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ROYAL NATIONAL PARKS OF KENYA

REPORT
1958

(THIRTEENTH YEAR)

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

(31st December, 1958)

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(31st December, 1958)

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<i>Ngong National Reserve</i>		} R. B. Jolley, Esq., <i>Assistant Warden</i> .
<i>Tsavo Royal National Park</i> <i>(West)</i>	} C. W. Marshall, Esq., <i>Warden</i> .	
	} J. R. Nesbitt, Esq., <i>Assistant Warden</i> .	
	} P. R. Jenkins, Esq., <i>Assistant Warden</i> .	
<i>Tsavo Royal National Park</i> <i>(East)</i>	} D. L. W. Sheldrick, Esq., <i>Warden</i> .	
	} F. W. Woodley, Esq., M.C., <i>Assistant Warden</i> .	
	} J. F. Sauvage, Esq., <i>Assistant Warden (Mechanical Section)</i> .	
<i>Mount Kenya Royal National Park</i>	} J. B. Alexander, Esq., <i>Warden</i> .	
<i>Aberdare Royal National Park</i>		
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<i>Fort Jesus Royal National Park</i>		
<i>Coast Historical Sites</i>		
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	} F. D. Lovatt-Smith, Esq., <i>Assistant Warden</i> .	
<i>Marsabit National Reserve</i>	} G. H. Dalton, Esq., <i>Warden</i> .	
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African Ranger Force for all areas 131

ROYAL NATIONAL PARKS OF KENYA

PART I

REPORT BY THE CHAIRMAN OF TRUSTEES.

In July, 1958, the final Report of the 1956 Game Policy Committee was published. The recommendations of this Committee, if accepted by the Kenya Government, will go a long way towards achieving a more effective game preservation policy in Kenya. We wish to pay tribute to the Chairman and members of the Committee for their very realistic approach to the variety of complicated subjects which came within their terms of reference.

We consider that the statement of policy contained in a draft White Paper to be the greatest advance in wild life preservation yet made in Kenya. We are thankful to see running through the Report a clear recognition of wild life as a natural resource and a justification for its effective protection as an assessment of the correct use of land.

We willingly accept the Committee's proposals to add to the Tsavo Royal National Park a section of the Chyulu Hills and the area known as the Kiboko triangle. These proposals follow closely on the original plan of the previous (1939) Game Policy Committee, and accord with recommendations which we have consistently put forward for many years.

We also welcome the decision, although not admittedly supported by all members of the Game Policy Committee, to make the Mount Kenya Royal National Park more complete and manageable by adding two corridors. We have always considered that these corridors should have been included in the boundaries of this National Park when it was originally established. We also support the proposed addition to the Aberdare Royal National Park.

We cannot, however, give the same praise to the Game Policy Committee for its recommendations in regard to National Reserves, and we consider that our Director was fully justified in adding a Minority Report recording his disagreement with the abolition of National Reserves and his lack of confidence in the alternatives proposed. We cannot therefore support any sections of the Game Policy Committee Report either in matters of policy or of detail which refer to National Reserves.

As the Report in the main is constructive and progressive, we must express our very great disappointment that although nearly a year has elapsed since its publication the Government has not found it possible to announce which portions of the Report can be accepted, nor to allow it to be debated in Legislative Council. Although action has apparently been taken on certain of the Committee's recommendations, we urge that the Government should not allow any further delay in

pronouncing its decisions on the main policy, National Parks boundary adjustments and other important proposals of the Committee. We are aware that some of the questions affecting National Reserves are *sub judice*, but it seems manifestly futile that a Committee should spend nearly two years striving to find solutions to many difficult problems only for their findings to be buried in some obscure official pending basket.

The year 1958 marked great changes in the attitude of development towards tourist traffic. The Kenya Government established a Ministry and appointed a Minister responsible for tourism. This was welcomed by the people of Kenya as the Government's acceptance of the importance of tourist revenue, and we look forward to a full recognition of this country's great tourist potential which we have consistently emphasised.

We trust that this constitutional change will result in the Government following it up with a more realistic allocation of available finance for the expansion of tourist facilities in the Royal National Parks and Reserves. Although we accept that the accommodation at present available in the National Parks is quite inadequate, it is not, however, capable of unlimited expansion. We consider that there are various opportunities, and there is a great necessity to encourage the development of more and better hotels on the boundaries but within reach of popular game areas. This form of development would not endanger wild life habitats which must, in any event, be wisely protected. As far back as 1950 we recorded in our report for that year our opinion that the tourist potentialities in East Africa are very great, and we expressed our confidence that by the development of National Parks and Reserves we would further stimulate tourist traffic. In 1955 we again drew attention to the need for Government to authorise expenditure on immediately productive projects, and we stressed the urgency of providing accommodation for an increasing number of visitors.

Although plans for such expansion were submitted in 1956, the amount of money made available by the Government in the development period 1957-60 was £1300 for the construction of new Safari Lodges and the improvement of existing Lodges. It is obvious that £1300 did not enable us to take any effective steps to deal with the increasing number of tourists requiring accommodation. We were therefore much encouraged by an announcement by the Minister for Tourism, Mr. Crosskill, that he hoped that the Government would find £100,000 for these purposes, and we trust that the allocation of at least this amount will not be long delayed.

Wild animals undoubtedly form the main interest for visitors to our National Parks and Reserves and their protection demands the greatest share of our activities. We also have the responsibility,

however, of safeguarding places of historical and prehistoric interest, the most important of which is Fort Jesus in Mombasa. We are very pleased to report that the Calouste Gulbenkian Foundation of Lisbon have generously granted £30,000 for the restoration of this famous and imposing building and for the establishment of a museum within its ancient battlements. We acknowledge with much gratitude the very tangible support granted by the Gulbenkian Trustees, and we look forward to the completion of plans which have been in mind for many years. We are also proud to report that this handsome grant of money was followed by the transfer of Fort Jesus to our control within the provisions of the National Parks Ordinance, which only became possible when the prisoners within its gates were finally evacuated from the Fort and after a long period of occupation it ceased to be used as a Government prison.

Two other places of national importance were approved in principle for constituting as national parks. The people of Nakuru strongly advocated that the greater part of Lake Nakuru, a soda lake which at times forms a staging point for millions of flamingoes and other birds, should be proclaimed as a National Park. With this great measure of local support and with the approval of the Government, we were pleased to accept responsibility for this unique sanctuary. Only legal formalities now remain to be completed before the National Parks Ordinance can be applied to most of Lake Nakuru.

The other important area which has been accepted in principle for constituting as a national park is Donyo Sabuk mountain, for many years under the private ownership of Lady Macmillan. Mr. Peter Maxwell, in furtherance of the wishes of the late Lady Macmillan, most generously offered to place this famous landmark under our jurisdiction to be protected as a memorial to Kenya's beloved lady and to the Macmillan family for whom people in Kenya have such profound respect. We take the greatest pleasure in recording our appreciation of this very valuable gift to our national trust.

We much regret that 1958 took its toll of some of our respected friends and advisers. The death of Captain Keith Caldwell, an Honorary Trustee of the Royal National Parks and a great defender of African wild life, was a great loss. His long record and support of game preservation in various spheres of activity will be greatly missed. We also regret the passing of Mr. J. D. Melhuish, famous for his early ascent of Mount Kenya, who served for many years as a valuable member of the Committees appointed to advise us on the management of the two Mountain Royal National Parks as well as of the Nairobi Royal National Park.

Captain Caldwell's place on the Board has been filled by the appointment of Dr. F. Fraser Darling, D.Sc., Ph.D., N.D.A., F.R.S.E., a world famous ecologist whom we welcome as an Honorary Trustee.

In reviewing the events of 1958, whether we feel moved to praise or complain, we wish to pay a very special tribute to His Excellency the Governor of Kenya The Honourable Sir Evelyn Baring. In spite of the immense strain of the campaign against Mau Mau terrorists, and the anxiety of constitutional and political problems, Sir Evelyn Baring has found time to apply his wide knowledge and zeal to wild life affairs. His personal endeavours to achieve a more effective game preservation policy inspired by his great love of nature, will stand as a notable feature of his period of office.

Finally, we acknowledge the loyal and dedicated service of our staff both in the sphere of administration and in the field, aspects of which are described by our Director, Mr. Mervyn Cowie, whose attached report is issued with our approval.

Royal National Parks of Kenya

ALFRED VINCENT

Chairman of Trustees.

Nairobi,
July, 1959.



(Photo by H. G. Drewett.)

ROYAL NATIONAL PARKS OF KENYA

ANNUAL REPORT, 1958

PART II

REPORT BY THE DIRECTOR.

GENERAL

Early in 1958 The (1956) Game Policy Committee completed its task and submitted a final report. This followed an interim report submitted in August, 1956. Both reports are of immense importance to the future of wild life in Kenya, and although the Government has taken action on some of the recommendations, much remains to be done.

The interim report emphasised the urgency of reducing the distasteful activities of poachers. Encouraged by the success of measures already taken in the Tsavo Royal National Park, the Committee recommended that the Trustees be provided with enough money to mount a special anti-poaching campaign. The details of this campaign were recorded in my reports for 1956 and 1957, culminating in the satisfactory position towards the end of 1957, when I was able to announce that the Tsavo Royal National Park and much of the hinterland to the North had been cleared of poachers.

Predictions at the time and evidence subsequently obtained confirm the need to maintain continuing action against the poachers, since poaching is the kind of activity which can and will revive as soon as the pressure of the law is released. Moreover, the poachers and the traders who organise and finance the smuggling ring, will undoubtedly contrive to find new and more subtle methods of obtaining Ivory and Rhino horn, and other products which command such lucrative rewards in the black market.

Other recommendations contained in the Committee's interim report sought to find a solution of the problems of Amboseli, and to settle a long-standing question of a minor adjustment between the boundary of the Masai Land Unit and the Tsavo Royal National Park at Iltalal and Njugini. Amendments to the existing laws were also proposed whereby the penalties for certain poaching offences could be considerably increased. The interim report achieved very satisfactory progress.

The final report of the Committee contains matters of fundamental policy, and I sincerely hope that it will not be long before the Government decides how far it can accept the recommendations.

The Committee based its statement of policy on the following main principles:

- (i) "The presence of wild life has an aesthetic and cultural value, and its preservation is a duty which the Government

and people of Kenya who possess it in an almost unique degree, owe to posterity and to the world at large."

- (ii) "By the application of the concept of proper land usage, based on sound ecological knowledge, the preservation of wild life has a rightful place in the balanced economic development of Kenya."

The sections of the statement of policy which relate to National Parks in fulfilment of these principles, are also worthy of quoting, namely:

"The Government will foster, and within the limits of finance available, give financial support to the Trustees of the Royal National Parks to enable them to carry out the functions entrusted to them in accordance with the over-all policy of Government."

"The Government must look to the Trustees of the Royal National Parks to provide the main bastion in its long-term game preservation policy. The Government will maintain existing national parks, and endeavour to create new ones in all those areas having a high faunal interest in which there are no insuperable conflicting human interests."

"Within national parks the Trustees of the Royal National Parks shall be solely responsible for game preservation."

"The Government adheres to its policy that national parks should be under public control and therefore supports the existing statutory basis for control of national parks by an independent body of Trustees."

If these statements of policy are accepted by the Government, the task of administering the Royal National Parks of Kenya would be much more simple and successful. It is the first effective endeavour to place wild life preservation on a proper basis of wise land use, and to recognise that the Trustees must have sufficient money in order to carry out the functions entrusted to them.

Other recommendations of the (1956) Game Policy Committee include a variety of subjects, of which the following materially affect the Royal National Parks:

A Standing Game Advisory Committee is to be appointed. Much more realistic efforts are to be made under the heading of "Publicity and Propaganda" to influence African opinion to appreciate the necessity and value of game preservation.

A Fauna Research Unit is to be established.

A Game Management Scheme is to be instituted to provide certain tribes with a livelihood as an alternative to poaching.

Part of the Chyulu Hills and a block of land to the north of the hills are to be added to the Tsavo Royal National Park.

An area of forest is to be added to the Aberdare Royal National Park as a natural habitat of the famous bongo.

Many of these recommendations are in line with plans and proposals put forward and supported by the Trustees for a number of years. It is therefore not surprising that I should grow impatient to see them implemented.

I cannot, however, say the same about the (1956) Game Policy Committee's proposals to abolish all the existing National Reserves. I do not commend the National Reserve system as a method of preservation, but it has many advantages over Game Reserves. It was designed as an experiment by the 1939 Game Policy Committee, and, as such, has proved its worth. It has proved that wild animals cannot be properly protected in any area where they have to take second place to the insatiable and increasing requirements of cattle in the same area. It is not so much a question of what authority is to control the game interest, but is a fundamental decision as to what is to be the specific objective in relation to proper land use and economic values.

The Committee's recommendation that the Trustees be invited to retain an interest in these Reserves, in the role of operating tourist facilities, while the control of the Reserves is to fall jointly on the shoulders of the Administration and the Game Department, is obviously an unworkable system. It is for these reasons that I could not agree with the Committee in the abolition of the National Reserves and was compelled to submit a minority report.

For some time I have favoured what I regard as a much more practical alternative, and recently I have become more convinced that the only solution of these difficult problems lies in devising a method whereby the Masai are put in the position of having much more control of, and more financial interest in, the preservation of wild life within their Land Unit. This would lead to the conversion of the National Reserves, or at least parts of them, into something with more security and future prospect for wild life than by the reinstatement of Game Reserves. Since this plan is now receiving a great deal of attention I will not elaborate further on the arguments against the abolition of National Reserves, but that does not mean that the remaining recommendations of the Game Policy Committee need be shelved any longer.

Turning now to other events in 1958, I must emphasise the importance of two projected new national parks. The people of Nakuru, realising the unique value of Lake Nakuru as a bird sanctuary, invited the Trustees to accept responsibility for safeguarding the wild

life on and around most of the lake. In other words, local authorities wished to constitute all the southern portion of the lake and its shore as a national park. This is the first time in the history of the Royal National Parks that combined local opinion has sought to create a National Park, and it is most encouraging to find that national parks have been sufficiently recognised and accepted as a method of preservation to justify a spontaneous demand to apply the Ordinance to a new area. It is not so very long since many people in Kenya had no knowledge of the meaning and objects of a national park.

The plan is that all the portion of Lake Nakuru which lies to the south of Coordinate 63 including the lake shore, is to be protected as a sanctuary for the remarkable variety of bird life which uses the lake either as a staging point on migration, or as a breeding ground. Millions of flamingoes sometimes fringe the lake, looking, from a distance, like a garland of pink froth, while closer inspection reveals a wealth of other bird life. It forms a link in the chain of soda lakes lying in the Great Rift Valley, and offers a glimpse of the astonishing spectacle of the countless birds which travel up and down the length of Africa in their seasonal journeys.

The Kenya Government has approved of this proposal and only legal and boundary formalities remain to be completed before the Lake Nakuru National Park can come into being. It has been argued that in course of time it may be found more profitable for Lake Nakuru to be administered as a provincial or State park, after the pattern evolved in the United States of America. Until there is a development and extension of provincial authority, however, it is clearly wiser for this interesting lake to be protected on a national basis. In any event, I believe that it will always qualify as a place of national and international importance.

Another very encouraging development in 1958 was the generous wish of Mr. Peter Maxwell, on behalf of the late Lady Macmillan, that Donyo Sabuk mountain should be granted to the nation and included in the trust administered by the Trustees of the Royal National Parks. Donyo Sabuk is a mountain, a solitary sentinel in the East, known by many peoples as a landmark that always lingers in our memories of the Kenya scene. It is respected by certain native tribes as a legendary stronghold of ancient rulers, and is the outer bastion of the climatic zone of Nairobi.

Although it is the home of several herds of buffalo, it is unlikely that these dangerous and destructive animals can be allowed to remain in the midst of a highly developed farming area. Smaller game will no doubt always regard the mountain as a sanctuary and find cover and enough to eat in its forests and glades. Botanically, it has much interest, since, like most isolated mountains, the heavier rainfall

attracts an unusual range of vegetation and plants, normally found at much higher altitudes.

From the top of Donyo Sabuk there is an astounding view of a vast section of the best known part of Kenya and as a recreational outlet for Nairobi it has great possibilities. It is therefore all the more commendable that Mr. Maxwell should have found it possible to offer this famous mountain to the Trustees, which they have been proud to accept in the nature of a memorial to the respected Macmillan family.

The Kenya Government has agreed to the proposal in principle, and only legal formalities remain before Donyo Sabuk can be proclaimed as a national park. I live in hopes that the Elders of the Masai will take a lesson from the Macmillan family, and see similar reasons for making the Ngong Hills into a national park to commemorate and protect their traditional headquarters and to safeguard a place of considerable faunal, floral, scenic and recreational value, known so well to many residents of Kenya.

Thus, in 1958 I can report that there have been some major developments; developments in the acceptance of national parks as a proper use of land, and as a successful means of preserving some of the somewhat intangible although very valuable natural resources of Kenya. When these developments are supported by the allocation of sufficient finance to achieve the objective I can foresee a more secure future for the wild life of Kenya, and great material and cultural benefit to its people.

Be that as it may, it is not enough. We may adjust the boundaries of the Tsavo Royal National Park, we may create new national parks, and we may bring poaching under proper control, but unless the areas set aside for the protection of wild life are large enough and capable of supporting their wild animal populations, they will become of little value. Water is undoubtedly the main requirement, and with an eye to the future I have opened a special fund which I like to call "The Water for Wild Animals Fund".

An encouraging start for such a fund was made by Mowlems, the well-known firm of constructional engineers, who benevolently agreed to initiate the project by undertaking to construct a borehole in an otherwise waterless part of the Tsavo Royal National Park. This was proof that businessmen and engineers have sufficient interest in the Royal National Parks and all that they mean to Kenya, to take the first step in finding water for game. When this borehole has proved the availability of sub-surface water, as technical advice predicts that it will do, new possibilities for great achievements open out.

Some other contributions to this Fund have already been received, and it is clearly a case where financial assistance from any source or

any country, however large or small, can be used to save wild animals. An increase in water supplies by any available means will improve the carrying capacity and future security of the Royal National Parks.

Most of the low altitudes in Kenya have an average rainfall of less than 18 inches of rain in a year. In between seasons of rain the ground becomes parched and the scanty vegetation wilts. Wild animals are driven desperately in search of water, and many are forced to resort to digging in the sand or obtaining moisture from plants. When droughts occur, as they frequently do, many creatures die of thirst. Water is the lifeline of Africa; nothing can survive without it.

The main faunal national parks of Kenya, existing and proposed, unfortunately are in arid zones. Experiments have proved that additional water would bring into use thousands of square miles of grazing which is otherwise out of reach. With due regard to the careful assessment of their ecology, many areas could undoubtedly be improved without danger of over-stocking. Even one borehole in a semi-desert would allow a surprisingly large number of wild animals to exist, instead of being forced out of their sanctuaries in search of water, only to fall victim to poachers or other hazards.

Thus, the cry for help is very loud and strong. This appeal is in line with recommendations of the Game Policy Committee which argue that the protection of our unique faunal heritage is in some ways the responsibility of people who live far beyond the borders of Kenya. I trust that in the next few years the support of the Kenya Wild Life Society and of many animal lovers in many parts of the world can be enlisted to swell "The Water for Wild Animals Fund."



An undaunted Ranger

(Photo by H. G. Drewett.)

NAIROBI ROYAL NATIONAL PARK

I am often asked if the game populations in the Nairobi Royal National Park are increasing or decreasing. Some interested observers comment that there are many more of certain species; others reveal a sense of alarm that certain groups of animals are disappearing.

The fallacy of most of these comments or observations is that they relate only to a very small portion of what is a migrational zone. The Nairobi Royal National Park is merely the projection of a much larger area, over which most of the species range according to different seasons. Why different wild animals find it necessary to move from one place to another is still one of those subjects which requires a great deal of attention by scientists. It is a worthy subject for lengthy and detailed research.

