

K9/67/3/5162  
30

PAPER SLIP  
LIBRARY  
PARLIAMENT  
OF KENYA  
LIBRARY



**ROYAL NATIONAL PARKS OF KENYA**

**1960-1961**

**10/-**

KG. 232

---

K/NAT



LEGISLATIVE COUNCIL LIBRARY

KENYA NATIONAL ASSEMBLY  
Accession: 10013535

Call No: 657-3 RNP



ROYAL NATIONAL PARKS OF KENYA

**REPORT**  
**1960-61**

*PART I Report by the Chairman of Trustees*

*PART II Report by the Director*

P.O. Box 2076, Nairobi, Kenya.

ROYAL NATIONAL PARKS OF KENYA

(30th June, 1961)

**PATRON:**

HER MAJESTY THE QUEEN

**HONORARY PRESIDENT:**

HIS ROYAL HIGHNESS THE DUKE OF GLOUCESTER,  
K.G., K.T., K.P., G.C.B., G.C.M.G., G.C.V.O., P.C.

**HONORARY VICE-PRESIDENT:**

LORD HOWICK OF GLENDALE,  
G.C.M.G., K.C.V.O.

**HONORARY TRUSTEES:**

The Hon. Sir Alfred Vincent, M.L.A.—*Chairman of Trustees*

\*K. A. Brown, Esq., D.S.O.

Dr. F. Fraser Darling, D.Sc., Ph.D., N.D.A., F.R.S.E.

Dr. Fairfield Osborn

J. C. Rammell, Esq.

Captain A. T. A. Ritchie, O.B.E., M.C.

Sir Reginald Robins, C.M.G., O.B.E.

Peter Scott, Esq., C.B.E., D.S.C.

Dr. E. B. Worthington

**TRUSTEES:**

\*Sir Charles Markham, BART. (*Chairman of the Executive Committee*)

*The Chief Commissioner*—R. E. Wainwright, Esq., C.M.G.

*The General Manager, E.A.R. & H.*—G. P. G. Mackay, Esq.

*The Permanent Secretary, Ministry of Tourism, Forests and Wild Life*

J. L. H. Webster, Esq.

\**The Chief Conservator of Forests*—E. J. Honore, Esq.

\**The Chief Game Warden*—I. R. Grimwood, Esq.

R. E. Anderson, Esq., O.B.E.

E. Baumann, Esq.

The Rt. Hon. the Lord Delamere

\*F. T. Holden, Esq., C.B.E.

J. S. Karmali, Esq.

M. St. J. Lawrence, Esq.

Dr. J. C. Likimani

\*Dr. L. S. B. Leakey

The Hon. E. N. Mwendwa, M.L.C.

The Hon. A. J. Pandya, M.L.C.

The Hon. P. Rurunban, M.L.C.

J. M. Ole Tameno, Esq.

\**Members of the Executive Committee of Trustees*



## Administrative Staff

(at 30th June, 1961)

<i>Director</i>	Mervyn Cowie, C.B.E., E.D
<i>Deputy Director</i>	J. A. Hilton
<i>Chief Accountant</i>	A. E. Billingsley
<i>Administrative Assistant</i>	F. D. Lovatt-Smith
<i>Secretary</i>	Mrs. I. Fullagar
<i>Information Officer</i>	Mrs. F. Belletti
<i>Secretary (Water Fund)</i>	Mrs. W. D. G. Rowe
<i>Stenographer</i>	Miss J. E. Hinett
<i>Book-keeper</i>	Mrs. M. W. Ryder
<i>Book-keeper (Water Fund)</i>	Mrs. C. J. Jackson
<i>Records</i>	Mrs. J. R. Irving-Bell

## Field Staff

(at 30th June, 1961)

<i>Nairobi Royal National Park</i>	}	S. I. Ellis, <i>Warden</i>
<i>Ngong National Reserve</i>		R. B. Jolley, <i>Assistant Warden</i>
<i>Tsavo Royal National Park (East)</i>	}	D. L. W. Sheldrick, M.B.E., <i>Warden</i>
		P. R. Jenkins, <i>Assistant Warden</i>
		H. W. D. Kearney, M.B.E., <i>Assistant Warden</i>
<i>Tsavo Royal National Park (West)</i>	}	C. W. Marshall, <i>Warden</i>
		G. H. Dalton, ( <i>Ex-Warden</i> )
		<i>Marsabit National Reserve</i>
		J. R. Nesbitt, <i>Assistant Warden</i>
		S. H. Trevor, <i>Assistant Warden</i>
<i>Mount Kenya Royal National Park</i>	}	F. W. Woodley, M.C., <i>Warden</i>
<i>Aberdare Royal National Park</i>		
<i>Marsabit National Reserve</i>		
<i>Amboseli National Reserve</i>	}	W. H. M. Taberer, <i>Warden</i>
		M. C. P. Moore, <i>Assistant Warden</i>
<i>Fort Jesus Royal National Park</i>	}	J. S. Kirkman, <i>Warden</i>
<i>Gedi Royal National Park</i>		
<i>Coast Historical Sites</i>		
<i>Orlorgesailie Royal National Park</i>	}	R. V. S. Wright, <i>Warden</i>

African Ranger Force for all areas:

Field Force	..	..	..	..	36
Rangers	..	..	..	..	<u>138</u> 174

# ROYAL NATIONAL PARKS OF KENYA

## PART I

### REPORT BY THE CHAIRMAN OF TRUSTEES

The period 1960-1961 will go down in the Parks' history as tragic! Severe drought, causing the death of thousands of animals, followed by unprecedented floods with consequent washaways, and damage to Lodges, roads and bridges—all this—in a time of great uncertainty as to the future, resulting in an increased scarcity of finance with which to maintain and develop the Parks and also to combat increasing wholesale poaching.

The one bright feature has been the success of our Director's "Water for Wild Animals Fund"—a world-wide appeal, which met with a heartening and widespread response (a total to date of £55,000).

It would seem that the survival of the National Parks may well depend on external finance as well as the contributions from our own Government.

The importance of the preservation of Wild Life does not yet have the priority it warrants in the allocation of finance by our Government, for this is *the* essential attraction, which brings much-needed finance, directly or indirectly, into this country. Wild Life is the outstanding feature of our Tourist Industry, unique in character, and of world interest.

Fortunately for Kenya, Nature's "Stage" is set—the "Actors" are there for the asking—the peoples of the world comprise our eager and interested audiences—surely, therefore, the least Kenya can do is to see that its Wild Life is preserved and that adequate amenities and facilities are provided for our audiences, so as to continue to develop a great and lasting Industry at very little cost, compared with the financial benefits which accrue.

According to very carefully prepared conservative estimates compiled by the East Africa Tourist Travel Association from official records—this industry, still in its infancy, attracted to Kenya a minimum of four and a half million pounds in 1960, which was not a very good year, owing to unrest in the Congo, etc.

This Industry may well prove to be the most lucrative of all, needing such a small comparative outlay and which, if developed properly, will assist materially the revenues of our country, therefore, it merits considerable priority in development on the grounds of our national economy and common sense!

The Duke of Edinburgh, who is the President of the Zoological Society of London, speaking in Dar es Salaam on the 8th December, 1961, observed:—

“In Europe the visitor was taken sooner or later to the museums, ancient castles and cathedrals.” And he added: “Here in the living wild animals you have something which is only to be found in Africa. In a world of advancing industry the wild animals are being pushed back and exterminated on a dreadful scale. Here in this part of Africa and particularly in Tanganyika you still have the chance to save this unique living heritage. The rest of the world is ready to help in this great task and a World Wildlife Fund has been launched to raise the necessary money.

“If you can hold the position during the next critical years you will be doing a service to all mankind. Failure means that these animals will be gone forever.”

We too—in Kenya—must play our part, as a duty not only to ourselves but to mankind!

\* \* \* \* \*

Within the last year major changes have occurred in the administration of the National Reserves. On the 1st January, 1961, the Marsabit National Reserve, except for two small sections, was abolished. Similarly, on the 1st July last the National Reserves in the Masai Land Unit, including Amboseli, were withdrawn from the jurisdiction of the National Parks' Trustees and handed over to African District Councils.

This decision of the Kenya Government was intended to give the Africans a greater share in the responsibility of managing their own wild life areas, and a greater share of any revenue that they could derive directly from such activities.

In implementing the recommendations of the 1956 Game Policy Committee, and of formulating an overall land-use plan for the Masai Land Unit, the Government handed over the National Reserves in the Kajiado District to the Kajiado African District Council and the one National Reserve in the Narok District to the Narok African District Council. Admittedly, we had never been allowed to embark upon any development in the Mara National Reserve, but we had made considerable progress with Amboseli and we believe that it would have been better to strengthen the organisation we had established at Amboseli, in the interests of the Reserve and also the Masai.

Due to the very determined endeavours of Lord Howick, in his last year of office as Governor of Kenya, to solve the problem of wild life preservation in the Masai Lands, by 1960, Amboseli was beginning to be a viable arrangement, whereby water had been made available for cattle on the fringes of Ol Tukai, the Masai were co-operating very well in matters of management through a local committee, and they were deriving additional tourist revenue from gate and accom-



modation fees. The wild animals were being allowed to find sanctuary in their traditional haunts, much to the interest of thousands of visitors from all over the world.

It was therefore unfortunate that this arrangement was disrupted after it had taken us some twelve years to achieve. It would have been better for the Government to reinforce the existing management structure, and, progressively, to arrange for the Masai to take over greater responsibilities and to receive more revenue from this famous wild life sanctuary, in the light of experience.

Undoubtedly, the Ngong National Reserve which is the essential adjunct to the Nairobi Royal National Park should be managed jointly with the Park as one faunal unit.

It must remain clear, however, that whilst the Trustees of the Royal National Parks of Kenya, as a result of these Government decisions, are no longer associated in any way whatsoever with the areas which until 1961 were National Reserves in the Masai Land Unit, they are always ready to assist the Masai in any way possible.

Two small portions of the previously extensive Marsabit National Reserve still remain within the partial control of the Trustees, namely Marsabit Mountain and some 270 square miles on the Uaso Nyiro river. The overriding requirement in this Northern Reserve has always been to protect the water catchments and the Game Policy Committee made forceful recommendations designed to prevent the misuse of the Mountain ranges by domestic livestock. Once the problem of over-grazing by cattle is solved, the preservation of sanctuaries for wild animals would be simple. In fact the Game Policy Committee went so far as to recommend that when certain schemes for piping water out from the sources of the springs had been completed, the mountain ranges should be established as National Parks.

It is tragic that Kenya, which has always been acclaimed by the rest of the world as a big game paradise, now has no allotted sanctuaries for several of its major species which do not occur elsewhere in Africa. Poachers are still taking an alarming toll of wild animals and our assets have dilapidated. Areas scheduled for new National Parks and accepted as such by the Government have not been established.

It is manifestly unfortunate, in the inevitable move towards self-government in Kenya, that the immensely valuable and unique asset of wild life, in all its forms, should have suffered so much by the meagre allocation of funds.

I therefore trust that the incoming African Government will immediately appreciate the necessity of safeguarding their natural resources and, by so doing, protect one of the main pillars of the country's national economy. The great potential of tourism has yet to be systematically and widely exploited, as a most necessary industry

as important perhaps as Kenya's main, and at times precarious, source of revenue, namely, agriculture. The Trustees have no intention whatsoever of abandoning the task they have undertaken and are determined in face of all difficulties to use every endeavour to continue to save the wild life of this country.

\* \* \* \* \*

There have been a number of changes recently in our Board of Trustees. I am pleased to report that Mr. Peter Scott, who came to Kenya in February last to open the newly established Lake Nakuru National Park, has consented to be an Honorary Trustee.

As a result of changes in the Legislative Council we have lost some of our oldest members who were nominees of the Legislature. Mr. S. V. Cooke, and Dr. Hassan, who were both members of the 1939 Game Policy Committee, and who have been Trustees since 1945, as well as Sir Michael Blundell, who was appointed more recently, have all retired.

I wish to pay a special tribute to the outgoing Members, particularly to those of long-standing for their continuous period of service, and to welcome to the Board in their place Messrs. Pandya, Mwendwa and Rurunban.

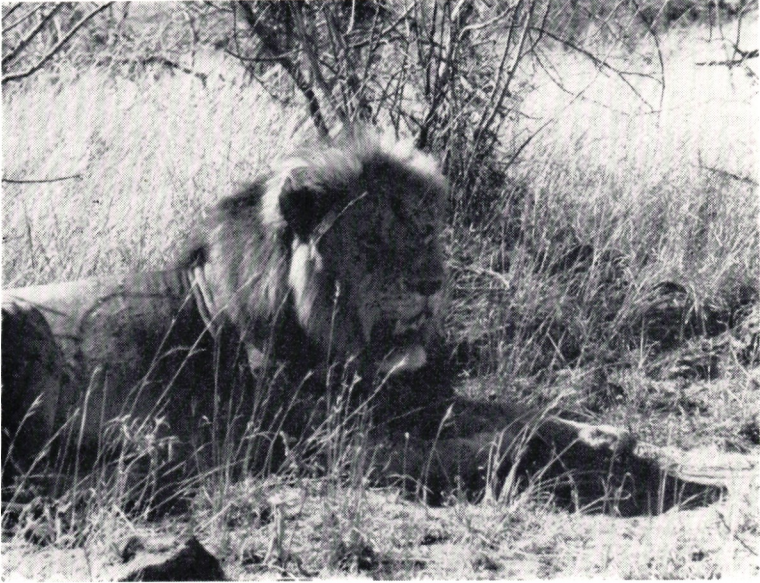
Major K. A. Brown, who was also one of the original members, and was for many years Chairman of our Executive Committee, has been appointed an Honorary Trustee, and fortunately his valuable services will thus continue to be available to the Trustees. His substantive place on the Board, as a representative of the Association of Chambers of Commerce of Eastern Africa, has been taken by Mr. R. E. Anderson whose lifelong experience of Kenya will be most valuable.

Captain P. H. Percival, who from the very early days represented the East African Professional Hunters' Association, also retired, and his place has been taken by Mr. M. St. J. Lawrence. We will sadly miss the wise counsel and profound knowledge of wild life which Captain Percival always made available to the Board.

Finally, on behalf of the Trustees, I wish to pay tribute to the dedicated services of our Director and Chief Executive, Mr. Mervyn Cowie, whose Report is attached, and to the Members of his loyal staff, who have often had to fulfil their duties under the most difficult, arduous and depressing conditions in the present circumstances.

ALFRED VINCENT,  
Chairman of Trustees,  
ROYAL NATIONAL PARKS OF KENYA

Nairobi,  
February, 1962



*Photographs: The cover and other  
photographs used in this report  
(unless otherwise stated) were  
taken by Merwyn Cowie.*



## PART II

### REPORT BY THE DIRECTOR

#### GENERAL

The period covered by this Report corresponds with our financial accounting year, from July, 1960 to June, 1961. To describe it as a difficult year is a masterly understatement. Political changes, drought and the abolition of the National Reserves demanded more than a reasonable share of attention and caused a serious upheaval in the National Park's organisation.

It was not easy for me to watch the changes in the management of the National Reserves being hurried through when at Amboseli, for example, there was no obvious advantage in doing so, and when solutions of the many problems which had beset Amboseli for twelve years were within sight. The concept of a National Reserve was a product of the original Game Policy Committee appointed before the last war. It was designed as a means of ear-marking areas which were eminently suitable and justifiable for National Parks but which could not, at that time, be established as such. It was always the hope and intention of the members of the Committee that National Reserves, or at least the major part of them, would be converted into National Parks and the Trustees accepted their responsibilities of management on this basis.

It would be of no avail to restate the many arguments which were advanced at numerous meetings and discussions on the vexed question of National Reserves, but I retain the opinion that it would have been very much wiser to have strengthened the existing management arrangements which were working successfully. At the same time it would have been possible progressively to transfer to the Masai a greater share of responsibility and revenue. I found it impossible to explain to the Il Kisongo Masai Elders at Amboseli why this had to be, when they had petitioned and implored me to continue to assist them in protecting Amboseli as the great tourist attraction it had been built up to be. The tribal leaders and the Kajiado African District Council, however, were equally desirous of taking over the management of Amboseli. It remains to be seen whether purely tribally controlled areas will have any security in the changing political scene of Kenya.

Another disappointment in this difficult period of changing winds, was that, although the Government announced that some new National Parks would be created, and certain additions would be made to existing National Parks, this was not done except in the one case of Lake Nakuru.

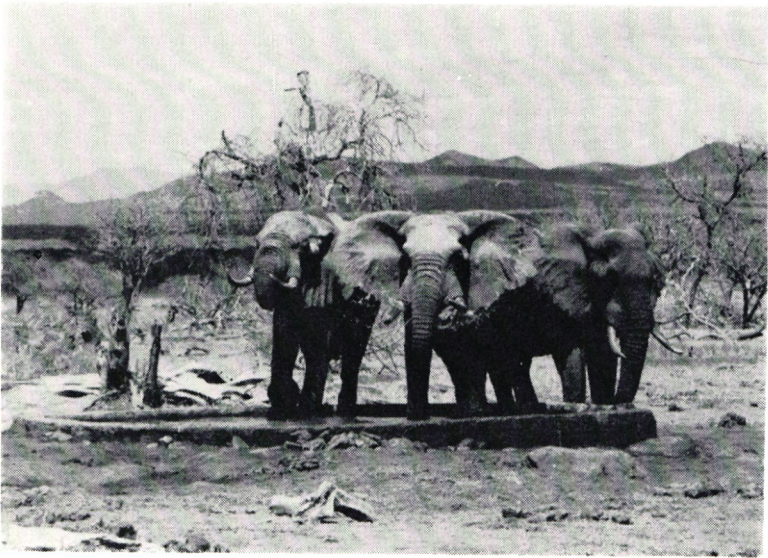
Above all other anxieties the calamity of the worst drought on record caused untold hardship and the death of many thousands of animals. In a normal year we expect two main seasons of rain in the eastern part of Kenya, which are related to regular monsoons.

November and part of December is known as the short rains, and April and May, and sometimes part of June, is known as the long rains. Although some rain fell in the short rains of 1960 the total was well below average, and by March, 1961, most of the low-country had the appearance of a desert. We waited patiently and anxiously for the long rains to break, but only a few light showers came, barely enough even to settle the dust. Then followed an invasion of Army Worm (*Laphygma exempta*) crawling along the plains in their millions and devouring every blade of grass which had struggled to grow. This sequence of events was in every sense a disaster.



*The drought took a heavy toll.*

I was indeed thankful that the "Water for Wild Animals Fund" was available to relieve some of the distress, especially in the Nairobi Royal National Park. I opened this Fund in 1958, not, of course, with any premonition that there would be such a terrible drought in 1961. Africa is prone to extremes and seldom do we have what a farmer would call a normal year. We have had droughts before, and we will have them again. There is therefore a great need to have a proper water development plan. The main object of this Fund is to supply water from boreholes, permanent rivers and dams to sections of the Tsavo Royal National Park where the grazing is of no use to wild animals for a greater part of the year, because it is too far from permanent water.



*Elephants enjoying water from a bore-hole.*

Some animals such as Gerenuks, Grants Gazelle and Lesser Kudus can manage without water for months on end, but the larger species have to drink almost every day. This means that during the dry months the Elephants, Buffaloes and Rhinos, and many of the Antelopes are forced to concentrate on permanent rivers, much to the detriment of the habitat. It also means that some of the denizens of the Tsavo Royal National Park are driven by thirst and hunger to seek their requirements well outside the boundaries of the Park, where they easily fall victim to the poisoned arrows of the poachers or have to be shot for doing damage to crops and human settlements.

Thus, the "Water for Wild Animals Fund" is designed to achieve long-range development and it was not merely for the emergency caused by the drought of 1961. The Fund received its main initial impetus from an article written by Katharine Drake and published in *The Reader's Digest* towards the end of 1960. Donations then came in from all parts of the world including an inspiring single contribution of £10,000 from Mr. H. Bonar of Scotland. I find it difficult to express sufficient gratitude to Mrs. Drake, Mr. Bonar, and all the splendid people who supported the Fund.

