until such small crocodiles as remain grow up.

Problems in the Kagera

(1) To establish an effective game reserve in Tanganyika along the east bank of the Kagera river. It would preserve Stuhlmann's monkey and sititunga in the marsh and the crocodiles.

(2) To re-introduce the black rhinoceros, which has been exterminated by poachers. The Game Warden of Tanganyika has given permission for a certain number to be moved across the Kagera river if it can be done without any killing. Professional animal catchers might undertake this and inquiries are being made among reliable men. Alternatively a new method of anaesthetizing animals by specially treated arrows might be tried. This has already been done successfully in America to move wild deer and a team is coming from Florida University to Africa, to test it on larger animals. But the method is still experimental.

(3) To reintroduce the elephant into the Kagera—the last was killed about 1950. There is a herd in a patch of bush in

the Rubona area, some fifty miles south of the park. This bush is being steadily destroyed by human penetration and, unless the elephants can be moved into the Kagera, they also will be destroyed. The country between the patch of bush is cultivated and includes a papyrus swamp.

Mr. D. K. Thomas, the acting game warden told me that a similar problem had confronted Mr. Brian Nicholson, the game ranger of Nachingwea in South-East Tanganyika, about eighty miles W.S.W. of Lindi. He had succeeded in driving elephants fifty or sixty miles through cultivated land, always at the cost of killing a few cow elephants. It was useless to drive the bulls, but the cows could be driven and the bulls would follow. Mr. Nicholson had found shooting bulls useless also for crop protection under his particular conditions.

I sent all the above information to M. Haezaert.

TANGANYIKA

I only visited the northern part of Tanganyika and so did not see the situation elsewhere. Unfortunately also Mr. G. H. Swynnerton, the game warden, was in England at the time of my visit, though I had a valuable discussion with Mr. D. K. Thomas, acting game warden.

At Arusha on 1st October, Mr. D. K. Thomas and I discussed the matters raised by the warden of the Kagera Park. Mr. Thomas gave his advice and promised his co-operation. He told me that education in wild life preservation was starting in a very small way in the schools. Most needed in Tanganyika were really deterrent sentences upon offenders against the game laws. Extradition of poachers between territories was not a "live" issue, but legislation to make it easier, would be useful.

THE SERENGETI NATIONAL PARK

Aerial Views.—Mr. John Hunter, member of the Legislative Council and of the National Parks Board, most kindly took us for three flights over the Serengeti in his private aeroplane. First we went from Arusha north-westwards over and around Embagai crater, the flamingo sanctuary, and then across the central plains to Seronera. After our stay in the western Serengeti he flew us back, but on a south-easterly course, past the Moru Kopjes, over Naabi Hill and the Olduwai Gorge, past Lake Lagaja and Lake Eyasi to Oldeani. Finally, after our visit to Ngorongoro he took me for a flight along the forested

easterly slopes of the Crater Highlands—Ngorongoro, Olosirwa and Oolmalasin; then eastwards until we crossed the rift valley wall; then southwards to Lake Manyara, and eighteen miles along its western shore before our return to Oldeani.

On the south-easterly slopes of the Crater Highlands we saw many Masai herds grazing—Mr. Hunter estimated 5,000 beasts—and many established manyattas. All were in the national park and all illegal. A new national park, thirty-five miles long and three miles wide, is proposed along the western shores of Lake Manyara from Mto-Wambu (Mosquito River) to Maji Moto (Hot Springs). It is a good place for birds, especially flamingos, pelicans and wintering migrants from Europe. Wildebeest, rhinoceros, buffalo, elephant and other animals move down into the area during the rainy season, when the Crater Highlands become too wet.

Serengeti West

We visited the western Serengeti from 2nd–4th October, staying at Banagi with Mr. Myles Turner, the warden. As it was towards the end of the dry season, we expected to find great numbers of animals in what is called the dry season concentration area, between the rivers Grumeti and Mbalangeti. But Mr. Turner told us that only a few animals were in that area. Most had moved north of the Grumeti and out of the park, because, there, a little rain had fallen and grass was sprouting. We hardly entered the corridor ourselves, but a party of American scientists who had just spent a day in the corridor with Mr. Gordon Poolman the park ranger, confirmed the absence of animals.