General speaking, the grass-eaters are urged to leave one place and move to another in search of grazing. Similarly the predators very often follow the herds upon which they prey, but not always. Thus, before one can form any definite conclusion as to whether or not wild animal populations are increasing, it is necessary to have figures covering the whole migrational area, as well as figures for each different season in the year. This is no small undertaking as it is quite impossible for a small number of observers to assess game populations over an area of something like 300 square miles, because it all has to be achieved in one day. Game movements are going on all the time, and particularly at night, so that the count of actual numbers must be achieved almost simultaneously.

A good deal of information has been obtained by air counts, that is to say, a check on the number of animals observed from an aeroplane. While this probably gives a very good indication of the total numbers of animals in any one area, it is not by any means precise, since so many creatures resort to the shade and cover of trees or forest during a particular time of the day. There is no question, however, that before one can really assess the trend of animal populations, even in this little national park it is absolutely necessary to have really accurate figures. Without these, no proper wild life management scheme can be devised, nor can the boundaries of the essential game area be defined.

Some very interesting figures were mentioned by Colonel Meinertzhagen in his book entitled "Kenya Diary". He records under the date of February 28th, 1903, a list of animals seen in an area of approximately 12 square miles lying just to the south of Nairobi. On the 12th May, 1903, he again records a list of animals seen in somewhat the same area, although double the size, namely, 24 square miles. Warden Ellis has drawn attention to these figures and for purposes of comparison recorded a count which he made on 5th March, 1958, choosing, as near as possible, precisely the same 12 square miles.

The comparative figures are as follows:

	1903		1958
	February	May	March
Wildebeeste	1,247	894	827
Grant's Gazelle	832	326	219
Thomsons Gazelle	621	426	171
Impala	887	184	415
Rhino	8	4	—
Hyaena	2	—	1
Haartebeeste	946	276	524
Eland	134	46	27
Ostrich	68	—	42
Zebra	1,465	684	91
Giraffe	32	18	33
Wild Dog	—	11	—
Warthog	—	22	110
Duiker	—	2	—
Steinbuck	—	7	—
Waterbuck	—	—	3
Kori Bustard	17	7	—
Lion	—	—	3
Cheetah	—	—	2
Jackal	—	—	2

The comments I would like to make in relation to these animal counts can only be comments, since no reliable deductions can be drawn. The climatic circumstances in 1903 and the precise limits of the area selected are not revealed by Colonel Meinertzhagen. A surprising feature is that a comparison between his count in February with the count made in May of the same year would at first glance reveal a considerable reduction in certain of the large herds of animals. Moreover, the count in May, 1903, covered an area of twice the size and so, by the ordinary rules of arithmetic, one should halve these figures. The only species which consistently shows a vast reduction is zebra. In 1903, these were nearly 1500 in 12 square miles, nearly 700 in 24 square miles, and in 1958 only 91 in 12 square miles. A curious thing is that Colonel Meinertzhagen's observations do not include any predators, and there is no record of any lion, cheetah, jackal or leopard being seen.

In my opinion, these figures prove nothing. They merely indicate that on a certain date an observer was able to count a relatively large number of animals, whereas at a subsequent date the numbers had fallen, and yet some 55 years later the numbers bear favourable comparison. During this long period there had been various

catastrophes to this wild animal habitat, including training depots for two wars and a great measure of poaching.

Colonel Meinertzhagen records as a footnote to his second count in May, 1903, that well over 4,000 head of Masai cattle were also observed in the same area. I think it likely that these were not Masai cattle, but cattle owned by the Somali residents, details of which I gave in my Report for 1957.

One of the most surprising figures in Colonel Meinertzhagen's count of February, 1903, is the total number of Grants Gazelle. These animals are not normally seen in large herds, so in order to exceed 800 in 12 square miles it suggests that there were many more Grants Gazelle in those days than there are now. This, however, again is merely a comment and not a reliable deduction from the figures.

From my personal observations, over a period exceeding 30 years, of the Nairobi Royal National Park and its adjoining National Reserve, I cannot escape one very definite conclusion, and that is that lions have decreased. Whether or not there is an exact proportion or relationship between the number of lions and the animals upon which they prey has yet to be proved, but there is no question in my mind that the lions in this migrational zone are now far less numerous than they were 30 years ago. I can remember in 1937, near Lone Tree, counting a pride of 33 lions, mostly adults. I also well remember how almost every night of the year I could hear lions roaring in one direction or another, and yet nowadays they are either very silent or else there are not so many lions.

The reason for this reduction is again difficult to understand, but, in my view, it is attributable to the amount of deliberate killing which has been done both by African tribesmen to protect their cattle, as well as by definite orders of the authorities to reduce the lion population in the Masai Reserve.

However much one might argue about the trend of game populations in the Nairobi Royal National Park, one conclusion remains. By itself it is quite incapable of supporting the number of animals normally seen there, and for their survival they must have a greater migrational zone in order to obtain a variety of diet and perhaps a measure of freedom from interference by visitors. This all postulates the necessity of protecting game in the adjoining National Reserve, or at least in those parts of it which are used as a migrational area for the denizens of the Nairobi Royal National Park.



(Photo by M. H. Cowie.)

A typical scene in the Park

Even excluding the Ngong hills, this National Reserve has a variety of grasses and falls into three distinct groups of vegetation. The plains towards Kajiado are very attractive to the large herds of grass-eaters at certain times of the year. They obviously prefer short grass. It may be because it tastes good or it may also be because they derive a measure of safety from predators since they cannot easily be ambushed or stalked.

The second group consists of the stunted acacia or whistling thorn bush section, where the grass appears to be rank and usually unattractive and yet after it has been burnt and the rains have produced a new growth of grass, it carries a very heavy concentration of all kinds of grazers. The third group stretches up towards the eastern wall of the Great Rift Valley, where higher ground produces a different selection of vegetation, and again in certain seasons attracts very large concentrations of animals.

It is obvious that any census of wild animal populations must include all of these migrational areas, and must be spread over every season of the year, otherwise the figures reveal a distorted picture. I cannot express too strongly the hope which I have recorded on many previous occasions that it will be possible to arrange for a better system of game preservation in the adjoining Ngong National Reserve, since without

it the Nairobi Royal National Park will not be able to maintain its animal populations, and Kenya will lose one of its greatest assets and the most profitable of all its tourist attractions.

Whatever arrangements may be made to give wild animals complete protection in the lower part of the Ngong National Reserve, I cannot foresee that this additional reservoir should ever be opened to heavy tourist traffic. There is no question that the impact of many motor cars travelling through the Nairobi Royal National Park has a bad effect on the game populations. The dust alone renders a great deal of grazing unpalatable.



(Photo by H. G. Drewett.)

Ugly as a wart hog

The activities, noise and antics of some of the visitors undoubtedly divert wild animals from their natural way of life. This probably results in a lower breeding potential and a reduction in game populations.

It is essential to give the animals complete sanctuary in the adjoining Reserve to which they can retreat at breeding periods and return again when the attraction of the grazing in the Park is sufficient to tempt them into the tourist area. All this, however, points to one

very definite conclusion, and that is that any observation of the number of animals seen in the Nairobi Royal National Park bears practically no relationship to the total number of animals in the whole ecological area.

I am not convinced that lions invariably follow their prey. I have often noticed that the lions in the Nairobi Royal National Park adopt a circuit or circular movement apparently unconnected with the amount of food or water available. Sometimes they will leave what appears to be a very attractive place, well watered and full of other animals, and go off to some remote section of the Park where they have difficulty in finding enough to eat. In fact, the more one has to do with wild lions the more one realises how strange they are, and how little one can understand their various movements, habits, requirements and customs.

The pale coloured lioness known as "Blondie", and even by a ruder name according to the Rangers, often behaves in an extraordinary manner. For several years now she has produced a family of one or two cubs and before they are even old enough to toddle about she discards them and takes up again with another lion. She is undoubtedly not at all friendly towards the African Rangers whose duty it is to patrol the Park everyday. Perhaps the feeling is mutual since the Rangers regard her as a bad lioness. In February she ambushed a Ranger travelling on a bicycle and took from him a haversack containing milk bottles which were quickly broken and then set about tearing the haversack to shreds. Shortly after that she spied another Ranger coming along, this time on foot, and immediately gave chase. He made good his escape by a sprint into the forest, but "Blondie" was quick enough to get his hat.

Amusing as this may seem, it is not the kind of entertainment which most people would enjoy, and I continually praise the Rangers for their courage and the way they carry out their duties. It has been suggested that we should equip them with motor transport, but this would be an unsatisfactory method of carrying out patrols and it would prevent them reading the "National Parks newspaper", namely, all the footprints on the roads. The cost of such a scheme would be far beyond the resources available.

The Rangers themselves know the different lions in the Park so well that they can almost predict what kind of danger to expect, rather like a lion-tamer in a circus knows the limits to which he can provoke an animal sitting on a stool. The fact remains, however, that these lions are not tame, although they are more used to people. I can only hope that the Rangers will be wise enough to avoid a situation where a tragedy might result.

Bicycles seem to be the main objective of most of these lion attacks. In April the Head Ranger Kipsoi had to abandon his bicycle over rough ground, and a lion that had been chasing him then seized the bicycle and caused a great deal of damage. Later in the year, the two big

male lions known as "The Spivs" also set about one of the Rangers. He abandoned his bicycle as well as his hat, and made good his escape by taking refuge in the small radar hut which is on the east bank of the Sosian valley. Incidentally, this small white hut, which many people regard as a Ranger Post is, in fact, one of the navigation beacons for the new Nairobi airport, and has been disguised to be less unsightly in the National Park. The unfortunate Ranger returned an hour later to retrieve his bicycle, only to find the two big lions lying beside it, evidently waiting for him to return. The Ranger made a number of attempts to recover his property, but eventually had to give the lions best. Visitors to the Park that afternoon were horrified to see a bicycle and a hat lying beside two lions, for they at once concluded that the owner had been devoured. It seems that as long as a Ranger has a bicycle and can discard his hat, they act as sufficient decoy to distract the lions' attention.

I have often been asked why we do not allow the Rangers to carry fire-arms for self-protection. Obviously, this would not be a wise method of administration, since the Rangers must at all times conduct themselves in such a manner as not to invite a situation of extreme danger. If they were to fire at a lion in self-defence whether they killed it or wounded it, it would be entirely contrary to the whole object of establishing a national park. Furthermore, this would be one of the surest ways of destroying many of the famous lions, since at one time or another each lion has taken a turn at chasing a Ranger on a bicycle.

If these raids on bicycles continue and become even more dangerous we will be compelled to adopt other methods of patrolling. Although motor patrols would be far less effective, and we would obtain less information, such a system would in some ways comply with the general rule which prevents people from getting out of their motorcars. The curious thing is that the lions have grown used to the appearance of a Ranger, his uniform, his bicycle and everything about him, and they are willing to accept this as part of the natural scene in the Nairobi Royal National Park. The moment a visitor gets out of his car and presents a different appearance, the lions become alarmed and it results in a situation of some danger. Thus, if an incompatibility can be explained it is explained by the intelligence of the lions in having the ability to recognise the difference between one of the Rangers appointed to take care of them and a visitor who may or may not be a source of danger.

One of the most extraordinary and yet unfortunate tragedies befell one of the famous lionesses in the Park. In April last year she was suddenly observed to have no tail. The only construction the Warden could put on this misfortune was that "Brunette", as she is called, had been in some encounter with a crocodile, and her tail had been bitten off. She had been lying up on the edge of the Mbagathi river and the tracks revealed no other explanation. She had no wounds on her body indicating a fight with another lion. The extraordinary thing is that

a crocodile is not normally capable of biting through a fairly sturdy bone, and how the tail could have been severed so near the base is a mystery. She now disports herself, looking rather like a Corgie dog, but she will persist in licking her tail with her sandpaper tongue and the wound has poor chance of healing.

She was obviously in very great pain just after it happened, and was unable to hunt for her dinner, nor was she able to feed her cubs. Warden Ellis quite rightly felt compelled to step in and be of some assistance to "Brunette" in her distress. He accordingly procured a wildebeeste from a distant area and fed it to her and the cubs. "Brunette" was so hungry and perhaps so delighted to see this wonderful fare that she practically jumped into the Land Rover before the Warden and his Rangers were able to drop the meat. She had again to be fed, at a later stage, but after that managed to fend for herself. The Warden's intervention undoubtedly saved "Brunette" and her cubs from starvation.

This, of course, brings up the argument as to whether or not it is right for us to interfere in the course of nature. Animals in the Nairobi Royal National Park are not fed as they are in a zoo. They are given additional water supplies by small catchment dams and salt licks are augmented for the grass-eaters. When, however, a lioness and her cubs are so obviously in distress, it is clearly a case where I feel we are justified in stepping in to save the situation. It would not perhaps be this way if the the lions themselves were not so precious in this national park.

Over the years their numbers have gone down considerably and some years ago reached the alarmingly low level of only 16. Every lion, and particularly "Brunette", who is a most worthy and successful mother of many families, is obviously a tremendous asset in the Park. Admittedly, it is not right for the management of a wild life sanctuary to try and improve on the methods of nature, but when one assesses how very few lions there are now in the National Park and its adjoining National Reserve, and when one realises how extremely valuable the lions are to head the list of animals available to be seen by visitors, one cannot escape the conclusion that every possible effort must be made to save each lion from some untimely death.

A similar rescue operation was carried out with a 2½ year old lion, in this case with self-evident justification. This lion had a wire noose round its neck and he was obviously in great distress. Warden Ellis concluded that the only reasonable way of trying to free him from this embarrassment was to attract him into a box trap, and remove the noose. Many attempts were made to lure him into a trap, but on each occasion another member of the pride went into the cage and he did not. He probably realised what the trap meant, for when his sister entered it at a fairly early stage in the proceedings, he unfortunately set off the trigger and shut the lioness inside. It was not easy to release her without revealing to the lion what was likely to happen to him.

Finally, he managed to remove the noose by himself and is now roaming the Park and known by the Rangers as "Sigenge", indicating the lion with the wire. He bears a scar round his neck, but is none the worse for his adventure.

Lions do not always escape from snares. Later in the year a report was received by Assistant Warden Jolley, that a lioness had been caught in a trap on the Ngong hills. He could not get to the place until well after dark, owing to other duties. On arrival he was informed that the lioness was dead. He tried to get in to investigate, but another lioness defied him entry. The next morning, the report proved to be true, and he found a young lioness strangled in a trap. Had the report been received earlier, it may have been possible to release the victim and save the life of yet another lioness.

It is difficult to understand where the lion known as "Sigenge" got the noose round his neck, but it is likely that this was set near the boundary of the military cantonment to the west of the Main Gate, where a number of snares are frequently found. The Warden believes that these are perpetrated by labourers working on the construction of the new barracks. With the cooperation of the Military Authorities, I am glad to report that much of this menace has been removed.



(Photo by G. H. Drewett)

Sigenge

“Sigenge” seems to be undeterred by his misfortunes. One day he was seen in company with two lionesses baiting and teasing a large bull rhino. The lions formed a half-circle round the very angry rhino, and whenever he charged one of the trio would threaten from the rear. After obtaining their full share of entertainment, they allowed the unfortunate rhino to go his way. Although lions seldom tackle and kill a full grown rhino, there have been some reports of this happening. There is no question, however, that a lion, like any other animal, enjoys a game, and there are many stories of lions tormenting rhinos but keeping a safe distance.

In view of the great importance of retaining an adequate number of lions in the Nairobi Royal National Park, I was not opposed to accepting a very good offer from the Game Department to move a young lioness from near Embu to the Park. She was a very wild young animal, and had obviously never had much to do with people at close quarters. The journey in a box trap and the noise of the truck must have given her much anxiety. She was transported down to Campi-ya-Simba, and the trap was opened. It took her nearly 30 minutes to accept that escape and safety lay before her. She then suddenly bolted from the trap, and made straight for the Land Rover. Warden Ellis quickly reversed which prevented the lioness springing on to the roof. It is fortunate



[Photo by H. G. Drewett.

Blondie

that he did so, because the hatch on the top was open. After trying to savage the Land Rover, she dashed off into the bushes. She has been seen on several occasions since, but is not unnaturally very wary of visitors. We have hopes that she will settle down and form a useful addition, and introduce fresh blood to the lion families of the Nairobi Royal National Park.

This is the first occasion that a lion has been caught and released in one of the Royal National Parks, but in view of the circumstances and the great shortage of lions in the Nairobi Park, it is clearly a case where it was justifiable. Presumably, this lioness will grow up to be a well disciplined creature, having learned that a trap is not a very safe place, and also that a motor car is not a very suitable victim to attack.

Like human families, the lions of the Nairobi Royal National Park are not free of problems. "Blondie", who has this peculiar propensity for having a family and recognising no obligation to look after the cubs, is upsetting the normal routine of the other lions. The two big male lions known as the "Spivs" compete with each other to win her favour. As "Blondie" appears to become attractive almost every few weeks, it means that the two "Spivs" are constantly in attendance and certainly frown upon the intrusions of any other lion. It is strange that they themselves have not found it necessary to fight it out, and they seem to have achieved a working arrangement to share "Blondie". "Blondie" herself has become so promiscuous that it does not matter which of the two "Spivs" becomes her suitor. In fact, it was observed that she was willing to accept both lions in succession, which is entirely contrary to the rules of the accepted code of lion behaviour.

One of the consequences of this continuous courtship is that the two "Spivs" will not allow any other lion to be in the same area. "Sigenge" is growing up to be a potential competitor, and on any occasion that he looks at "Blondie" the two "Spivs" set about him. One day they picked on him and chased him up the Banda Road out of the National Park, down the main Magadi road and back into the Park near the Warden's house. Had it not been for the intervention of Assistant Warden Jolley, it is likely that the "Spivs" would have destroyed "Sigenge". Other young lions growing up in the Park are equally despised by the "Spivs", and the Rangers hold the view that unless the "Spivs" are destroyed they will eventually chase all the lions out of the Park.

This presents a conundrum. On the one hand, the "Spivs" are undoubtedly a great attraction, and with their black manes, their dignity and enormous stature they are the objective of most photographers. It will be a tragedy indeed if they have to be eliminated. On the other hand, if they continue to take possession of the Park, drive out all other lions, and go on serving the same lionesses, they will build up a strain which may not be the best.

I feel that nature will probably step in and correct the situation. Sooner or later the "Spivs" will not be strong enough to withstand the virility and courage of the younger lions, and I predict that "Sigenge" will claim his rights and defeat one of the "Spivs". The difficulty is that the "Spivs" stick together, and it is not an easy proposition for any lion to take on two opponents at the same time. Perhaps the "Spivs" will fall out, and then the road will be clear for someone else to come in. How difficult life can be.

This family problem of the lions again points to the necessity of having a large reservoir for the Nairobi Royal National Park, into which the vanquished lions can retreat and find refuge. If they all have to be confined within the same small area, it is possible that they will destroy each other. What gives point to his theory is that some of the lions which used to be seen so frequently in the Park are now living almost permanently either in the Mbagathi river valley or in the Ngong National Reserve, presumably not daring to return to their old haunts and run the risk of being beaten up by the "Spivs".

In September mischief must have dominated the minds of the resident lions, for the whole pride, consisting of "Blondie", "Brunette", the two "Spivs", and three cubs, assembled in the vicinity of the elephant skull near the Main Gate. Later that evening, they walked round the huts at the gate and serenaded the occupants. A search next morning revealed that the lions had left the Park, and were in the adjacent area normally used for digging out murram for the road. Assistant Warden Jolley took charge, and with the aid of thunderflashes and a Land Rover, was able to return the lions to the Park,—so he thought.