By the end of June, 1961, the amount available stood at £24,517, and it has been substantially increased since then. The measures taken to relieve distress, and the projects authorised by the Trustees to employ this money, are described in more detail in the applicable



sections of this Report. The widespread interest in the welfare of Kenya's wild life and the tangible financial support given by thousands of contributors is an immense source of encouragement to all of us who strive to protect wild animals, and on behalf of our proteges I salute our friends in many parts of the world.

Tragic as the drought may have been, fate has decreed that we should now go to the other extreme. At the time of writing this Report most of Kenya is flooded. Roads, railways and bridges have been washed away and lakes have formed where there were deserts. These emergencies will pass, but the most vital question today is to assess what will happen to wild animals in the course of the next few years and what attitude the new African Government will take towards National Parks and tourist development.

I doubt if anyone can predict the trend of events with any accuracy but one staring fact remains, and that is that if the African politicians disregard the preservation of wild life, Kenya will lose its greatest national asset. During this coming period of major political changes it will be extremely difficult for the Government to balance Kenya's budget. In such circumstances it would be the greatest folly to allow the National Parks to be invaded by cattle or prevented from operating effectively by lack of finance. There would soon be little revenue from tourism.

I have the hope that once the glamour and excitement of political changes dies down, the new Government will turn attention to protecting the economic structure of Kenya, in which the preservation of wild life must have its rightful place.

There is, quite wrongly, a belief in the minds of some Africans that National Parks are places created by the White man for himself and his rich friends from overseas. They claim that this land has been taken over for wild animals when it preferably should have been given to them for their livestock. They have no idea of the objects of a National Park, nor do they begin to understand the meaning of national income. They fail to appreciate that much of the land allocated for the preservation of wild animals is of no use for any other purpose. This is not surprising since Africans are not the only people who have always taken wild animals for granted, and have wrongly imagined that they require no special protection or sanctuaries in which to live. Ways must be found of instructing and educating the Africans in the objects of conserving wild nature and the value of this great heritage which other continents do not possess.

In my opinion the most productive step towards achieving this education in conservation would be to establish a zoological centre near Nairobi. This could include an orphanage, an animal dispensary or hospital, a hostel for pets, a holding ground for export, a breeding place, and above all a department of research.



*A bat-eared Fox reared on a bottle.*

There is a crying need for an orphanage, since hardly a week passes without a call from someone to take care of a young animal which has lost its mother, or to rescue one which has been injured or caught in a trap. Those animals which can fend for themselves could be released in a suitable National Park, when old enough or fit enough to return to the wilds. Others may have to remain in captivity.

A dispensary or hospital could take care of unfortunate creatures with broken legs or suffering from other troubles, where, with a little kindly attention, they could be restored to normal.

A hostel for pets is very necessary in a country where so many people come and go. At present there are no "kennels" for wild animals which have spent their lives in some household and then perhaps are left to die when the owners depart. Only a few of such animals can survive if immediately released into the wilds.

A holding ground for animals waiting to be exported to some other places or countries would be a step towards a properly organised means of controlling the movement of captive animals.

A breeding establishment could be used to safeguard some of the species which are in danger of extermination. If our population of

Black Rhinos, for example, drops any lower there will be a need to breed some in captivity in order to replenish areas which have been depleted.

The information which can be obtained from wild animals under close observation is of immense importance in the management of wild life sanctuaries. Never is it possible in the wilds, for example, to ascertain accurately the food preferences, the breeding habits and a hundred and one things which influence the movements, and in fact the chances of survival of many different species of wild animals.

A research organisation using the zoological centre as a field laboratory and having, I hope, the support of existing scientific bodies, such as the East African Agriculture and Forestry Research Organisation, the East African Veterinary Research Organisation, the Royal College, and the Coryndon Museum, would be the most effective measure towards placing the National Parks and wild life management in Kenya on a sound foundation.

There is a very great need for scientific research in all spheres of game management and there would be no better centre for such work than adjoining the Nairobi Royal National Park. There are thousands



Photo by Valori Cowie

of Africans living in, or near, Nairobi, who at weekends have little to do. The proposed zoological centre would be within easy walking distance of Nairobi and all these people would derive immense pleasure from watching animals which perhaps they could never otherwise see. Moreover, valuable information could be made available to farmers in matters such as grassland management by using lessons which can be learnt from wild animals.

It is not my intention that this scheme should devolve into a sordid zoo where animals would be confined in small cages. The various activities, however, which could justifiably be carried out under the general umbrella of the zoological centre would undoubtedly be of great interest, and there is no reason why the public should not be allowed to visit it and contribute to the cost of maintenance by payment of entry fees.

In this way I believe that Kenya would have something of lasting value to its inhabitants and to the rest of the world, and I hope it may be possible to draw on the support of international organisations for at least the initial capital cost to establish the zoological centre. This would be the most effective move towards achieving a sound policy for the conservation of wild life in Kenya.

## NAIROBI ROYAL NATIONAL PARK

The events in the Nairobi Royal National Park during the past year form a tragic report. With very meagre short rains towards the end of 1960, it became obvious by January, 1961, that the wild animals were in for a very bad time. The approaching drought conditions demanded emergency relief measures to carry over until the long rains in April and May, when we hoped all would be well. Then, in the due season, only a few showers fell, enough to bring on a fresh although sparse growth of grass, every blade of which was immediately devoured by the heaviest infestation of Army Worm yet known. Never in my long experience of East Africa have I seen such a disastrous devastation of a wild habitat. Many thousands of wild animals died of starvation and thirst, and those which survived were driven in despair to search for something to eat or drink beyond the limits of their normal migrations and well out of the National Park. The entire zone from Nairobi to the eastern wall of the Rift Valley, and southerly to the Tanganyika border, was laid bare. Many thousands of Masai cattle also perished.



*The plains were strewn with carcasses.*

The gruesome sight of dead animals in many parts of the Park, and headlines in the local and overseas Press, soon drew the sympathy of animal lovers, and offers of help poured in from all sides. Farmers sent in bales of lucerne, barley straw and hay which the starving animals at first scorned, but accepted more readily when impregnated with molasses and salt. Commercial firms in Nairobi and Army

Units lent water tankers and other equipment. Neighbours arranged for water to be supplied from boreholes and a host of other people offered their services.

Through the good fortune of having money available in the "Water for Wild Animals Fund", I was able to arrange for 2½ miles of piping to be laid from a borehole on the eastern boundary of the Park to run water into some of the dried-up dams in the Sosian Valley. Water was piped from another borehole in the western section, through a long channel into another dry dam, and a large tanker was used to put water into the forest section where more grass was available.

It is impossible to pay tribute individually to everyone who helped, but with profound gratitude I wish to list the following benefactors:

Farm Machinery Distributors Limited made available a tanker capable of carrying 1,100 gallons and in addition loaned a Ferguson T.35 tractor to haul the tanker.

Gailey and Roberts Ltd. placed at our disposal a large mobile pump that could fill the tanker in seven minutes. This enabled the tanker to be moved to and from the water points more quickly.

Mr. Raphael, an engineer living on the western boundary of the Park, laid a water pipe from the Kisembi Estate into the Park where he constructed, at his own expense, drinking troughs equipped with ball valves. The cost of supplying the water was accepted jointly by Mr. Raphael and Mr. Hayes, the proprietor of the Banda Hotel.

Mr. Anthony Irwin, who also lives on the western boundary of the Park, made available a take-off from his borehole and by using polythene piping the water was led under the main Magadi Road and fed into the Southern Mokoyeti Valley to fill various pools which were of great value to animals using the forest section of the Park.

Messrs. Block, Hopcraft, Nimmo, Palfrey and Lambert all supplied quantities of hay, barley straw and lucerne.

Mr. Alec Noon used an aeroplane in an attempt to "salt" any clouds that might produce rain.

Colonel Manners, the Commanding Officer of the 11th K.A.R., offered tankers, as did Major Williamson who was in charge of Buller Camp.

The Fire and Security Officer of the Ministry of Works provided a 200-gallon mobile water tank, with its own pump attached.

Meraj Din and Sons, a firm of tinsmiths in Nairobi, made, at their own expense, two low-level water tanks to hold some water in No. 7 dam while the pipeline was under construction.

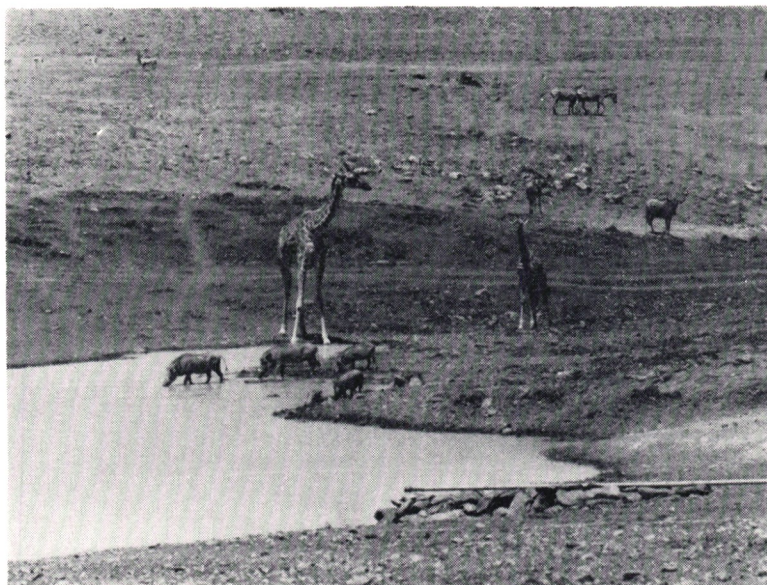


Mr. Richardson of the Richardson Drilling Company also offered a water tanker.

Mr. P. Carmichael of Dundori offered the use of a drinking trough on his farm and a home for orphans.

Mr. Lambourne, of Pfizer Laboratories, offered antibiotic drugs for exhausted animals.

Above all, I wish to pay tribute to the Press for continually giving support, not only to the "Water for Wild Animals Fund", but also for drawing attention to urgent requirements in the Nairobi Royal National Park.



*A water-hole being filled by pipe-line.*

The interest was by no means confined to Kenya, as reports in the overseas Press also attracted donations and offers of help from people in various parts of the world. Such an emergency also has an emotional aspect, and there were some offers of help which, although genuine in intention, were impossible to accept. A lady rang me up one evening to say that although she was old she was willing to come to the Park and carry water in buckets from the nearest pipeline to a drinking place. This was but a symbol of the great concern for the safety of wild animals and the sincere desire of many people to help.

The whole problem was not merely one of water, but it was to have enough water for animals to drink within reach of any grazing. Although the Park is bordered on its southern boundary by a permanent river, there were other sections where remnants of grazing left by the Army Worm were too far for the ordinary grazers to use. This was particularly obvious in February, when it is the normal calving season for many of the large ungulates. The first Wildebeeste calf was born on the 2nd February, thirteen days earlier than any other previous recorded start of a breeding season. Many of these young calves were abandoned simply because their mothers could not feed them, and very few calves survived. Warden Ellis made strenuous efforts to rescue some of them but it was an impossible task. The East African Veterinary Research Organisation at Muguga took over a small number of calves for scientific study.

This hardship, however, did not apply to the predators. With so many carcasses lying about, the Lions, the Cheetahs, the Leopards and even the smaller creatures including Vultures, Eagles, Mongooses and the rest, had an abundance of food. On one occasion I counted over 300 Vultures sitting on the ground near a channel running from a borehole to a small dam. They had congregated there for their usual wash and drink, but were so engorged that they could scarcely fly.



*A concourse of Vultures at the water.*



It seems a poor arrangement in the rules of nature that birds do not attack the Army Worm. Very few birds relish these Caterpillars which certainly look very unpalatable. The sudden emergence of millions of Caterpillars is a conundrum and the obvious question is where do they come from. The explanation is that the life cycle from moth to worm is fairly short and, although there are always a few about, occasionally the correct circumstances bring out enormous hatches. The moth itself, *Laphygma*, is capable of laying up to 800 eggs at one time and if the weather conditions are correct most of these will go through their stages and eventually again form into moths within a few weeks. They do not travel vast distances but in a very short period the entire countryside changes from green sward to desert. Their insatiable appetites drive them to eat the grass stems right down to the roots. Thus the damage is widespread and far-reaching.

Another consequence of this prolonged drought was an astonishing increase in the number of ticks. Ticks are always with us in Africa, but after a long dry spell they breed in such numbers that one can see clusters of what are called "pepper ticks" hanging like grey balls on each stem of grass. Any animal, including a human, passing by collects a load of these ticks which are so small that they can hardly be seen and yet their bites cause intense and prolonged irritation. This particular kind of Ixodid tick (*Rhipicephalus sp.*) eventually forms into a large brown tick which one so often sees on the neck and underparts of many of the larger animals. Every animal that died was covered in ticks to such an extent that the numbers even astonished some of our experienced Veterinary Officers. After death, the ticks crawl off the host and look for a new one, with the result that the infestation of ticks was worst in the drought-stricken game and cattle areas. Golf courses adjoining the Park became almost unusable and some of the residential suburbs of Nairobi were badly affected.

Another consequence of the severe drought was a heavy concentration of ungulates on the plains of the Park on the eastern and northern boundary and on the neighbouring farms. Farmers who had been carefully conserving some of their grazing for cattle found that it was being eaten by thousands of wild animals which had broken through the fences. The situation became so bad that on April 9th the assistance of the Army was sought. A training manoeuvre was arranged with the support of transport and aeroplanes and thousands of animals were driven back towards the Park. The Giraffes were the most reluctant of all animals to be driven but many of the others, such as Hartebeeste, Wildebeeste and Zebra, once they started moving, went fairly fast. It was claimed that something like 5,000 animals were driven back into the Park, although in actual fact the number was very much less as many of them deviated and went down towards Athi River.



*Tommies on the run.*

The Police and the Royal East African Automobile Association assisted in traffic control, to allow the animals to cross the main road between Nairobi and its Airport. Notices warning motorists were displayed and traffic was interrupted while the drive was in process. One particular Wildebeeste decided that, under no circumstances, would he return home and defied all the resources of the Army. He was accordingly left to his own devices.

Some of these farmers who, in the first stages offered help and a great deal of sympathy for the hardship endured by the wild animals in the National Park, later turned hostile when their grazing was lost. They claimed that the Park was grossly over-stocked and that the number of wild animals should be drastically reduced. This, of course, was an emotional and entirely fallacious conclusion because at that time the number of animals actually concentrated on the eastern boundary of the Park and across on to the farming land was far greater than in normal times due to movements from many miles away.

The great drive, however, was mainly successful and it undoubtedly rid the farming land of many wild animals. In this regard I would like to pay particular tribute to the General Officer Commanding the East African Forces, General Goodwin, and all his officers and men who are always ready and willing to help in cases of emergency.

It was most unfortunate that this drought should have stricken the Park before completion of the fence on the eastern boundary. This fence was started some two years ago. Across the plains it is to consist of a bund and a 5-ft. chain-link fence mounted on top of it. In the forest section of the Park a 7-ft. chain-link fence by itself is considered to be adequate. As a first stage a temporary fence was constructed outside the line of the bund but this was not adequate during the height of the drought. When the bund has had time to consolidate, which it can only do after a good rainy season, it will then be possible to move the temporary fence on to the top of the bund. The type of wire used is a peerless chain-link of  $2\frac{1}{2}$ -inch mesh in 25-yard rolls. The 5-ft. section is  $12\frac{1}{2}$  gauge and the 7-ft. section is  $9\frac{1}{2}$  gauge.

As this type of chain-link has not been used in great quantities in Kenya before, it was not easy to find out the best method of constructing the fence. It has, therefore, been a matter of trial and error until the most satisfactory method of construction was found. The makers recommended that metal straining at intermediate posts set in concrete should be used, but owing to the high cost of these posts it was decided that existing cedar posts, supplemented by treated gum poles, was the only practical answer. These posts are set at least 3 ft. in the ground and 5 yards apart.

The makers of the chain-link also suggested that straining or line-wire should be fixed to the posts first, and then the 25-ft. lengths of the mesh strained and fixed to the straining wire. It was found better, however, for the straining or line-wires to be threaded through the 25-ft. lengths of mesh. Another difficulty that had to be overcome was that staples could not be used since these would destroy the impregnation of the gum poles.

The straining wire used is  $10\frac{1}{2}$  gauge for the 5-ft. fence and 9 gauge for the 7-ft. fence. The 9 gauge is very satisfactory, but the  $10\frac{1}{2}$  gauge does not stand up to the punishment it has to endure from stampeding herds of game. From present calculations it appears that the 7-ft. fence, that is the fence without the support of a bund, will work out at approximately £1,400 per mile. I mention all these details as fencing game areas in Africa is a question which comes up at every conference, and I hope it may be of value to describe the method of construction and the type of fence found most satisfactory as a barrier round part of the Nairobi Royal National Park.

Construction of a fence for 25 miles is a major operation for the limited staff available, and it will not be completed before the end of 1962. In the meantime, however, those sections which have been done have proved very successful, and in course of time I think that this Park will have a proper barrier on the vulnerable portions of its boundary. It is obvious, however, that a fence also has disadvantages,

in that it prevents any animals that happen to get round the outside of it from entering the National Park.



*An Impala guards his herd.*

Eland, Zebra, Bush Buck and Impala have been found with broken necks on the wrong side of the fence resulting from a desperate attempt to jump through it. I believe, however, that in course of time wild animals will learn that they are given protection in one place but are not welcome in another. They will also accept that the fence is something to be avoided. It is interesting to record that no hoofed animal, including a Giraffe, has been able to break through or jump over the 7-ft. chain-link fence.

In evidence of the concentrations of game in the Nairobi National Park the following figures taken from monthly counts prove to be very interesting. The fluctuations are due to migrations between the Park and its vital adjunct.

					<i>Total Number of Animals</i>
1960		<i>Wilde- beeste</i>	<i>Zebra</i>	<i>Harte- beeste</i>	
July .. ..	..	2,205	2,334	1,096	5,635
August .. ..	..	2,395	2,636	956	5,987
September ..	..	3,279	3,891	1,017	8,187

1960			<i>Wildebeeste</i>	<i>Zebra</i>	<i>Hartebeeste</i>	<i>Total Number of Animals</i>
October	..	..	2,572	1,826	1,500	5,898
November	..	..	2,445	2,933	1,584	6,962
December	..	..	2,460	1,572	1,177	5,209
1961						
January	..	..	3,724	2,640	1,514	7,878
February	..	..	6,255	2,650	2,059	10,964
May	..	..	1,149	1,149	999	3,297
June	..	..	1,418	1,028	951	3,397

The highest number of animals counted in any one month occurred in February when the following total figures were recorded.