The Grumeti and Mbalangeti, though the best rivers in the district, were only a series of pools at that time. The true dry season concentration area extends well to the north and south of them, in the north at least from Ikoma to the Ruana river and in the south to the Duma river. The distribution of the rare showers of dry season rain varies and with the showers move the animals.

Poaching is rife both north and south of the Grumeti and Mbalangeti. Poachers burn grassland outside the park, so as to beguile the game on to the new grass, which will spring up on the burnt area, as soon as a shower of rain comes.

We came upon a gang of poachers when returning from a day's drive northwards towards the Mara Triangle, which is just over the Kenya border. We were being driven by Mr. Turner in a Land Rover, when suddenly the game scout in the back signalled,

and off we went across country towards some dark figures a quarter of a mile away. Right across the shallow valley between us and the poachers was a line of nets towards which a herd of Thomson's gazelle were being driven.

The fleeing poachers separated and hid in what bushes they could, but we overhauled them and, with the help of the Africans who were with us, soon made four of them prisoner. Within a few days they would be charged before a magistrate with killing game by illegal methods.

Then we turned to inspect the ground. The nets consisted of long lines of nooses made of wild sisal echeloned in a "V" formation. Shorter lines of the same ingenious snares closed the bottom of the "V". No small antelope driven into this maze could escape. Under a nearby bush we found three gazelle which had just been killed and, with them, bows and poisoned arrows.

The purpose of our journey towards the Mara Triangle was to look at the northward extension of the Serengeti National Park recommended in the Serengeti Committee's Report. It is uninhabited, and includes the Orangi river, which always holds water, though at the end of the dry season only in a succession of pools. There are some fine kopjes, among which we saw our first klipspringers.

We also visited the Moru Kopjes, another area vital to the preservation of the Serengeti animals. By arrangement with the Masai administration, a line drawn north-east from Magadi lake to Soit ol Modison Kopjes had been fixed as the northerly boundary of Masai grazing; but much grass burning had been done north of this line—in fact a big fire was raging at the time of our visit. It looked as though this fire had been lit deliberately by the Masai, in a dog-in-the-manger spirit.

Eastern Serengeti.—We stayed at Ngorongoro from 4th–6th October with Mr. Gordon Harvey, the park warden. The Serengeti Committee's Report, which recommends that the whole of the eastern Serengeti should cease to be part of the national park was made public on 8th October. I understand it was not in the hands of either the Director or the Trustees of the National Parks until the 7th October. Nevertheless I was told by Mr. Gordon Harvey that even the District Officer Ngorongoro had had a copy by the middle of September. If information of this kind is given to some and not to others equally or more nearly concerned it becomes a fruitful source of antagonism and jealousy, which Government must surely wish to prevent.

The Ngorongoro Crater and the Crater Highlands are under

the National Parks, whereas the Masai who graze their stock in both are under the District Officer Ngorongoro. This is obviously a difficult position and a strained relationship existed between National Parks and the Administration. I believe it can only be resolved now by bringing the whole area under one head, as the Serengeti Committee's Report recommends.

The Ngorongoro Crater

We spent the whole of 5th October in the crater and saw a wonderful display of wild life—wildebeest, zebra, Thomson's and Grant's gazelle, eland, one serval cat and twenty lions, including two with huge black manes. Two lionesses drank from a pool within twelve yards of our Land Rover.

There were also the Masai with their cattle, sheep and goats which have unlimited access to the crater. About six manyattas, small fenced encampments, are there permanently ; many other herds are driven in for water and grazing. October and November are the months of greatest occupation. Though Masai do not kill wild animals for food, they kill lions and rhinoceros when these interfere with their stock—sometimes such "interference" is merely a pretext for a hunt. Masai destroy thorn trees to build fences. Masai stock compete with wild animals for water and grazing and unavoidably interfere with them in other ways.

A striking sight in the crater was the black aftermath of a very big grass fire on the crater floor, a fire which had been put out only by the strenuous efforts of the warden and his staff. Had this fire reached the forested walls of the crater, it would have been devastating. These forests are within the national park and are in constant danger from the fires of Warush honey hunters, who sling hollow logs in trees as hives to attract wild bees. When the time for collecting honey comes, the hive is lowered, until it hangs in smoke. After the bees have been smoked out, the honey is collected and the hunters move on, but seldom bother to douse the smouldering fires.