It was soon found that one of the "Spivs" had refused to go back. In an effort to avoid the onslaught administered by Assistant Warden Jolley, he tried to jump through the sturdy fence round the Military cantonment. He charged the fence, but the wires merely sagged, and bounced him back. He then decided to retaliate and charged the Land Rover. Just at the last minute, his courage failed, and he swerved away. He sought cover in any thick clump of bush, but the noise of thunderflashes and the continued harassing persuaded him to go "home".

A count of the lions was then taken and as far as could be ascertained two lionesses and one cub were back in the Park, but two of the cubs had got into the Military cantonment. It was decided to leave them there in the hope that they would join the lionesses later. The Rangers then made a search to trace the other lion. They found the remains of a wildebeeste that had been killed close the main tarmac road. Footprints indicated that the lions had gone down to the Nairobi dam to quench their thirst.

While this search was going on, it was discovered that "Brunette", the lioness without the tail, had not, in fact, re-entered the Park, but was lying up in the shrubs near the Main Gate. A very surprised labourer was charged by her, but fortunately he managed to get away. The lioness then hurdled a small car entering the Park, much to the amazement of the occupants. Finally, "Brunette" took cover in the murrum pits, and from there she was chased back into the Park.

Everyone concluded that the lions had had such a shaking up that they would hide in shame for the rest of the day. On the contrary, they moved down to the plains and killed a wildebeeste, and paid very little attention to the visitors who assembled to watch them. Once again, the Rangers carried out a remarkable feat in driving these angry lions back to their sanctuary, unarmed and only able to move about on foot.

The extraordinary thing about this adventure is that obviously the lions knew they were doing wrong by being out of the Park. When outside they showed some fear of a car, but once back in their sanctuary, they ignored the many car loads of visitors that converged towards them. I am convinced that this is not imagination, for there are many proofs of wild animals recognising a demarcation between a place of safety and of danger. Lions which have grown up in this National Park have learnt over the years that when they stray through the fence which is the boundary of their domain, they can expect all kinds of ill-treatment, noise and danger. I only wish that they would always keep to the rules, and not go out into Nairobi or on to the new Airport road. This postulates constructing a fence which is a really effective barrier.

Fencing the Nairobi side of the National Park has always been a problem. In 1952 I recorded that although it is surprising how quickly wild creatures learn to respect a boundary if it is well defined, they will still break any ordinary fence when in need of food or water, or when stampeding in flight. I expressed the hope that a solution may be found in designing a barrier which, for all general purposes, is impenetrable, since I was convinced that the only successful method of constructing such a fence is not only to make it formidable, but also to make it impossible for the animals to see through it or over it.

Although in the earlier days the two boundaries of the Park bordering on private land were fenced with wire obtained from Military Disposals, it was more in the form of a demarcation. Experiments over the years have proved that the only reliable barrier is to construct a bank or a bund of earth and to place a strong fence on top of it. This not only breaks the charge of a stampeding herd, but also prevents any wandering animals from trying to jump over. This is the style that has now been adopted, and when funds can be made available, I have every hope of preventing the movements of animals

from the Park, either into the adjoining suburbs of Nairobi or on to the road to the airport, which carries a great volume of fast moving traffic. The danger to both people and animals by having them muddled up in the same dense traffic zone is obviously unacceptable, and the construction of a proper fence is of the highest priority.



A giraffe—down to earth

[Photo by H. G. Drewett.]

I am thankful that the larger animals, such as rhino, giraffe and eland, do not cause a great deal of damage to the Park fence. Although they sometimes break through, they are not nearly as destructive as the large herds of zebra and wildebeeste. Once a herd of zebra is on the run, with a lion at their heels, it needs a very sturdy fence to stop them. I have not yet had to report that rhinos have tried to visit Nairobi. It is most unlikely that they ever will, since they keep to the secluded portions of the Park, although in recent years they have been seen by visitors more frequently.

Reports frequently come in of rhino doing damage to native *shambas* in the Ngong National Reserve. One rhino chased prisoners from the Athi River Detention Camp in September, and it is perhaps a little difficult to decide whose side one should be on. I am not

sure what will happen when rhinos learn to accept motor traffic in the Park and take possession of the roads, as do the lions. On one occasion no less than six rhinos were seen together at the salt lick near Baboon Wood. Later a rhino was seen in Lion Valley where he had evidently been annoyed by a passing car, which he chased. The amusing part of this story is that the occupants carried on without knowing that the rhino was snorting and rampaging just behind the car. No damage was done, but I hate to think what would have happened if another car had been following and so received the full force of the rhino's onslaught.

One evening in December, in a glade behind Impala Point, Warden Ellis saw a crash of four rhinos coming out of the forest and crossing the plain. Three of these full-grown rhinos were moving in a strange manner, pressed shoulder to shoulder, with the fourth one following behind. On closer inspection it was seen that the three front ones were cows, and that the centre one was very heavy in calf and was being helped along by her companions. When they realised that they were observed, they all stopped, but despite their state of alertness one of the cows continued to pay attention to the mother-to-be by rubbing her flank with the side of her head and horn. Eventually they all retired to cover, and the Rangers reported the birth of a calf three days later.

Stories of this kind frequently relate to elephants, who give a great deal of assistance to expectant mothers. This is the first time that I have received clear proof of rhinos joining forces to support a companion in difficulties. They are not credited with much intelligence, but evidently have sufficient natural instinct to know when another rhino requires help.

Perhaps outside the normal scope of the Warden's duties but an interesting story of a rhino comes from Magadi. In response to a plea for help, the Warden was flown down to Magadi, where he found a rhino well out on the crust of the soda lake and apparently unable to escape because the water was in front and the township of Magadi was behind. He had worked himself into a frenzy by sniffing the soda dust and hearing the noisy crowd of people that had gathered to watch him. Despite the helpful efforts of the Company engineers who had run out a pipe of fresh water to enable him to quench his thirst, he still remained very unfriendly. The decision to be made was whether or not the rhino should be shot. On the advice of the Warden, the crowd cleared away, and the rhino was left to settle down until nightfall. The next morning at dawn, there was no sign of him, and so he obviously found his own route out and presumably went back to tell his friends that he was not impressed either with soda or with people.



A lonely wildebeeste

(Photo by H. G. Drewett.)

Stories of animals helping each other are not confined to the large creatures. The Warden reports that one evening a wildebeeste calf was seen making frantic efforts to find its mother amongst a herd of wildebeeste. It went up to each cow in turn without success, and was very despondent. From another herd grazing about six hundred yards away, a yearling wildebeeste then deliberately detached itself and came with much bellowing over to the calf, and edged it out of its wrongly chosen herd, to chase it back to its mother in the other herd. There seemed to be no doubt that this was a calculated endeavour to retrieve the calf, but one wonders whether the yearling was merely displaying a certain measure of brotherly love or was acting under orders to go and find junior and bring him home.

Although animals of the same species undoubtedly help each other in moments of distress, one cannot expect predators to take the same outlook towards their prey. They operate without mercy and sometimes I wonder if they are not just mean opportunists. Two jackals were seen to catch and kill a two week old impala. The doe and her spouse watched at a distance but made no attempt to rescue the youngster. One would think that an impala could quite easily deal with a small creature like a jackal, because in any event jackals are relatively timid animals.



(Photo by H. G. Drewett.)

A dainty jackal

Another report reveals that a large python caught and swallowed a female Tommy near one of the dams. It is always a miracle to me how a python ever catches an animal at all. Presumably they use their devices and mesmerise a victim until they can get to grips with it. This sometimes happens with other animals looking on, and yet no-one else makes any attempt to break the spell which is holding the unfortunate one selected. This python continued to live in the same area and remained in a very bloated condition, showing that it takes weeks to absorb a meal a huge as a Tommy. This python is accompanied by a smaller one and they are frequently seen together.

Nature is a miracle in itself. I often wonder how any bird can nest on the ground and manage to bring up a brood, since the hazards of existence on the ground are so much greater when one thinks of predators, thieves, fire and the rest. In September a nest with one ostrich egg was found. For the next seven days one egg each day was laid, and on the eighth day four hens were seen to follow each other onto the nest and each lay an egg. Each laying took three minutes. By the time the original hen went broody it was eighteen days after the first egg was laid, and the nest contained fortytwo eggs. The chicks began to hatch out on the 18th November, fortytwo days after the mother hen started sitting and sixty days after the first egg was seen. Only sixteen chicks were hatched out from this clutch of fortytwo

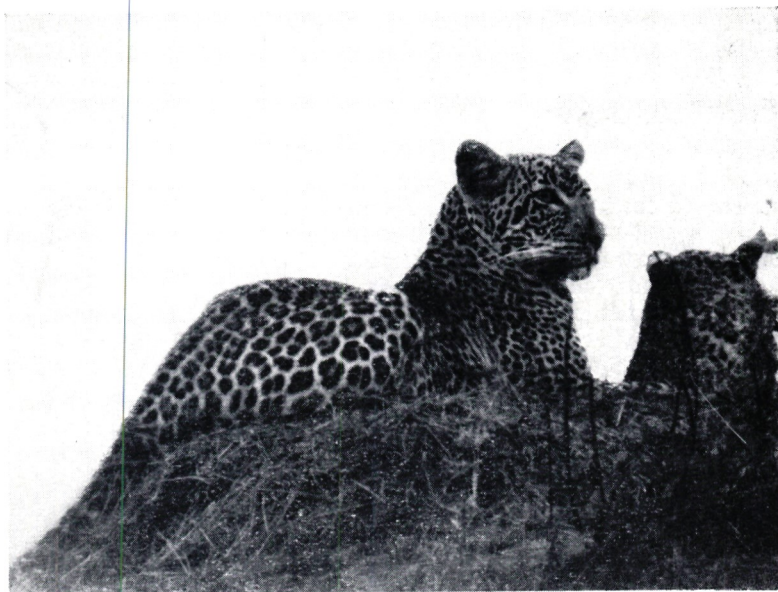
eggs. Perhaps this explains why one sometimes sees such large clutches of eggs in an ostrich nest wrongly believed to have been laid by the same hen.

On another occasion a nest containing twentytwo eggs was entirely destroyed during one night. The only spoor to be found amongst the shambles was of hyaenas. Evidently, the guardian of the nest was away, or else was overpowered by a large number of hyaenas and was unable to defend the eggs. An Honorary Warden reports seeing lions playing games with a clutch of eggs. One lion rolled over with an egg grasped to his stomach. No eggs were broken, and when the lions went away the Warden restored all the eggs back to the nest. In spite of such bad treatment this nest had a good hatch of over fifty per cent.

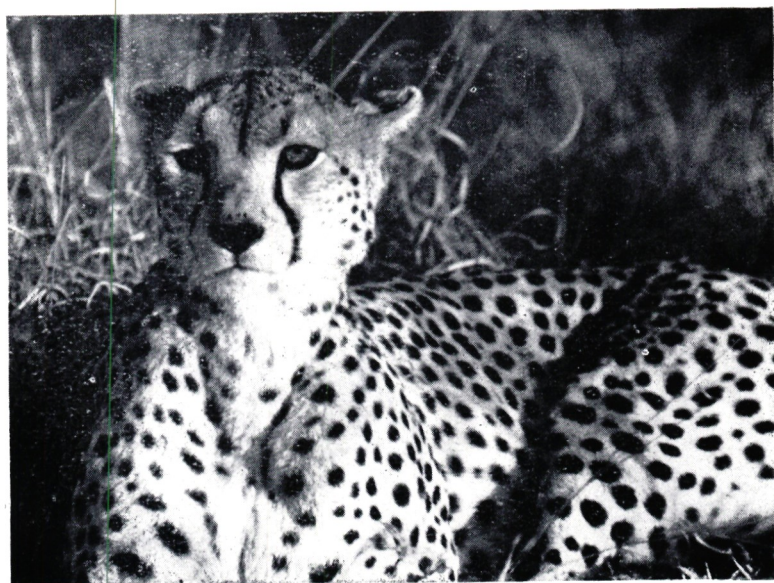
Ostriches normally select a fairly bare piece of ground for their nests, but other birds which nest on the ground seem to be particularly unwise. Sometimes one can spy a small clutch of eggs of a francolin or a plover which is shrouded or shaded by long grass, presumably for protection from eagles. Should a fire sweep through, the heat must be sufficient to destroy the eggs. In October last year grass fires spread from the Railway near Embakasi Station into the Park. Owing to the high winds which prevailed at the time, it was impossible to check the fire. It jumped over roads which normally serve as firebreaks, and was not brought under control until the wind changed in favour of the beaters. Albeit some 8,000 acres of grazing was lost, and did not recover for a long period, since there was no rain.

There are times when one almost wishes to see a fire sweeping through, especially when there is a heavy infestation of small caterpillars known as the Army Worm. During the year there was a very heavy concentration of this pest, but the interesting feature is that they were followed by very large numbers of birds which prey upon them, mainly Marabou Storks. A count was taken of these storks one evening and it totalled just over two thousand. Not much interest is taken by visitors in the birds of the Nairobi Royal National Park, in their ceaseless preoccupation with the lions. Few people realise what a surprising variety can be seen, including a wide range of migratory birds.

The invariable request as people enter the gate is "Where are the lions?" and nearly all traffic directs itself to any place where these unfortunate animals happen to be either sleeping, feeding, or playing. There has recently been a promising tendency to ask for other animals such as cheetahs and rhinos. The rhinos are becoming less shy than they used to be, and cheetah can frequently be seen. Visitors sometimes confuse a cheetah with a leopard, and they report having seen leopards out in broad daylight in open country. This is extremely unlikely, as leopards are invariably stealthy animals moving mostly during the hours of darkness.



Elusive leopards



A cheetah—often mistaken for a leopard

[Photos by H. G. Drewett.]

Although leopards are not often seen in the National Park, there are numerous reports of them raiding chickens, dogs, and other livestock in the Karen, Hardy and Langata suburbs adjoining the Western boundary of the Park. The appeal which I put out sometime ago to give us an opportunity of trapping leopards, instead of having them shot, in order to move them to places where they are scarce, has not been without reward. Earlier in the year a large leopard was trapped in a garden off the Miotoni Road in Karen, having taken a dog from the house next door. Warden Ellis was soon on the spot, and after following the tracks he disturbed the leopard trying to put its victim up a tree. A box trap was set and baited with the remains of the dog. The leopard fell for the lure and was caught that night. It was then sent down to Voi and released far out in the Tsavo Royal National Park.

A young female leopard, thought to be in cub, was caught by Mr. Sauvage on his farm near Nanyuki, and he kindly presented it to the Royal National Parks. It was transported down to the Tsavo Royal National Park where it was released. During the same period a trap was lent to the Medical Research Laboratory who had need to trap animals for a study of insectborne diseases. This trap was used in the Mua hills near Athi River, and one of the conditions of the loan was that the research workers should not return the trap empty. They responded well to this request, and in course of time the trap was duly delivered complete with a full grown male leopard inside. This leopard was also sent down to the Tsavo Park.

It is a great pity that no easy way has been devised of marking an animal like a leopard, since having had these creatures in captivity it would be of immense interest and value to know what happens to them after they are released. Sometimes it is possible to recognise a leopard if it has some deformity or peculiar marking. Indications show, however, that the leopards which have now been released in the Tsavo Royal National Park have accepted their new surroundings and have so far not tried to return to their old haunts, nor have they stolen any chickens from adjoining native areas. It is clear that much of the Tsavo Park has been denuded of its leopard population and the animals on which they normally prey, such as baboons, have increased out of all proportion. I see no danger of overstocking the Tsavo Park with leopards, certainly for some years to come. The arrangement to trap and move leopards from places where they are not welcome is certainly helping to restore the original balance that was maintained before the poachers destroyed so many of the leopards of the Tsavo Park.



A nimble impala

(Photo by H. G. Drewett)

One of the extraordinary things about the Nairobi Royal National Park is that within the haunts of all kinds of wild animals, live a number of Somali families. I described the reasons for their residence in the Park in my report for 1957, but it still points to a strange set of circumstances. Hardly ever do the lions attempt to attack the Somali cattle which graze in the Park, even when only herded by a youngster. Leopards equally have seldom been known to break into a Somali *boma* or to perpetrate the same kind of crimes as they do in the Langata/Karen suburbs. It must be accepted that the Somalis have much experience in dealing with wild animals. They know how to safeguard their livestock, and they build substantial enclosures to ward off the predators at night. Nevertheless it is a lesson to be learnt, and proves that there are ways of keeping livestock in an area shared by lions and other killers without incurring any serious losses.

As far as the Somalis themselves are concerned, I have a great deal of sympathy with their continual requests to be told where they can go when their period of residence ends in the Nairobi Royal National Park. Permission to reside is dependent on the lifetime of the head of the family, after which they have twelve months in which to find a new home. One can argue that they have ample notice to quit, but it is not easy for them to find an alternative place to live.

The Government authorities concerned are fully aware of this problem, and when a solution is found I believe it will also solve one of the greatest difficulties in the Nairobi Royal National Park. If the Somalis can be given a suitable alternative, I have no doubt that many of them would be willing to move. This would relieve the Park of the unsightliness of their strange dwellings, and also reduce the number of cattle and sheep which graze across the plains at the western end of the Park.



Grants Gazelle

[Photo by H. G. Drewett.]

I often wonder to what extent the existence of human beings in a wild life sanctuary becomes incompatible with the survival of the wild animals, or whether primitive man forms part of what one might call the balance of nature. There is no question that many of the animals in the Nairobi Royal National Park have accepted the appearance of the Somali cattle and their herds, and also in recent years of the Rangers whose duty it is to patrol the Park. I also think that the animals are beginning to accept the continual movement of motor-cars. Although this causes a great deal of disturbance, I believe that the animals will be safe as long as they have a sanctuary into which they can retreat when the pressure of traffic is too great.

In this connection, it is interesting to record the comments of Colonel Roland Jones, for many years a Senior Game Ranger of the Kruger National Park in South Africa, who visited Nairobi last year and left his impressions. He wrote:—"My first impressions of your Park are that it is very like Pretorius Kop area in the Kruger Park as it used to be in the old days before tourism and other things ruined it. That area, like yours, is never closed to the public. The game gets no rest even during the breeding time."

He went on to say that in his experience where new areas have been opened progressively to the public those areas have been ruined, and this conclusion is supported by a certain amount of scientific backing. Colonel Roland Jones believes that closing an area during the main breeding seasons is very desirable. Unfortunately here in Kenya we do not have any very defined breeding season, although most of the gregarious herds of plains game seem to have their calves at the beginning of the long rains between February and April.

Further quotations from Colonel Roland Jones are as follows:

"The second factor, dust, seems to be by virtue of your open plains a far more serious thing than in bush country, where it cannot penetrate to any distance. It is vastly aggravated in the Nairobi Park by your strong winds and speeding traffic."

"Thirdly, we abandoned allowing people to travel over the veld many years ago, and confined them strictly to the roads to eliminate some of the disturbance they caused. To this end we also diverted all roads which cross the game's approach to a waterhole and had the tourists to the side where they do not drink, where possible."

"Lastly, we have made our opening time later and closing time earlier, so that those species which drink late can do so undisturbed."

His final comment was that all these four points are closely related and argue against exposing the game no more than can be helped to tourist disturbance. Best of all he favoured a complete rest from tourism for as long as can be managed. He ended by saying "I think your Park is a wonderful place but are you not spoiling the tourists?"

If we are spoiling the tourists at the expense of the Park, it is only in a small portion of the total area which the animals use. The importance and attraction of the Nairobi Royal National Park to a vast number of visitors inevitably means that certain concessions must be allowed which would not be feasible in a true wild life sanctuary. Fortunately, the animals have the Park to themselves at night, and I must predict again, as I have done in the past, that we may have to confine visitors to the roads, and not allow them to follow animals across the plains. This can only be done when the roads are made wide enough to allow cars to overtake and stopping places are provided, otherwise no traffic could proceed.