<i>Species</i>	<i>Total in February, 1961</i>	<i>Species</i>	<i>Total in February, 1961</i>
Zebra .. ..	2,650	Reedbuck, Bohors ..	2
Grant's Gazelle ..	373	Reedbuck, Chandlers	—
Thomson's Gazelle	271	Hyrax, Rock .. ..	10
Waterbuck .. ..	163	Duiker .. ..	—
Impala .. ..	388	Sykes Monkey ..	—
Bushbuck .. ..	12	Rhino .. ..	—
Wildebeeste ..	6,255	Steinbok .. ..	3
Warthog .. ..	243	Dik-Dik .. ..	3
Hippo .. ..	4	Giraffe .. ..	71
Baboon .. ..	237	Leopard .. ..	1
Kongoni .. ..	2,059	Bush Pig .. ..	1
Wild Dog .. ..	16	Monkey, Vervet ..	3
Hyaena, Spotted ..	1	Aard Wolf .. ..	—
Jackal, Silver Backed	8	Mongoose .. ..	1
Crocodile .. ..	2	Hare .. ..	2
Cheetah .. ..	—	Secretary Birds ..	1
Lion .. ..	13	Greater Bustard ..	—
Ostrich .. ..	152		
Eland .. ..	58		
Bat-eared Fox ..	2		
			13,005



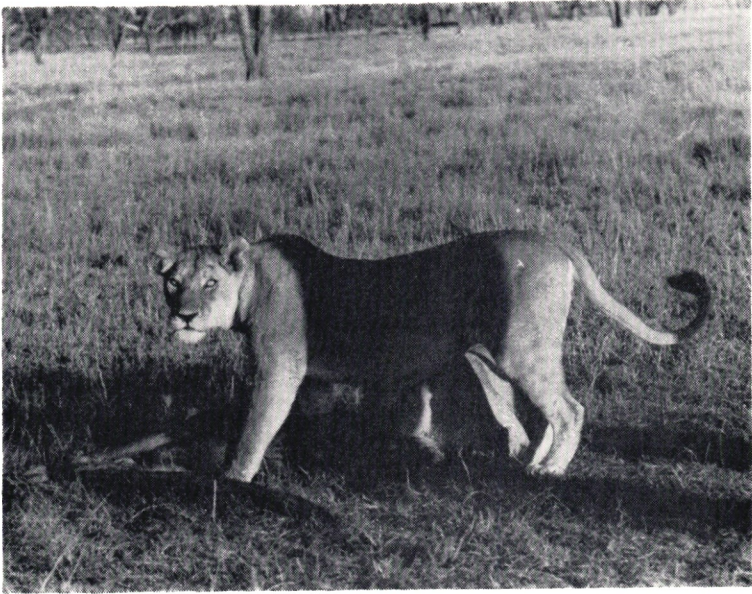


Photo by Valori Cowie

*Marabou Storks were not counted.*

No report on the Nairobi Royal National Park would be complete without numerous references to the famous Lion families. I often wonder how long it will be possible to keep Lions in freedom so near the capital city of East Africa adjoining one of its main suburbs, and bordering on a number of farms where cattle are kept. I have previously predicted that one day the Park will have to be completely fenced so that the Lions cannot get out of it, and at the same time all other Lions which roam in the adjoining National Reserve will have to be destroyed. This is a programme which is quite impossible at this stage and, in any event, is certainly undesirable.

It must be remembered that the Masai Reserve, the Ngong Hills and the suburbs of Karen and Langata have been used by Lions as their main breeding and hunting ground for hundreds of years. Thus, it is a situation where a number of people have invaded the Lions' domain and it is not easy to persuade the Lion families to live permanently within the sanctuary of the Park.



*One of the raiders.*

In the early part of the year a Lioness with three cubs strayed from the Park on to land owned by a farmer on the eastern boundary. The farmer, fearing for the safety of his cattle, asked one of his tenants to deal with the Lioness. A Zebra kill was put out and the Lioness was shot with the aid of a spotlight. One of the cubs was then captured by the tenant in a box trap. As he failed to find the other two cubs he asked for help from the Warden of the Park. Various attempts were made to trap the cubs which eventually found their own way back into the Park. As they were lonely and unable to hunt for themselves, one was later captured and, together with the one which was still retained by the farmer, were introduced into another Lion family of five cubs and one Lioness. The third cub was never found. From the start the foster-mother accepted these two orphans. It was most heartening to see this Lioness making a fuss of the cubs as soon as they were released and the obvious joy and relief displayed by the cubs when they realised they were amongst their own folk again. Nevertheless, the two orphans made several attempts to find their mother by straying off to inspect the haunts she normally frequented, but after five days they accepted their new friends.

As a strange interlude, a clown who had become famous as a member of a travelling circus visiting Nairobi amused himself by throwing stones at this pride of Lions from the safety of his car.

He was naturally prosecuted for this offence and fined £10 by the Magistrate. Perhaps this is one of the rare occasions when the Lions had the last laugh on a clown.

Blondie, the pale-coloured and famous but promiscuous Lioness, surprised us all in the earlier part of the year by producing two cubs and continuing to rear them. Normally she abandons her cubs and takes up with another suitor in a very short time. Ever since the end of 1955, she has been regularly producing cubs and just as regularly throwing them to the four winds.

The abandonment of the cubs appears to have been caused by persistent attention forced on her by the two large male Lions known as "The Spivs". This time, however, Blondie was left in peace, which poses the question as to whether Blondie is losing her charm or the spivs are losing their enthusiasm.

At the end of October a pride of nine Lions got into serious trouble by attacking a dairy herd of cows belonging to a neighbour on the western side of the Park. They first killed two head of cattle and settled down to eat them. The alarm was given and a number of *askaris* from the nearby Police Station arrived in a Land-Rover and dragged the dead animals away, leaving the rest of the herd and the pride of Lions together in the field. The Lions, to make doubly certain of getting a meal, promptly killed another six cows! Warden Ellis and Assistant Warden Jolley were then called out and found the Lions eating their kills. After a great deal of trouble they managed to round up the Lions and chase them back to the Ngong National Reserve. It was a most unfortunate affair and a severe financial loss to the owner of the cattle.

It has long been the habit for Lions to visit the Karen/Langata residential area, usually coming from the Ngong National Reserve. Sometimes Lions from the Park also wander into this district but their movements have now been restricted by the construction of the 7-ft. chain-link fence. When they visit the residential area they generally kill a cow or two and annoy a plotholder, but they do not prolong their visits. This year they changed their methods and visited the residential area a number of times in quick succession. On each occasion they killed and ate a few chickens and also resorted to chewing up bicycle and car tyres and any rubber or plastic piping they found lying about. When these reports were first received they were not believed because it seemed so unlikely that Lions in an area where they have plenty to eat, either wild animals or tame, would resort to chewing rubber and plastic hose.

Early in April, these Lions began a concentrated attack on the chickens, ducks and turkeys of six plotholders, ignoring, on the way, a herd of cows and some loose horses on adjoining plots. Only on one



occasion was an attack made on a horse, presumably because the Lions required a more substantial meal than a chicken. During this period over 300 head of poultry were killed but not all of them were eaten. This must stand as a deplorable record for the King of Beasts. Two dogs were mauled and one man and several other people, including a woman and her child, were given some very bad frights by meeting the Lions at close quarters. It was eventually decided that strong measures had to be taken against the marauders. Assistant Warden Jolley spent seventeen sleepless nights and parts of twelve days in an effort to remove the Lions from the residential area. Finally, four male Lions were trapped, two were shot, one Lioness and two cubs were chased into the Park and three other Lionesses returned to the Ngong National Reserve.

I wish to pay a very deserved tribute to Assistant Warden Jolley for his perseverance and endurance, and also to the Honorary Wardens who so willingly assisted at all times of the day and night. Messrs. Denis, Kirby, Bonnett and Williams were continuously on call and Richard Leakey was instrumental in trapping one of the Lions after sitting up for it for many a night. I would also like to include in this tribute a kindly thought to those plottolders who suffered considerable losses during this time, and for their tolerance and good will.

The astonishing thing about these raids was that the Lions generally used the same route on each visit. They would pass through various gardens and in between houses taking very little notice of the occupants. In fact certain plottolders made a practice of inviting their friends along for a sundowner so that they could sit on their verandahs and watch the Lions go by.

To capture the first two Lions, two traps were set side by side, the mechanism of the trap doors being worked from a Land-Rover parked some distance away. Other Land-Rovers were parked near the stables to see that the Lions did not have a go at the horses. The Lions turned up, but only one went into a trap. The Warden working the release strings waited, in the hope of catching both Lions. While the one was having a meal from the bait in the trap the other Lion became inquisitive, and began to examine the whole situation in great detail. In doing so he spotted the trip wire mounted on poles above him and gave it a pull, thereby shutting the other Lion inside the trap. In the commotion which followed, the inquisitive Lion took off into the forest but returned an hour later to see what had happened to his pal. The Lion in the trap had given up trying to break out and had settled down to a meal. The sound and sight of guzzling was too much for the free Lion who then walked into the other trap and was caught.



*One of the Lions being released from the trap—well away from chickens.*

Another Lion, aptly named “The Scarlet Pimpernel” by the Press, refused to enter a trap and took no notice of any bait trailed round or left to attract him to a particular place. Footprints revealed that on each occasion he would pass the trap and go on to find a chicken which he would then proceed to eat. Slowly his resistance or perhaps his instinctive fear wore off and he deigned to take some liver laid outside the trap, as well as to remove from the rear of the trap the entrails of the animal used for bait. He then endeavoured to dig underneath to get at the bait. On the following night with his appetite sufficiently whetted and fresh bait in the trap, he went in and was caught. Being such an unruly Lion and so difficult to persuade into a trap he was banished to the Tsavo Royal National Park at least 180 miles away so that there was no chance of him returning to the Karen residential district.

Following the abolition of the Ngong National Reserve, previously under the control of the Trustees, an Officer of the Game Department was stationed at Ngong and made responsible for the control of that area. Soon after taking over his duties, Mr. McCabe received a report that a large black-maned Lion had taken to mauling and killing cows. It was obvious that the Lion could not be allowed to continue these activities, and his death warrant was signed. An order was issued for him to be shot, but no one could ever find him.

A trap was duly set and for four nights it was moved from place to place and into the haunts where the old Lion was said to live. On the fifth night the trap was sprung, and when Assistant Warden Jolley went with Dave McCabe to investigate it was found that one of the famous Lions of the Nairobi National Park, by name "Segenge," was in the trap. Segenge is the Lion who was previously caught in a snare and released by Warden Ellis. It was thought that Segenge had been shot about three months earlier when the carcasses of two lions were found in a decomposed state in the Ololua Forest. It was, therefore, very gratifying to find that this famous Lion was still in the land of the living and he was moved back into the Nairobi National Park. The old cattle raider, however, was not caught but he evidently took a warning and laid low for a considerable period.

It is always astonishing why the Lions which normally live in the National Park find reason to wander out of it. In their own sanctuary they have all they require to eat, and enough water to drink, and it must simply be because they become bored. During the intensity of the drought when animals were dying on every ridge, the Lions became lazy and hardly moved from their haunts. Nevertheless, they continued to make kills in the presence of visitors, and it became a very common thing to watch. In fact people were disgusted with the Lions' wanton cruelty. One particular pride made a habit of killing any animal weakened by the drought, possibly to instruct the cubs in the tricks of hunting.

In many instances, after the unfortunate animal had been slowly killed, the Lions would walk away and make no attempt to eat it, and yet on one other occasion this same pride of Lions was seen eating an animal which had died of starvation some twelve hours before. One day these Lions killed an Eland in front of the array of motor cars, in spite of efforts by the Honorary Warden on duty to intervene. The Eland, evidently stupefied by starvation, solemnly walked straight towards the Lions until they pulled it down. The Lions left the Eland within a few minutes and then killed a Wildebeeste which they started to eat without returning to the Eland. It seems that this was a sheer display of gluttony, since there were already so many carcasses lying about, some of which were very fresh and surely palatable to any ordinary Lion.

Brunette, the Lioness without a tail, again got into mischief on the main road from Nairobi to the Airport. She, with her family, were seen there making a meal of two Wildebeeste which they had killed beside the road. All efforts by 999 Police Patrol Cars to return the Lions to the Park were unsuccessful, and the Assistant Warden was summoned. With a great skill he managed to drag the kills into the Park and persuade the Lions to follow. On checking up the next morning he found that they had eaten the two Wildebeeste after they were dragged into the Park, and had also killed a Zebra.

Blondie was again on a honeymoon in May with one of the Spivs and during this period great concern was felt for her six-month-old cubs. They stayed near their mother but were severely dealt with if they came too close. It was pathetic to see these hungry little fellows trying to stalk an animal but too young and inexperienced to succeed in making a kill. Eventually Blondie remembered her obligations to her offspring and all was well, but it remains to be seen if she produces another litter and, if so, how she will treat her two existing cubs.

A fine young Lion, one of Blondie's sons, strayed on to an adjoining farm and was shot by the farmer, presumably for good reason. A short time afterwards a young bull, perhaps from the same farm, strayed into the Park near the Wilson Aerodrome. Rangers from the Main Gate tried to round up the bull before going on their early morning patrol, but the bull turned nasty and chased them away. The Rangers then went on their way. When they returned two hours later they found that some Lions had killed the bull and one just wonders if this was not a form of retribution.

Never a month or a week, or hardly a day, passes in the record of this amazing little National Park without some interesting adventure, either connected with or perpetrated by the Lions. I trust that they will long be able to use this range as without them the Park would be of much less value.



*Perhaps the Rhinos will become as tame as they are at Amboseli.*

Next, after the Lion families, the greatest interest is focused by visitors on the Rhinos which have taken up residence in the Park. Although they are not often seen, there are at least eleven regular residents in the forest zone as well as on the low plains where the Whistling Thorns grow. Certain experiments were carried out early in the year with tranquillising drugs in an attempt to remove some Rhinos from the Ngong National Reserve, where they were causing trouble, and bring them into the Park. They had been raiding maize plantations and local clamour demanded their destruction.

Help was sought from the Game Department to allow Mr. Carter, who had specialised in tranquillising drugs, to try his hand with the offending Rhinos. Using "Sernyl" as the main drug with a dart projected by a cross-bow, he first selected a large bull Rhino. This was the Rhino said by the local inhabitants to be the chief raider of their plantations.

The dart was projected into the Rhino at 12.30 p.m. and he immediately moved off at a sharp rate. He staggered slightly ten minutes later, but still kept moving, and to his misfortune charged straight through a pride of eleven very surprised Lions that happened to be asleep on the course he had chosen. Twenty minutes after the injection of the drug he slowed up considerably and started to stumble, and by 1 p.m. he heeled over and became unconscious. He remained immobile for the next six hours with breathing and temperature regular. After a good deal of kicking and thrashing he got to his feet and moved off slowly although somewhat shakily.

The success of this experiment encouraged the Warden and Mr. Carter to try again, and a cow Rhino with a nearly fully grown calf in attendance was chosen as the patient. She and her calf were also condemned by the local inhabitants as being plunderers of their crops. The intention of the experiment was to see if the Rhino could be sufficiently tranquillised to transport her safely elsewhere. A dart was projected carrying a 4 cc. dose of "Sernyl" at 9.30 a.m. and very soon afterwards the Rhino was loaded on to a trailer drawn by a tractor, duly displayed to the local cultivators, and carried safely into the National Park. She was unloaded in the Sosian Valley where she remained unconscious for many hours. During the long vigil the Warden was called away for a short period and on his return found that the unfortunate Rhino had suffered the indignity of having one of her ears bitten off by a Lion. The Lion had obviously taken a mean advantage of the Rhino's immobility, but was restrained by fear of retaliation from doing greater harm.

After regaining her feet, the Rhino took twelve tottering steps towards a small bush and started to feed. Mr. Carter, thinking she was doped and docile, boldly walked up to take a photograph. When he was nearly within camera range he was horrified to see the Rhino



turn on her toes like a ballet dancer and chase him 50 yards back to his truck. Audrey, as the Rhino was later named, stayed in the Sosian Valley for a few days and then moved out to a section where she would be safe from any further trouble.

Soon after these experiments, no less a person than Mr. Red Palmer, the inventor and manufacturer of the famous Capchur gun, arrived in Kenya and joined in with further experiments with Giraffe and other animals in the Ngong National Reserve. Although I maintain that a great deal more research has yet to be done into the use of tranquillising drugs, they seem to hold out a hope of moving large and dangerous animals safely into areas where they can be allowed to live. This is particularly important in the case of Rhinos as the decline in numbers over the whole of Kenya continues at an alarming rate.

In November another attempt was made to increase the Rhino population of the Nairobi Royal National Park. Through the good services of Mr. Ken Randall, the trapper, a pair of Rhinos from far away were released near the Main Gate. The cow Rhino was of a very friendly disposition and took up her abode on the plains just where every visitor first has a view of the National Park. This was a great thrill for many people and the Rhino posed for every kind of camera.

Soon, after she had settled down to enjoy her new haunts, she unluckily got stuck in the mud on the fringes of a dam. Being unable to move or to defend herself she was badly mauled by Hyaenas. These brutes took advantage of the situation by chewing most of the Rhino's extremities. The next morning Warden Ellis discovered the plight of the unfortunate animal and managed, with ropes and various devices, to haul her out of the mud. For a short time it looked as though the Rhino might recover from her ordeal, but this was not so, for three days later she was found dead.

Further good use was made of tranquillising equipment in relation to Buffaloes. While Mr. Carter was working in the Keserian area, news came through that a Buffalo had been snared near the *shambas* below the circular road on the Ngong Hills. Taking his cross-bow and penetrating into very thick bush he found a medium-sized Buffalo cow dragging an enormous tree root to which she was attached by a wire hawser. The animal was treated with the tranquilliser and within twenty minutes was unconscious. The snare was removed from its neck and a careful watch was kept. The Buffalo got to its feet five hours later and, although rather shaky, it moved off into the thick cover of the hills.

By contrast, but unfortunately after Mr. Carter had left, another report came in concerning a Buffalo which had been snared much in the same area. This one was a large old bull, and was mad with

rage, ready to take revenge against any human being. He was limping badly in the right-back leg, and since there was no way of treating him he had to be shot. It was found that his back leg had been broken and he must have been in very great pain for a long time.

In November, again through the good services of Mr. Ken Randall, two young Buffaloes were released into the Nairobi National Park. The carcass of one was found two days later, having been killed by Lions. The other one was not seen for some months, but at the end of January a young Buffalo was seen trying to get into the Park near the Main Gate. It eventually forced its way through a gap in the fence and went off into the forest area. It is not known if this is one of the Buffaloes presented by Mr. Randall and it has not been seen again.

It is difficult enough to keep the lions within their sanctuary but there is even less chance of controlling the smaller predators such as Cheetahs and Leopards. One of the Cheetahs that had taken to raiding chicken runs went into the Karen suburb and was involved in a fight with a Great Dane. The dog bayed up the Cheetah and after a scuffle destroyed it by attacking it in the corner of the chicken run. A little later, on a Saturday afternoon, the Nairobi Police called for help in dealing with two Cheetahs that had been seen near the District Commissioner's office, just off the Princess Elizabeth Highway, in the centre of Nairobi. It appears that a tribal policeman had found the two Cheetahs calmly sleeping under one of the ornamental bushes near the office and had, not unnaturally, raised the alarm. Chase was given by policemen on horseback, on foot and in motor transport, but the Cheetahs made good their escape.

Another SOS was sent out to the Warden by the police to hunt for a Leopard which was said to be living in what is called "Grogan Swamp", just between the main part of Nairobi and a suburb to the north. This animal had apparently mauled two people. A very intensive search was made, but it was not found, although tracks of it were seen in the same area for the next two days. Reports are frequently received of Leopards in closely settled areas, even hiding in people's gardens near the centre of Nairobi. I think it will be many years before one can say that no Leopards will ever go into Nairobi because, due to their sly and stealthy habits, they can sneak through any small cover, their main objective being to take dogs.

Generally Leopards are of little danger to humans unless frightened or wounded, but when a Leopard enters a closely settled district it is not surprising that some people panic, and a dangerous situation develops. The worst feature of any such situation is that unskilled hunters sometimes try to deal with the Leopard which results in having a wounded and extremely dangerous animal in a closely populated area. Moreover, people who over-estimate their hunting experience are apt to disregard the direction of their shots, and bullets or ricochets can be more dangerous than a wounded Leopard.



Photo by Valori Cowie

*Giraffes sometimes sit down—in the road.*

Giraffes which normally select their food from the branches or tops of thorn trees, were not badly affected by the drought, although they had other troubles. During October the Lions killed a Giraffe in the Park which is a very uncommon occurrence in this area. Lions have been known to go for youngsters, but it is unusual for them to attack a fully grown Giraffe.

After a shower of rain in May this year, a female Giraffe was found dead lying upside down in a water course below the Dam at No. 5. She had evidently been feeding on the bushes which overgrow the ravine and had tripped or stumbled and fallen on her back.

A male Giraffe had to be shot on the Magadi Road near the Banda Hotel. From the evidence of marks in the vicinity he must have been hit by a lorry or car during the night, the wheels catching one of his hind legs and breaking the hock. The front legs had slipped on the tarmac and his subsequent fall had broken his back. The animal was left lying in pain and thrashing about until it was seen in the early morning by a passing motorist who made arrangements for it to be put out of its misery. The difficulty then arose of how to dispose of the body. A Ferguson tractor could not pull it along the tarmac and it was not possible to use a larger tractor without doing damage to the road. Eventually a Land-Rover was employed to pull while the tractor pushed and the body of the Giraffe was taken into the Park to be disposed of by the Park's sanitary squad of Hyaenas and Vultures.