Probably only twenty or so Warush hunt for honey in the Ngorongoro forests, but these put up hundreds of hives. They have no legal right in the forest but are said to be sheltered by the Masai, presumably in exchange for honey.

DISCUSSIONS WITH THE MINISTER

On the 7th October Mr. A. E. Trotman, Minister of Natural Resources, Mr. M. J. B. Molohon, Provincial Commissioner, Northern Province, ourselves and others were the guests at a

"sundowner" given by the Tanganyika Wild Life Society. Mr. Trotman asked whether we had seen plenty of animals and when we answered "Yes" added that we would then be able to deny the untrue rumours which were going around about there being no game left in the country. We confessed that outside reserves we had seen very little wild life. Mr. Trotman referred to Great Britain's trusteeship of Tanganyika, and I asked him whether our trusteeship did not include responsibility for the wild life. Mr. Trotman said that if the international bodies who were so concerned about the Serengeti would provide money for it, something could be done. We agreed to meet again next day.

Note.—In the Serengeti Report also there is the suggestion that money from outside might be forthcoming to support a sound Serengeti scheme. And there is the recommendation that the distribution of any such money between the proposed Ngorongoro Conservancy and the new Serengeti National Park should be in the hands of the Tanganyika Government. Whatever might be the world response to the appeal to support a new Serengeti National Park, I doubt whether much money would be procurable from people interested in wild life preservation, if subscribers thought it might be used for land development for the Masai. Donors would think such work the sole responsibility of the Government of Tanganyika. Would the Colonial Development and Welfare Fund contribute towards this latter object?

On 8th October, Mr. Trotman, Mr. Hunter and I met Mr. Molohon at his office. We discussed:—

(1) *The Report of the Serengeti Committee.** Mr. Molohon described the Report as the only possible solution to the Serengeti problem and seemed to foresee no great difficulty in implementing it. He explained that clearing of bush to prepare land for the Masai would be needed, particularly in the Girtalo area north of the park. The Endulen area south of the park might also be possible, because, as the rock foundation seemed to be of granite, the fear that the water contained too much fluorine might well prove unfounded. East coast fever was endemic but could be conquered by the veterinary surgeons. Inquiries were being made into the cost of the Ngorongoro Conservancy recommended by the Committee.

* Report of the Serengeti Committee of Enquiry, 1957. Government Printer, Dar-es-Salaam. Price Shs. 7/50.

The Tanganyika Government's view of this Report had not been made public by March, 1958.

Mr. Trotman said that though he was still a trustee of the Serengeti, the National Parks Department was about to come under the Ministry of Local Government. In Tanganyika this is the equivalent of a Ministry for Native Affairs. I should have thought that National Parks ought to be the responsibility of a Minister not directly involved in native questions, but I heard that Mr. Trotman is likely to remain in charge of the Serengeti question until it is decided.

I asked Mr. Trotman also about Government's likely procedure on the Serengeti Report and whether he could assure me that the Tanganyika Government would not rush its own solution through Legislative Council, without that body being able to consider it properly. Fears of this had been expressed to me by many people in Tanganyika. He thought that a White Paper would be published on the Report in December and that this would be debated in the Legislative Assembly in February. He could give no assurance that there would be any such interval and suggested that I should write to ask the Chief Secretary that time for discussion should be allowed between the publication of the Government's "White Paper" and the decision on the implementation of the Report. He would support my letter when he returned to Dar-es-Salaam. This I did and received an assuring reply.

(2) *Game Reserves.* The Game Department comes under Mr. Trotman. He said that by the end of 1957, the boundaries of game reserves would have been altered where necessary to make them ecological units free of human interference which could be properly controlled. Some of the reserves might be reduced a little in size but only a little.

(3) *Making the Possession of Arrow Poison Illegal.* (A prohibition which many people had told me was essential if the wild life was to be preserved.)

Mr. Trotman said such a law could not be enforced. Mr. Molohon said that Africans must be allowed poisoned arrows to defend their homes against wild animals, especially lions. I said that I thought poisoned arrows were an offensive not a defensive weapon, and asked if any lions which became a persistent nuisance ought not to be destroyed by the Game Department. Mr. Molohon replied that the Department had too few men for this purpose.