Whether one judges this little national park for the survival of a large number of different species of game, or for its popularity with hundreds of thousands of visitors, it remains clear that it is unique in the world. Nairobi enjoys the privilege of having a wild life sanctuary on its doorstep. Provided that the animals can be secure in their essential refuge, namely, the Ngong National Reserve, and provided the methods of management are conducted wisely and in accordance with scientific advice which I hope we will shortly receive, I see no danger of the Nairobi Royal National Park becoming less important, less interesting or of less value to Kenya than it is today.



Each zebra is marked differently (Photo by H. G. Drewett.)

TSAVO ROYAL NATIONAL PARK.

1957 ended with the dramatic and satisfactory statement, which I was able to make, that the Tsavo Royal National Park had been cleared of poachers. In the twilight of this successful campaign, the Field Force maintained by the Royal National Parks was brought back to Voi for re-equipping and for necessary re-training. At the beginning of 1958 the responsibility for the anti-poacher campaign was handed over by Warden Sheldrick to the Chief Game Warden, Mr. Hale. This meant that the Field Force, originally formed by Warden Sheldrick was able to revert to its normal duties of keeping a check on poachers within the Park itself and near its boundaries.

For the first few months of 1958 the Field Force was mainly engaged in dealing with honey-hunters coming in from the Kamba Reserve at the north end of the Park. Few reports of poaching were received until the middle of the year, when Assistant Warden Lovatt-Smith discovered the carcasses of three dead rhino near the Kitani Safari Lodge, at a place called Campi-ya-Marabou. He carefully inspected the carcasses, which were about four days old, and found that the horns had been removed. .303 cartridge cases were found nearby and fragments of bullets were found in the bones of the dead animals. This immediately suggested a different form of poaching, since poachers had hitherto not been equipped with service rifles.

He summoned the assistance of Warden Sheldrick, who has the overall command of anti-poaching measures in the Tsavo Park, and two sections of the Field Force were moved into the area. While they were examining the carcass of yet another dead rhino, from which the horns had been removed, they heard shots about half a mile away. They immediately gave chase on foot, and after some difficulty, caught up with two men with rifles. These turned out to be tribal policemen from Loitokitok, who admitted having just fired at a rhino. These two men alleged that they had not killed the first three rhinos which the Warden had found, but that other tribal policemen from Loitokitok had also been operating in the area.

Both Wardens moved up to Loitokitok, and after a very long and wearying period of interrogation, managed to discover most of the story. The charge of killing three rhinos in a national park and of taking the horns, killing a giraffe and an impala, and wounding four other rhinos, was then preferred against a corporal of the Loitokitok Tribal Police and other tribal policemen. Two others were caught redhanded, and were convicted and given one year's hard labour.

It appears that these tribal policemen had been operating in this unlawful manner for some time, and there is no way of ascertaining how many animals were killed. It is disappointing that men charged with the duty of enforcing the law should themselves break it. There

are always black sheep, however, in every family. It is even more puzzling that these tribal policemen were apparently able to have access to an almost unlimited supply of ammunition, and that no particular check was kept on the number of rounds expended or for what purpose.

The Western boundary of the Tsavo Royal National Park is particularly vulnerable, since it marches with the interterritorial boundary between Kenya and Tanganyika. The control of trophies and poaching is not so strict in Tanganyika as it is in Kenya, and this leaves ample opportunity for poachers, be they tribal policemen or anyone else, to smuggle rhino horn and ivory without being detected. Another great difficulty is that the Tanganyika Government has not agreed that the carrying of poisoned arrows should be regarded as an offence. Any African found just across the boundary with a quiver of poisoned arrows cannot be apprehended, nor can he easily be prevented from slipping across the undemarcated line into Kenya and poaching any animal within reach.

A number of Kamba tribesmen, who originated from Kenya, have settled on the Tanganyika side of the boundary and they are skilled in the methods of hunting with poisoned arrows. Reports are frequently received of various animals, particularly giraffe, being killed by poisoned arrows in the Taveta-Jipe area. Although both Kenya and Tanganyika are administered by British authorities, it seems that the treatment of poaching offences differs widely in each country. It is unfortunate that there cannot be a common policy, especially when an interterritorial boundary cuts through a valuable faunal area. It simply means that more strenuous and extensive methods must be adopted to protect the animals within the Tsavo Royal National Park against raids which can be so simply carried out by neighbours from across the border.

A few months later, a section of the Field Force, which had been operating in the vicinity of the Rombo River, found a total of thirteen rhino carcasses. The horns had been removed from each, and it appeared that this was also part of the onslaught administered by the Tribal Police. This destruction of rhinos is most distressing. The Kitani/Campi-ya Simba section of Tsavo (West) was always regarded as one of the strongholds of rhinos. On many occasions from a viewpoint like "Poachers Look-out" one could count anything up to thirty rhinos at one time. Obviously, they cannot stand this rate of destruction, and it all points to the alarming conclusion that rhinos are in danger of being exterminated.

I have found that when animals like the large herds of grass-eaters, and, to some extent, even rhinos are seen only in small numbers and in isolated strongholds, it means that they are not capable of breeding normally and retaining their numbers. Thus, wherever there is a

concentration of rhino, as there used to be in the Kitani/Campi-ya Simba section, it is a disaster if it is attacked by poachers and the numbers seriously reduced. It may take many years before they can again breed up to reasonable numbers.

The poachers themselves soon get to know where the best hunting grounds are, and whenever an opportunity provides, they conduct an onslaught in a concentrated area. This reinforces the argument which has been put forward on so many occasions, and which I personally have been compelled to emphasise almost to the point of over-statement, that it is vital to maintain the pressure against the poachers continuously and in all areas. If their activities result in destroying a breeding ground for rhinos, the next stage is that they will also destroy many other rhinos, even if dispersed over a wide range, because of the reduction in the breeding potential.

The same section of the Field Force then moved to the Taveta district, where they also met with some success, although it is difficult to apply the word success to the discovery of dead and rotting animals. Whilst operating near Salaita hill, famous for a battle during the Kaiser war, two poachers were arrested at a line of snares. A baby elephant had died in one of the snares.

In the Maktau district one hundred and twenty pits were located. The pathetic remains of a number of animals were found in these pits, including rhinos, buffaloes, lesser kudu, wild dogs, giraffes and hyaenas. Although these pits were alleged to have been filled in during the height of the poacher campaign, obviously this had not been done, or else they had been re-opened. Further representations were made to the District Commissioner, who agreed to take action. Large hide-outs containing reserve water, clothing, dried meat, and other poaching paraphernalia, were numerous in the vicinity of the pits, and many wire snares were also recovered.

Mr. Barry Roberts, an Honorary Warden working in this area for the Veterinary Department, who has devoted a great deal of his spare time to anti-poaching operations, arrested three men with 35 skins of various kinds. All this indicates the extent of poaching in the Taveta Maktau-Rombo districts bordering on the Tsavo Park, and the opportunities for various tribes to raid across the boundary or to entice animals out of the Park are almost unlimited. Under these conditions, there is little chance of achieving a successful preservation plan, and the need to establish an administrative control post near Njuguni becomes greater every day. This will not be possible until the long-standing exchange of land with the Masai has been completed.

Two of the three men arrested by Mr. Barry Roberts and handed over to the Tribal Police unfortunately escaped before their trial. It is obvious that the Police and the National Parks Rangers, and anyone else concerned with poaching, will have to realise that the

poachers are becoming progressively more wily and are already resorting to all kinds of subtle methods of killing their victims, and of designing means of escape. The Field Force, however, continued to operate, undaunted by the escape of the two culprits, and a further eleven arrests were made, bringing the total of those actually convicted to twelve.

One hundred and three game skins were recovered. On moving down to Lake Jipe, the Field Force discovered another five elephant carcasses, but it transpired that these elephants had died as a result of being burnt in a fire.

Towards the end of the year, another section of the Field Force was sent again to patrol the Rombo river. Corporal Kimwele and the Rangers with him discovered an eland which had recently been killed, and they followed the footprints of the perpetrators back to the Tsavo river, where they ran into two poachers. One man was arrested by the corporal after a short chase, but the other poacher made off, hotly pursued by Ranger Larebo. As the poacher was running away, he fitted a poisoned arrow to his bow, and swung round on his pursuer. Before he could pull back the bow string to the full, Larebo fired his rifle, shooting the poacher in the left side. This threw him off balance with the effect that the arrow travelled only about ten yards and lodged harmlessly in the ground midway between the two men. The man died almost immediately and turned out to be a well-known poacher named Musembe Chai, a Mkamba from Mkuu village in Tanganyika. At the inquest, Corporal Kimwele was commended for the way he had conducted his patrol, and Larebo for tackling such a dangerous character single-handed.

This proves that trying to apprehend poachers is not by any means an easy or safe operation. Quite apart from the hazards of being charged by dangerous wild animals or being bitten by snakes, members of the Field Force run the risk of receiving a poisoned arrow almost at any moment. Since there is no known antidote for the arrow poison, the Field Force has to be alert and on guard all the time.

There have been cases in the past when poachers have loosed their arrows at rangers before being seen, giving the poachers all the advantage of premeditated ambush. It does not, however, give the Field Force a right at law to shoot on sight, but only in clear situations of self-defence. I sometimes wonder how many people who sit safely in their homes in one of the bigger cities of East Africa or in other countries, and condemn strong action against dangerous criminals, would be willing to go out into the arid bush of the Tsavo Royal National Park and wait until a poacher actually shoots an arrow before taking defensive action.

As a further indication of the subtlety of the poachers, a hide-out was discovered on the Tsavo river only a hundred and fifty yards

from one of the Park roads. This road is used regularly by visitors, and yet no-one had any idea that it was a poacher stronghold. A large quantity of eland meat and two dead impala were found in the hide-out. In order to carry out their operations the poachers must have crossed and re-crossed the road on many occasions, and yet were wily enough to avoid detection.

It is not, however, always the fault of the poachers when an animal is found full of arrow heads. In November, a dead rhino was discovered near Birikani, not far from Voi, with seven arrow heads in various parts of its body. This immediately suggested the exploits of a gang of poachers, and No. 2 Section of the Field Force tracked the footprints of the rhino back to where it had walked through a village. On further enquiries they discovered that the rhino had become most aggressive, and that some thirty people had fired at it with arrows. This rhino was obviously seeking trouble, and one cannot blame the villagers for taking defensive action. It was lucky that this unfortunate creature, looking like a porcupine and no doubt feeling like a pin-cushion, did not vent its temper on some unsuspecting victim before it was finally overcome.

One of the famous old poacher haunts downstream on the Galana river from Lugards Falls, near a place called Kisiki cha Muzungu, was examined towards the end of the year, and the patrol was able to report that there were no signs of poaching whatever. This was most encouraging, and it seems that the anti-poacher campaign of the previous year still had some effect in this district. The members of the Field Force were so pleased with this satisfactory situation that they all decided to walk back to Voi rather than wait for a lorry to pick them up on the following day. They covered the 56 miles in 14 hours, which is no mean feat, and shows how fit these men must be and how they can travel quickly through the bush whether by day or night.

Clearly the enhanced value of animal trophies is fanning the poacher flames. There has always been a certain amount of trapping and killing of crocodiles, but Warden Sheldrick draws attention to the great increase in these activities. He believes that the poachers have practically eliminated all the crocodiles in the Galana river along the section where only one bank is in the National Park. The poachers are very careful not to cross the river, although they do their crocodile catching in the full width of it, realising that they cannot be arrested for being there unless they are actually caught red-handed. Several cases have been reported where crocodiles have been caught in the Park itself, and although the destruction of crocodiles, universally unpopular creatures, may not seem very disastrous, it is an unacceptable interference with the balance of nature. Apart from catching crocodiles, the poachers generally have to kill other animals to provide bait for the murderous hooks.

Like many of these activities, if only the perpetrators would confine themselves to the main objective, they would not create such a problem. Honey-hunters who enter the Park, usually during the hours of darkness, to rob their known hives, would cause little disturbance if they did not resort to making fires and frequently burning large sections of the Park. Furthermore, they cannot resist the temptation of poaching some animal that falls easily to their arrows.

The disastrous killing of various kinds of animals, all across the face of East Africa, continues. More sinister and subtle methods will be devised as long as the black market for these trophies continues to attract large rewards. In the old days, when African tribesmen killed only in accordance with their own requirements, the damage was not so serious, but now that the motive is inspired by monetary reward, it means that scheming minds will seek any possible means of making a profit out of wild life. This also means that unless we, and all those charged with the protection of wild animals, devise counter measures which are equal to the subtle methods of the poachers, wild animals will have no chance of survival.



[Photo by D. L. W. Sheldrick.

Rhinos digging for water

Anyone who has not lived in the semi-deserts of Africa can really appreciate the value of water. Water is virtually the lifeline of any dry country. It almost seems like life itself. Everything depends upon it. All animal movements, breeding habits, and requirements, are influenced by the seasons of rain. It is a pity that the climatic cycles of East Africa are not more regular. Although violent storms and catastrophes like cyclones and tornadoes, rarely occur, there are long periods of drought usually broken by sudden and perhaps excessive rain.

In the earlier part of the year Warden Sheldrick reported that forty-five feet of the causeway across the Galana river had been carried away by heavy floods. Tons of rock had to be poured into the gap as a temporary measure to enable transport to reach the northern section of the Park. At the same time the spillway of the Aruba dam was badly scoured by floods and the dam was in danger of washing away.

During the same period Warden Marshall was enduring great anxiety while a drilling rig was searching for water within reach of his headquarters, where the only existing borehole had failed. Out of three boreholes which were sunk in the same area, only one has proved at all successful, yielding just under one thousand gallons an hour.

The failure of the original borehole near Warden Marshall's headquarters indicates a general fall in the subterranean water table, and I wonder if the whole area is gradually drying up. Strange things have happened to the surface water supplies over the last sixty years, and various rivers draining the eastern catchment of the Chyulu hills that used to flow well, have ceased.

The Kibwezi river delivered about 2 cubic feet a second, at its outlet. This flow was sufficient to drive two large hydrams with 6" intakes to high level tanks on the Railway. This large spring has now disappeared.

Another unnamed stream near Kibwezi used to supply water to a rubber factory and irrigate rubber seedling beds on the land now cleared for sisal. This stream disappeared years ago.

The Wanduli river, lying between the Kibwezi and the Masongleni, dried up years ago.

The Masongleni river, originally a well flowing stream on the strength of which the B.E.A. Fibre Company erected a sisal factory, dried up after an earth tremor some fifty years ago.

The Darajani and Mtito Andei rivers both flowed continuously. When the Uganda Railway was constructed, records show that the Mtito Andei river was used for a main water supply. There is still a weir standing in the dry river bed where once water was impounded.

Both these rivers have long since ceased to flow, and they appear to have been affected by the same earth tremor.

The Kedai river contained sufficient water for a sisal factory until it gradually dried up.

I have noticed that many other rivers in the low country have dwindled or ceased to flow except in flood periods, and it seems that the catchments have been damaged and the subterranean springs and aquifers have been reduced in strength. The one consoling and heartening sight is, of course, the Mzima Springs, which continue to discharge fifty million gallons of water a day, draining from the Chyulu hills catchment.



(Photo by D. L. W. Sheldrick.)

Last drink before this waterhole dries up

Some people believe in dowzers, and others do not, but whoever can indicate the presence of water in the Tsavo Royal National Park will be a great benefactor. Mr. Williamson from Tanganyika, who has a great reputation as a water diviner, has kindly turned his attention to certain sections of the Tsavo Park in the vicinity of Mtito Andei. He has a theory that an important underground flow which emerges at Mzima, follows an underground route running not far from the Warden's headquarters. This is the site which has been chosen

for a borehole contributed by Mowlems as an initial donation to "The Water for Wild Animals Fund". If it proves successful, as we all hope it will, it will also prove that Mr. Williamson is right, and will open great opportunities for obtaining water in an otherwise arid area.

I have a belief that the reduction in surface water, especially in the western section of the Tsavo Royal National Park, is one of the main causes for the reduction in game populations. There is fair evidence from explorers, hunters, and people who used to know this area well, that sixty years ago it contained vast herds of grass-eaters, and what are normally called plains game. There is also a certain amount of proof that the vegetation, which attracts large numbers of grass-eaters, must conform to a certain pattern. That is to say, it must be in a state of balance as between fire, rain, and cropping. The successive fires which sweep through this area, generally at the wrong time of the year, only result in building up a variety of fire-resisting grasses and rank vegetation which is not relished by plains game.

Some years ago, when I was first convinced of my conclusions, I even contemplated trying to entice a number of cattle to use certain sections of the Park as an experiment. It was not feasible, however, since being a "fly" area few of the cattle would have survived. In any case, the cost of the experiment would have been beyond our resources.

My objective was to see whether the grass could be restored to the original climax, and recreate the conditions when it used to be heavily grazed by wild animals. The ideal solution lies in increasing the number of wild animals, but this is not the kind of thing that Nature has delegated to us.

Warden Marshall, however, has devised what appears to be a most interesting theory and worthy of experiment. He maintains that if a proper system of firebreaks could be designed so that certain blocks of grazing land could be kept free of fire until burnt deliberately at certain wisely selected dates, these blocks would attract a large number of grass-eaters to a small area and achieve concentrated cropping when the grass is sprouting. This would not only increase the number of animals in the Park, but would also prove whether or not heavy cropping of the grass at certain periods is an essential factor in the ecology. In this way it may be possible to restore the situation which existed before the poachers destroyed so many animals.

It is a project which may easily change the greater part of the Tsavo Royal National Park into a useful habitat for large numbers of wild animals and provide them with a secure sanctuary. It is one of the tasks which I hope can be attempted if we are successful in

attracting sufficient contributions to "The Water for Wild Animals Fund".

The famous Kamboyo Drinking Club, which I described in my last report, consisting of a waterhole near Warden Marshall's headquarters, continues to hold its members of elephants, rhinos, giraffes, and smaller game. They find it possible to remain within reach of the waterhole even through dry seasons. Similarly, two take-off points from the pipeline delivering water from the Tsavo river to the Murka Mine in the Mbuyuni section of the Park also attract a large number of animals. These two experimental achievements prove that water is the main requirement to enable wild animals to make better use of the grazing available, and keep within the limits of the National Park.

With such a shortage of water any settlements within the National Park form an attraction to all kinds of wild animals. By settlements I mean places such as the Murka Kyanite Mine, the Manyani Prison Camp, and the stations along the railway from Mackinnon Road to Mtito Andei and from Voi to Taveta. At most of these places water is available and can be scented by animals from afar. This means that they often raid in search of water and green vegetation.

The Murka Kyanite Mine maintains a small number of cattle for rations for their labour, which form quite a target for lions. Towards the end of the year, some nineteen lions were counted in the Mbuyuni-Murka district. Some of these lions decided to assail the Murka Mine for their Christmas dinner. They killed an ox, and the Mine Assistant was called out to take action. He confiscated the meat from the raiders, and retired to bed thinking that all would be well. Within an hour the alarm was again sounded, and he found that the lions had returned and helped themselves to another ox. This time they were allowed to keep the meat. I wonder who was right. Were the lions justified in attacking a larder situated well within their own sanctuary, or was the Mine Assistant right in confiscating the lions' dinner? Obviously, settlements of any kind within a National Park and even on its boundaries are always going to be trouble centres, and at best I can only hope for a kind of armed neutrality between man and beast.

In the dry month of September, ten lions spent the night on the lawn in front of Assistant Warden Jenkins' house at Ithumba. They could clearly be seen from the house, and caused quite a stir for the greater part of the night. Another pride of fifteen lions was seen at Aruba Lodge. An old lion took up residence, for nearly a week, near Assistant Warden Woodley's house, and another lived near the main entrance gate at Voi. In all these cases, there was no attraction of cattle, and it may be something to do with human activity that

aroused the lions' curiosity. I think it much more likely that it was simply a matter of looking for water.