Traffic which uses the road adjacent to the Park creates a danger to any animals that may be feeding along the boundary or attempting to get into the Park. This applies particularly to small creatures such as the nocturnal range of Mongooses, Genets, Zorillas and such like, many of which get run over.

A female Giraffe outside the Park, while being driven by the Rangers into the Masai Reserve along the Magadi Road, panicked when a lorry approached at high speed. She charged into the fence, tried to jump it and failed, fell over and broke her neck. I ask for more consideration by the public using the roads along the Park boundary, as for a number of years there will be animals outside the fence moving up and down in an attempt to get in. Treated quietly and carefully it is possible to persuade them to go down the road until they get to an entrance or a gap where they can return to their own sanctuary.

Two Giraffes, a male and a female, born in the Park during April, proved to be great favourites with all visitors. Neither of these two youngsters had the least fear of cars and, in fact, when a car approached the Giraffes obligingly came up to within a few feet of it. Some visitors were seen to get out of their cars and walk up to the two animals to get photographs, and possibly with the object of stroking them.

It is usually against the rules of administering a National Park to intervene in any of the tragedies of nature, but when the conditions in the Nairobi Park were so extreme all sympathy swung over to the side of the unfortunate ungulates and somewhat against the predators. The predators undoubtedly had all they required to eat, and therefore a visit by a pack of wild dogs was not welcome. A pack of sixteen were seen in and out of the Park during May and June, but they caused little damage amongst the smaller game as by this time a certain amount of rain had brought on some grass and all the grass eaters were more widely distributed.

One evening, however, they formed up on two male Warthogs; the Warthogs stood their ground and the dogs had to give way. Another time the dogs killed a young Wildebeeste near the upper of the twin dams while the remainder of the herd stood not far away. Two other Wildebeestes were actually on the dam wall within 50 feet of the dogs. When dogs are on the hunt all other animals usually show great nervousness and keep well out of the way. When the dogs had finished their meal they converged on the two Wildebeestes standing on the dam wall. The Wildebeests ran towards the main herd and joined up with them. The dogs then singled out the smaller of the two victims which was a yearling, chased it through and right out of the herd while the rest of the Wildebeestes made no attempt to defy the dogs. The yearling made for the dam and entered the water. The dogs stayed on the shore, but before they could start

another manoeuvre Assistant Warden Jolley intervened and drove the dogs away.

A similar experience was related by Honorary Warden Roy Grant-Smith. One evening he saw a pack of wild dogs near No. 7 dam stampede a small herd of Wildebeestes and finally single out a cow with a small calf, which they tried to bring down. On seeing this the Honorary Warden drove his vehicle at the dogs to turn them and to scare them off, thereby giving the Wildebeeste cow and calf a chance to plunge into the dam where the dogs would not follow. The cow and calf then started to swim across the dam, while the dogs raced round the shore. Roy Gant-Smith drove his car round the other side of the dam and chased the dogs off again. He pursued the dogs to get them well clear of the dam and of the Wildebeeste, and in doing so he chased them into a Lioness with a six-month-old cub hidden in the grass. The dogs on seeing the cub immediately went into the attack but the Lioness kept her cub close to her and fought back. The dogs were obviously reluctant to face the Lioness but, in order to avoid what may have been a major war, he intervened and drove the dogs well away.

Although hunting dogs are capable of a great burst of speed and can usually bring down their quarry by tiring it out, they are not above the mean trick of taking any young animal they can get, even if it means contending with a courageous mother trying to defend her young.



*Warthogs had difficulty in finding enough to eat.*

Warthogs were also badly hit by the drought and they were seen on many occasions feeding off the carcasses of animals that had died. This is not entirely unknown, but it shows that the Warthogs could not obtain enough green food and resorted to carrion. When some of the dams were being cleaned out by bulldozers various families of Warthogs followed closely behind the machines and sipped the pools of water which formed in the wake of the tractors. Hyaenas, on the other hand, had more than they could cope with and in fact they became so fat and lazy that they would frequently lie outside their burrows without enough energy to enter their holes. Many visitors found great interest in watching and photographing the Hyaena families especially when the cubs, looking like fluffy teddy-bears, played fearlessly within camera range. After conditions returned to something approaching normal the Hyaenas were once more forced to go out and look for their meals further afield. More recently they have taken to visiting all the old carcasses lying about the Park and dragging them back to their burrows so that the youngsters can feed off the dehydrated skins.

It always seems a miracle how Ostriches ever manage to bring out any chicks at all. The first nest in the year was seen on the 16th August. It held 42 eggs. The Ostriches had a tremendous struggle to cope with all kinds of interference as the nest was unwisely placed within view of one of the main roads through the Park. In spite of cars driving to within a few feet, whirring cameras, and other noises, the birds continued to sit on the nest and succeeded in bringing out a clutch of fifteen chicks. This is even more remarkable because on one occasion some Lion cubs found the nest and played with the eggs as if they were kittens playing with balls of wool. They scattered the entire clutch well out of the nest, but the birds recovered their precious eggs and continued to incubate them.

Two other unusual events were reported during the year. The first was a clear case of a Hartebeeste giving birth to twins, although one was only half the size of the other. The other event was a Python swallowing an Aard-wolf. It was obvious from the beaten-down grass and broken bushes round about that the Aard-wolf had put up a very brave fight against impossible odds. The chances of seeing a Python in the Park are very small. The chances of seeing an Aard-wolf are even smaller. By an arithmetical calculation the chances of a Python finding and killing an Aard-wolf must be very remote indeed. It seems unbelievable that of all the creatures that roam the plains in any of our National Parks that a Python should have picked on such a relatively rare animal. Although an Aard-wolf is a gentle kind of creature feeding mainly on insects, it is strange that it did not have enough control of its senses to resist the mesmeric subtlety of a Python.



Photo by M. Jean Pierre Hallet

*The astonishing spectacle of a Python trying to swallow an Aard-wolf.*

Nairobi Royal National Park and its adjoining Reserve is by no means free of poaching, although this is not done on anything like the same scale as in and near the Tsavo Royal National Park. In the earlier part of the year signs of Wakamba poachers were seen in the Ngong National Reserve and after a successful patrol one man was fined £60 for being in possession of poisoned arrows, another £40 for being in possession of poison and game meat, and another £25 for being in possession of poison. Soon after that a feud between the Wakamba and the Masai developed although nothing whatever to do with poaching, and the Wakamba tribesmen were soon turned out of the area. In November, an incorrigible poacher named Matheka was sentenced to nine months' imprisonment with hard labour by the D.C., Kajiado for killing a Wildebeeste in the Kitengela area. A further two people received six months for poaching in the same area in December. In January, three Wakamba were sentenced by the District Officer, Ngong, for poaching in the Keserian area. In February, three Masai were sentenced to imprisonment for offences concerning Rhinos.

Poaching in the Park itself is fairly negligible but I do not rule out the possibility of a number of people with small-bore rifles pinching a buck from the Park during the hours of darkness, especially on the eastern boundary. This may account for the noticeable decline in

Thomson's Gazelles. A case of Crocodiles being trapped in the Mbagathi River came to light but no prosecution resulted since the evidence was rather obscure. Another at the Hippo Pool was seen with the remains of a snare round its neck.

A particular Crocodile caused a great deal of alarm in the Nairobi dam which is the nearest large body of water to the Park on the Nairobi side. It is a popular recreation centre for yachting and all kinds of water sport. When this Crocodile was first seen in the dam the local authorities endeavoured by various means to catch it. It was no easy matter, but eventually it was caught and taken into the National Park and released in one of the dams in the Sosian Valley. It is more than likely that this Crocodile was originally the well-known resident of the dam in the Lone Tree area, but when the dam dried up he set off to find somewhere else to live. The distance between the two dams is approximately three miles.

This ends the Report on the Nairobi Royal National Park for the past year and I hope that I can see the day when this amazing little faunal sanctuary will have good all-weather roads, will be sufficiently fenced to keep the denizens within their sanctuary and to have attached to it a Zoological Centre which would enhance the importance of this Park and enable us to manage it more scientifically and successfully. It will always continue to be unique in the world as being such a remarkable wild life area within a few minutes of a capital city.





*Sir Julian Huxley examining a baobab tree damaged by Elephants.*

## TSAVO ROYAL NATIONAL PARK

The Tsavo Royal National Park was by no means exempt from the appalling drought which persisted for most of the period under review. At the best of times it is a relatively waterless area, and when the meagre rain which is due in the short and long rainy seasons failed, conditions became terrible. Hardly a blade of grass remained, plants which normally carry foliage all through the year looked like dead sticks, and large trees took on all the appearance of phantoms holding up their bare branches as if pleading for rain. One of the two main rivers, the Sabaki river, which enters the Park not far from Mtito Andei, went dry and the only permanent water was from the Tsavo river which is fed mainly by the Mzima Springs.

Considerable attention was therefore given to the development of water supplies made possible by the "Water for Wild Animals Fund". In the eastern section of the Park the first endeavour was to find water in the north-eastern corner in a district generally known as Ndiandaza. Some time ago I had hopes that being at the end of a water course there should be good prospects of making a relatively large dam near Ndiandaza. After careful survey, however, it appeared that the water levels, even when impounded by a long wall, would not be deep enough to last throughout the dry seasons, the rate of evaporation in this zone being very high indeed.

After some preliminary investigation at Ndiandaza with hand-drilling rigs, a mechanical rig was brought in by Mowlems and commenced drilling on the Ndiandaza plain. After going down several hundred feet, the formation proved unreliable and the hole required extensive casing. It did, however, provide a yield of 500 gallons an hour, which although not large is certainly sufficient to be of use. A second hole was drilled about four miles away with much the same result. These two holes will make it possible to use Ndiandaza as a reserve grazing area.

The main project, however, which is known as the Yatta Pumping Scheme, called for the full attention of the Field staff. With the assistance of Sir Alexander Gibb and Partners, the consulting engineers who are always so willing to assist us in these matters, it was decided to proceed with the construction of these works. The intake will be sited just below the junction of the Sabaki and Tsavo rivers so as to ensure a permanent flow. From there water will be pumped up to the top of the Yatta Ridge, a lift of some 500 feet, impounded in one or two reservoirs and then run out by gravity into the northern and eastern sections of the Park where, for most of the year, there is no water at all. The main part of this project has been made possible by the handsome donation of £10,000 from Mr. Bonar of Scotland. I was glad to have the opportunity of flying Mr. Bonar over the area and obtaining his approval before plans reached the stage of drawing tables.

This method of supplying water by pipeline is commendable from all points of view. It is entirely controllable in that the amount of



water supplied can be restricted or increased, and the places at which water is made available can be changed from time to time. If there is any obvious danger to the habitat by attracting and concentrating too many wild animals in one place it is an easy matter to turn off the water supply and persuade the animals to drink and feed elsewhere.

By the end of the year the foundations had been laid for the pumping station and a route selected for the supply line up to the top of the ridge but, owing to the difficulty of obtaining a large quantity of piping and other materials, the scheme did not make great headway by the end of June, 1961. I have confidence, however, in this method of supplying water to arid areas, as having infinite advantages over catchment dams which, once they are full, cannot easily be emptied or turned off. In dry weather many Elephants concentrate along the river valleys, but as soon as it rains, and even before the vegetation has had a chance of growing, they seem to know instinctively what to do. They at once sally forth into some other area where, by using rain catchment water, they can get more to eat. This is an obvious argument in favour of providing water in the large section of the Tsavo Park lying north of the Yatta Ridge, which for most of the year is of no use to wild animals.

Through the good services of our friends who control the Mombasa Pipeline from Mzima Springs, Warden Sheldrick was allowed to



Photo by Valori Cowie

*Warden Marshall at the Royal Little bore-hole.*

construct a watering place not far from Voi in an area known as Worsessa. By using the surplus water spilling out at a break-pressure tank, a drinking place was created which proved immensely popular and enabled many animals to use this zone.

In the western section of the Park great attention was also given to water developments which took the form of drilling boreholes. The first one attempted was in the Rhino Valley and was made possible by a donation from Mr. Royal Little, of the United States, through the New York Zoological Society. Water was struck at the relatively shallow depth of under 150 feet and the yield was well over 1,200 gallons an hour. I was glad that Mr. Little himself was able to visit this country and see the results of his donation which, when joined with one from Mr. F. Wardenburg, also of the United States, made it possible to equip this borehole, build a reservoir next to it and provide water in an otherwise dry valley.

Another borehole was sunk later in the same valley, some miles away, but proved at first to be a failure. After going down some 240 feet it gave only a very small yield and the hole had to be abandoned for the time being. When another drilling rig was later available the hole was deepened and we were all delighted to find that it proved to be entirely successful, yielding a large quantity of water. A shallow hole was drilled near the abandoned Ngulia Lodge by going down a fissure in the basement rock. At only thirty feet the yield was over 1,300 gallons an hour. This was particularly gratifying as it was the



*A drinking pool supplied from a bore-hole.*

site of a natural spring which previously supplied not only the Lodge but this part of the Ngulia Valley. When the spring dried up many animals were forced to leave the valley to find water elsewhere.

Similarly, in the Ndawe Hills, opposite the Ngulia Range, there used to be a spring which, according to local Africans, supplied water for many, many years, but in the drought of 1960/61 it dried up. A drilling rig was brought on to the site and, after going down only a few hundred feet, water was struck and the yield, although not very great, is certainly adequate to serve all the animals which use the hill-side vegetation.

Three drinking places constructed by take-off points from the main supply pipe from a borehole at the foot of the Chyulu Hills to Warden Marshall's headquarters proved immensely popular, and it was interesting to see that over a continuous period of ten weeks an average of 8,500 gallons a day was consumed by wild animals.

Similarly, as a result of the two drinking points arranged by the good grace of G.F.K. Refractories Ltd., a mining company operating in the western section of the Park, wild animals were enabled to use the Murka Plains which otherwise would have been out of their reach. These two drinking places proved very popular and attracted considerable numbers, especially of plains game.

An intriguing task in the western section of the Tsavo Park was to find water in a reasonable quantity near the Kilaguni water-hole. This water-hole, on the edge of a lava flow, was known for many years, but it was a very small supply. A little water percolated out through a limestone bed to create a rather dangerous hollow pool of mud and slime. Many a Rhino, and even other animals, have frequently been stuck in this hole, some of which did not survive. It was, therefore, very necessary to find a better source of water for this area, and also to supply the new safari lodge which was to be built in the same district.

Many years ago an old poacher showed us a hole in the lava flow itself, at the bottom of which was a small pool of water. By climbing down inside this hole it was obvious that it had been made by the molten lava forming round a large tree. On the sides of the hole one could clearly see the serrations made by the bark of the tree. A pump test revealed that it was a substantial supply, and obviously suggested that the lava was lying on top of a limestone bed where there was a great quantity of water.



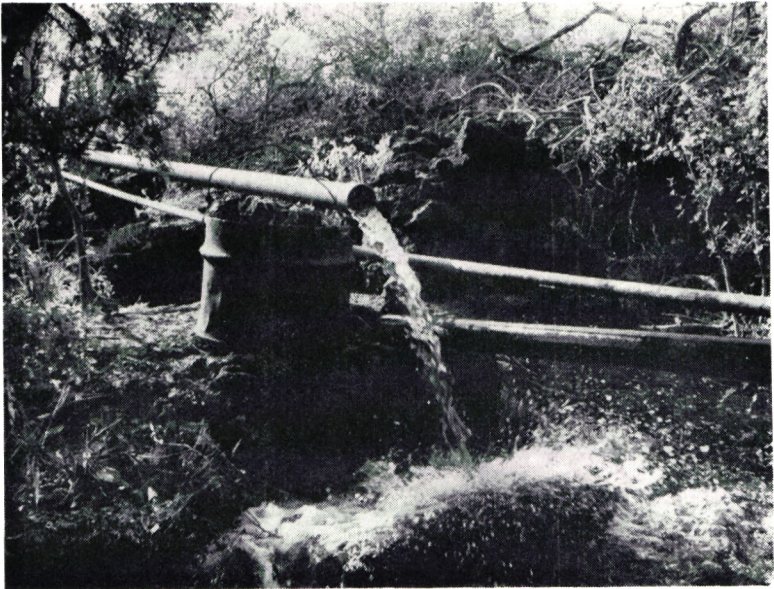


*The well in the lava.*



Photo by Valori Cowie

*An Elephant in the original Kilaguni water-hole.*



*Clean, cool water gushes out.*



The task was to find a means of drilling or digging another hole down through the lava, admittedly only a matter of some twenty-five feet, to reach the same level at a place where it would be more feasible to pump it out. Warden Marshall tried various methods, but in the end had to accept that the old-fashioned device of fire and water was the only way. This consisted of making a fire on top of the slabs of lava, and when they were very hot to pour water over them, whereupon the slabs cracked and broke into fragments making it possible to lift the pieces out. After several months of this slow process, the hole reached the water level and a test pump revealed that it would yield at least 4,000 gallons an hour, and the results were most satisfactory. When pumps and piping are available it will be used not only for the new lodge but also to create much better and safer drinking places for all the animals that live in this zone so that they can avoid being trapped in the mud of the old Kilaguni water-hole.

In all these endeavours I would like to pay particular tribute to the Chief Engineer and officers of the Hydraulic Branch of the Ministry of Works who have been consistently willing to inspect an area, to judge its water-carrying potential, and even to send people into the far north of the Tsavo Park where they had to stay for weeks on end making various tests in order to make sure that the money subscribed to the "Water for Wild Animals Fund" will be wisely and effectively used.



*A Rhino which perished from starvation.*

One of the disastrous results of the appalling drought which prevailed for most of the year was the loss of a great many of our precious Rhinos. In the second quarter, Warden Sheldrick reported with regret the death of nearly eighty Rhinos in his section of the Park. It was not known at that time precisely why they were dying, but it was obviously due to insufficient food because some of them actually died in the water of the Sabaki river. At a later date one of our friends from the Kenya Veterinary Department, Dr. Tremlett, was able to make a post-mortem examination of a Rhino that had just died and confirmed that its death was due to acute anaemia. Rhinos were also reported as dying in the Tsavo river valley and in other parts of the Park. It was clear that the Rhinos had not been killed by poachers.

Symptoms generally were that the skin of the Rhinos would turn black, and they would become progressively emaciated until they died. The general distribution of the carcasses proved that it was due mainly to drought conditions causing starvation, although there are some people who have claimed that the death of so many Rhinos in the Tsavo Royal National Park last year was due to the over-population of Elephants. Elephants have undoubtedly done a great deal of damage to the habitat, where they have concentrated along the rivers, but the loss of these Rhinos cannot be blamed entirely on to the Elephants.



*Warden Sheldrick checking the horns recovered from Rhinos found dead.*

With such a small number of Rhinos left in the Tsavo Royal National Park and in Kenya as a whole, it is more than alarming to find so many dying of starvation in addition to those that are killed by poachers. Poaching continued throughout the year in all sections of the Park, and particularly round its boundaries. The total number of Rhinos actually found as having been killed by poachers amounted to sixty-nine, as well as fourteen Elephants, four Giraffes, three Buffaloes, two Zebras, four Impalas, seven Oryx and six Kongonis. This represents only a very small proportion of the number of animals that were killed by poachers, because many either wander off and die where they cannot be found, or the poachers are wily enough to destroy all traces of their nefarious activities.

Whenever I write a report on the Tsavo Royal National Park, I cannot avoid stressing the immense danger to the future populations of our wild animals caused by poachers. This illicit hunting and killing goes on all through the Coast Province and other parts of Kenya, and in the case of Rhinos the toll taken is greater than the rate of increase. When one adds the score of sixty-nine known to have been killed by poachers to the total of nearly one hundred that died of starvation and natural causes, out of a total population of some nine hundred, it is obvious that it will not be long before the Rhino population of the Tsavo Park and its environs goes beyond the point of no return, and then it will be too late.