(4) *Realistic Sentences for Poaching.* Mr. Trotman said that a memorandum about this was being considered by the Governor.

(5) *Education of Africans in Nature Conservation.* In reply to my suggestion that organized parties of African school children should visit reserves and national parks, Mr. Trotman asked who would pay for these visits.

I believe that the Tanganyika Government appreciates the value of their Serengeti Committee's recommendations, but may feel handicapped in applying them fully by insufficient understanding of the importance and object of native conservation among the population generally, and even in certain quarters of the Administration itself. On the other hand, the Government will not underestimate the strength of the international support which the Committee's recommendations have received, or the consternation which will arise if they are not substantially adopted.

KENYA

The advance in wild life preservation and the changing public attitude towards nature which has come to Kenya, is due chiefly to the enthusiasm, persistence and determination of Mr. Mervyn Cowie, the Director of National Parks. But it is also an example of what can be achieved when a strong director and a sympathetic governor work in harmony in the same territory, to say nothing of the fact that the Commander-in-Chief was an enthusiastic naturalist.

Another cause for congratulation is the success of the Kenya Wild Life Society which under the chairmanship of Mr. N. M. Simon, has done invaluable work and reached a membership of 1,800.

LAKE NAKURU

We visited Nakuru from 9th–10th September. The wonderful sight of hundreds of thousands of flamingos, greater and lesser, will remain an abiding memory. It must surely be one of the most wonderful things in Africa. And not only flamingos, for this enchanting lake was already sprinkled with birds wintering from Europe, black-winged stilts, little stints, dunlins and avocets, besides many African birds—sacred and glossy ibis, blacksmith and sand plovers, skimmers and grey-headed gulls.

Lake Nakuru had been visited just before us by Mr. R. T. Peterson, the American ornithologist, who recommended that the lake and its surroundings should be made a complete bird sanctuary. This idea was enthusiastically supported and there is every hope of a successful outcome of the discussions now proceeding.

NAIROBI NATIONAL PARK

Nothing could be better as an introduction to Kenya's parks than this area of forty-six square miles on the outskirts of Nairobi, but we must never forget that its existence depends not only on the goodwill of the people of Kenya, which is, I think, assured, but upon the continuance of the adjacent Ngong National Reserve as a true nature reserve—by no means so certain. Among the animals we saw in Nairobi Park were wildebeest, zebra, impala, Thomson's and Grant's gazelles, Coke's hartebeest, giraffes, a family of hunting dogs, two lionesses with three cubs. There were five two-year old lions on one kill and three hyenas and vultures on another, the lions at least quite unconcerned by the cars around them.

TREETOPS

A description of the night we spent at Treetops as guests of Mr. Sherbrooke Walker is given in the last issue of *Oryx*. It is a remarkable place which deserves a visit by all who tour East Africa. Anybody so unfortunate as to be in Africa with little time to see wild animals can at least get a glimpse of their wonders in a day in the Nairobi National Park and a night spent at Treetops.

MARSABIT RESERVE

We got no further north than Isiolo where we stayed with Mr. G. H. Dalton, the game warden. It is very dry semi-desert country. Here only we saw Grevy's zebra, reticulated giraffe, many of them along the main road, and Beisa oryx. Gerenuk we saw here and in Tsavo East. Dikdik were especially common. We visited Uaso-Nyiro, a pleasant, small riverside camp on the "provide for yourself" principle.

ABERDARE FARM

We stayed at Aberdare from 16th–18th September, the guests of Brigadier-General A. R. Wainwright, Miss Wainwright and Mr. C. A. Winnington-Ingram. The farm is at the north end of the Aberdare Mountains at a height of 8,500 feet. Its area is 10,000 acres, of which 200 are cultivated. The stock consists of 1,500 cattle and 5,000 sheep. Taking (as a means of grazing measurement) five sheep to equal one cow, the farm is carrying 2,500 cow units. This is four acres to each unit and shows that the land is fully used, because the normal carrying capacity in this district is five acres to each unit. Aberdare is farmed on scientific and business lines, not merely as a hobby.

But the idea is to work *with* nature and therefore to preserve as much wild life as possible on the estate. About 2,500 acres has been made a game sanctuary including both forest and farmed grazing land. Wild animals include rhinoceros, buffalo, eland, waterbuck, bushbuck, giant forest hog and of course warthog and baboon. Sometimes bongo and lion may be found.