The lions in the Tsavo Royal National Park are certainly not the placid cats which one sees in the Nairobi Royal National Park. It always seems that the Tsavo lions must be the direct descendants of the Man-eaters of Tsavo, because they display very pronounced aggressiveness towards any other creature, and they have to be treated with a great deal of respect.

Elephants are often attracted to the Manyani Prison Camp and to the Manyani Railway Station by water which runs to waste. Complaints were received from the Stationmaster, Manyani, that elephants were preventing the railway staff from carrying on their duties after dark. It is not the first time that stationmasters along the route have had many an anxious moment, and although the Railway was constructed long before the National Park was established, it seems that the animals have still not accepted that a railway should be allowed to run through their domain. Rangers were dispatched to Manyani equipped with thunderflashes to drive the elephants away, but they were unsuccessful.

Officers of the Prison Camp also lodged complaints that the same elephants were damaging the perimeter fence and uprooting the pipeline. After various schemes were designed to dispose of the waste and sullage water from the camp, the elephants decided to move away, leaving only one old bull, who persisted in his nightly visits to the camp. It sounds unbelievable, but he learnt how to turn on one of the water taps in order to get a drink, but no-one succeeded in teaching him how to turn the tap off again. This kind of practice was not well accepted by the Prison authorities, whose water supply was not by any means unlimited.

The township of Voi was not exempt from visiting elephants, and three large bulls spent a fortnight in June almost within the township all the time. They paid no attention to the large crowds which collected each evening to watch them, but the interest and entertainment value of the visit waned when the elephants selected the African cemetery as their main refuge. This would not, perhaps, have been so unacceptable had the elephants not decided to amuse themselves by pulling up all the crosses.

One of the most extraordinary stories of the year also comes from Voi. In July a lesser kudu wandered into the grounds of the local hospital with a wire noose round its neck and trailing a large piece of wood. Clearly it had been caught in a snare and was seeking sanctuary or relief from its distress. The report reveals that the kudu remained quite placidly in the hospital grounds until the doctor in charge arrived

at 9 o'clock in the morning, whereupon he removed the snare from the kudu's neck and it bounded away free and grateful. Some sentimental observers have even suggested that the kudu deliberately made for the hospital and perhaps waited for the doctor to arrive. I can make no comment on this interpretation of the kudu's motive, other than to say it is nonsense. There is no limit to the length that some people will go in trying to imagine that an animal like a lesser kudu can carefully work out which is the hospital and choose the time the doctor is likely to arrive.

It is purely a coincidence that the kudu should seek either relief or safety in the midst of a township. When wild animals are in great distress, as this unfortunate kudu must have been, they seem to lose a great measure of their fear of human beings. I remember many years ago how an impala doe with a young fawn at foot almost nuzzled my hand, much to my surprise, until I realised that we were both facing an angry lioness. When the lioness eventually disappeared, the impala doe also went its way, but while a greater danger was at hand, it displayed no fear of me whatsoever. I can only think that the kudu with a noose round its neck must have been held partly captive by the noose until the fear of predators and perhaps the pangs of hunger drove it to desperate limits, until it found itself in the middle of Voi township. Whatever the explanation might be, it still remains a charming story.

Another story of an animal in distress is reported by Assistant Warden Lovatt-Smith, when he found a very lame elephant near the Kilaguni waterhole. He made a careful study to determine the cause of the trouble, but apart from an enormous swelling on one of its back legs, there were no visible signs of any external injury. As the animal was able to get about with difficulty and to feed itself, it was decided not to put it down but to keep a close watch on its progress. The elephant was visited every few days and it appeared that it was not getting any worse, although it was obviously in pain. It grew quite placid and willingly accepted the visits of the Warden and other people who came in motor cars and on foot. Suddenly, however, the old elephant died, and it took no more than a glance at the carcass for the Warden to realise that the femur in its affected leg was completely severed. It was a miracle that this elephant was able to walk at all, but it managed to move about to obtain enough to eat and drink. Where the femur pressed against the pelvis, both bones were very worn down. There was no indication how this accident occurred, but it was clear that the elephant had been in this distressing condition for at least six weeks. It may have fallen down one of the cracks in the lava near Kilaguni or it may even have been wounded by someone well outside the Park. The fact remains, however, that the elephant displayed no fear of people and was willing to accept any consolation or friendly treatment offered by the Warden.



[Photo by F. W. Woodley.]

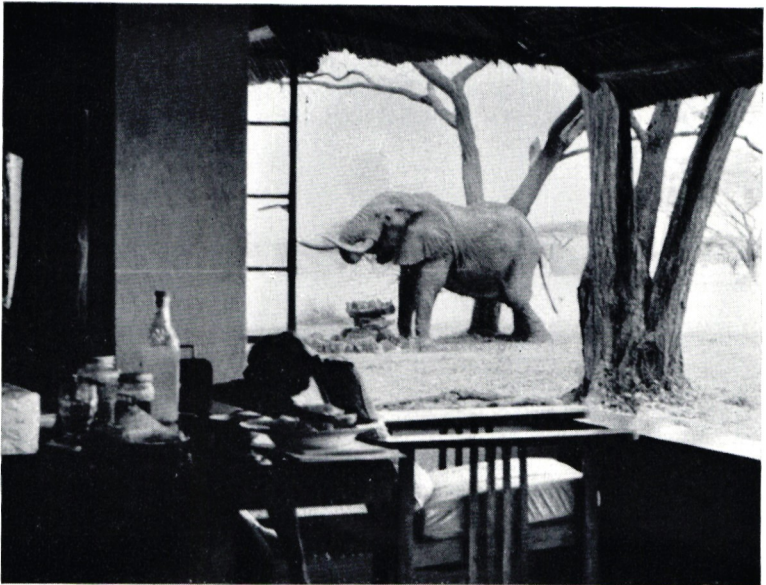
Clouds of smoke from a grass fire

Elephants, being such wise animals, do not often get into trouble with fire, but during the year Warden Marshall reports a tragedy in the Jipe section. From carcasses found it was clear that fifteen young elephants, some of which were only one or two years old, had perished as a result of being burnt. Very heavy fires swept through the Park during the year, and in the eastern section a continuous line of fire on a front of a hundred miles burnt for several weeks. It is conceivable that these unlucky elephants may have been encircled by a ring of fire and then panicked. As a check on the cause of death, Warden Marshall sent specimens of skin to the Veterinary Research Laboratory, but no known disease was diagnosed.

What is so extraordinary about this tragedy is that such a large number of elephants should have all been burnt. I can well imagine that a few stragglers might go off on their own, and be caught in the flames, but generally in the herd discipline of elephants, one or two break through a line of fire, leaving a gap for the rest to follow. The Field Force which was on patrol in the same area found a further five elephants which had been killed by fire. This makes a total of twenty, presumably all out of one herd. It is possible, of course, that these elephants were deliberately driven by poachers into the thickest part of a bush fire, but since there is no proof of this whatsoever, it would

be unfair to blame the poachers, however terrible their methods might be.

I always regard elephants as the most intelligent animals after the apes, but they can also be very obstinate. Warden Marshall reports that on several occasions elephants brought the Murka Kyanite Mine to a standstill. The main offender was an elephant known to the Mine Staff as "Cuthbert," but this did not make him any more acceptable when he caused so much damage in the Mine compound. In spite of blasting operations and a variety of other noises and smells that result from the activities of the Mine, it is strange that this elephant with his friends continued to visit the Mine. Assistant Warden Nesbitt was compelled to give the elephants some rough treatment for four consecutive nights before they realised they were not wanted. If elephants could talk, one can imagine that the only comment they would make after such an adventure, and perhaps after being burnt in a fire, or hounded by poachers, is "Where can a fellow go?"



[Photo by Read Salmon.]

An elephant empties the bird bath at Kitani Safari Lodge

Elephants in the Tsavo Royal National Park take on a greater variety of different hues than in any other area. More often they are red from the colour of the soil in which they roll or the mudbath

in which they wallow. It is therefore not untrue for people to speak about seeing pink elephants. This phenomenon goes beyond the realms of accuracy in a story about two men returning one night to their camp after not being moderate in the refreshment they had taken at a local hotel. They staggered along behind two elephants and mysteriously found themselves back in the hotel. Their excuse was that they quite clearly heard one elephant say to the other, "Don't look round, we are being followed by a couple of pink men." However ridiculous this may be, Warden Marshall comments that he has seen red, black, grey and pink elephants, but he can now add white elephants to the list. He observed two forms gliding across the road at dusk like phantoms, which turned out to be elephants that had dusted themselves in the limestone quarries used for surfacing the roads.

Another animal which can be added to the list of those not usually seen, although in this case by no means a phantom, is a leopard. Possibly as a result of the importation of five leopards from up-country, reports confirm an increase in leopards, particularly in the eastern section of the Park. The new arrivals, unlike the proverbial cat, have not found their way back to their original haunts. Some of the imported leopards, where identification is possible, have been seen in much the same place long after being released.

Leopards also have their own troubles. Warden Marshall reports that he found a dead female near Kamboyo hill, not far from his headquarters at Mtito Andei. The only footprints were of one leopard walking down the road, meeting another going up the road. The dead leopard had a broken skull and was obviously very old. It may well be that one of the new arrivals from the foreign districts of Karen and Nyeri may have seen fit to pick a quarrel with one of the old residents of the Tsavo Royal National Park. There is no way of deciding whether this was a normal adventure in the wilds, or was caused by importing more virile and aggressive leopards from other districts. Since the old leopard came to the end of its life in an area where no leopards had been released it is unlikely that its death had anything to do with the foreigners.

Warden Sheldrick reports that a half grown leopard was drowned in a water tank at Kiasa. Kiasa is an isolated rock-hill in the far north of the eastern section of the Park, where a storage tank is filled by any rain falling on the rock above. Evidently this leopard attempted to get water and must have been desperate, since it crawled down the inlet chute which is only 12" wide and 8" high. It must have fallen into the water, and being unable to get out became exhausted and drowned. What a strange quirk of fate to be frantic with thirst, and yet die by drowning!

Most of the leopards which have been transported to the Tsavo Royal National Park and released in various remote sections have been

given instructions to set about the excessive baboon population. Evidently these instructions cannot always be carried out. A labourer, collecting firewood near Aruba, disturbed a leopard stalking some baboons. The leopard promptly charged the man and knocked him over, but fortunately did no serious harm. A short time afterwards the staff at the Aruba Lodge saw a leopard, and presumably the same one, being pursued by a troop of baboons. Clearly, on this occasion, the leopard did not get his own way, nor did he attempt to reduce the baboon population.

It is astonishing that baboons do not go on increasing until they overrun vast areas. If one accepts that the main limitation on their breeding potential is the amount of food they can find, then there is no limit to their numbers. They enjoy a variety of diet, including insects, grass, fruit, nuts, roots and a quantity of meat. They frequently kill young antelopes and other small animals. The latest report on this subject comes from Warden Sheldrick, where he records that a baboon was seen catching and eating catfish, trapped in the mud, in a waterhole which was drying up. Presumably we humans are not so unnatural when we jump from salad to fruit and from venison to kippers.

The handling of fish, however, has caused a good deal of consternation in the eastern section of Tsavo Royal National Park. The Aruba dam, which is such a large sheet of water, was stocked some years ago with tilapia. This is an indigenous fish, although naturally strange to a dry district like Voi. Stocking the dam was easy enough, and the fish soon increased in numbers, but the problem now is to ensure that it does not become overstocked. Major Smith, the Chief Fisheries Officer, has advised that at least 150 lbs. of fish should be removed each day from the dam in order to maintain a reasonable number in relation to the food available. This was one of the ventures which the ingenious Field Staff devised at a Conference some years ago in order to increase the inadequate revenue which is available for the maintenance of the National Parks.

Many difficulties were encountered, not only in catching the fish, but also in marketing them. Various kinds of nets were used, some of which worked well, until a lone hippo decided to sally forth from the Galana river and take up residence in the Aruba dam. This was a cross-country walk of some thirty miles. Although the hippo is becoming relatively tame and provides amusement for visitors to the Lodge, he causes havoc with the fishing nets. A small boat was procured in order to fish in deeper water, but the hippo follows the boat out on its fishing expeditions. The fishermen would prefer the hippo to return to the Galana river.

The fish sell well in the local market at Voi, but as it is a very limited market the surplus fish have to be dried for disposal elsewhere. This

brings up the difficult question of the extent of interference which can be allowed in a wild life sanctuary. The first consideration is whether or not it was correct to make a dam in a river valley which was otherwise dry. There was no choice, since water is so precious in a semi-desert and even if it conflicts with the elementary rules of preserving a pristine sanctuary, dams must be built. Having built a dam, which is admittedly an artificial development, there is then no particular reason why it should not be stocked with fish, and for the fish to be taken out to augment the revenue of the National Parks. The fish also provide interest and, to some extent, a supply of food for visitors staying in the Aruba Lodge.

It remains to be seen whether the solitary hippo will eventually go back to his original haunts, or whether he enjoys being alone. Perhaps one day some other hippos will also find their way to the dam and form a more interesting group to add to the list of animals which can normally be seen from the Aruba Lodge.



[Photo by M. H. Cowie.]

Elephants enjoy the Aruba dam



Bird life at Aruba dam

[Photo by D. L. W. Sheldrick.

In the course of a year, a surprising number of incidents, stories, and events of interest come into the hands of the Field Staff in charge of National Parks. The following somewhat disjointed record indicates the great variety of subjects and duties which fall to a Warden's lot.

An unusual bat, *Tadarida aegypticus*, was collected under a rock at Mudanda. Previously this bat had only been recorded in Egypt and South Africa.

An elderly lady staying overnight at the Voi Hotel was awakened at dawn by a peculiar noise. On looking out of the window she was amazed to come face to face with a large bull elephant in process of pulling down a pawpaw tree. She was very thrilled, and promptly announced that she would return to this remarkable hotel.

Twelve different species of live rodents were collected, and kept in boxes under glass. This is the beginning of a collection of these small creatures, some of which have perhaps not yet been classified.

Following the disastrous fires which swept through so great a portion of the Park, one small rodent, known as *Avicanthus*, became particularly plentiful, and at the request of the Research Laboratories at Muguga, one hundred specimens were captured and sent in for scientific research.



[Photo by F. W. Woodley.

A rhino that was stuck in the mud

A rhino got stuck in the mud of the Voi river bed near the Aruba dam. All efforts to extricate it failed, and the unfortunate animal had to be destroyed. Nearby a baby elephant was found dead, also in the mud. An old buffalo had to be destroyed, having also stuck in the mud at a little dam below the Ngulia Lodge.

A tractor turnboy was bitten on the foot by a crocodile while drawing water on the Galana river. He was able to free himself by kicking the crocodile. For a period of five days he successfully kept the wound free from infection by smearing it with fresh buffalo droppings. Assistant Warden Woodley later visited the tractor team and took the man to hospital, where he soon recovered but perhaps with more experience in the ways of wild life.

Animals at crossing points along the railway line sometimes collide with trains and either get knocked over or killed. Giraffes and rhinos seem to be the main victims.

The Wardens also get knocked about but not by trains. Assistant Warden Jenkins was sleeping in the open near the Tiva river when he was disturbed by a rhino. While struggling to extricate himself from his sleeping bag, the rhino intervened to accelerate the process, and

Assistant Warden Jenkins discovered himself some distance away, rather shaken but otherwise unhurt. During the confusion, the Assistant Warden's greatest concern was the clattering of rifle bolts behind him in the Rangers' Camp, as he expected to come under heavy fire at any moment. He concluded that the rhino was far less dangerous than the defensive fusillade which might easily have emanated from the Rangers' Camp.

An Agricultural Show was held in Voi, and it was felt that it would be a good opportunity of interesting the local African population in the virtues of preservation. A National Parks stand was constructed, which included a stockade for the two young captive elephants kept by Warden Sheldrick at Voi. The stand attracted large crowds during the two days of the Show, and the two elephants known far and wide as Samson and Fatuma, obviously stole the Show.

At a later date Assistant Warden Woodley had to face a variety of questions when he attended a local meeting of the African District Council. This is all part of the general plan to interest Africans in the advantages of saving wild animals, and there is much scope for more of this form of education.

A large breeding colony of *Quelea* was found on the Sala road in the eastern section of the Park. These are the little birds which breed in vast numbers, and sweep across the countryside causing damage and destruction in any agricultural area. It is difficult to understand why they assemble in millions as I cannot believe that they have always existed in such numbers. In the interests of agriculture, as in the problem of locusts, we have to allow destruction of these colonies when found in a National Park. Flame throwers were used to destroy the Sala colony.

The green grass brought on by water near and around the Kitani Lodge attracts a number of animals which graze upon it at night. Amusing as this may be for the visitors inside the cottages, and useful as the animals are in keeping the grass short, they leave great trouble behind them by dropping masses of ticks. I think the visitors would prefer long grass and forego the entertainment at night to be rid of the ticks.

This account of the Tsavo Royal National Park for 1958 is a story of trial and hardship for the animals and Wardens alike. Fires, droughts, and poachers, leave little room for respite and all share the supreme anxiety for water. It is, however, and must always remain, the main fortress for big game in Kenya, and for that reason, if no other, praise and support is due and must be given to the officers and men whose duty it is to safeguard it.



A crevasse in the Lewis Glacier, Mount Kenya

[Photo by J. B. Alexander.

MOUNTAIN ROYAL NATIONAL PARKS

The year opened with much activity on Mount Kenya ; the Aberdares being at that time closed for Security reasons. An expedition sponsored by the Royal Technical College of East Africa was in full possession of Mount Kenya, undertaking various surveys and investigations as a contribution to the International Geophysical Year. This task included a trigonometrical survey round the south side of the main massif, a climb of the summits, and the placing of permanent marks to measure the recession of the glaciers. In spite of the difficulties of supplying food and other requirements of the expedition, it was most successful. Very valuable scientific information was obtained, and records were established which will be of great importance in years to come.

Although many of the restrictions relative to Mount Kenya and imposed under Mau Mau conditions were lifted in 1957, the various authorities still required certain formalities to be fulfilled during 1958 before anyone could climb the mountain. No development in the form of road construction or other work was carried out during 1958, and all attention was later centred on the Aberdares.



[Photo by J. B. Alexander.

The Lewis Glacier, Mount Kenya



[Photo by J. B. Alexander.

*The largest expanse of ice
The Lewis Glacier, Mount Kenya*

Since only a few terrorists remained at large in the Aberdares, it was obvious from early in the year that permission would soon be granted for at least part of this National Park to be relieved of the prohibitions which had been imposed for so long. Although the Aberdare Royal National Park was established in 1950, it has been in the grip of Mau Mau until quite recently. During the intensive campaign against the terrorists, I often wondered what was happening to the unfortunate wild animals which previously found sanctuary in the deep forests of the Aberdares. Towards the middle of the year when we were allowed to re-enter some of the closed Aberdare forest, we were very relieved to find that although the animals had undoubtedly endured a frightful hammering there were still many of the larger creatures to be seen.

It is a miracle that the beasts of the forest, both large and small, survived the terrifying disturbance of air raids, machine-gun fire, and active warfare in the midst of their time-honoured stronghold. I still believe, however, that it will be impossible to assess the extent or the result of this disturbance for some years to come, as only then can we judge the effects on their breeding potential, and any change in the factors which previously kept the game populations in balance with their habitat.

The extraordinary thing is that even at the height of the Mau Mau campaign, wild animals still used the "Treetops" salient. The new "Treetops" has been accepted as a great success, and objections which were received during the period of construction, claiming that the new structure would never replace the enchanting house in the tree which was destroyed by the terrorists, have proved to be wrong. It is interesting to note that in the third quarter of the year "Treetops" was visited by 762 people, 1,378 elephants, 368 rhinos, 1,571 buffaloes, 360 giant forest hogs, and a number of other animals, including baboons, bushbucks, waterbucks, warthogs, bushpigs, bushbabies, genet cats, wild dogs, hyaenas, Sykes monkeys, Colobus monkeys, Harvey's duikers, leopards, reedbucks, mongooses, cranes, hares, and small predators.