Extracts from the Warden's reports reveal a very sad story of the events of the year, and hardly a week passed without some record of animals being killed by poachers. In the first quarter Warden Sheldrick recorded that a total of four Rhinos and two Elephants were found dead on the Tiva and Yatta Escarpment. In every case the horns and tusks had been removed. The patrols reported numerous signs of poachers along the western boundary from Kimethena towards the Tiva. No. 1 Section of the Field Force operating around Irima Hill found the remains of two Giraffe which had been killed by poachers. An effort had obviously been made to bury the carcasses which had been exposed by Hyaenas.

In the second quarter Warden Sheldrick again reported that No. 2 Section of the Field Force found a Rhino which had been killed by poachers at Chimanyenze. The horns had been cut off and removed. At about the same time No. 1 Section operating in the Gazi area contacted a gang of honey hunters and arrested three men. They also saw signs of a large poaching gang in the same area. The remains of a Buffalo and a Zebra were found and the meat from these animals had been removed and carried back to the Native Reserve.

In November another section working under Assistant Warden Trevor in the Kampi ya Simba area found the carcasses of twelve Rhinos. The horns were recovered from five but the remainder were

missing. Two Masai Moran were arrested in the Park. The Elder Moran's spear was very bent and covered in blood. He admitted spearing a Rhino that morning and showed the patrol where he had actually encountered the animal. After interrogation it was discovered that the two arrested men and others had been hunting in this area for some time. The horns were being sold to some Wachagga from Tanganyika for Shs. 40/- or Shs. 50/- per horn, and were taken away in a Land-Rover. The arrested men also stated that the Wachagga had been in the area two days previously. The scene of the spearing was no more than four miles from Kitani Lodge and 500 yards from the main public circuit to Kampi ya Marabu. The carcasses of a Hippo and Crocodile which had been speared were also found.

Again, in November a Mkamba youth was arrested in the Park near Maktau for being in possession of Ostrich meat and carrying a bow and arrows. He was accompanied by a dog.

On December 9th, three Rangers from No. 2 Section of the Field Force, on patrol between Ithumba and the Tiva, found a gang of three Wakamba from Ikutha Location hunting in the Park with a large pack of dogs. The Rangers succeeded in arresting one man who had killed a Warthog, but the others made good their escape. The use of dogs is a new departure in the methods and activities of the poachers.

At the beginning of January, the police kindly offered the use of two platoons of a G.S.U. to assist with anti-poaching work inside the Park. They were joined by Assistant Warden Jenkins and No. 2 Section of the Field Force. The boundary line from Mackinnon Road to Sala Hill was patrolled and a number of charcoal burners' huts were found in the Park on the Voi River. No. 1 Platoon found 450 head of cattle in the Park near Mackinnon Road and arrested the owners. The Force then moved to the Tsavo area and extensive patrols were carried out on the lower Tsavo and Athi rivers. In spite of the fact that no poachers were encountered, the presence of this large force in the area for two weeks undoubtedly had a good effect on the local poaching community. I would like to express particular appreciation to the Commissioner of Police and his officers for allowing the use of the G.S.U.

In early March, No. 3 Section operating in the Tiva river near Makoka found four Rhino carcasses. These had recently been killed and the trophies in all cases had been removed. This was the first time in four years that evidence had been found of poaching so far into the Park. A number of snares were found in the Maungu area and were removed.

H.Q. Section, operating in the Maktau area, under Assistant Warden Trevor at the beginning of January, found a freshly made bush fence with snares which extended for over a mile.



On January 12th, a bull Giraffe was found dead near Lake Jipe with two poisoned arrows embedded in its stomach. The following day a second one was found with most of the meat removed.

On January 23rd, three Rhino carcasses and a recently vacated camp were found on the Rombo river. A tree platform, a thorn *boma*, and the remains of some Antelopes were also nearby.

Towards the end of March reports from patrols in the northern area showed an increasing amount of poacher activity. A number of new hideouts were found and several large fires were started on the Yatta and in the Tiva valley.

In the last quarter of the period several conferences were held at Voi, including various departments concerned with the control of poaching, under the chairmanship of the Chief of the C.I.D. in Mombasa. All aspects of the poaching problem were discussed and many ways of solving it were considered. It was, however, the general conclusion of all present that, unless the Kenya Government can make more money available to deal with poaching, the schemes which we designed could only touch the fringes of this disastrous trouble.

Another significant feature is that on the 10th May two men were arrested near Kengetchwa, in the western section of the Park, for hunting with poisoned arrows. One of these men had only been released from jail in mid-January, after having been convicted for the same offence in October, 1960. It is, therefore, obvious that the punishments awarded are no deterrent.

Similarly, in June No. 3 Section saw the footprints of three men going from Chimanenze to a hideout on the Yatta. An ambush was laid and late that evening a Mkamba was arrested as he entered the hideout. This man had two previous convictions for game offences.

Warden Marshall, in relation to the western section, stated that poaching in that area had never been worse. Whereas in the past it had been a matter of poaching for meat in the Rombo and Jipe areas, the poachers had now turned their attention to Rhinos for their horns.

After these various extracts from the Wardens' Reports, which are by no means comprehensive, I cannot see that anyone can fail to appreciate what a serious threat poaching is to the survival of wild animals. Animals of all kinds are killed with poisoned arrows, caught in snares, or found with broken legs and have to be destroyed. Under such conditions it is obvious that more strenuous and more effective steps must be taken by the Kenya Government to prevent poaching on this scale, particularly on the boundaries of the Tsavo Royal National Park.





*Elephants are easy victims for the poachers.*

In a further effort to make the patrols of the fighting force more efficient, Warden Sheldrick arranged to purchase some Camels to operate in arid areas. Many difficulties were encountered in obtaining the Camels, since, after purchase and a period of quarantine at Garissa, they had to undertake the long journey to the Park. Only one survived. With some reinforcements, however, he is confident that this type of patrol work will enable the Rangers to reach parts of the Park where there are no roads and where the poachers have been having it all their own way.

One of the greatest difficulties in operating patrols of Camels is to keep them safe from Lions. At night they have to be carefully protected, and even during the day they have to be guarded against sudden attack by Lions. The Lions and other predators in the Park seem to have grown more daring in the last year. Whether or not this is anything to do with the drought is difficult to judge. In July two Lions were seen feeding on one of three yearling Buffaloes which they had killed near the Athi river. Tracks of a large Crocodile were noticed at the kill, although it was some seven hundred yards from the river.

Another strange case was that a Ranger, whilst on patrol near the Sabaki river, found a cow Elephant standing guard over her dead calf which had evidently been attacked and killed by wild dogs. The surrounding bush had been trampled and the Elephant had obviously

experienced great difficulty in driving off the dogs. She was successful in killing one of the assailants, however, as the well-trampled remains of one wild dog were found near by. The Elephant calf had been mauled about the hind-quarters and stomach.

Later in the year a similar case was reported, but this time involving Hyaenas. Two Hyaenas were seen feeding on the remains of a newly born Elephant calf. They were reluctant to leave the carcass and pranced about with their tails in the air when the Rangers approached. The ground had been churned up by the Elephants and the tracks of many Hyaenas were visible for a considerable distance round about. It is not entirely clear whether the calf was killed by the Hyaenas, or had died of natural causes, but it seems a fair assumption that the Hyaenas had a great deal to do with its death.

Another report came in from the Tundani district where three Lions were seen feeding on a freshly killed Elephant calf. A number of other Elephants were standing within a hundred yards of the kill but made no effort to interfere with the Lions, nor to protect one of their offspring.

One of the strangest adventures was reported by No. 3 Section of the Field Force while camped at Sala. Four Buffalo bulls were resident in the area and were seen daily by the Rangers. One night a pride of nine Lions killed one of these bulls leaving three, one of which promptly left the area. The other two, a young bull and an old bull, remained. About a week later the Rangers saw one Lion pull down the younger bull which immediately started bellowing. This attracted the old bull who rushed in to assist his pal and tossed the Lion well into the air. It landed heavily on a tree stump, tearing a large piece of skin off its flank. In the meantime the victim got to its feet, and the Lion ran off limping badly, closely pursued by both Buffaloes. They caught up with the Lion in some open ground and brought it to bay. The Lion crouched and faced its attackers who immediately started circling it. After several minutes the Lion broke away and sought refuge in a small bush whereupon the two Buffaloes proceeded to bust the bush down and the Lion was once more forced into the open. Every time the Lion sought refuge in a bush the Buffaloes employed the same tactics, forcing the Lion to break cover.

At this stage the Lion spotted the two Rangers who were up a tree nearby, gave a grunt of alarm and ran down to the river bank. For the moment this diverted the Buffaloes' attention, but once again they followed the Lion, who had in the meantime gone into the river and walked upstream in the water for a short distance, coming out again on the same bank. This caused the Buffaloes to lose the scent. They then climbed the bank and started searching for the Lion and while doing so came across the remainder of the pride who had watched the entire performance from under a tree nearby. The two Buffaloes

then charged into the pride, scattering the Lions in all directions. At this stage the Rangers decided that as everybody was obviously in a very bad temper, it was wiser for them to make good their escape and they withdrew from the scene.

In October the Rangers at the Voi gate saw that a cow Elephant was holding up the traffic at the entrance into the Park. After considerable trouble the Elephant was driven off by shouting and firing shots into the air. They then found that she had been standing guard over her young calf which was lying dead in the grass beside the road. The cause of death was unknown but it was astonishing to see to what lengths this Elephant would go, not only to protect her calf, but to ignore the activity which was centred round the gate.

It is not unusual to see Elephants near the Main Gate. These are usually the four tame Elephants which live in a stable at night near Warden Sheldrick's headquarters. In the previous year they grew restless on several occasions and attempted to join up with wild herds. On the evening of the 20th November, however, the four tame Elephants took fright, and rushed off in the direction of the Kanderi waterhole. All available Rangers were turned out to follow them, but were unable to catch up with them before nightfall. The following morning the biggest of the Elephants, known as Samson, and one of the younger ones, named Aruba, returned, but the other two, namely Fatuma and Kanderi, could not be found in spite of an intensive search.

A little later, on the 7th December, Assistant Warden Jenkins, while travelling between Lugards Falls and Voi at dusk, saw a herd of Elephants near the road, and all them, with the exception of two calves, started to move off when they heard the car. He then recognised these two calves as being Fatuma and Kanderi. He left his vehicle and called to Fatuma who allowed him to approach to within a few yards, but unfortunately the remainder of the herd then started to move off at speed and Kanderi followed. This also startled Fatuma, and she ran away. As it was getting dark and Assistant Warden Jenkins had only his personal servant with him, he was unable to separate the tame calves from the rest of the herd. On the following morning another search was instituted, but the spoor was very soon lost amongst a maze of other Elephant tracks, and no further signs have been seen of the missing Elephants.

This is interesting as it proves the theory which I have held for some time, namely that if Elephants reach an age when they can fend for themselves, they will be accepted by a wild herd, and revert to their traditional ways of life. Presumably Fatuma and her friend Kanderi will now be wandering about somewhere in the northern section of the Tsavo Park and may one day again present themselves to some Warden who is going by, but I do not believe they will ever

grow really wild unless they get into the grips of the poachers, or perhaps have to be driven out of plantations on the borders of the Park.

More excitement was caused at the Voi headquarters in October when about 6 p.m. in the evening a newly born Rhino calf suddenly walked into Assistant Warden Kearney's servants' quarters. This gave rise to a great deal of excitement amongst the African staff, who naturally expected the irate Mother Rhino to arrive on the scene at any moment. Assistant Warden Kearney was hastily summoned and a search made for the Mother, but without success. The calf was then adopted as a member of his family and measured 22½ inches at the shoulder and weighed 89 lb. It was fed on one part Hipack milk to two parts water, with the addition of Extol glucose for some weeks before changing over to Lactogen. The calf lost weight for a time and commenced scouring, but after treatment with Chloromycetin, its condition improved and it is now in excellent health. Two months after capture it measured 24 inches at the shoulder and weighed 102 lb. Mr. and Mrs. Kearney are to be congratulated on successfully rearing this Rhino calf.

A few months later two young Buffaloes, a male and a female, which were captured on the Voi Sisal Estate by Mr. Sherali Khan, were handed over to the Warden's headquarters. These were also taken into the Kearney household, and both are doing well. The young Rhino and two young Buffaloes appear to have set up a great friendship.

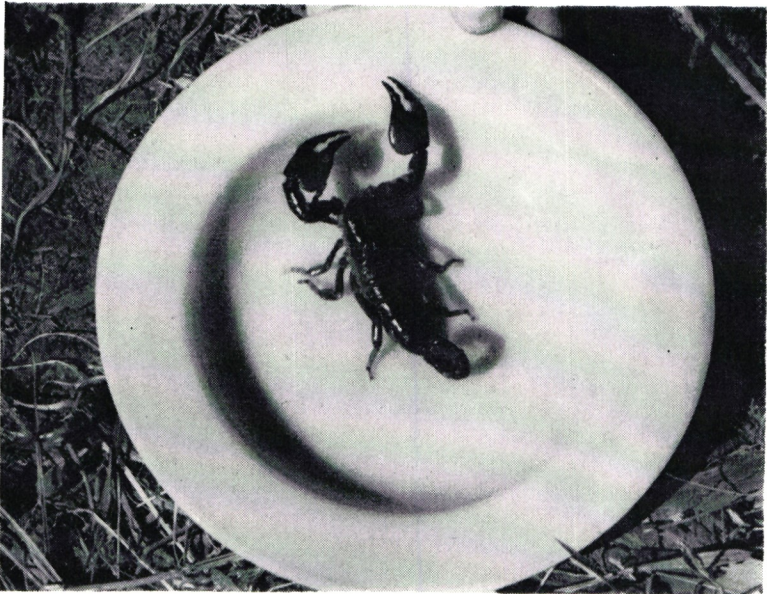
Another addition to the Parks' game population was made in June when a female Rhino, captured near Simba by Mr. Carter of the Game Department, was released at Melka Faya. She was in excellent condition and appeared to be in calf. She was seen later by some of the Rangers behaving peacefully and enjoying her new surroundings.

Strenuous endeavours instituted some years ago to save some of the Leopards from extermination in areas where they cannot be allowed to stay have been working successfully. Eight Leopards were transported to and released in the eastern section of the Tsavo Park during the period and as far as can be ascertained they are enjoying their new surroundings. On one occasion when two Leopards trapped at Nyeri were released at Melka Faya, Alan Root, who was filming in the area for Armand Denis Productions, recorded the release of one of these Leopards; the female weighed 76 lb. whereas the male weighed 136 lb. He was in a Land-Rover parked some 60-70 yards away from the trap. After watching Mr. Root's Land-Rover for at least five minutes from the open door of the cage, the Leopard suddenly sprang out, charged the vehicle, without any good reason, covering the distance in a flash. Alan Root just had time to start the engine and this sudden noise frightened the Leopard for at the last moment it swerved off, just past the front of the car and ran down towards the river.



Another Leopard sent down from the Nyeri district was released in the western section of the Park, near the Ngulia Lodge. As soon as the trap door was opened, the Leopard was out like a flash, and went up to the top of the nearest tall tree some 50 ft. high where it stayed for about four hours. This was a particularly large Leopard and Warden Marshall considers that it can probably claim to be the largest Leopard in the Park.

Another interesting story was reported by Alan Root while filming in the eastern section near the Galana river Game Management Scheme. He placed a 2½-ft. brown house snake (*Boaedon lineatum*) and a Tatera (*Tatera nigricauda*) together on a sand bank in order to film their reactions. The results were most unexpected. The snake struck at the Tatera several times, and each time the rodent jumped vertically into the air about 12 inches to 18 inches. Finally, the Tatera landed among the coils of the snake and immediately bit into the snake's back about 6 inches from the tail. The snake wriggled off, entered the water, swimming strongly across the fast-flowing stream. This did not deter the Tatera, however, which hung on grimly until the snake reached another sand bank. The Tatera then released its hold and calmly proceeded to clean its whiskers, while the bewildered snake made off hastily. This was a remarkable performance on the part of a rodent whose head and body only measure approximately 150 m.m.



*A Scorpion in a soup plate, found by Mr. Peter Scott.*



Visitors from overseas often express surprise that they do not find more snakes during the course of their travels.

It is actually quite difficult to find a snake and one seldom sees one out in the open. By a careful check, however, the following snakes were collected from the eastern section of the Tsavo Park and duly identified by Mr. J. Leakey of the Coryndon Museum.

- Common house snake (*Boaefon Fuliqinosus Fuliqinosus*)
- Eastern spot-striped snake (*Hemirhagerrhis Notataenia Notataenia*)
- White-lipped snake (*Crotaphopeltis Hotamboia Hotamboia*)
- Cape wolf snake (*Lycophidion capense capense*)
- Hissing sand snake (*Psammophis sibilans*)
- Eastern link-marked sand snake (*P. Biseriatus biseriatus*)
- Spotted sand snake (*P. Punctulatus trivirgatus*)
- Stripe-bellied sand snake (*P. Suetaemiatus Sudanensis*)
- Eastern tiger snake (*Telescopus semiannulatus semiannulatus*)
- Common egg-eating snake (*Dasyveltis scabra*)
- Black-necked spitting cobra (*Naja nigricollis*)
- Pink or red spitting cobra (*N. nigricollis pallida*)
- Burrowing viper (*atractaspis microlepidota microlepidota*)
- Puff Adder (*Bitis arietans*)
- Python (*Python sebae*)
- Kenya sand boa (*Eryx colubrinus loveridgei*)
- Teita mountains limbless skink (*Acontias percivali*)
- Voi wedge snouted worm-lizard (*Geocalamus acutus*).

In the field of small creatures, I am sure that there are many interesting things yet to be learnt. A strange story comes in from a waterhole near Mazinga Hill, where an unidentified toad was found in the grips of a large water beetle. The latter had its front legs clamped around the toad and its proboscis was impaled in it. After about twenty minutes the toad broke the beetle's hold and hopped away. On inspection it seemed none the worse for the encounter and the beetle was later identified as an Aquatic Reduvid.

Another tussle, but on a very much bigger scale, was described by Warden Sheldrick in June when he was travelling along the Galana river, near its junction with the Tsavo river. A curious object was seen in the water. On investigation, it turned out to be the hind leg of a Rhino. A search was made for the remainder of the carcass, and eventually Vultures were noticed perched in some trees bordering the river. Some Rangers waded across and as they approached the spot, they saw six Lions. Two of the Lions were sitting on the river bank, while others were attempting to drag the remainder of the dead Rhino out of the water. The efforts of the Lions however were being frustrated by a number of Crocodiles, also determined to get their share. They each pulled equally hard in opposite directions in the nature of a tug-of-war. At this moment the Lions spotted the Rangers and slunk off, but the Crocodiles were not so timid and continued to

struggle with their prize, every now and then raising their heads above the water. The tracks showed that the Rhino had died on the river bank and had been dragged into the water by the Crocodiles. The horns were not recovered and presumably were lying on the bottom of the river, but somewhat naturally no volunteers could be found to undertake a search for them, particularly in competition with both Lions and Crocodiles.

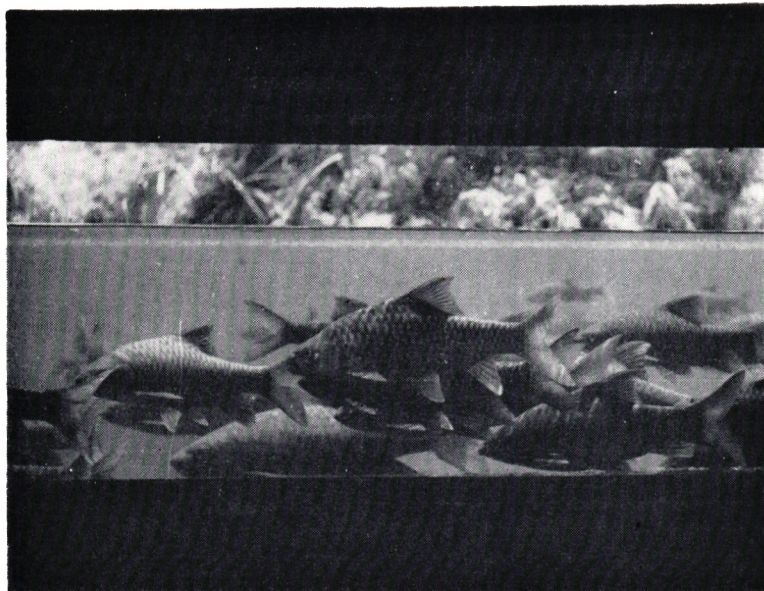
The most surprising report of the year was from a visitor who recorded that he had seen a strange Antelope near Sobo rocks. He was unable to identify it, but stated that it was in very poor condition and lame in the front leg. Sergeant Kimwele and some Rangers were sent down to investigate and returned a few hours later with a young male Sable Antelope. It had been caught round the foreleg by a snare at some earlier date which had almost severed the hoof from the leg. It is more than unfortunate that the first Sable to be recorded in the Tsavo Royal National Park should have been so crippled that it had to be destroyed. The horns measured 20 in. on the front curve and the skeleton has been preserved for the British Museum.