In the game sanctuary, a quarter of the whole area, all wild life is preserved. Wild animals are driven away from the rest of the farm and if necessary destroyed. This usually amounts to shooting warthog and baboons only.

Fencing.—Wherever necessary the land is fenced against game, the quality varying according to distance from the forest and therefore likelihood of damage. The strongest fences are five feet high and consist of six strands of the best barbed wire. Posts are fifteen yards apart with six droppers between each. This had so far proved an effective protection.

Tickborne Diseases.—When stock graze in the game sanctuary, they are dipped more often than they would otherwise be.

Vegetation and Erosion.—The farm was established in 1921. Until about 1910 it was part of the Masai grazing country and there are still eroded valleys down which their cattle went to water. Stock are not now grazed in these valleys and they are protected against fire. One can see resulting restoration of the land and where the new trees, mostly juniper-cedar, are coming up.

Grasses and Grazing

It is difficult to stop the spread of the coarse grass *Eleusine jaegeri* for cattle eat the seeds of this otherwise unpalatable grass and spread it. But where wild animals graze, this *Eleusine* is not spread, possibly because they, unlike cattle, will eat the grass before it reaches the seeding stage. A similar, though less noticeable effect, is seen with a species of *Pennisetum* which forms a coarse mat.

Grass Burning

Acting on the advice of the Agricultural Department, fire was for years almost entirely banished from the farm, but a policy of strictly controlled burning on a four years' cycle is now in force. First year—intensive grazing by sheep. Second year—grazing by sheep except during the grass seeding time when the land is rested. Third and fourth year—grazing by cattle followed by sheep, the grass then being allowed to grow until towards the end of the fourth year when it is burnt. This sequence has been found to encourage oat grass and to discourage wire grass, a species of *Pennisetum*.

Development

At Aberdare consideration is given to the needs of wild animals in so far as they are compatible with good farm management. For example, a fence would not be put across a game path, if it could equally conveniently or nearly equally conveniently run elsewhere. Aberdare farm shows what can reasonably be done to preserve wild life in farming country, if some sacrifice of profit is accepted, as the price of having wild animals about.

THE ABERDARE NATIONAL PARK

Nearly all this park is above the forest line and does not include country where the forest animals can live. Below the park is reserved forest into which many animals, for example eland and zebra, have been driven up from the plains because European farming has deprived them of their true habitat. Vast numbers were of course killed. But even in the reserved forest the animals are not completely protected. True sanctuary—especially important for the bongo—would be given if a good belt of forest were included in the park.

AMBOSELI NATIONAL RESERVE

We stayed with Mr. F. D. Lovatt-Smith, the acting warden, from 21st–24th September. This reserve is shared by wild life and Masai, but as in all national reserves in Kenya, the needs of man come first and that seems to give the most primitive of men the right to destroy the land to their own future peril.

Water and Grazing

Amboseli occupies 1,200 square miles. Permanent water is found only within an area of twelve by four miles. It is in three swamps which vary in extent according to the season, and in a few water holes to the south-west of them. During the dry season there is almost no other water within twenty-five miles. But in many places in this vast waterless area there is good grazing and wherever there is water within a day's return trek, the Masai settle temporarily and build their manyattas (small stockaded settlements). Every other day the herds must water, so there is a constant stream of cattle from ten miles out and more, to and from the Amboseli swamps. Great clouds of dust are raised by the trampling of the herds; the grass is destroyed and the prevailing east wind sweeps away the soil.

Though the Masai seldom kill wild animals, except lions, their indirect effect upon them is great and bad. The animals are continually disturbed and their opportunities for drinking,

except by night, greatly restricted. Such creatures as elephant and rhinoceros, which enjoy resting in the swamps during the day, often cannot do so. These factors together result in great pressure on wild life and are possibly the cause of some animals becoming scarcer, eland, oryx and waterbuck for example.

Motor-cars also cause erosion and I fear that it may soon be necessary to restrict visitors to definite tracks.