The "Treetops" record book shows that when a leopard is seen baboons are absent. This is quite understandable. Similarly, the record shows that when elephants are on parade many of the smaller animals are not seen. Obviously, the observers are much more interested in the elephants, and fail to notice all the smaller animals which, although less spectacular, are often just as interesting. It is only when the elephants are not there that attention is diverted to other things.

Africa has a strange ability of reverting to type or to practice. People who now sit on the balcony of the new "Treetops," watching all kinds of animals coming in to drink or to take a lick of salt, can hardly be aware of all the trouble of the last few years, not the least of which was the number of animals hunted and killed by the terrorists and even by the Security Forces employed in the campaign.

"Treetops," however, is not the only spectacular and interesting place in the Aberdare Royal National Park. When access to the high moorlands became possible after the repeal of certain Security restrictions, many people were delighted with the beauty of the highland scene. In spite of many endeavours by Warden Alexander to repair the strategic road which the Security Forces built over the saddle of the mountain, he was very badly hampered by incessant wet weather. Towards the end of the year, however, it was possible for various types of transport to cross between Naivasha and Nyeri without any great difficulty.

The old Kikuyu name for the Kinangop is a word which means "The mountain with a skin," and it is part of a range that frequently nestles under a canopy of dense cloud and mist. Being on the lee side of the prevailing wind which strikes the frozen heights of Mount Kenya, the Aberdares have a climate of their own, and storms originating on Mount Kenya frequently precipitate in the forests of the Aberdares. Even in normally dry seasons, it is difficult to judge the weather conditions on the range.

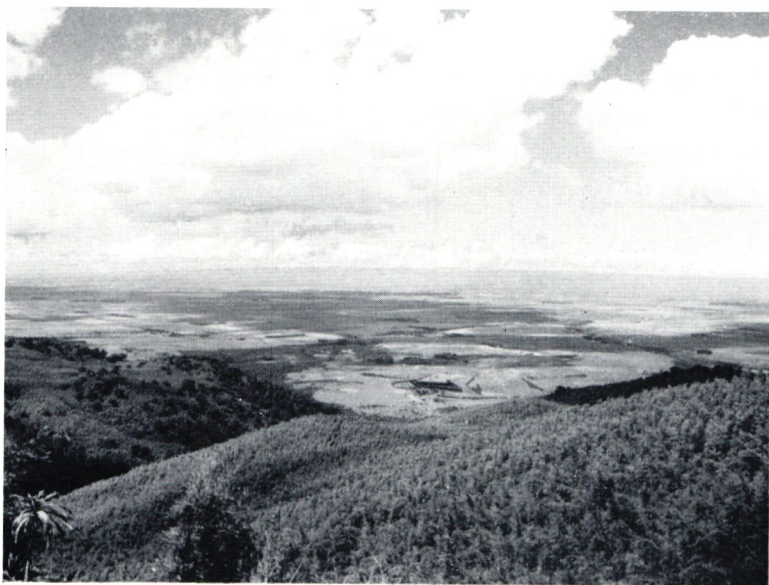
The high moorland is one of the few places in a tropical belt which has all the appearance of parts of Scotland. Rolling golden ridges, covered in waving grass and broken by numerous river valleys and clumps of heath, give the impression of a different world, remote and elevated above the normal scene of thorn bush Africa. Flowers of many kinds embellish this moorland scene, and in their season crimson gladioli outshine all the everlastings, wild violets, and numerous little plants that nestle in every glade. Water trickles in every valley, converging to form tributaries of streams which cascade over many waterfalls on their way down to the lower country.

Well out in the moorland an isolated waterfall glistens like a diamond, and its white plumes of spray wave like ostrich feathers in the early morning sunshine. Trout, which were first imported into Kenya by Colonel Grogan over fifty years ago, lurk in many of the pools, and doubtless in course of time will become a great attraction to anglers.

The main road over the Aberdares winds up from Nyeri through the Native Reserve and onwards in the shadow of the tall trees of the forest. After going through a belt of bamboo it emerges on to the moorland at an altitude of 9,000 ft. The traverse of the moorland to the high saddle is through relatively open country, where on some occasions the Warden and his team of workers noted a surprising number of large animals, or at least tracks of them. The main obstacle in opening the road was a landslide in the forest belt on the Naivasha side, and it required fairly heavy machinery and considerable work to clear it.

We will always be grateful to the Military engineers who put this road through for strategic reasons during the Mau Mau campaign. It followed a route which had been selected well before the Emergency for the greater part of its length, and although the higher sections had to be completed in a hurry, at least it provided access for our machinery and labour gangs to improve the road up to a reasonable standard.

This is one of the highest roads in Kenya and offers the most spectacular views. Looking west from the saddle there is an unbroken panorama down into and across the Great Rift Valley, with Lake Naivasha glistening some 4,000 feet below. To the east and over the moorlands is the huge mass of Mount Kenya with its rugged peaks and shining glaciers. On a clear day it seems to rise from the edge of the Aberdare forest although some fifty miles intervene. The altitude of the saddle is 10,508 ft. and when other roads, which are already planned, can be completed, they will probably go well over 11,000 ft.



[Photo by M. H. Cowie.
The Great Rift Valley from the saddle on the Aberdares



[Photo by J. B. Alexander.
Mount Kenya from the West

Quick access to the high moorland is important not only for tourists, but also for control of fire and poaching. A Fire Plan designed by the Forest Department includes a number of observation posts and prompt methods of reporting information. Fires are usually started by honey-hunters, and once established are extremely difficult to control. High winds across the moorland and peat in the soil create a very great fire hazard, especially in dry weather, and when the grass is withered by frost. Sometimes a fire can remain dormant in the ground for months, only to break out again when it is least expected. In this regard, I wish to pay a particular tribute to the officers and other members of the Forest Department who have the full responsibility of controlling fire, and who advise and guide us in the management of these mountain areas.

In addition to honey-hunters, there are also poachers who enter the forest to trap and hunt various kinds of game. The Aberdares are in the unfortunate position of bordering on the Kikuyu Native Reserve, and it is obvious that stricter measures will have to be taken to prevent poachers taking their toll. These poachers resort to hunting with dogs as well as setting traps and snares. They take full advantage of the forest fringes and bush which they creep through with the stealth and cunning of a wild animal, and knowing every footpath, glade and river.

Although there is evidence that poaching was rife in these forest zones long before the white man stepped in to protect them, the welter of deep forest and thick cover on the moorland gave the animals a retreat into which even the wily poacher would not willingly penetrate. It is perhaps incorrect to refer to the disused game pits, which can still be found in many of these forests, as the work of poachers, since in those early days there was no law to make trapping illegal. Culling a part of Nature's bounty was a recognised practice of the local inhabitants. Had this great bounty of wild life not been so disastrously reduced all across East Africa, the activities of these hunters would probably not constitute such a dangerous threat to the existence of wild animals. The control of poaching will clearly be a major problem in the administration of both these mountain national parks.

When it is possible to make more accurate observations of game on the moorlands, I believe we will find that there are many more animals living in this high country than present information would suggest. Although the moors are a kind of savannah covered with tussock grass, there are many well forested valleys and thick belts of heath, which provide ample cover for all kinds of animals. To what extent they find it necessary to move down off the moorlands into the forest for a variation of diet or to escape the intense cold, remains to be ascertained.

The "Treetops" salient seems to have its regular inhabitants. In the old days many of the elephants regularly went down to a salt

lick well out of the main forest and onwards to the Nyeri Forest, using the "Treetops" ridge as their route. This caused great difficulty, and a means had to be found of preventing destruction and damage on the adjoining farms. Strenuous endeavours were made to construct an effective barrier round the "Treetops" boundary. Work progressed throughout the year, and the design eventually adopted, after trying various types of electrified fencing, consisted of a ditch six feet wide and six feet deep, with the spoil, where possible, thrown up on the lower side. The main cost of this work was met from an allowance of £3,000 paid by the Government for the excision of three hundred acres from the National Park in order to adjust certain boundaries of the Kikuyu Land Unit.

Towards the end of the year, nearly all of the ten miles of the boundary had been ditched, leaving only the ramps of earth required for the machinery to get in and out of the trench. It will take time for the weak places to be detected and strengthened so as to ensure that no animals can cross. It is also planned to support the ditch with an electrified fence to deter wandering animals from testing the strength of the banks. An electric fencer unit designed by Warden Alexander, and producing a much higher shock than the average farm fencer, may possibly be employed.

It is not easy to take action against elephants when they raid the adjoining farms, because this may well result in keeping all elephants away from "Treetops." Elephants at "Treetops" are rather like lions in the Nairobi Royal National Park, and every visitor feels disappointed if he spends a night in the tree-house without seeing any. Even exciting adventures like desperate fights between two waterbucks, or wild dogs chasing a quarry into the pool, do not suffice for those visitors who are determined to see elephants.

In October, visitors to "Treetops" were roused by snorting, bellowing and blowing of more than usual intensity. Two bull rhinos were fighting. They stood for long periods facing each other, with their horns just touching, and making the most diabolical noises from a squeal to a guttural snort. After performing in this undignified manner for well over an hour, one rhino suddenly charged and thrust its horn between the front legs of the other, and lifted it well off the ground. This was followed by more savage attacks, until the vanquished opponent fled into the forest bleeding profusely and leaving the bank of the pool disfigured by gory signs of the duel. Even rhinos have their domestic troubles, which I suppose are no more illogical than in any other sphere of life.

A short time afterwards the following conversation was overheard by a "Treetops" hunter in a Nairobi hotel :—

First visitor: "Is 'Treetops' worth going to?"

Second visitor: "No,—I would never go again."

First visitor: "Why?"

Second visitor: "The rhinos and elephants made such an infernal noise, right under my window—I couldn't get to sleep."

I can only assume that the second visitor is the kind of person who buys a good seat at the opera and resents being told not to snore.

The black leopard which was occasionally seen at "Treetops" has not been on view for a long time. A number of reports from the Warden and from the Police and Security Forces working on the mountain continually mention black leopards and other black animals. I have yet to understand why melanism is more pronounced in these high forested areas. It does not occur in any of the antelopes such as eland, bushbuck or bongo. Although there are records of albinos in these species, I have never heard of an albino bongo. In any event, a bongo is so beautiful in its natural colour, I would hate to see a freak or drab specimen.



(Photo by M. H. Cowie.)

Bongo reared in captivity by Alan Root

This elusive, shy creature; this graceful forest dweller is, to my mind, the most handsome of all antelopes. It surpasses even the dignity of a Greater Kudu. Golden chestnut, veering to deep chocolate in colour, its coat virtually glistens, and yet its camouflage is superb, being boldly marked with a number of vertical white

stripes on its sides. Graceful curved horns, ivory-tipped, add majesty to this beautiful animal. Resembling an eland in gait and a bushbuck in stealth, it keeps to the gloom of the deep forest and bamboo. It feeds mainly on shrubs and leaves, but also has a liking for decaying wood and charred stumps.

Bongos travel great distances to reach a known salt lick, where they congregate sometimes in numbers of a dozen or more. In the middle part of a warm day, they prefer to lie up in a bower of thick vegetation, remaining constantly alert and listening. In spite of creaking bamboos and rustling leaves and all the other forest noises, their huge ears enable them to isolate any unfamiliar sound and locate its direction. This means that an enemy, be it man or other predator, cannot approach without being detected, and the bongo is off and away long before it is seen, slipping through the undergrowth, with horns well back on its shoulders.

They glide like phantoms through the shadows, and prefer to crawl under a low branch than to jump over it. They are skilled in avoiding nettles and vines, which make the task of pursuit most difficult. Like a bushbuck, a bongo can be aggressive when wounded or cornered, as I know to my cost. Only by fortuitously tripping backwards over a fallen log did I, on one occasion, miss the swish of a bongo's horns as it lunged at me.

I hope in time when bongos perhaps lose their instinctive fear of man, that we shall be able to watch these distinguished animals more frequently and with more certainty in the Aberdare Royal National Park, where they are not rare but extremely difficult to see.

I believe it will be easier to find these shy animals in the extension to the National Park which has been recommended by the Game Policy Committee. This extension includes a large tract of bamboo and forest to the north of the "Treetops" salient and will add to the Park one of the best known bongo habitats.

Access to it will probably have to follow the route known as "Wanderers Track" which stops at the 10,500 feet level. The Trustees agreed during the year to allow Major Sherbrooke Walker to construct an experimental rustic camp at the top limit of "Wanderers Track," where visitors can be taken to enjoy this high mountain scene. The remarkable view over the ridges of forest and bamboo is almost beyond description, and although it is very cold it offers great interest for the mountain lover. Beyond this camp, known as "Skyhigh," the steep track made by the Emergency Forces is now unusable, even by Land Rover, and the upper sections of the route will have to be entirely realigned. When this is done, there will be a link with the main road over the saddle and onwards towards Sattima, the summit of the range. It will then be a relatively easy task to join up with the existing tracks on the northern Aberdares.

I look forward to the achievement of this plan with great enthusiasm, as it will open a wonderland of high moorland scenery, at present little known even to Kenya residents, and will constitute one of the most interesting recreational and tourist routes in East Africa.

1958 ended on the mountain with a feeling of achievement. The road over the saddle had been restored and repaired for traffic ; "Treetops" was operating successfully and the animals had not been unduly disturbed by the Mau Mau campaign. Excitement rose as plans and preparations proceeded for the visit of Her Majesty, Queen Elizabeth, the Queen Mother, early in 1959.



[Photo by Department of Information.]

MARSABIT NATIONAL RESERVE

I concluded my report last year by saying a prayer of gratitude that no visitor had been in trouble with dangerous animals. I must say the same at the end of another year. The fallacy still prevails in the minds of many visitors, certainly from overseas, that once a line is put on a map and the area called a national park or reserve, the wild animals therein are no longer dangerous. I find that visitors to Marsabit Mountain imagine that the elephants in the forest will be docile and well behaved, simply because the mountain is to be made into a national park. This forecast comes from the recommendations of the Game Policy Committee that Marsabit Mountain and a small area on the Uaso Nyiro river containing the Safari Lodge, should be constituted as national parks.

I do not wish here to argue the case for or against the size of the proposed national parks within the Northern National Reserve, but it remains clear that the animals themselves will not take note of any change in status, and they are just as likely to be as wild and dangerous when it is a national park as they have always been. Admittedly, where they are not shot or hunted by poachers, they grow more accustomed to people, but Marsabit Mountain has not been opened to shooting for many a year.

In his first report of the year, Warden Dalton records that some of the elephants on Marsabit became extremely aggressive, and several people and vehicles had narrow escapes. This bad temper appears to be confined to the bulls, as no grievances relating to cows have been heard. Some of the forest tracks on the mountain are so steep and narrow that considerable caution has to be exercised. Nevertheless anyone interested in strange scenery, wild country, and elephants carrying particularly heavy ivory, would be well rewarded by a journey to Marsabit.

Towards the end of the year, when Major Massy of the Game Department was stationed at Marsabit and occupied in the control of poachers, he saw a total of twelve elephants each carrying tusks estimated at over 100 lbs. on each side. Two single tuskers were also seen with tusks of over 100 lbs. It would be interesting to know why certain areas seem to produce big tuskers, or is it simply a question of genetics? Over the years the low country of the Tsavo bush has been the accepted home of big tuskers, and in spite of the slaughter by poachers it still retains a number of animals with spectacular ivory. Marsabit, however, has consistently held its population of elephants and a high proportion of well respected bulls.

The famous old elephant, Mohamed, who died in 1957, was alleged to have one of the biggest tusks ever seen, the other having been broken, although eventually it measured out at only 141 lbs. Descriptions of

big tuskers, and of other animals, for that matter, even by reliable observers, are often exaggerated. I still believe, however, that Marsabit Mountain holds the largest collection of big tuskers in any one place left in Africa.

This is all the more reason why the activities of poachers should be, if at all possible, completely prevented on this mountain. The elephant herds and other game usually migrate off the mountain during the rains, and return when the low country again dries up. It is not easy to ascertain the limits of their migrations. Poaching continues all through the Northern Reserve and almost everywhere in the Northern Frontier Province. I can make no apology for this continual emphasis on the danger of poaching, since, to my mind, it constitutes a serious threat to the very existence of wild life in Kenya. I have already reviewed the activities of poachers in the Coast Province, and on the Aberdares, and I cannot avoid including the North in this warning.

In May a mixed gang of Boran and Gabbra killed seven giraffe in the area to the south and east of Marsabit Mountain. Fourteen of these tribesmen were convicted and received a total fine of £502. One of these poachers was also awarded six months hard labour. Another man is awaiting trial for the illegal killing of an elephant in the same area. The elephant he killed was born with only one tusk, there being no sign of a socket for the second tooth. Later in the year a poacher from Abyssinia tried to spear an elephant near Gof Bongoli, the large crater on Marsabit Mountain. Presumably he provoked the intended victim to retaliate, and there was no need to prosecute the poacher, but merely to arrange for his funeral. The Game Warden from Maralal reports that marauding gangs of Turkana are still killing game along the south-east shore of Lake Rudolph and on Mount Kulal.

Although this sporadic poaching goes on all the time in different sections of the Reserve, I do not accept that poaching is as widespread as it is in the Coast Province. Whether it is rife or not, it is still disastrous, and its effects should not be underestimated. I have a belief that much of this poaching is initiated by gangs from Abyssinia, and I also think that there is a great deal of traffic both in trophies and poison. When poachers originate from another territory as happens along certain sections of the western boundary of the Tsavo Royal National Park where it marches with the Tanganyika border, it is much more difficult to deal with them. This problem is further complicated when the poachers come from Abyssinia and Italian Somaliland, where we lack the sympathetic understanding that we normally expect from a neighbouring country administered by Great Britain.

Only one inescapable conclusion remains. Unless all authorities in Kenya, and even those who can assist from other parts of the world, recognise that the unlawful destruction of wild life is a crime against posterity and must by any available means be prevented, wild animals will not survive. There is no lasting benefit in touching only the fringes of this problem.



Moving house

[Photo by M. H. Cowie.]

A scourge which affects this northern area and which does not seem to be so prevalent in other places, is anthrax. This is a disastrous disease which spreads through a great number of animals and accounts for many deaths. Warden Dalton reports that the grenuk and lesser kudu population suffered severely from anthrax in the earlier part of the year. Elephants and even lions are not exempt from this disease and it can remain active through infected ground for a number of years.

Each successive report on the Northern Reserve describes excessive rain or drought. Never is there a normal season. I often wonder what would qualify as a normal season. I imagine most people mean a season corresponding to the average of the past forty or fifty years, beyond which no rainfall records are available. 1958 was no exception. In the earlier part of the year, the Uaso Nyiro Lodge had

to be closed on account of excessive rain, and the roads suffered many washaways.

The road and tracks through this Reserve cannot stand up to these sudden downpours. The rain that falls soon collects on the parched ground and races down the water courses. The drifts are washed out, and traffic becomes impossible. Even if one is able to travel about in these difficult conditions, there is little chance of seeing game in wet weather. Surface water lodging for a short time after the rain, opens new grazing areas, and the game disperses. Only in dry weather are there concentrations on the available watering points, and along the Uaso Nyiro, which is the only permanent river in the Reserve.



Grevy Zebra

[Photo by M. H. Cowie.]

It is a rugged section of volcanic country broken by large mountain ranges, which act as the rain catchments. It is illogical that there should be such a shortage of water on the plains, when in the mountains above there are many springs. It is all a question of money, and if "The Water for Wild Animals Fund" swells sufficiently there could be good prospects of piping water down from the springs to the lower country. This would open new grazing areas for the animals which, under present conditions, are compelled to migrate over great distances, according to the seasons of the year.