Lions, although hard put to it to find enough to eat in the eastern section of the Park, appear to be increasing in the western section. Warden Marshall reports that the waterholes supplied by the Murka Mine pipeline have attracted a number of Lions, and on several occasions a large pride of twenty-one was seen.

The Tsavo Park is not a place to find Lions as easily as in the Nairobi Royal National Park. Visitors during the year have not been disappointed however for they have seen large concentrations of Elephants and also a good many other animals. Buffaloes have been particularly numerous, and on one occasion Warden Marshall reports seeing twelve different herds in the course of a short drive in the Ngulia area.

Accommodation for visitors was also affected by the drought and the Aruba Lodge had to be closed for a greater part of the year owing to the lack of water in the Aruba Dam. This dam, covering an area of some 211 acres, received no re-charge whatsoever from its catchment in the Taita Hills and eventually dried up altogether. On the other hand, a start was made in the western section to construct a new lodge at Kilaguni. This is the first venture into building an hotel in any of the Royal National Parks in Kenya, and when completed will have all facilities and a restaurant. It is sited on a promontory looking over a valley and outwards towards the huge mass of Kilimanjaro. The Chyulu Hills are to the right, and other hills frame the view to the left, all making a scene of considerable beauty. The new Lodge is within easy reach of the Mzima Springs and many other places of interest. I have every hope that Kilaguni will be one of the great attractions for tourists in Kenya.

Much of the success of this new lodge and the game which can be seen near it depends on the water which emerges from the Mzima



*Fish round the observation tank at Mzima.*

Springs, some of which is now being tapped from beneath the lava flow near the lodge itself. In recent months there has been considerable alarm caused in all thinking circles by a large-scale settlement of Wakamba, Wataita and Wakikuyu tribesmen on the Chyulu Hills. These hills are the catchment supplying the Mzima Springs consisting mainly of lava cinders, covered on the crests with forest where the precipitation is as great from the mist as it is from the rain. Towards the end of 1960 the entire hills were burnt by trespassers and the fire took approximately two months to travel from the northern end of the Range to the southern point. The damage caused was very great. It is an area which should undoubtedly be entirely protected from fire and from plunder by man. It is, therefore, very regrettable that it has not so far been possible to add the Chyulu Hills to the Tsavo National Park.

There was no deliberate burning carried out in the Park during the period, as there was practically no grass to burn. Experimental strips which were designed to be burnt each year have had to lay bare, but it was noticed that any test strips cut by machinery retained a better cover of grass. Animals such as Impala and Hartebeeste showed a clear preference for the mown sections. Following a recommendation by Dr. Barton Worthington of the Nature Conservancy, some experimental plots have been marked out in both sections of the Park and kept as control sections. Each plot is being treated in a different

manner, either burnt, subsoiled or cleared of bush for comparison with adjoining plots left in their natural state. These plots will provide a very useful study area to observe what changes are wrought over the years, either by fire or by disturbing the configuration of the soil. It is, however, only a few steps along the wide road of research which is more than ever necessary.

The period closed with a feeling of great anxiety. The drought persisted, Rhinos were still dying, poachers were active and there seemed little chance of preventing disastrous trespass by neighbouring tribes, particularly by Masai, into the western section of the Park. As is now known, however, the drought quickly changed into floods and all sections of the Park received heavy general rain. The fact remains, however, that the management of this Park will not be successful unless it can be based on more scientific knowledge. In almost every Report I have issued over the last ten years, I have pleaded for funds to undertake scientific research but without success. Proof of this need became apparent recently when certain visiting scientists formed the immediate impression that unless something is done to prevent serious damage to the habitat by the over-population of Elephants, there would be little chance for them or other animals to survive. In my opinion the Tsavo Royal National Park, as the main fortress for Big Game in Kenya, deserves considerably more attention, more staff, and therefore more money to maintain it, develop it, and make it into a successful wild life sanctuary.



*Egyptian Geese.*

## MOUNTAIN ROYAL NATIONAL PARKS

Descriptions of drought, drying rivers and desiccated conditions dominate all sections of this report. It is surprising to find that the Mountains were not unaffected by drought. Although any zone above 8,000 feet in this tropical belt of Africa generally has a greater share of rain, it requires regular rainfall to keep the enormous mass of vegetation in trim. The dry weather increased the fire hazard, especially on the moorlands of both mountain ranges.

Warden Woodley reports that in the early part of 1961 Forest Department fire controls were instituted and an armed Ranger was attached to each party for patrol work. These patrols concentrated on the moorland edges whilst the Ranger Force patrolled the heights and various dominating features. The Rurimuera area is usually a popular honey-hunting zone with the consequent risk of fire, but this year there has been a noticeable decrease in the number of honey-hunting parties visiting the moorlands. This he attributes to the poor flowering season resulting from inadequate rain.

The procedure followed by the honey hunters is to find a natural bee-hive in a hollow tree or to visit one of their pre-placed barrel-hives, and smoke the bees out of it, with little regard for the risk of fire. Frequently these honey hunters discard a smouldering ember only to start a fire which rages across the moorland and does untold damage.

The fire hazard has been increased in recent years by tempting many people to drive across the Aberdare Moorlands, an area which previously was only accessible to a few on foot. The Warden has designed a plan, with the advice of the Divisional Forest Officers, for controlled burning along the edges of the Moorland road so as to reduce the risk of fires being started by passing motorists, as well as to use these strips for investigation. It is obvious that the great welter of decaying vegetation that accumulates year after year causes intense heat when burnt and it is extremely difficult to extinguish. If, however, certain strips are burnt regularly they act as fire-breaks, with the added advantage of attracting many of the wild animals that shelter in the Moorland heath, to graze the short grass which springs up in the burnt strips in full view of eager tourists.

On Mount Kenya the fire risk was even greater. Unfortunately a disastrous fire was started through the negligence of a mountain climbing party. It destroyed over a thousand acres of moorland but by the very excellent fire-fighting organisation of the Forest Department sent up from Nanyuki, the fire was brought under control. The leader of the climbing party suffered a heavy loss as most of her valuable equipment was burnt.



Owing to the climate which is peculiar to these mountain ranges it is not possible to select any particular season as the best for the Aberdares, although the dry seasons which prevail in East Africa are usually the most suitable times to visit the mountain ranges.

Apart from the spectacular scenery and the invigorating climate of cold, clean air, there is now the further attraction of fishing on the Aberdare Moorland. Most of the rivers were stocked many years ago with both Brown and Rainbow Trout, and more recently American Brook Trout (*Salvelinus fontinalis*) were introduced into a tributary of the Chania river. A recent examination carried out under the direction of Mr. Martindale, the Fisheries Research Officer, revealed that these fish had reached an average weight of  $1\frac{1}{4}$  lb. Several were taken below an 82-ft. waterfall, which they evidently negotiated without any injury. This tributary has not been stocked previously with any kind of trout and is very suitable for a new species. Their progress is so far promising and they hold out a greater challenge to the skilled angler.

The enjoyment, or perhaps the excitement, of fishing is certainly enhanced on the Aberdare Moorlands by the probability of encountering some large animal round every bend in the river. The moorland is covered by large belts of heath and other thick vegetation which provide excellent shelter for Rhinos, Buffaloes and often Elephants as well. There appears to be a definite seasonal movement across the moorlands and down into the forest, especially in the "Treetops" salient, which is the best-known sector of the Aberdare Royal National Park. In order to check on these movements, a count was made in April and May of this year of the larger animals in the "Treetops" salient, and the forest bordering on it up as far as the moorland. This was done by sending out foot patrols working on a set plan of pre-selected sections. It resulted in a score of 336 Buffaloes, 268 Elephants and 33 Rhinos. Two days later the Assistant Conservator of Forests from Nyeri and Warden Woodley were flown over selected areas by Colonel John Nimmo, one of our Honorary Wardens. 34 Elephants were seen on the Aberdare moorlands, which must be added to the figure already recorded. A further 100 Elephants were counted by the Rangers in another section on the same day, which gives a potential total in the "Treetops" salient and its immediate surroundings of something just over 400 Elephants.

This focused attention on the question which has come up for decision in recent years, namely, whether or not the "Treetops" salient is being damaged by excessive game populations, attracted to it by the salt lick and water of "Treetops".



*The entrance to "Treetops".*

Mr. Colin Holloway, the Assistant Divisional Forest Officer, who was engaged in preparing a game thesis for the Commonwealth Forestry Conference, devoted attention to preliminary investigations in this zone, and was assisted in this task by a short visit from Dr. Pereira, the chief ecologist of the East African Agriculture and Forestry Research Organisation. Mr. Holloway, as a stranger to these parts, and not accustomed to the ways of wild animals, was very fortunate to escape on one occasion when he was confronted by a very unruly Rhino. After a skirmish and a good deal of dodging, the Rhino was driven off by Warden Woodley without any severe injury either to the Rhino or the visitors.

In attempting to assess the part played by game in the hydrological functions of these forest water catchments, Dr. Pereira noted that no serious soil erosion was observed in the section which he visited. He concluded from his rather brief inspection that the wild animals are not impairing the overall water regime of the catchment areas. He added to his report, however, that it must be accepted as a matter of principle that protected game in restricted areas may eventually multiply to the point where they begin to destroy their environment. At, or near this stage, population control is inevitable. He did not

find in this short reconnaissance, however, any evidence that this stage had been reached.

It was most valuable to have this expert assessment of the overall situation in the salient because in the immediate surroundings of "Treetops" itself there is very obvious evidence of considerable damage to the habitat. This, however, is inevitable if wild animals are continually attracted to the same place.

It is always astonishing how few people get into trouble with dangerous animals in these dense mountain ranges. The encounter in which Mr. Holloway narrowly escaped from a Rhino is an exception. Another is that one of the Rangers, whilst on patrol, met an old bull Buffalo at close range, and in its efforts to get away knocked the Ranger down. In falling he struck his chest against a rock and was rendered unconscious for seven hours. Whilst still unconscious he was discovered by his colleagues of the patrol and carried back to their camp. The next day the patrol leader walked down to the Base Camp and eventually to the headquarters at Nyeri, covering the intervening 22 miles in six hours. The injured Ranger, who had been left at the Base Camp, was then transported to hospital where he only required attention for one day. He was extremely lucky to escape so lightly.

More intensive patrolling of the Aberdares since this Park was opened has brought in useful information on the habits and behaviour of the famous Bongo Antelopes. A Game Ranger from Marsabit while paying a brief visit to the Park was fortunate enough to see a Bongo on Route 9. They have been seen several times from this road and they are not so afraid of traffic, or even of people on foot, as they were some years ago. The most surprising news is that in the period between April and June of this year Bongos were seen in front of "Treetops". A pair were seen at the pool on five different nights between 9.30 p.m. and early morning.

It is difficult to understand why Bongos find their way down to "Treetops", since the vegetation upon which they normally feed is not available in the lower sections of the forest. Hon. Warden Major Venn Fey, assisted by Hon. Warden Bill York, attempted to catch some Bongos in the Kiandongoro area. They encountered many difficulties but eventually succeeded in capturing one young female, which unfortunately died as the result of an overdose of a tranquilliser drug used in the process. From this operation it appeared that Bongos are very partial to a herbaceous shrub, called Thunguya (*Mimulopsis thomsonii*). Their appearance at "Treetops", however, will give many people who visit this famous place an added interest and an opportunity of checking on the behaviour and food preferences of these elusive animals.



*Two Buffaloes coming in to drink at the pool.*

“Treetops” is, as it were, a window on to a natural scene of wild life and, from the monthly newsletters and diary notes in the visitors’ book, a defined pattern of animal behaviour can be ascertained. Mr. Mason Smith, the Chief Hunter in charge of “Treetops” parties, has noted that the numbers of both Bushbuck and Warthog decrease when the Baboons are absent. The Baboons themselves usually make themselves scarce when there is a Leopard in the vicinity. Many of the smaller and more gentle creatures rely on the Baboons to sound the alarm in the event of any trouble. Although the Baboons make a great deal of noise squealing and fighting, they have their own particular alarm signal which is a kind of bark, like the bark of a dog. When they do this all other animals take note.

Baboons can invariably be seen at “Treetops”, and they provide visitors with continuous entertainment. In the last quarter of the year one of the regular Baboons had to be trapped and moved away out of mischief. Ronnie, as he was called, a rooftop chieftain among the Baboons who look upon “Treetops” with more than a proprietary interest, especially at tea-time, began to show signs of being too aggressive. He became increasingly obstreperous and destructive until his amusing antics were no longer tolerable. It was, therefore, decided to give him a wider and less sophisticated range. One fatal



day, which Ronnie will probably never forget, the hunter in charge, Mr. Pollman, bagged him and he was promptly removed some miles away to the Naro Moru river. He has probably never had it so good as he did at "Treetops" and he will miss the many slices of pineapple and cake which were donated—willingly or unwillingly—by intrigued "Treetops" guests, not to mention minor acquisitions such as fountain pens, lens caps and apparently irresistible supplies of Alka-Seltzer. The latter is a little odd as, of course, Baboons are not allowed in the bar.

A strange incident occurred towards the end of 1960, when a bold female Baboon descended the staircase leading from the roof of "Treetops" down to the next level. The Hunter in charge followed her down in order to maintain law and order but the Baboon, on seeing a person approaching and possibly blocking her line of retreat, took fright and took a flying leap through the plate glass window of the back door. The glass was shattered and the Baboon descended the 25 feet below without touching anything. The crash of glass was a signal for the troupe to scatter and no Baboons returned to "Treetops" for two days. On another occasion the hullabaloo set up by the Baboons was the signal for all other animals to go into hiding as it heralded the arrival of a pack of hunting dogs.

Even the Yellow-Billed Duck, usually found on the pond at "Treetops", act as sentinels for other creatures. The Hunter in charge recorded in October that on arrival at "Treetops" the Yellow-Billed Duck were in a state of alarm. Before approaching with the guests he examined the shore line of the pool to find the cause. There was no explanation of the trouble until he climbed into "Treetops" itself, where from the verandah he saw a very young Giant Forest Hog splashing in the deep water in the last struggles of drowning. He was not able to get there in time to save it and, even after it was drowned and motionless, the Duck continued to fly backwards and forwards, making a lot of noise. Their frenzied quacking kept all the other animals from the water for about an hour. Warthogs, Bushbucks and Waterbucks approached the pool but turned away without drinking.

This is not the only Giant Forest Hog that has been in trouble in the "Treetops" pool. On another occasion a fully grown Hog, weighing probably the best part of 400 lb., decided to have a mud bath in an Elephant wallow at the side of the pool. Once in the mud it was unable to touch hard ground as the wallow was deep, and it drowned. There was no easy way of getting it out, and the following night it was devoured by Hyaenas within the astonishing space of less than one hour. Later, however, another Forest Hog was dragged out of the mud where it had been trapped all night, and after a short rest it trotted off into the forest, presumably saying "Thank you".

The "Treetops" diary is always a source of continual interest. In the early part of the year visit No. 2134 was the most successful. Eleven varieties of game were seen during daylight, and after dark more came in. The diary records that when the party arrived at "Treetops" there were Baboons, Bushbucks and Waterbucks at the pool. By 3 o'clock a sounder of twelve Giant Forest Hogs appeared and Colobus Monkeys were seen running along the ground accompanied by Sykes Monkeys and Baboons. Then one lone Buffalo bull arrived. By 4.45 p.m. a herd of Elephants were sighted in the forest clearing. By 5.45 p.m. forty Elephants were ambling about and eating the salt just below the Tree House. The herd soon increased to seventy, including calves, and were joined by thirty Buffaloes.

After dark the list increased to over one hundred and fifty Elephants, four Rhinos, seventy Buffaloes, and three different sounders of Forest Hogs all duly supported by the permanent performers in this Forest scene, namely Bushbucks and Waterbucks and, finally, one stray Genet Cat.

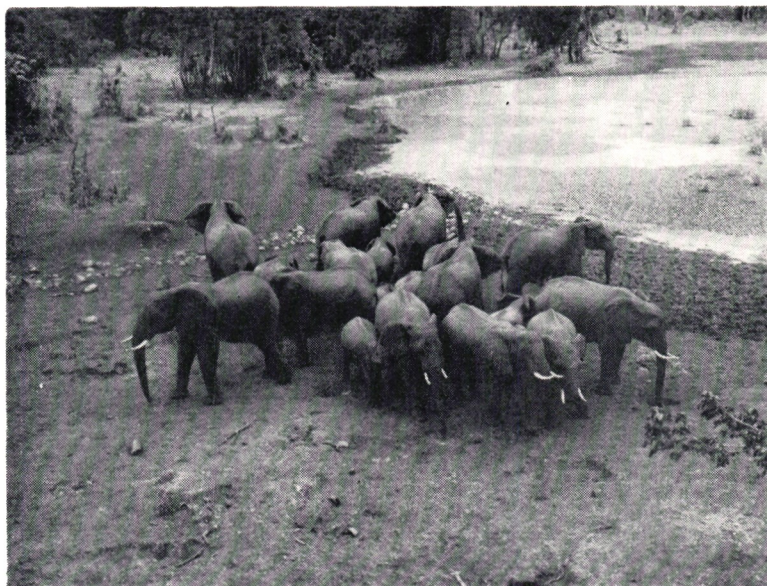


*Elephants hear an aircraft approaching.*



*The noise increases and they become alarmed.*





*A Vulcan Bomber overhead causes them to form a "square" with calves in the centre.*



*They flee to the forest.*

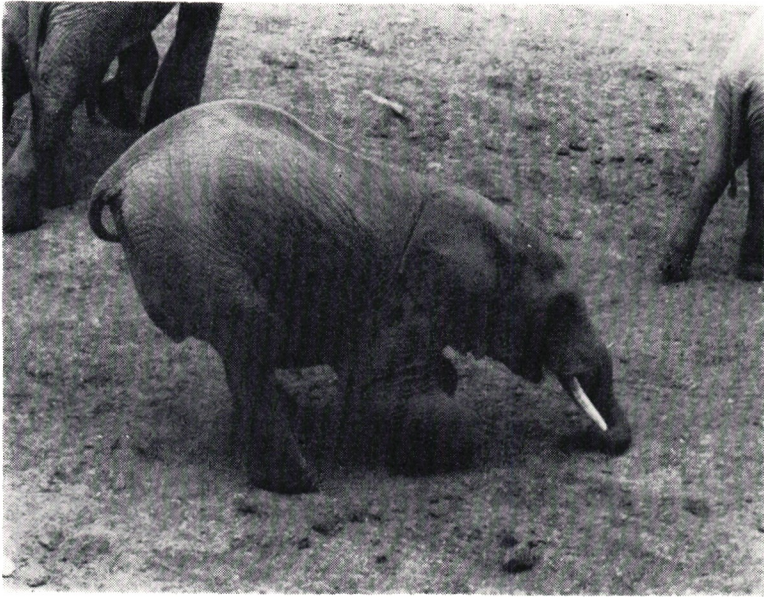


Later in the year an amazing water display was given by Elephants when over twenty young ones, disporting and rolling over, submerged in the pool except for their trunks, and periodically surfaced to squirt water over each other. Their antics amused the visitors immensely but the water birds which claim this pool as their own peaceful retreat were somewhat disturbed.