The Vital Area

The area vital to the survival of Amboseli as the spectacular wild life sanctuary it still is, is the well watered and wooded part already described, called Ol Tukai. Both the Masai and wild life will greatly benefit if water can be provided within the grazing area, but away from Ol Tukai—the Masai by having less distance to drive their cattle to water, the wild life by the reduction in Masai and cattle. Such places might be found on the lower slopes of Kilimanjaro and north-west of the dry bed of Lake Amboseli. A suggestion on these lines was made to the Kenya Game Policy Committee, whose first commission was Amboseli, but their recommendations have not yet been published. The matter becomes more and more urgent with the increase in Masai cattle, due to improved veterinary services and insistence upon inoculation against rinderpest, east coast fever and pleuro-pneumonia. Mr. Lovatt-Smith told me that the Masai had agreed to restrict resident stock in the Ol Tukai area to 6,500 cattle and 500 sheep and goats, but that there were already about 8,000 there, counting cattle only. No restriction has ever been placed on the number which might be brought in to water at Ol Tukai. At the time we were there it was between ten and fifteen thousand.

Visitors' Camps

There are two camps both on the "provide for yourself" principle. No. 1 has twelve bandas (small houses). No. 2 has ten. It is designed in the Asiatic style and is used by both Asiatics and Europeans. There is a good shop with supplies of tinned food.

TSAVO WEST

We stayed here with Mr. C. W. Marshall, the warden, from 24th–26th September. Tsavo as a whole was once described as a hot dreary desert, given up to national parks only because no other use could be found for it. But Tsavo West at least has fine scenery, particularly in the south, the volcanic region. Especially there is Poacher's View with a magnificent panorama

from Kilimanjaro to the Chyulu hills, with the park spreading out towards them.

We saw many animals including dikdik, rock hyrax, elephant, rhinoceros, hippopotamus, giraffe, hartebeest, fringe-eared oryx and lesser kudu. Poaching, recently rampant, has been greatly reduced by the Kenya anti-poaching drive.

The water for the district comes from Kilimanjaro and the Chyulu hills. Both have a heavy snow or rainfall, but the soil is volcanic and the water quickly sinks in. Later it comes up in springs. If water supplies were improved, with catchments, dams and boreholes, this park could rival most. The term "dam" in Africa includes the lake which the dam causes and which, often becomes a wintering place for wildfowl from Europe.

Mzima Springs.—It was fine to see these beautiful pools with their surrounding vegetation, their hippopotamus and their fish and to know that our Society had a share in saving them from ruin.

TSAVO EAST

We visited this reserve from 26th–28th September. It is the scene of Kenya's anti-poaching drive, organized by National Parks and carried out with the help of the Police and the Game Department. The operation was planned at a conference on 1st November, 1956. By 1st January, 1957, three forces were in action, each consisting of two Europeans, one African sergeant, three corporals, thirty privates and one M.T. driver.

Mr. D. L. W. Sheldrick, warden of Tsavo East, controls the whole operation by wireless from Voi. An aeroplane has often been used very effectively for spotting poachers and their works; but fundamentally, information comes from informers, many of them ex-poachers, who lead patrols to "hide-outs". When caught, poachers are prosecuted before superior magistrates, for native courts though often more severe, cannot give adequate punishment. Close family relationships have been discovered between poachers, and the effect of questions put to prisoners from the family trees which have been built up, has sometimes been quite devastating.

At first the area of operation was a matter of 40,000 square miles centred on the park, which was rapidly becoming a faunal desert. At the time of our visit the park could be called clear of poachers and the drive had been extended far beyond it. By October, 1957, the Makindu or western force was driving north-east to the Garissa country on the Tana river, and the Hola, eastern force, from the Tana river to the Somaliland

border; the Voi force was consolidating the area cleared of poachers.

Poachers and their Profits

Before the drive started there were between 400 and 500 poachers in the park area. They came from the Waliangulu, Wakamba and Giriama tribes and hunted chiefly elephants for ivory, and rhinoceros for their horns, though no animal came amiss for meat, or for sale as biltong. The poacher himself, always an African, gets about two shillings a pound for ivory, the African middleman about seven shillings. Finally the ivory reaches Mombasa, the centre of the ivory trade. Here good ivory, legally obtained, is worth £1 a pound and rhinoceros horn £4 a pound.