Practically no development took place in 1958 in the Marsabit National Reserve, partly due to lack of money, and also because this large area is awaiting its fate as a result of the recommendations of the Game Policy Committee. Whatever may be its value from a purely faunal angle, no-one can ignore the warnings of experts who predict that unless the catchment areas of the Matthews and Ndoto mountains can be relieved of their burden of Samburu cattle, there will not be enough water in the lower country for man or beast within twenty years. This again is purely a matter of proper land use.

If the catchment areas were respected for their inherent value as such, the preservation of game within them would become purely incidental, but by no means detrimental. When wild animals, and even elephants, are not confined or restricted in their habitat the damage they do to the land is negligible. It could not be otherwise, since for thousands of years wild animals have not destroyed their habitat.

If the proper use of land were assessed in these catchments considerable sections of the Matthews and Ndotos mountains could be converted into National Parks, where the game could live in safety. If such a plan were achieved, and it is certainly not impossible, I can foresee great development in the road systems, running through from the Uso Nyiro river to Marsabit Mountain, fringing and perhaps crossing the mountain ranges.

The whole of this section of the Reserve is at present out of reach for the average traveller, since it involves a major safari to get through. That is perhaps the great charm of the North. It is still a section of Africa which is unspoiled by civilisation. If only wise man could see that it is preferable to keep it that way, and not allow the mountains to be overgrazed by cattle, it could still remain a pristine sanctuary supplying water to the lower country. By this means sanctuaries could also perhaps be created for the northern type of oryx which have declined in numbers very pointedly in the last few years, as well as for the stately Grevy zebra. It is also the home of the reticulated giraffe and although there are still many of these animals, they, too, demand a place under the sun. Only time will tell.



Vultures roost

(Photo by M. H. Cowie.)

AMBOSELI NATIONAL RESERVE

1958 will always be remembered as the Water Year. It will be known as the year in which a strange phenomenon occurred. The swamps rose, waterholes filled up, and water appeared where it had always been dry.

Over the years the levels of the swamps have risen and fallen to a small extent. These changes appear to have been related to the amount of snow that formed and melted on the heights of Kilimanjaro. Towards the end of 1957, Warden Taberer noticed that the main swamp, known as Ngoni Naibor, which can be seen below Observation Hill, rose more than usual. The water level increased until it began to overflow along the dry watercourse which forms a valley normally crossed on the way to Observation Hill.

By the end of March, 1958, it was clear that the discharge of water from this swamp, and even the rise in the level of others, was so extraordinary that it could not be attributed to extra rain or to the quantity of snow melting on Kilimanjaro. The most spectacular change was in the Simek river, which is the name for the overflow from the Ngoni Naibor swamp. By the end of the first quarter of 1958, the water had run several miles down from Observation Hill.



Kilimanjaro from Ol Tukai

[Photo by M. H. Cowie.]

Some of the older Masai who have lived in the area continuously for over fifty years can remember, when they were young, seeing the swamps rise and flood large areas and they were able to channel the water and construct troughs for their cattle to drink. Since Amboseli has been known to Europeans, no-one can recall having seen water running out of the Ngoni Naibor Swamp and down the Simek course at a time when the surrounding country is so very dry. Nor can the Masai remember this happening.

By the end of June all but one of the tracks crossing the Simek course to the western portion of the popular game areas and to Kitirua were flooded and put out of use. The rate of discharge from the swamp was so considerable that the river threatened the last remaining track, and frantic efforts had to be made to secure the crossing in order to leave access to the west.

Mr. Campbell, the Hydrologist of the Ministry of Works, who had previously carried out a detailed investigation into water supplies at Ol Tukai, was so impressed with this change in conditions that he made an immediate report to the Chief Hydraulic Engineer, Mr. Squires. A weir was installed at the causeway to measure the flow of water. The river increased so rapidly, however, that the weir was submerged, but it was estimated that about eight cubic feet a second were flowing over the measuring point.



The changed face of Ol Tukai

[Photo by Mervyn Cowie.]

It is difficult to suggest any explanation of this sudden change in the face of Ol Tukai. The possibility of a subterranean upheaval cannot be ruled out, since earth tremors were recorded in the earlier part of 1957. It may well be that the entire underground structure and the aquifers formed by the catchment of Kilimanjaro have changed their outlet.

The direct result of this sudden rise in the level of the swamp confronted the Warden with two major tasks. The first was to construct a reliable causeway over the wide stretch of water, to provide access between the two sections of the main game areas, and strong enough to withstand a further rise in the swamp level. This was not an easy job as no stone or ballast was available within reach, and as soon as a part of the causeway was built another portion washed away.

The second task was to make a channel to carry the water on from the causeway to the dry lake bed of Amboseli. The object of doing so was to provide watering points for Masai cattle well out of the swamp area, so as to relieve places like Kitirua and other springs of the seasonal burden of watering thousands of head of cattle. In both these endeavours the Warden was remarkably successful in spite of having only inadequate equipment and machinery for the work. Very sound advice and assistance was given by Mr. Squires, the Chief Hydraulic Engineer, and by Mr. G. Campbell, for which I wish to record our great appreciation.



(Photo by M. H. Cowie.)

Masai cattle enjoy the new drinking troughs

By the end of the year it was necessary to increase the width of the causeway, and even to raise its height as the swamp continued to rise. Two drinking troughs for Masai cattle were constructed at points three and four miles downstream of the causeway, which proved very successful, and were well accepted by the Masai. This resulted in diverting somewhere between 5,000 and 6,000 head of cattle away from the precious Kitirua waterholes.

This unexpected increase in surface water seemed fabulous. It was like a very pleasant dream that had suddenly come true. The consequences of having more water were revealed in a very short time. A considerable increase in plains game was observed, feeding upon the grass which sprouted at the edges of the newly flooded valley. An astonishing variety of birds appeared from nowhere, and everything from elephants to grasshoppers, and from big trees to blades of grass, seemed to jump with joy at this welcome change in all the natural arrangements of Ol Tukai.

In the first few months of 1958 another strange thing happened. During a period of three months over fifteen inches of rain fell in most of the dry lava dust areas of Ol Tukai. When one realises that the entire rainfall for the previous year amounted to just over seventeen inches, it is not surprising that this quantity of rain in such a short period caused widespread flooding and much damage to roads and bridges. This added to the outflow from the main swamp.

Rain is always welcome to the animals and the officers whose duty it is to look after them at Ol Tukai, however much it might cause disappointment to visitors who have travelled from far and been prevented from reaching their objective. I find it difficult to know how to advise intending visitors, especially when they make enquiries from distant lands. For the last three years it has been necessary to close the Lodge at Ol Tukai in the normally dry period between January and March. In 1958 all traffic had to be stopped between the 10th and 24th February, and again from the 18th March until the closed season. The nature of the soil, or, more accurately, the dust, at Ol Tukai and the lack of hard surfacing for roads, means that even a small fall of rain forms into slimy mud, and makes it impossible to get about even in Land Rovers. Whether this points to a definite change in seasons, is difficult to determine. Whatever it is, I have the greatest sympathy with people who have travelled, or attempted to travel, to Amboseli only to experience heavy rain at a time when it should be dry.

Both the Leme Boti and Namanga approach roads were put out of action and required heavy repairs before they could be opened again. Part of the concrete causeway over the Namanga river was washed away, and had to be rebuilt. The inescapable plan for the road system of Amboseli is that it must be improved up to all-weather standard. What joy this would be, not only for travellers, but also

for all the animals that are so distressed by the clouds of dust thrown up by passing cars. It would be an expensive project, but certainly worth while. No-one in his wildest imagination could have predicted such an increase in water; perhaps our patron saint may yet contrive that the roads, too, are suddenly covered with macadam or tarmacadam surfaces.

The increase in water inspired all those concerned with solving the main problem of Ol Tukai, namely, to find more water for cattle, to pursue their endeavours with greater vigour. Mr. Campbell, of the Ministry of Works, who had already done an extensive survey and contributed so much valuable information, returned to Ol Tukai in April, and continued his investigation of water supplies. Some twenty-five shallow holes were drilled outside the main swamp and forest belts to the north-west and west of Ol Tukai. With the aid of a handrig other holes were put down in various places, many of which proved successful at a depth of no more than thirty feet. A hole was drilled near the south-east of the Loginya swamp, and although it had to go to a depth of some six hundred feet it was a success. Excellent water was obtained, and the hole yielded on test over 4,000 gallons an hour.

The success of all these developments and the very great assistance given by the Hydraulic Branch of the Ministry of Works, all pointed to a new era for Amboseli. It gave promise to the fulfilment of a scheme, initially recommended by the Game Policy Committee, of providing water well outside the main swamp and forest belt of Ol Tukai so that Masai cattle coming in from afar would not have to travel so much, nor enter the main game area.

I have always held the opinion that the main reason for the concentration of cattle in Ol Tukai was to obtain water and not grazing. Proof of this now comes from this strange combination of factors resulting in an increase of water. Warden Taberer notes in his report for the first quarter that, except for about a week in January when some herds of cattle were drinking at Ledare in the Loginya swamp, Ol Tukai was free of cattle. After a period of only four months without cattle the Warden observed a marked improvement in the vegetation and an increase in the number of wild animals. Elephants were seen in greater numbers than ever before. One reliable observer visiting Ol Tukai counted over two hundred elephants in one morning. Even the resident small herds of bulls increased. Instead of finding two's and three's, it was common to see herds of twenty-five and thirty. Many of these bull elephants appeared to be strangers to the area, as they were shy and nervous, and several newcomers carried tusks estimated to weigh well over 100 lbs.



Swampy ground

[Photo by M. H. Cowie.]

The Warden attributes this increase in the elephant population to two causes. Above all, he considers it was due to the total absence of Masai and their cattle from the Ol Tukai region. Secondly, he maintains that it was a result of action taken by the Tanganyika Government to open the adjoining area known as Kitumbeine to elephant shooting. This part of Tanganyika was at one time in the Natron Game Reserve, and was one of the migrational retreats for the elephants from Ol Tukai. It is possible that opening this area to hunting parties may have influenced the elephants to return to Ol Tukai and to bring their friends with them.

In June the Warden reported further improvement from the changed conditions. He emphasised that he has never known the area to be free of cattle for such a long period, being seven months since there was a resident herd in Ol Tukai. Heavy rain which was well distributed in the earlier part of the year enabled the African District Council to construct two dams, one of the Kitenden river south of Ol Tukai, and the other at Lerrap on the Namanga river. These dams assisted greatly in keeping stock away from Ol Tukai. In discussions with Masai Elders, the Warden gained the impression that they were delighted with the changed conditions and the increase in water, which enabled them to keep their cattle in places which they



[Photo by M. H. Cowie.]

An acacia tree being pushed over by elephants

prefer to the swamps of Ol Tukai. This confirms the view that the Masai do not use Ol Tukai from choice, and when it becomes possible to provide additional watering points well outside the swamp area, it is very probable that the great problem of cattle in Ol Tukai will be solved.

Another most encouraging event was a *baraza* held in April when the Acting District Commissioner from Kajiado told the local Masai that by agreement with their Chief and Elders, the number of resident Manyattas that would be allowed into Ol Tukai at any one time must be limited to eight and stock units relating to these manyattas be limited to seven thousand. This represents less than a third of the number of families and stock units that have frequently been into Ol Tukai in the past. It was a decision not made so much with the object of allowing game to have more freedom but simply on the fundamental basis of wise land use. It was apparent to the Administrative Officers, and to the Masai Elders themselves, that Ol Tukai could not possibly stand the vast herds of cattle which had used it in the past. They acknowledged that continued overgrazing would only lead to destruction of the vegetation, erosion of the soil, and even to a reduction in the water supplies. It was therefore very heartening to see that such a measure designed very much in the interests of the land and of the Masai themselves, should be well accepted by the Elders.

By the end of July the Masai began moving in to Ol Tukai again as the water dried up elsewhere. Thousands of cattle, sheep, and goats, poured into the swamps. This was most disappointing, as the number of stock units clearly exceeded the agreed limit of seven thousand. The Livestock Officer for the area made a thorough check of the stock in September and discovered that there were no less than sixteen thousand stock units in Ol Tukai. The local Chief Lengu Ole Mbaa was very perturbed that the agreement made in April had been broken, and immediately rallied his Headmen and grazing Elders together and within forty-eight hours the stock units resident in Ol Tukai were reduced to six thousand. This was a clear indication that the Masai Elders intend to honour the agreement, but they have some difficulty in enforcing the rules on the younger generation.

The cooperation and good relations between the Masai and the National Parks have continued to improve. The Elders are wise enough to understand that efforts, such as limiting the number of stock units, are being made in their own interests, and that officers of the National Parks are ready to offer assistance in various ways, especially in trying to find water for cattle to save them trekking many miles through dusty lava ash. I therefore find it impossible to subscribe to the recommendation of the Game Policy Committee that the Amboseli National Reserve, as such, should be abolished.

The most important statement of policy in 1958 was made by His Excellency the Governor, Sir Evelyn Baring, when he addressed a large gathering of Masai at Ol Tukai during August. The purpose of this *baraza* was to inform the Chiefs and Elders of the attitude of the Government both towards cattle and game. It was attended by the Provincial Commissioner, the District Commissioner, members of the local Administration, the Senior Chief of the Kajiado District, and members of the African District Council, together with Chiefs, Sub-Chiefs, Headmen and Elders of the Il Kisongo and Matapatu clans.

The Governor addressed the meeting and gave an assurance that the Government had no intention of excluding the Masai from Ol Tukai. This dispelled a fear that had grown up in the minds of certain of the more politically-minded Masai, resulting from Press reports in the past pointing to this possibility. Since the Masai hold their land by treaty and cannot be excluded from it without their agreement, it would seem unnecessary for this assurance to be given. The fact, however, that the Governor clarified the issue, undoubtedly removed this fear from the minds of the local Masai, however unfounded their suspicions may have been.

His Excellency emphasised the need for game preservation, and asked the Masai to cooperate with the National Parks to this end. He also pointed out that uncontrolled grazing and mustering of cattle in

the past had resulted in over-stocking and had caused bad erosion. It was the intention of the Government to educate the Masai into proper land use and to expand the already accepted Il Kisongo Grazing Scheme.

After the *baraza* we all exchanged greetings and news with the Masai Chiefs and Elders, and there was a pronounced spirit of cordiality. I was left with the clear impression that once these problems of competition for water and grazing between cattle and wild animals can be placed fairly and squarely on their fundamental basis of proper land use, the difficulties begin to disappear.

Thus, it was a busy year for the Warden and his Assistant Warden, Mr. David Lovatt-Smith. In between the excitements of water flowing where it had never been before, of sinking boreholes that proved a shallow and usable water table, of a limitation on the number of stock units allowed into Ol Tukai, of a good rainy season in the earlier part of the year, and finally of a very profound and important assurance by His Excellency the Governor, the Warden and his staff had to find time to turn attention to other matters.



[Photo by M. H. Cowie.]

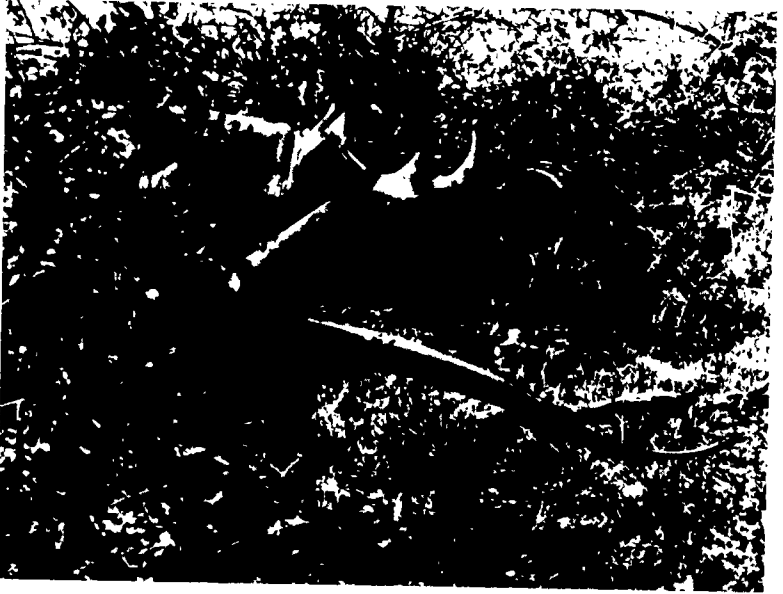
Mud from the neck downwards

In March there was very nearly a tragedy. Two residents of Kenya and a visitor from overseas sallied forth in the morning to spend a day viewing game, their prime interest being rhinos. Ranger Musau was detailed to conduct them. At mid-day they returned to the Lodge in a very battered Land Rover and themselves in a very nervous state. Apparently they were taking a sharp left-hand corner in one of the tracks at Kitirua, which is fringed with thick bush and tall grass, when they were unexpectedly confronted by a rhino and a six weeks old calf at a range of a few feet. The proud mother rhino thought its calf was in danger and made a deliberate charge at the vehicle, hitting it on the near side with such force that the two lady passengers were pushed across the driver, who, not surprisingly, stalled the engine.

The rhino continued to attack, and tried to get at the people with its formidable rear horn, the front one having been broken off some years before. Musau, the Ranger sitting at the back of the Land Rover, bravely endeavoured to divert the savage attack by pushing the rhino's head and beating it with his hand. This had little effect, so he pounded the animal on the nose with his fist, and at the same time banged the side of the Land Rover and shouted, in the hope that the calf, which all this while was standing alongside, would take fright and run away. This is exactly what happened. The mother rhino at once followed the calf into the long grass, and stopped bashing the Land Rover.

This particular rhino was known to the rangers as a bad-tempered animal, and it is fortunate that its main horn had previously been broken off, otherwise it could have inflicted serious injury to the occupants of the vehicle. It is difficult to judge whether the visitors' interest in rhinos had increased or not, but it was a very frightened party which arrived back at the Lodge, covered with saliva and froth from the rhino's snorting and blowing. They all agreed that the action and courage of Ranger Musau was outstanding, and he averted what might easily have been a major tragedy.

It is surprising that this kind of encounter has not happened more frequently since so many visitors drive in and through the private haunts of rhinos at Amboseli. It cannot always be assumed that they will meet such peaceful creatures as the famous Gladys and Gertie, the owners of the very long horns. These two rhinos are becoming even tamer, and they have been photographed more often than any other animal in Ol Tukai. Whether these two rhinos have calves at foot or not, they take a kindly attitude to visitors in cars. Gertie was married on the 17th March, and even this ceremony was not denied to certain visitors.



Gertie's horn

[Photo by M. H. Cowie.]



Gertie and Gladys each with a calf

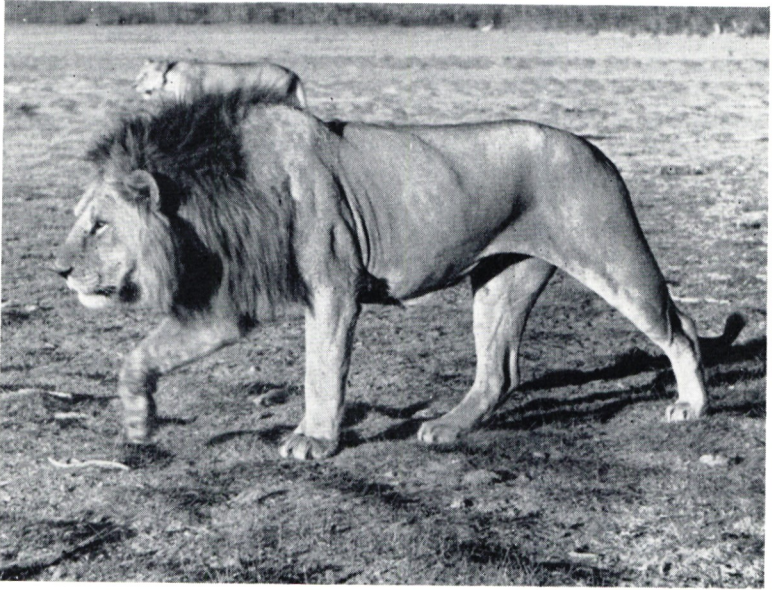
[Photo by M. H. Cowie.]