Soon afterwards two Rhinos started a fight, and made such a noise that all the visitors crowded on to the verandahs. The battle was so ferocious and so one-sided that several people asked the hunter to intervene. The smaller of the two Rhino bulls was thrown all over the place and on each occasion gave forth the most blood-curdling and unsuitable squeals for an animal of that size. Ultimately the larger bull drove his opponent into the water and then tried to drown him by trampling on him. Then they both decided to abandon the battle, and made off into the forest, the younger and the smaller one very much the worse for the fray.

On another evening the Rhinos provided the greatest entertainment for visitors to "Treetops" by parading in force and reaching a total of twelve at one time. One old bull, with a broken horn, became very aggressive and kept on making lunges at a cow which had a calf at heel. Since his entreaties made little headway he vented his feelings by cantering round the pool and making the most absurd squealing noises. Obviously rejected by the cow he became more offensive and tossed the six-month-old calf clear off the ground several times before the cow retaliated and drove him away. Had his horn not been broken there is no doubt that he would have killed the calf. A few nights earlier another, but older, calf was seen in a horribly mutilated state and it is obvious that it had also been assaulted by this bellicose bull.

It is clear that many of the animals which regularly visit "Treetops" have become used to noises made by human beings and even to very unusual noises. The total number of people who entered "Treetops" during 1960 was 5,483, but the most noisy visit was undoubtedly one evening when an Italian film company proceeded to record the scene of "Treetops". Several motor vehicles were parked underneath the treehouse, one of which carried an unsilenced motor generator to supply power to a 10,000-watt lamp used to light up the interior scenes. Numerous cameramen and technicians shouted instructions to the actors. In spite of all this commotion it had no effect whatsoever on the animals nearby. There were at that time some sixty Elephants round the pool as well as Buffaloes, Rhinos, Bushbucks and Giant Forest Hogs. Instead of driving them away it seemed to have the reverse effect and it amounted to a competition as to who could produce the most noise, the animals or the people making the film.



*A youngster digging for salt.*

Towards the end of the year it was observed that there was a tendency for Elephants to come to the pool earlier in the day. In fact on four occasions Elephants held up the arrival of visitors and one morning their departure had to be hurried because the Elephants arrived on the scene before 8 a.m. This is an answer to those people who ask why it is necessary for the "Treetops" parties to leave the Outspan Hotel in Nyeri just after lunch. Obviously the sooner people can be installed and hidden from view of the forest dwellers, the more chance they will have of a most enjoyable and entertaining afternoon.

It is surprising that in a period of one month from the 22nd April to the 22nd May, 1,115 Elephants were seen at "Treetops". This figure does not include many that came in after midnight, but it does include many of the same animals that came night after night.

Similarly, a count of Rhinos during the last month of the period, namely 20th May to 20th June, amounted to 215, giving an average of over seven Rhinos per day.

In December, for example, an analysis of the figures shows that Elephants were seen on twenty-six occasions, the largest number at one time being one hundred and twenty. Rhinos were seen on

twenty-nine nights, the highest number at one time being fifteen. Buffaloes were seen on thirty nights, the largest herd being one hundred and fifty. There are, of course, many smaller creatures there every night. One of the more amusing diary notes in the "Treetops" log states that one unique specimen was reported. Although both observer and specimen must remain unidentified, sportsmen will appreciate the record which says "everything on show including one White Hunter cavorting soon after dawn."

Another unusual entry in the diary refers to an American entomologist. He spent until the early hours of the morning collecting beetles and other insects by means of a suction pipe. Drawing them out from one large Elephant dropping which he had previously picked up on his way to "Treetops", he extracted some 1,500 specimens which his wife patiently bottled for him.

The scarcity of rain all over Kenya also had its effect at "Treetops", for as early as September, 1960, it was obvious that the number of animals visiting the pool was less than usual. The absence of Buffaloes and Elephants in any large numbers was very noticeable. A possible explanation is that the "Treetops" salient dried up considerably, and insufficient vegetation was available for all the animals to feed upon. Another result of the dry weather was a change in the usual range of birds which visit "Treetops". Various kinds of Storks, Herons, Ibises, Cranes and several kinds of Teal were all seen. During a visit to "Treetops" by Mr. and Mrs. Peter Scott in February he identified several species not previously seen at the pool.

Some birds are evidently not so aware of altitude problems as we are. A Secretary Bird was seen on the moorland at an altitude of over 10,000 ft., and owing to the rarity of the atmosphere the old bird experienced the greatest difficulty in taking to wing. In fact, after several abortive attempts he gave up and was last seen heading down towards the forest on foot.

A wonderful, and somewhat unusual sight, was that Warden Woodley saw two Black Leopards up on the moorlands. Melanism is fairly common in these high forest zones but a Black Leopard still stands as the most beautiful and glamorous creature of all the forest. Leopards do not seem to object to cold as one was seen above 15,000 ft. on Mount Kenya attempting to hunt a Rock Hyrax in the snow. A number of Leopards were trapped during the period in the farming areas adjoining the Aberdare Park and transported for release in the Tsavo Royal National Park where Leopards are relatively scarce. Occasionally they were willing to show themselves at "Treetops", even in daylight.



*An Elephant, a Buffalo and a Rhino under the "Treetops" artificial moon.*

It is a pity that photography is not easily possible at night as visitors to "Treetops" would undoubtedly get some most remarkable pictures. The available floodlighting only amounts to a total of approximately 1,500 watts and is, therefore, not of any use for colour photography. With a very fast black and white film and long exposure times, however, it is just possible to take photos of the congregation of animals around the pool as long as there is not too much movement.

Maintenance of the ditch barrier around the "Treetops" salient is an endless task, as unless the soil which falls in from the collapsing banks is continually thrown out it will not serve as an effective barrier. As soon as any part of the bank collapses small animals go through and trample down a pathway which serves as an invitation to a larger animal to use the same route. The ditch, however, has proved to be very successful, and on very few occasions has it been broken or crossed by large animals. Two Elephants managed to break out in the second part of 1960, and they were part of a large herd of some two hundred. From the tracks along the side of the ditch it was apparent that the herd had paraded up and down for a long time in a determined but unsuccessful effort to cross it. One old bull Elephant, who is a habitué of "Treetops", has learned the art of crossing the ditch. He goes out occasionally and comes back with friends brought in



from faraway places. He has, so far, not succeeded in crossing any portion of the ditch which is covered with withies. Buffaloes and Rhinos have not crossed the ditch at all.

No plea goes out from the Mountain National Parks for water for wild animals, since both these areas are very well watered. Although I have described the effects of a partial drought, in the Aberdares there is no comparison with the desert conditions of the low country. The main requirement in the forest and moorland sections of the Aberdares would appear to be minerals or salt, since experiments already carried out with artificial salt licks prove that they attract a great number of animals. In many places along the roads one can see hollows which have been gouged out either by Elephants or Rhinos in an endeavour to obtain minerals which they require to supplement their diet. I feel confident that as time goes on the denizens of the forest will get used to motor traffic and they will not hide away. Their movements can, to some extent, be controlled by the addition of salt in various suitable places. This is undoubtedly borne out by the thirty years' experience of "Treetops" where salt and water have attracted animals continuously.

I regard the analysis of natural salt licks as one of the most important lines of research. If it ever becomes possible to have sufficient money and staff to undertake proper investigations into food preferences, I am sure that the management of these mountain zones will be more successful and more effective. Little is known of the habits and behaviour of many of the forest dwellers. Admittedly, many similar animals are found in other parts of Kenya but it is already apparent that the factors which influence their movements in the high country are entirely different from those in the arid thorn bush.

It is most unfortunate that the very great public interest aroused in the Aberdare National Park by the visit of Her Majesty Queen Elizabeth the Queen Mother, in 1959, could not subsequently be maintained by further development of recreational projects. During the period under review disastrous cuts had to be made in the annual budget available to the Mountain National Parks and many development plans had to be put on one side, patrol forces had to be reduced, and road maintenance had to be brought down to an absolute minimum. Although it has usually been my experience that any area that is turned into a National Park attracts the attention of many people, not only to visit it but also to use it for other purposes, I doubt very much if the Aberdares would ever be of any use for agricultural purposes. It is, therefore, my hope that the Aberdare Royal National Park can be granted sufficient finance for it to be made into one of the most spectacular National Parks in Africa, with its unique advantage of an alpine scene as a very welcome relief from the dying plains of lower altitudes.

## FINANCE

Running through this, and many previous Reports, are frequent references to the lack of sufficient money for the proper development and maintenance of the National Parks. It is, of course, the prerogative of every organisation which is financed mainly by a Government, whether such prerogative is assumed or by right, to claim that it never has enough money to do its work properly. This cry often loses meaning by much repetition, but I have never met that legendary human species in control of a public service who says that he has adequate finance for all his purposes.

On the other hand, when pleas and warnings fall on deaf ears they must inevitably be repeated with more force and anxiety. This is largely the story of the Royal National Parks of Kenya over the last five years. It is my considered opinion that wild life conservation has never been given its justifiable place in the allocation of finance. There is a minimum below which no organisation can be successfully managed. The Royal National Parks are now compelled to operate below that minimum.

There are many reasons and explanations for this state of affairs, but I remain unconvinced that it is right, or wise, to allow such an alarming deterioration of standards and assets in the Royal National Parks. Roads have had to be closed. Services for the public in the form of publications and information have been curtailed. One safari lodge has dilapidated through lack of repair. No scientific staff is available for research. Above all, poachers are taking a heavier toll of Rhinos and other animals than in 1956, and the preservation of wild life is not being given enough attention.

The attached accounts, which are presented in accordance with the National Parks Ordinance, require some explanation. My cry of poverty may seem illogical in the face of the available cash and investment balance noted in these accounts to the 30th June, 1961. It so happened, however, that within the last two weeks of the financial year we received from Government sources payments for approved projects, such as the new Kilaguni Lodge, and the balance of a belated special grant for anti-poaching measures. Moreover, money had been contributed to the "Water for Wild Animals Fund", some of which had by that date been invested to earn interest, whereas some late donations were awaiting investment. The sum of over £40,000 shown as "Cash at Bank" and a larger figure representing investments are therefore not free cash reserves, but are merely balances held against commitments and projects in process. The superficial impression given by these balances is that the Royal National Parks of Kenya were in a satisfactory financial position at the 30th June last. Such an impression, however, becomes unrealistic when related to the dilapidations which have occurred in the field, arising from the shortage of money over a number of years for the necessary annual maintenance and running costs.

I retain the hope that money will be found, either from local or overseas sources, to put the Royal National Parks of Kenya on their feet before an Independent African Government takes over the immensely difficult task of balancing the budget of Kenya. In such a task it would undoubtedly be profitable to strengthen every pillar in the economic structure, one of which must be accepted as tourism, attracted by the unique and expansile asset of wild animal life.

MERVYN COWIE,

*Director*

Nairobi,

January, 1962.



Photo by Kenya Information Services

*H. E. Dr. Pedro Theotónio Pereira entering the Fort with Sir Alfred Vincent, Chairman of Trustees, and Sheikh Salim Muhashamy, Liwali of the Coast.*



## FORT JESUS AND GEDI ROYAL NATIONAL PARKS

The Fort and the Museum were unofficially opened to the public on the 15th August, 1960. The official opening was performed by His Excellency, Dr. Pedro Theotonio Pereira, Presidency Minister of the Government of Portugal, on the 29th October, 1960. Dr. Pereira, as a Trustee of the Gulbenkian Foundation, had been largely responsible for the munificent donation of £30,000 which made possible the transformation of Fort Jesus into an historical monument and museum.

Dr. Pereira arrived by launch at the Old Port of Mombasa and was conducted to the Fort by the Provincial Commissioner, Mr. Denis Hall, representing His Excellency the Governor. At the gate of the Fort, Dr. Pereira inspected the Guard of Honour of the Royal East African Navy. Sir Alfred Vincent, Chairman of the Board of Trustees, Sheikh Salim al Hashamy, Liwali of the Coast, Mr. George Usher, Chairman of the Advisory Council, Dr. Louis Leakey, Curator of Coryndon Museum, Mr. Mervyn Cowie, Director, and Mr. James Kirkman, Warden, were presented. After speeches of welcome by Sir Alfred Vincent, Mr. Usher and Sheikh Salim, Dr. Pereira replied, expressing his pleasure at being able to visit this historic monument of the glorious past of Portugal. He then unveiled a plaque commemorating the generosity of the Gulbenkian Foundation and declared the Museum and Fort open to the public.

Excavations in Fort Jesus have been carried out at the west end of the court where there is the greatest depth of deposit. The west parapet walk, the barrack rooms and the chapel have now been uncovered. The west parapet walk between the Bastions of S. Alberto and S. Felipe is part of the original construction of 1593. It rises 4 feet above the level of the court and 27 feet above the level of the ditch, and consists of a 6-ft. wide platform and firing step of coral blocks, protected by a low parapet 4 feet high with sloping outer face. In the middle, between the two ranges of barrack rooms, was a flight of steps. At a later period, perhaps at the time of the construction of the barrack rooms, a curtain wall 4 feet high was built on top of the sloping outer face, which protected the barrack blocks behind it. It also gave complete protection to the persons on the parapet walk but at the same time prevented them from taking any offensive action, or indeed seeing anything that might be happening outside the Fort. The wall was later raised another 5 feet and topped with a pointed coping, like a garden wall. Below the top was made a line of square openings, primarily for ventilation but which could be used in emergency as firing positions. The first modification of the structure of the wall is probably Portuguese, and contemporary with the construction of the barrack rooms in the second half of the seventeenth century. The second is Arab and contemporary with the building of the house (about 1860) which ran along the length of the wall between the outer wall and the rear wall of the barrack rooms.

The barrack rooms behind the parapet walk consisted of two blocks built after 1636, since they are not shown on the plan of this date. South of the steps were three rooms which continued in use throughout the eighteenth century. The northernmost of these rooms has a fine plaster floor with a series of low projections from the walls, which may be supports for wooden seats.

At the end of the eighteenth century these rooms were rebuilt with the level of the floor 3 feet above the original level, and the wall behind correspondingly raised. Later, in the early nineteenth century, a kitchen and lavatory were made at the back of the second room.

North of the steps, the history of the site was rather different. The north end of the barrack block was demolished by the Portuguese in the second half of the seventeenth century. In the early eighteenth century a well was built, described in the Lopez de Sâ plan of 1728, "as a well in the form of a cistern" (i.e. a square well) "made by the Arabs". This must therefore have been made between 1698, the date of the fall of the Fort, and the Portuguese re-occupation of 1728. Between well and back wall of the destroyed barrack room are two "stalls" or washing places, which are contemporary with it.



Photo by James Kirkman

*The barrack rooms and courts behind chapel.*

A chapel was no doubt in the original plan of the Fort. It is shown at the west end of the court in the plan of 1636, and in the later plans of 1728. One version of the revolt of Dom Jeronimo describes the murder of the wife and daughter of the Portuguese Captain Dom Leitaô da Gamboa and a Goan priest at the altar on the 15th August, 1631. The excavations have revealed the ground plan of this building. They have also shown that at some time there was a major reconstruction, involving the moving of the altar from the west to the conventional position at the east end. The reconstruction was probably the result of the abandonment of the church in the town and the conversion of the chapel into the Igreja Parochial, as it is described in the Cienfuegos plan. At the south-west corner was a small room, perhaps a baptistry, which is shown on the 1636 plan.

The reconstruction included the raising of the floor level, the construction of two moulded pillars to support the 9½-ft. architrave of the main door now at the west end, and two courts between the barrack rooms and the chapel. In the north walls of the north court and chapel, drains were made to fill the great cistern. The drain from the north court was filled from a tank in the thickened west wall of the new chapel; the other drain led from a tank attached to the north wall of the chapel. This drain is later and may be the work of the last Captain, Alvaro Caetano de Mello, in 1728, or of the Portuguese soldiers, renegades or—to be polite—expatriates, who stayed with their girls after the final evacuation in November, 1729. The evidence of the sherds from below the floor over the drains would support any date between 1700 and 1750.

Some time in the eighteenth century the room at the west end was demolished and a wall built from the south pillar to the end of the nave wall.

The chapel is mentioned as being in existence in 1728, but by the time of Owen (1824) it was no longer distinguishable from the bandas with which the Fort was filled. A level has been found extending all over the area which, from the Chinese porcelain found below it, would appear to belong to the end of the eighteenth century. This was the time of the final collapse of the Portuguese buildings.

Between chapel and barrack rooms were two large courts; they had no roofs and served as outer courts to the chapel, after the construction of the west door. The way to the chapel led through the east wall of the south court, and then into the north court immediately behind the west door. They were constructed after the demolition of the north range of barrack rooms, as the wall of the north enclosure runs over the stump of the barrack room wall. Another door led from the south court into the room of the seats.

These courts remained in use for part at least of the eighteenth century but at the end were being used as rubbish dumps. Finally, at the end of the century or in the early nineteenth century, at the time of the raising of the floor of the south barrack rooms, they were levelled off at a height of about 2 feet 6 inches above the floor. The greater part of the chapel, i.e. the east end, remained in use until the end of the century, and may even have been the store mentioned in the bombardment of 1875. The result of this was that a slope was formed at the west end of the court which was utilised by the prison administration when they laid out the drainage of the court to run west to east.

In this area of the chapel and the courts, there were only three pre-prison levels: the original level, a second level connected with the reconstruction of the chapel, and a third, the levelling of the site at the end of the eighteenth century. North of these structures, between courts and well, there were two additional interim levels, one mid-eighteenth and the other early nineteenth.

During this period, c. 1780-1880, which may be called "the period of the bandas", a large number of rubbish pits, some of them stone-lined, were dug all over the area and in due course filled in. They contained the usual collection of broken sherds of porcelain. Postholes were numerous of both round and rectangular structures.

The Fort is described by Guillain (1846) and Von Decken (1861) as being full of bandas for the Baluchi and Omani soldiers. An unpublished diary of Richard Thornton, who visited the Fort with Von Decken, mentions that there were only two buildings in the Fort, but that building materials were being collected. These two buildings were presumably the house at the east end with the Arabic inscription on the rafters and either the gatehouse or the "cavalier bastion" in the north-west corner. Some time in the 1860s the parapet walk was filled with coral chips and a building was erected with a *makuti* roof along the west wall over the old parapet and parapet walk. At the north end a lavatory was built with a niche cut in the wall to serve as a latrine, like a mediaeval wardrobe. Later, perhaps in the prison period, a wash-place was made with a square hole in the middle and runnels leading from all four corners. Later the whole building was demolished to build the structure with a cement floor and a zinc roof which finally served as the main stores of the prison.

Preliminary excavations were carried out in the Bastion of S. Felipe, preparatory to the uncovering of the cavalier bastion of S. Antonio, which is embedded in the prison warder's quarters and office.

Restoration was carried out on the original parapet of S. Alberto and on the curtain wall between S. Alberto and S. Felipe. There is



no immediate danger to any part of the fabric of the Fort, and consolidation and restoration is best carried out in the process of excavation and investigation.

The finds consisted mostly of sherds of earthenware, Islamic glazed ware, Chinese porcelain, and European beads and glass of the late seventeenth, eighteenth and early nineteenth century. A few sherds of European salt-glazed and "Delft" type wares have been found, but it is clear that until the second half or middle of the nineteenth century Chinese wares provided the tableware of East Africa. The European wares, which were then imported, were English print and painted wares and the imitations made in Lorraine, notably at the Utzschneider factory at Saarguemines.

The beads included small dark blue, yellow and green drawn glass beads, some from India and some — the dark blue — imitations made in Europe. The small red on white beads, the large chopped blue, white and red on green beads; and orange and pink beads were probably made at Amsterdam or London.

No weapons have been found except cannon balls, nearly all of small weight and calibre. The sizes and weights are listed below:

Stone:	6-inch diameter — 13 lb.
	3½-inch diameter — 3½ lb.
Iron:	7-inch diameter — hollow, only fragments.
	5½-inch diameter — 22 lb.
	3½-inch diameter — 4 lb.
	1¾-inch diameter — 11 ozs.
	1½-inch diameter — 6½ ozs.

The two larger iron balls are only found in the nineteenth century levels. The smaller balls were for light artillery such as minions, falconets and swivel guns. The largest balls were fired from mortars.