Outcome of the Action

Between 1st November, 1956, and the end of August, 1957, 295 poachers were caught and 284 convicted. 8,684 lb. of ivory and 264 lb. of rhinoceros horn were recovered. The very latest news is of 1,280 elephant carcasses found in an area of twenty by twenty-five miles.

The civil authorities in Mombasa have been co-operative and several dealers have been convicted and punished. Police Superintendent Potgeiter, who has been specially employed on work connected with the drive, has obtained convictions against 115 Africans, two Asians, seven Arabs and one Somali, and has recovered 4,076 lb. of ivory. These figures exclude normal police duties.

The Future of the Anti-poaching Drive

As soon as the present operations are completed, control of poaching throughout Kenya will become a direct Government responsibility. It can hardly be expected that the present organization which is doing such magnificent work, will be maintained indefinitely, but if it is allowed to disintegrate, the poachers will return. Mr. Sheldrick suggested that the three forces should be reorganized into one mobile force, to operate anywhere in Kenya. Such a force would presumably be under the Game Department, perhaps with its headquarters in Nairobi. In order to help pay for this force might not some of the game scouts who seem to be much dispersed about the country, be withdrawn? The principles of concentration and economy of force are, I suppose, as important in wild life preservation as in war. Kenya has set an example to Africa in both the

conception and the execution of this work. It would be shocking to allow the situation to relapse.

East Tsavo Generally

Here quite apart from the anti-poaching drive, is wild life preservation at its hardest and the building up of a national park at its most difficult. Northwards from Voi until the Galana river is reached there is arid scrub with not very much to attract visitors, except for a few interesting ponds and an artificial lake. It is the country of the bush game, rhinoceros, lesser kudu and oryx and important for the preservation of these animals.

Artificial Water Supply

Near Voi there is a break-pressure tank where the water pipe to Mombasa runs through the park. Here, Mr. Sheldrick has ingeniously constructed a trench to carry waste water to a wet-weather pool which he hopes to make permanent. If Mombasa's demands greatly increase, this source of water may cease.

MOMBASA IVORY ROOM

On 10th October we were shown around this auction room by Mr. S. Morris-Smith, the Game Department warden in charge. He told us that in 1956, 7,615 tusks from Kenya, Tanganyika and Uganda had passed through his books, which meant that the tusks of some 3,800 elephants had been legally exported from the three territories. The total weight auctioned was some thirty tons, its value about £70,000. Nearly 5,000 tusks from the Belgian Congo also went through the books that year, but having been already sold, were not auctioned. During the same year 790 rhinoceros horns passed through the Ivory Room, the produce of 395 rhinos. Much rhino horn is exported illegally from Kenya every year and at a conservative guess twenty tons of ivory.

Mr. Morris-Smith then showed us about 2,000 tusks, a half-year's supply, laid out for auction and explained the differences in the quality of the ivory. He himself conducts the auction.

On 11th October we sailed for England.

GENERALITIES

EDUCATION IN NATURE CONSERVATION

In Uganda and Northern Rhodesia a great effort is made to give Africans an idea of the reason for preserving wild life. But national park staff and game wardens generally, said that there

was hardly a man among their Africans who had any comprehension of the idea behind his work. This is not surprising—to how many people is their work more than a means to earn a living? Moreover, wardens have very hard practical work to do and little time left over for teaching. Nevertheless, many opportunities to teach conservation occur in the field and efforts to instil their lessons would, I believe, be surprisingly rewarded.

FIRE

Grass and bush fires sweep over the African plateau during the dry season, sometimes accidental, sometimes deliberate. After the fire, either immediately or following a shower of rain according to the climate, the grass springs up and of course the grazing animals collect on it to feed. Equally, of course, burning is said to be “good for the grazing”, and until recently this view would hardly have been challenged. Even yet, I heard it expressed, and strangely enough in Uganda, where I would have expected the scientific opinions of Dr. van Straelen, Professor Pearsall and Dr. Darling to have prevailed.