The Museum in the Fort is an historical museum, showing the culture of the coast from the thirteenth to the nineteenth century, and includes the major finds from the excavations carried out at Gedi, Kipini and other Arab-Colonial sites on the coast, as well as those from the Fort. In addition, there are a number of objects of the eighteenth and nineteenth century presented to the Museum, including a fine collection of porcelain, acquired in Mombasa and presented by Mrs. J. C. White. Other donations were a collection of Portuguese books, including the magnificent *Portugaliae Monumenta Cartographica*, four volumes of facsimiles of Portuguese maps of the sixteenth and seventeenth centuries, presented by Dr. Pereira, a collection of books on Islamic antiquities presented by M. Henri Burnier and the W. S. Marchant and C. E. Whitton collections of Arab ornaments and weapons.

---

Thus 1960/61 marks the greatest achievement in the restoration of the most interesting and valuable historical monument on the Coast of East Africa.

With full attention given to Fort Jesus, no development at Gedi was possible during the year. This ancient city, however, was well looked after by a small staff of Rangers.

J. S. KIRKMAN,

*Warden, Coast Historical Sites.*

## APPENDIX No. 1

## NUMBER OF VISITORS

	1958	1959	<i>January June 1960</i>	1960/61
Nairobi Royal National Park ..	106,787	109,798	59,298	119,321
Tsavo Royal National Park (East) .. .. .	7,247	7,776	3,374	7,327
Tsavo Royal National Park (West) .. .. .	9,093	11,074	4,759	12,067
Amboseli National Reserve ..	6,741	9,445	4,729	11,588
Marsabit National Reserve ..	1,800	1,765	945	1,305
Mountain Royal National Parks	—	3,865	4,727	11,050
Gedi Royal National Park ..	5,535	5,284	2,488	8,333
Fort Jesus Royal National Park	—	—	—	28,606
Ologesailie Royal National Park .. .. .	1,341	1,146	355	1,318
Kariandusi Prehistoric Site ..	1,145	1,107	492	930

## APPENDIX No. 2

## ADVISORY COMMITTEES AS AT 30th JUNE, 1961

## NAIROBI ROYAL NATIONAL PARK ADVISORY COMMITTEE

E. Baumann, Esq.—*Chairman*  
 J. Block, Esq.  
 K. Bolton, Esq.  
 D. O. Mathews, Esq., O.B.E.  
 F. Salzer, Esq.  
 T. R. Thomson, Esq.  
 D. R. Thomson, Esq.  
 N. T. Trenn, Esq.  
 Alderman Sir Richard Woodley

## MOUNTAIN ROYAL NATIONAL PARKS ADVISORY COMMITTEE

C. Tomkinson, Esq., C.M.G.—*Chairman*  
 M. Argyle, Esq.  
 J. Cobby, Esq.  
 A. Dyer, Esq. (Alternate, C. A. Winnington Ingram, Esq.)  
 Major Venn Fey, M.C.  
 F. Girardin, Esq.  
 Lt. Col. John Nimmo  
 Major H. B. Sharpe, C.B.E.  
 Major D. F. Smith  
 C. S. Webb, Esq.  
 D. McD. Wilson, Esq.

## FORT JESUS ROYAL NATIONAL PARK ADVISORY COMMITTEE

C. G. Usher, Esq., M.C.—*Chairman*  
 S. V. Cooke, Esq.  
 R. F. Dias, Esq.  
 Mrs. C. G. Fannin  
 Captain C. W. A. G. Hamley, O.B.E., R.N.  
 Dr. S. G. Hassan, M.B.E.  
 D. Willing, Esq.  
 J. Jones, Esq.  
 F. J. Khamisi, Esq.  
 Dr. L. S. B. Leakey  
 Sheikh Mohamed Ali Said al Mandhary  
 The Hon. R. G. Ngala, M.L.C.  
 Gibson Ngome, Esq.  
 The Hon. A. J. Pandya, M.L.C.  
 Dr. B. Pinto  
 E. L. Relf, Esq.  
 H. E. B. Robinson, Esq.  
 E. R. Rodwell, Esq.  
 A. C. Satchu, Esq.  
 The Hon. Sheikh Salim Mohamed Muhashamy, M.B.E., M.L.C.  
 E. Stairs, Esq.



## APPENDIX No. 3

## ACCOMMODATION

A new lodge with full catering and hotel facilities will be open from the 20th February, 1962, at Kilaguni in the western section of the Tsavo Royal National Park. The Kilaguni Lodge is 22 miles from Mtito Andei, situated on a promontory with an expansive view over the Ol Turesh Valley and up to Kilimanjaro, framed on the right by the Chyulu Hills and on the left by the Ngulia Range and smaller volcanic features. It is 8 miles from the Mzima Springs and within a section of the Park which holds the greatest selection of big game. The tariff is as follows:

55/-, single, per day	} including full board.
95/-, double, per day	

*Private cottages*

65/-, single, per day	} including full board.
115/-, double, per day	

Reservations for the Kilaguni Lodge should be made through:

African Tours and Hotels Ltd.,  
1st Floor, Hardinge House,  
Hardinge Street,  
P.O. Box 7470, Nairobi.  
Telephone 27967.

Safari Lodges are maintained at the following places, the distances quoted being from Nairobi. Fees vary from Shs. 15/- to Shs. 20/- per person per night, children under sixteen half price. This is inclusive of crockery, cutlery, cooking utensils and lamps, but there is no restaurant service.

*Tsavo Royal National Park (West)*

Kitani Safari Lodge and Kitani Shelter Camp via Mtito Andei on the Mombasa Road—185 miles.

*Tsavo Royal National Park (East)*

Aruba Safari Lodge via Voi on the Mombasa Road—224 miles.

*Northern area*

Uaso Nyiro Safari Lodge via Isiolo on the Marsabit Road—210 miles.

Marsabit Forest Lodge (Reservations by special arrangement only) via Isiolo on the Marsabit Road—358 miles.

*Aberdare Royal National Park—"Treetops"*

Via Nyeri—108 miles. Reservations through the Outspan Hotel, Nyeri, and sub-agents only.

*Ologesailie Royal National Park—Rest Camp.*

On the Magadi Road—42 miles (Reservations through the Coryndon Museum, Nairobi).

Beds, Dunlopillo mattresses, pillows, mosquito nets, chairs, tables, kitchens, baths or showers, hot and cold water, firewood, and servants' quarters, are provided at all safari Lodges. (No such facilities are available at Ologesailie Rest Camp or Kitani Shelter Camp.)

Bed-rolls can be hired at Kitani and Aruba Safari Lodges, containing blankets, sheets, pillowcases, towels, etc. The charge is Shs. 5/- per bed-roll per visit.

Shops equipped with a variety of tinned food and visitors' normal non-perishable requirements are available at Aruba and Kitani Safari Lodges.

Reservations at Safari Lodges should be made through the Head Office of the Royal National Parks of Kenya, P.O. Box 2076, Nairobi (Room 302, Mansion House, Telephone 20745) or through a sub-agency at Mombasa:

Mrs. Marjorie Pasmore,  
P.O. Box 1993,  
Mombasa.

(Telephone Mombasa 4708).

There are now no closed seasons in the Royal National Parks of Kenya, but visitors are advised that safari lodges and roads may have to be closed at short notice, or without notice, during the rainy seasons which are normally in April and May, November and part of December.

# ROYAL NATIONAL PARKS OF KENYA

## BALANCE SHEET AT 30th JUNE, 1961

	£ s. cts.	£ s. cts.	£ s. cts.	£ s. cts.	£ s. cts.	£ s. cts.
<b>LIABILITIES</b>						
<b>FUND ACCOUNTS:</b>						
Fort Jesus Reconstruction Fund—						
As per attached account . . . . .		3,878. 19. 29				
<b>Capital Fund Account—</b>						
As per attached account . . . . .		36,643. 1. 61				
<b>Capital Reserve Fund</b>						
As per attached account . . . . .		10,000. 0. 00				
<b>Water for Wild Animals Fund—</b>						
As per attached account . . . . .		21,364. 2. 10				
<b>Donations Account</b>						
As per attached account . . . . .		2,392. 8. 05				
<b>General Fund Account—</b>						
As per attached account . . . . .		12,183. 10. 37				
<i>Less:</i> Balance brought forward at 30th		4,151. 10. 23				
June, 1960 . . . . .		8,032. 0. 14				
<i>Less:</i> Fort Jesus General Fund Account		247. 10. 42				
as per attached account . . . . .		7,784. 9. 72				
				82,063. 0. 77		
<b>CURRENT LIABILITIES AND PROVISIONS:</b>						
Kajiado African District Council . . . . .		373. 18. 00				
Sundry Creditors . . . . .		10,742. 6. 94				
Deposit Accounts (Staff) . . . . .		122. 10. 00				
Provision for Staff Leave Passages . . . . .		3,821. 0. 00				
Provision for Gratuities and Bonuses . . . . .		8,757. 0. 00				
Provision for Audit Fee . . . . .		175. 0. 00				
Provisions for Donations to African District Councils . . . . .		1,653. 3. 29				
						25,644. 18. 23
						82,063. 0. 77
						£107,707. 19. 00
						£107,707. 19. 00
<b>ASSETS</b>						
<b>FIXED AND MOVEABLE ASSETS:</b>						
Sundry Items comprising Buildings, Plant, Machinery, Tools, Equipment, Dams, Water Supplies, Roads, Bridging, Fencing, etc. at nominal value . . . . .						1. 0. 00
<b>INVESTMENTS:</b>						
Deposits with Land and Agricultural Bank of Kenya . . . . .						55,000. 0. 00
<b>CURRENT ASSETS:</b>						
Stocks-in-hand—Sundry Items . . . . .						317. 16. 23
Sundry Debtors . . . . .						4,511. 10. 97
Advances (European Staff) . . . . .						300. 0. 00
Advances (African Staff) . . . . .						5. 16. 00
Deposit Accounts with East African Railways and Harbours . . . . .						18. 18. 59
Kajiado African District Council . . . . .						1,155. 15. 58
Books— <i>Animals of East Africa</i> —Expenditure less Sales . . . . .						185. 10. 55
Interest accrued on Investments . . . . .						2,310. 10. 10
						8,805. 18. 02
<b>CASH:</b>						
At Bank . . . . .						41,842. 17. 24
In Hand . . . . .						2,058. 3. 74
						43,901. 0. 98
						£107,707. 19. 00

### AUDITORS' REPORT

We have examined the above Balance Sheet with the books and vouchers of the Royal National Parks of Kenya and we have obtained all the information and explanations we have required.

The Balance Sheet is, in our opinion, properly drawn up to show a true and correct view of the state of affairs at 30th June, 1961, of the Royal National Parks of Kenya according to the best of our information and the explanations given to us, and as shown by the books produced to us.

Nairobi, 27th September, 1961.

GILL & JOHNSON  
*Chartered Accountants.*

# ROYAL NATIONAL PARKS OF KENYA

## STATEMENT OF INCOME AND EXPENDITURE ON CAPITAL ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1961

	EXPENDITURE	REVENUE
To: Buildings, Gates and Equipment . . . . .	3,413. 1.75	
Water Supplies . . . . .	1,426. 6.80	
Roads, Ditching and Fencing . . . . .	1,125. 18.88	
Fencing—Nairobi Park . . . . .	3,205. 17.37	
Road Machinery and Transport . . . . .	1,198. 12.85	
Radio Equipment and Electric Power . . . . .	985. 6.50	
New Kilaguni Lodge—Preliminary Expenditure . . . . .	181. 5.30	
	£ s. cts.	
By: Balance at 30th June, 1960, brought forward . . . . .		4,199. 11.06
Kenya Government Grant 1960/61 . . . . .		10,000. 0.00
Kenya Government Grant—Nairobi Park Fencing . . . . .		10,000. 0.00
Kenya Government Grant—Lodge Expansion . . . . .		16,630. 0.00
Kajiado African District Council (per Kenya Government)—Purchase of Moveable Assets at Amboseli . . . . .		7,350. 0.00
	36,643. 1.61	
Balance on Capital Account carried to Balance Sheet . . . . .	£48,179. 11.06	£48,179. 11.06

### FORT JESUS RECONSTRUCTION FUND

#### STATEMENT OF INCOME AND EXPENDITURE ON CAPITAL ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1961

	EXPENDITURE	REVENUE
To: Cost of Re-building (Final certificate)—Mowlem Construction Co. Ltd. . . . .	£ s. cts.	
Miscellaneous Items of Furniture and Equipment . . . . .	1,098. 7.35	
Drainage—Car Park Entrance . . . . .	382. 2.91	
Installation of Floodlights . . . . .	60. 4.37	
Wages—General Labour (African) . . . . .	22. 2.00	
	253. 1.70	
By: Balance at 30th June, 1960, brought forward . . . . .		£ s. cts.
Proceeds from Sale of Miscellaneous Items . . . . .		5,643. 7.62
	3,878. 19.29	51. 10.00
Balance carried to Balance Sheet . . . . .	£5,694. 17.62	£5,694. 17.62

# ROYAL NATIONAL PARKS OF KENYA

## STATEMENT OF INCOME AND EXPENDITURE ON GENERAL ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1961

### FORT JESUS ROYAL NATIONAL PARK

	EXPENDITURE	REVENUE
	£ s. cts.	£ s. cts.
To: Salaries and Allowances . . . . .	2,186.18.36	
Pensions . . . . .	129. 5.40	
Medical Insurances . . . . .	16.18.89	
Provision for Leave Passages . . . . .	263. 0.00	
Provision for Gratuities (African) . . . . .	141. 0.00	
Printing and Stationery . . . . .	29.19.90	
Postages and Telegrams . . . . .	23. 1.05	
Telephone . . . . .	42.13.40	
Insurances (General) . . . . .	110.10.89	
Publications and Publicity . . . . .	509.12.50	
Travelling Expenses . . . . .	9. 0.70	
General Expenses . . . . .	149.17.80	
Replacement of Motor Vehicle . . . . .	556. 7.50	
Motor Licence and Insurance . . . . .	29. 5.40	
Maintenance of Transport . . . . .	17.50	
Petrol and Oils . . . . .	21.15.92	
Wages—General Labour (African) . . . . .	26. 1.80	
Maintenance of Buildings . . . . .	103. 8.92	
Maintenance of Signposts . . . . .	8.12.00	
Maintenance of Workshops and Plant . . . . .	18.00	
Maintenance of Office Equipment and Furniture . . . . .	18. 0.57	
Maintenance of Scientific Equipment . . . . .	7.15.25	
Equipment and Expenses of Rangers . . . . .	173.12.95	
Commissions and Bonuses . . . . .	9.12.00	
Wages (African) . . . . .	1,819. 2.80	
Excavations . . . . .	1. 9.75	
Repairs and Reconstructions . . . . .	15. 4.93	
Library and Exhibits . . . . .	121. 2.75	
Cost of Opening Ceremony . . . . .	389.11.39	
	<u>£6,914.18.32</u>	
By: Grant-in-aid from the Kenya Government . . . . .		5,000. 0.00
Entry Fees . . . . .		1,114.13.90
Ranger Guide Fees . . . . .		7. 0.00
Sale of Guide Books (including revenue from advertising) . . . . .		545.14.00
Balance on General Fund Account carried to Balance Sheet . . . . .		247.10.42

(Note: No charge has been made in this account to cover the overhead and administration charges arising at Head Office on account of Fort Jesus Royal National Park.)



ES914

# ROYAL NATIONAL PARKS OF KENYA

## STATEMENT OF INCOME AND EXPENDITURE ON GENERAL ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1961

### EXPENDITURE

	£	s. cts.
To: Salaries and Allowances		
Pensions	35,919	1.23
Medical Insurances	2,346	2.10
Provision for Leave Passages	409	14.86
Office and Clerical Wages	4,208	16.00
Printing and Stationery	10,300	7.91
Postages and Telegrams	2,284	11.37
Telephone	848	18.94
Bank Exchange and Charges	280	18.59
Insurances (General)	678	17.81
Legal Expenses	99	7.51
Rent and Rates	1,089	18.24
Publications and Publicity	17	9.00
Travelling Expenses	1,179	1.32
Replacement of Motor Vehicles	1,345	12.44
Motor Licences and Insurances	1,348	19.63
Maintenance of Transport	515	5.64
Petrol and Oils	8,908	8.88
Wages—General Labour (African)	1,794	12.25
Maintenance of Safari Lodges	5,868	18.49
Maintenance of Camps and Buildings	5,961	5.27
Maintenance of Roads	440	0.47
Maintenance of Fences, Signposts and Boundaries	1,371	8.18
Maintenance of Dams and Water Supplies	559	13.45
Maintenance of Workshops and Plant	53	9.05
Maintenance of Office Equipment and Furniture	331	0.88
Wages of Rangers and Field Force	181	18.93
Equipment and Expenses of Rangers	278	15.76
Commissions and Bonuses	417	16.90
Expenses of Honorary Wardens	10,865	13.40
Game Control	2,051	5.68
Rations	440	13.70
Trophy Rewards and Expenses	450	10.00
Research	383	18.27
Donations to:	6,512	4.11
Kajiado African District Council	578	13.20
Samburu African District Council	230	5.37
Historic/Prehistoric Sites:		
Wages	1,182	19.37
Excavations		
Repairs and Reconstructions	944	16.35
Library and Exhibits	9	8.40
Provision for Audit Fee	3	18.59
Bad Debts written off		8.60
Balance on General Fund Account carried to Balance Sheet	12,183	10.37

### REVENUE

	£	s. cts.
By: Grants-in-aid from Kenya Government		
Entry Fees	77,500	0.00
Accommodation Fees	27,725	6.90
Camping Fees	8,962	5.75
Ranger Guide Fees	255	9.00
Photography Fees	2,183	17.00
Landing Fees—Aircraft	450	0.00
Rent—"Treetops"	45	0.00
Rent—Camp Sites	1,861	12.67
Rent—Houses	459	15.00
Hire of Vehicles	273	10.35
Hire of Bedding	780	17.32
Hire of Lamps	18	3.00
Sale of Annual Reports	787	15.00
Sale of Guide Books, Maps, etc. (Net)	4	2.00
Sale of Trophies	424	0.00
Sale of Car Badges	692	17.80
Revenue from Shops and Trading	9,711	5.42
Sundry Revenue	2	0.00
Interest accrued on Investments	1,185	11.27
Unclaimed credits written off	7	8.00
	701	17.02
	16	17.55

(Note: The additional Grant-in-aid of £15,000 from the Kenya Government to which reference was made in the accounts to 30th June, 1960 (reduced to £12,300) is included in the figure of £77,500.)

# ROYAL NATIONAL PARKS OF KENYA

## WATER FOR WILD ANIMALS FUND — 30th JUNE, 1961

	£ s. cts.	£ s. cts.	REVENUE	£ s. cts.
<b>To: Expenditure on Scientific Investigations and Authorised Projects:</b>			<b>By: Balance at 30th June, 1960, brought forward</b>	2,480.14.04
Rhino Valley Borehole—Tsavo West . . . . .	926.15.14		Donations, etc. received during the year . . . . .	20,243. 5.25
Ndiandaza/Ithumba Boreholes—Tsavo East . . . . .	18.15.00		Sales (less Expenses) of Ivory Souvenirs during the year . . . . .	904.18.55
Water Supplies—Kilaguni—Tsavo West . . . . .	1,031. 5.00		Sales of "sticker" stamps . . . . .	415.18.15
Boreholes (Shallow/Fissure)—Tsavo West . . . . .	11. 5.00		Interest accrued on Investments . . . . .	472.13.00
	1,988. 0.14			

<b>To: Authorised Disbursements:</b>	
Emergency Projects in Nairobi Park . . . . .	542. 2.25
Cost of "sticker" stamps . . . . .	480. 8.50
Postages (estimated) . . . . .	100. 0.00
Receipt Cards . . . . .	7. 0.00
Labels for Collection Tins . . . . .	4.16.00
Photographic Slides . . . . .	6. 0.00
	1,140. 6.75

<b>To: Provision for Audit Fee</b> . . . . .	25. 0.00
<b>To: Balance carried to Balance Sheet</b> . . . . .	21,364. 2.10

£24,517. 8.99