I think I am right in saying that burning is always bad for vegetation and that constant burning means deterioration of the grass cover—slow, but terribly sure. Fire resistant species survive, species which are too coarse, except as very young shoots, for most animals to eat. Steadily the grass degenerates and the number of animals which the area can support is reduced. But there are other considerations. It is said:—

- (1) That the area will be burnt anyway, by accident, or deliberately by Africans, and it is better to have controlled than uncontrolled burning. This should not be true of national parks.
- (2) That Africans will burn outside the park to entice animals to the newly sprouting grass. Parks will lose their animals if they cease to burn. Locally there is truth in this fear.
- (3) All the grassland will turn to bush and the antelopes of the grassland will disappear if burning stops. This is an exaggeration, but may well be true of some areas where bush is the natural climax vegetation.
- (4) If controlled burning is not done “Parks” will be responsible for fires from national parks spreading into cultivation—this was from Northern Rhodesia.

If carefully controlled burning be allowed for these reasons, the question of early or late burning arises. If the grass is burnt early, before it has quite dried off, a fire of comparatively little

severity runs lightly over the land. It does small damage to trees but the grasses still contain their sap and are injured. This is the foresters' fire. Late burning is fiercer, may destroy trees, but perhaps does less injury to the grasses, whose strength is then underground. This question of fire, though possibly not difficult to answer theoretically, bristles with so many practical difficulties that much more investigation into burning and its effects is needed. But at least haphazard burning should immediately cease.

CATERING FOR VISITORS

In national parks catering is either on the "hotel" or the "fend for yourself" principle. In the "hotel" all meals are provided, there is a sitting room and a bar; there is usually quite a large camp. The "fend for yourself" camps are generally smaller. In some the visitor must bring all his food; in others tinned foods may be bought at a special shop. The two Lodges in the Uganda parks are the foremost example of the "hotel" principle and I was told that when "fend for yourself" was in vogue but "simple meals" were also offered, visitors all wanted "simple meals". Undoubtedly if meals may be bought most people will go to them rather than provide their own and there will always be visitors who much prefer a hotel. Nevertheless for camps newly forming, I recommend the "fend for yourself" method, though for visitors coming by air, special arrangements may be necessary.

In the hotel system there is always the difficulty of keeping a large staff and of loss when the accommodation is insufficiently taken. There must be fixed times for meals, which mitigates against the enjoyment of many people. The feeling of being "in the wilds", so important a part of a national parks holiday, is reduced by a hotel. And finally, catering, far from supplies, is difficult and expensive, with as a result high prices to visitors. However hard you try some will say that you are running a bad hotel.

NATIONAL PARKS, BOARDS OF TRUSTEES

Trustees of a national park have, I believe, the same duties towards their trust as have other such people. Nay more, for their trust is likely to be assailed from many quarters, by greed, by prejudice, by ignorance. Sometimes well meaningly by those who think that preservation of wild life prejudices the welfare of primitive man, but more often by those who neither know anything of conservation, nor have any intention of learning.

Trustees must understand their trust and if they are to defend and not fail it, must be ready to resign if demands essential to their trust are refused. When frustrated they must be able to state their views publicly and even bring them to the bar of international opinion. Trustees must have the faith of their fellows, so that those who love the parks may say "Our parks are safe in their hands".

It may be hard to find such trustees. Some government servants and men similarly placed can take a firm stand against Authority; for others to do so would be to jeopardize their livelihood. Therefore I think that a Board of Trustees should contain very few government servants, but should consist mainly of men knowledgeable scientifically and locally, and men of international repute from other countries. Upon such Boards the existence of the parks depends.

CONCLUSION

Moving as I did from reserve to reserve and from national park to national park, quickly and by main roads, I cannot claim to have a true picture of the wild life position. I can only say that hardly ever, outside some kind of reserve, did I see any large wild animals. I do not pin my faith solely to national parks, which may become too devoted to the interests of visitors, but I fear that soon there will be few large animals outside reserves of some kind, public or private.

Not enough is being done to co-ordinate work of wild life preservation among the territories I visited. I hope that my visit may have helped in this respect. I believe that the formation of a Nature Conservancy for East and Central Africa is worth considering.

Just as we no longer take our stand on game preservation but upon nature conservation, so I found that those who do not agree with us no longer say "man's interests must come before those of wild animals", but now cry "We wish we could do these things but can't afford them". But can anything be more important to man than the conservation of his environment?

I thank the Society for allowing me and my wife to visit Africa on behalf of our Society.

A confidential report was made to Council by the Secretary in December, 1957. In January, 1958, a Committee was appointed to consider and, where necessary, act on his Report.

The next issue of *Oryx* will give members information on recent developments.