It is most pleasing to read the diary notes of the Warden as the year progressed. The effects of the increased supply of surface water may be far greater than we can at present foresee. In June he noted that with the prolonged absence of cattle from the environs of the swamps, game returned in larger numbers than seen for many years, and went on increasing. Hartebeeste and oryx appeared after a long absence, and several herds of eland watered at the Loginya swamp. Every species of plains game common to Amboseli was well represented.

The two big prides of lions were in fine condition and relished the changed conditions. They were able to hunt and feed regularly without disturbance from the Masai. Elephants were numerous for most of the year, including some large breeding herds with very young calves which were friendly enough to be photographed in the open. Buffaloes and hippos were on view more often than usual. The hippo families which previously kept to the deep water in the swamps moved into the new Simek river, and were often to be seen in the open pools below Observation Hill. Rhinos were just as plentiful as ever, but some moved their headquarters from the south of the Simek to the cover and bush on the north bank. This was because their old haunts on the south bank were flooded.

In his report up to the end of December, the Warden continued in this encouraging and satisfactory strain. He records that more plains game entered the area, attracted by the new grazing along the banks of the Simek river. Normally, in past years, when Ol Tukai is closed during the short rains in November, wildebeeste and zebra migrate to other parts. In 1958, however, many of the herds remained to enjoy the improved conditions and the attendant prides of lions also stayed in the area. The Masai cooperated well, and used the lower reaches of the new flowing river, leaving the middle sections available for game. On one occasion, both the main prides of lions joined forces on the causeway. The Kitirua pride musters nineteen in all, with one very fine tawny male, and the Kania pride musters fifteen with two dark males. This made a total count of thirty-four lions together which is a spectacle not often seen.

One obituary notice which I am compelled to publish is that the lioness known as Kania, the leader and matron of the big family which normally lives close to the Lodge, died during the year. She was a very old lioness, and had been a very good mother to the lion family. Kania is the name given by the Wakamba to anyone who has one eye. At some early stage in her life, Kania must have suffered some injury to one of her eyes, and for most of her life she managed with the remaining eye. In spite of this disability, she was able to hunt and feed many families, and was well known to a great number of visitors over the years.



Determination



No longer thirsty

[Photo by M. H. Cowie.

Another young lion fell victim to an attack by Masai Moran, for no apparent reason. This lion was about fifteen months old, and when speared by the Masai, retaliated, and before being killed put three of the Moran in hospital.

Not the least but perhaps the smallest of the inhabitants of Amboseli to rejoice in the abundance of water were the birds. Amboseli with its swamps has always been important as a staging point for migratory birds as well as for many others that breed locally. After the formation of new lakes and the growth of fresh vegetation, there was an immediate increase in all kinds of bird life. Many of the common duck and geese bred well, particularly the Egyptian goose and Hottentot teal. African stilts, the black winged variety, and Squacco heron, have all hatched out chicks, and many others found sanctuary round the edges of the water.

Two casualties, however, have to be recorded as a result of the rise in water levels. An elephant must have been pushed into deeper water than he expected, when the herd came in to drink, and by the time he was discovered by the Rangers he had already drowned. Another elephant which stuck in the mud at a drinking place evidently got into the same difficulties. The approach to this waterhole had been used by elephants for years, and the ground had packed down hard. At the water's edge there was a drop of some three feet which was obscured by the rise in the water level. The tracks indicated that a herd came down to water, and after drinking and bathing they had splashed much of the surrounding bank of the waterhole, making it very slippery. The unlucky elephant slid down the bank into fairly deep water and mud. A smaller and lighter animal might well have been able to extricate itself, but the more this elephant tried to get out the deeper it sank into the mud. Warden Taberer endeavoured by various means to assist. He tied a three-inch rope to a tree and attached the other end to a heavy log which was thrown to the elephant. Although it made an effort to grasp the log with its trunk, the plan was of no avail and the elephant sank deeper into the mud. After struggling for some ten hours, it was obvious that there was no chance of a rescue, and the Warden had to put the animal out of its misery.

An interesting sidelight on this tragedy is that when the Warden first arrived at the waterhole to investigate, he found other elephants stretching out their trunks and trying to help the unhappy member of the herd to get out of the mud. This is by no means unusual, and there have been many reports of elephants helping each other in various predicaments.

It is always rather a mystery how these huge animals can get about in a swampy area like Amboseli, especially in the rainy season. They usually have the wisdom to know when the ground is hard enough to hold them, and one seldom hears of them falling over. I cannot say



[Photo by W. H. M. Taberer.]

The elephant that did not survive

the same about some of the tourists who insist on trying to get into Ol Tukai in a wet period. Cars of all shapes and sizes have to be retrieved from a soft track. Mud is unusual at Amboseli and one normally associates a visit there with clouds of dust, heat, and wind. The soil is such that when it does rain, the dust becomes very slippery and is soon not hard enough to hold the weight of even a light car.

It is not unusual to see hunting safari parties at Amboseli, although obviously not in order to hunt. Some of these hunters take advantage of the friendly temperament of the animals, and having completed a safari elsewhere, then visit Ol Tukai to obtain photographs of rhinos, elephants and other big game at close quarters. Presumably, the hunters then intend to claim that the photographs relate to the terrifying wild animals they killed or failed to kill. I regard this as absurd and dishonest, and I would hate to see our famous rhino, Gertie, for example, portrayed as a fiendish horror. Stories of this kind have actually been told over the television network of the B.B.C. when Gertie was depicted as a mysterious and unknown monster.

Regulations were passed in 1958 requiring professional photographers to obtain permission and pay a fee before using such opportunities for commercial purposes. Any further attempts to dress up the tolerant and famous animals of Amboseli as ferocious wild beasts will be

controlled by these regulations, and the hunters will not be granted permission to conduct these deceitful exploits.

During the year many people visited Ol Tukai, including some "V.I.Ps." Charlie Chaplin was one of the most unexpected guests as one does not assume that he would wish to travel to Amboseli to see wild animals. On the contrary, he and his large family were intrigued with what they saw and he talked of trying to design a ballet depicting wild animals. I can imagine that if this measures up to the high standard of genius which is attributable to Charlie Chaplin it would be a masterpiece.

The year closed at Amboseli in a spirit of great hopefulness, with gratitude for water, with satisfaction that the game had returned in such numbers and with signs that peace was taking the place of problems and disorders. If the water continues to flow, and if the plans for obtaining more water for cattle succeed, I see every chance of Amboseli being a truly wonderful sanctuary for wild life.



[Photo by W. H. M. Taberer.

"Ambo" of Amboseli

FINANCE

In accordance with the Royal National Parks Ordinance, I attach statements of account for the year 1958, which have not yet been audited.

NUMBER OF VISITORS. 1958.

	1957	1958
Nairobi Royal National Park	119,532	106,787
Tsavo Royal National Park (West)	8,085	9,093
Tsavo Royal National Park (East)	8,152	7,247
Gedi Royal National Park	4,522	5,535
Amboseli National Reserve	6,547	6,741
Marsabit National Reserve	699	1,800
Olorgesailie Royal National Park	959	1,341
Kariandusi Prehistoric Site	1,112	1,145

MERVYN COWIE

NAIROBI.

Director.

August, 1959.



[Photo by J. S. Kirkman.

Gedi, House of the Long Court

GEDI ROYAL NATIONAL PARK, FORT JESUS ROYAL NATIONAL PARK AND COAST HISTORICAL SITES

During the year 1958, excavations were carried on at Gedi, Fort Jesus, Mombasa, and at Ras Mkumbuu on the Island of Pemba, on behalf of the Zanzibar Government.

GEDI.

At Gedi the clearance of the area between the town wall near the entrance and the main street was continued. The House of the Long Court was completely cleared, as well as a large part of the open area behind it extending up to the Great Mosque. Here there had been a house, which was later demolished and the area used as a graveyard. The most interesting find was an early fifteenth century celadon dish with a peony blossom incised in the bottom. The dish, except for a section of the rim, was found in the corner of one of the two rear rooms of the House of the Long Court, the missing piece of rim was found in the store. The dish must have been one of a stack kept in the store, and the fact that it was broken was only discovered when the stack was moved, probably at the time of the final evacuation of the town in the early seventeenth century.

At the south end of the main street was a well which had been filled with rubbish, one of the very few wells at Gedi treated in this way. It was cleared, but produced little of interest. The filling included sherds of the late sixteenth century.

Work was continued outside the North Gate and a complete section of the 'ditch' was cleared down to natural soil. It would appear that the main purpose of the ditch was to obtain red earth for building. The postholes on the counterscarp showed, however, that its defensive possibilities were not overlooked. The hole had been filled in and a smooth slope made, probably before the construction of the town wall.

FORT JESUS.

On the 24th October 1958 Fort Jesus was proclaimed the Fort Jesus Royal National Park. The last prisoners had been removed in April, and on the 15th May the Gulbenkian Foundation made public their generous donation of £30,000 towards the restoration of the Fort as a historical monument and the construction of a historical museum in it.

On the 11th April 1593 Fort Jesus was dedicated, and completed probably in the next three years. The Gatehouse and its bastion were added in 1635; the cavalier bastion of St. Anthony in 1648. The sea front was modified at various times, notably after the rebellion

of 1631 and the bombardment of 1875. There is no building in Africa south of the Sahara, and few even north of it, with a comparable tale of battle and sudden death. In the course of its dramatic history most of the internal structures have disappeared but, apart from the chapel, they are unlikely to have been of any great pretensions.

Excavations on the sites of the Museum and the Warden's House have shown that the layout of the central court must have greatly resembled the prison layout, with barracks on the south and west sides. The barracks along the south side remained in use until the middle of the nineteenth century. Subsequently the whole range was demolished and a line of prison cells erected on the old walls.

In the south-west bastion it was found that an upper and lower parapet walk extended round the east face of the bastion to meet the parapet walk of the south curtain wall. These walks had not been built, but cut out of the coral, and originally the only construction was a low coping over the outer face of the upper walk. Later the lower walk was buried in coral chippings and a sloping ramp made up to the level of the upper parapet, for the mounting of cannon. In this way the level of the south-west bastion was raised nine feet above the level of the central court. At the same time, or possibly a little later, the plain coping was remodelled with battlements and embrasures for musketeers. All these works are associated with the addition of the cavalier bastion of St. Anthony, which fills this angle of the Fort. Later, either at the time of the great siege (1696-1698) or in the eighteenth century, access to the embrasures was improved by the raising of the upper parapet walk to the level of the embrasures. This, however, would have meant that cannon could no longer be mounted. In the nineteenth century, the surface of the bastion was levelled up and a house built, which was later converted into warders' quarters.

Finds consisted of ceramics and beads. The ceramic included sherds of Chinese porcelain and local earthenware, with smaller quantities of Japanese porcelain, European nineteenth century china, Indian red and black chatties, Arab glazed earthenware dishes and porous unglazed water coolers. The relative scarcity of Arab wares and the apparent absence of Portuguese wares is surprising. Beads consisted of the small glass drawn beads familiar from all sites, and the large glass trade beads of the nineteenth century. The only articles of military equipment have been iron cannon balls found in the nineteenth century fillings. No burials were encountered.

The Chinese porcelain comprised the blue-and-white Transitional Ming type, the more delicate Kang Hsi, and the blotchy formless decoration which become common in the nineteenth century. In addition there were the chocolate, cafe-au-lait and blue monochromes, not earlier than the end of the seventeenth century, and the green,

yellow and rose pink enamels of the eighteenth century. The red or blue underglazes, with green and yellow enamel, are probably late seventeenth century. Sherds of Transitional Ming were found in all levels, including the surface levels, showing that the greater part of the area had always remained an open court.

The local earthenware consisted of bowls and jars with a red ochre coat, which first become prominent in the late sixteenth century levels at Gedi and which seem to have continued in use with little modification throughout the seventeenth, eighteenth and nineteenth centuries. The carinated cooking pots were far less common. When they occur they have the beaked lip, which is generally a late feature. Their ceramic place seems to have been taken by a pot with a slightly turned-out lip, uncommon in mediaeval levels.

The Japanese wares included imitations of Chinese blue-and-white of the seventeenth and eighteenth centuries, and a repulsive red and white nineteenth century type. The European china included English willow-pattern and other prints and banded wares, and a flowered china made at Sarreguemines.

The Indian chatty did not appear to have been imported before the nineteenth century. The Islamic glazed ware had a buff body and a pale green glaze, hardly distinguishable from the similar ware found at Gedi in the fifteenth and sixteenth century levels. A new ware consisted of large bowls with grey body and brown rough surface glaze with a sharp groove on the inside of the rim. These also appear to be a nineteenth century innovation, probably from the Far East.

The inaugural meeting of the Fort Jesus Advisory Committee was held in the Fort on the 15th December, and the Hon. C. G. Usher, M.C., M.L.C. was elected Chairman.

RAS MKUMBU.

The site known as Mkumbu or Ndagoni is on the off side of the long sandy peninsula that forms the north bank of the estuary running up to Chake Chake on the island of Pemba. The standing ruins consist of a fine mosque, a group of pillar tombs and a number of houses. It is one of the most striking monuments in Pemba, and it was hoped that it might turn out to be an earlier site than any yet investigated. These hopes were not fulfilled. It was found to belong to the general period of expansion on the coast, which covered the fourteenth and fifteenth centuries. From the scarcity of finds, it would appear never to have been a great success and it was abandoned in the early fifteenth century. The most interesting features were the mihrab arch of the Great Mosque, which resembled the arches at Songo Mnara near Kilwa, and the minaret tower beside it. The curious nick at the apex of the arch occurs in a much stronger form in the

doorway of the minaret of the Great Mosque at Mogadishu. Minarets are rare in East Africa, and I know of no other example south of Somalia.

Thirty-two additional monuments were gazetted as Historical Monuments. These, with twenty-four already gazetted, make a total of fifty-six, excluding Gedi and Fort Jesus.

Three articles dealing with the historical archaeology of East Africa were published during the year:

Takwa, the Mosque of the Pillar—*Ars Orientalis* II

The Great Pillars of Malindi and Mambui—*Oriental Art* IV, 2.

Kilwa, the Defensive Wall—*Tanganyika Notes and Records*. 50

J. S. KIRKMAN, Warden, Gedi Royal National Park, Fort Jesus Royal National Park, and Coast Historical Sites.

PREHISTORIC SITES

During the year, Dr. Merrick Posnansky, the Assistant Warden in charge of up-country Prehistoric Sites, resigned his post to take up another appointment, and at the end of the year no other appointment had been made. In the meantime, officials of the Coryndon Museum carried out regular inspection visits and dealt with the paying of salaries, etc.

The number of visitors fell below that of the previous year owing to the absence of a European to show visitors round, but were as follows:

Olorgesailie ..	1,341
Kariandusi ..	1,145

L. S. B. LEAKEY.

APPENDIX No. 1

ADVISORY COMMITTEES AS AT 31st DECEMBER, 1958

NAIROBI ROYAL NATIONAL PARK ADVISORY COMMITTEE

E. Baumann, Esq.—(*Chairman*)
K. Bolton, Esq.
F. T. Holden, Esq., C.B.E.
J. Karmali, Esq.
D. O. Mathews, Esq., O.B.E.
F. Salzer, Esq.
P. R. Thompson, Esq.
N. T. Trenn, Esq.

MOUNTAIN ROYAL NATIONAL PARKS ADVISORY COMMITTEE

C. Tomkinson, Esq., C.M.G.—(*Chairman*)
M. Argyle, Esq.
J. Cobby, Esq.
Major Venn Fey, M.C.
C. 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

The Hon. C. G. Usher, M.C., M.L.C.—(*Chairman*)
The Hon. S. V. Cooke, M.L.C.
R. F. Dias, Esq.
Mrs. C. G. Fannin
Capt. the Hon. C. W. A. G. Hamley, O.B.E., R.N., M.L.C.
The Hon. Dr. S. G. Hassan, M.B.E., M.L.C.
K. B. Hill, Esq.
The Hon. Sheikh Mbarak Ali Hinaway, O.B.E., M.L.C.
J. Jones, Esq.
The Hon. F. J. Khamisi, M.L.C.
Dr. L. S. B. Leakey
Sheikh Mohamed Ali Said al Mandhary
The Hon. R. G. Ngala, M.L.C.
The Hon. Gibson Ngome, M.L.C.
The Hon. A. J. Pandya, M.L.C.
J. Pinney, Esq.
Dr. B. Pinto, B.A., M.B., B.S.
A. V. Ratcliffe, Esq.
E. L. Relf, Esq.
H. E. B. Robinson, Esq.
E. R. Rodwell, Esq.
E. Stairs, Esq.

APPENDIX No. 2

STAFF CHANGES AND ABSENCES IN 1958

ADMINISTRATIVE STAFF

Mr. N. M. SIMON, who was Deputy Director, resigned from the Royal National Parks Service on 28th February, 1958.

Mr. J. A. HILTON was on leave from 1st May to 31st October, 1958.

SQUADRON LEADER E. J. HARROD, D.F.C., served as a stop-gap from 21st April to 30th November, 1958.

FIELD STAFF

Mr. S. I. ELLIS, Warden of the Nairobi Royal National Park, was on leave from 17th July to 10th September, 1958.

During his absence, Mr. R. B. JOLLEY acted as Warden.

Mr. C. W. MARSHALL, Warden of Tsavo Royal National Park (West) was on leave from 5th May to 15th July, 1958.

During his absence, Mr. D. LOVATT-SMITH acted as Warden.

Mr. D. L. W. SHELDRIK, Warden of Tsavo Royal National Park (East), was away from the Park in September, October, and November, 1958, while conducting Dr. F. Fraser Darling on a safari in the Mara District. During his absence, Mr. F. W. WOODLEY, M.C., acted as Warden.

Dr. M. POSNANSKY, Warden of Olorgesailie Royal National Park and other Up-country Prehistoric Sites, resigned from the Royal National Parks Service on 28th March, 1958.

Mr. T. G. ADAMSON, Assistant Warden of Marsabit National Reserve, resigned from the Royal National Parks Service on 15th December, 1958.

Mr. M. C. P. MOORE was appointed a Junior Assistant Warden on 30th December, 1958, and posted to Marsabit National Reserve.

Mr. F. D. LOVATT-SMITH served in Tsavo Royal National Park from 1st December, 1957, to 23rd August, 1958.

Mr. F. W. WOODLEY, M.C., Assistant Warden of Tsavo Royal National Park, was on leave from 1st December, 1957, to 31st May, 1958.

Mr. B. M. BALDWIN, Camp Manager at Ol Tukai Safari Lodge, resigned on 8th February, 1958.

Mr. J. R. PENROSE performed these duties from 1st March to 6th August, 1958.

Mr. and Mrs. C. E. NORRIS from Ceylon assisted at Ol Tukai, in an honorary capacity, from 20th August to 13th October, 1958.

APPENDIX No. 3.

ACCOMMODATION

Safari Lodges are maintained for visitors at the following places, and are within reach by normal private transport. The distances quoted are from Nairobi. Accommodation fees are from Shs. 15/- to shs. 20/- per person per night (children under 16 half price). This is inclusive of crockery, cutlery, cooking utensils and lamps. There is no restaurant service.

Amboseli National Reserve. Ol Tukai Safari Lodge

via Emali—Mombasa Road—143 miles.

via Namanga—Great North Road—153 miles.

Tsavo Royal National Park (West): Nguli Safari Lodge via Mtito Andei on the Mombasa Road—175 miles.

Kitani Safari Lodge, via Mtito Andei on the Mombasa Road—185 miles.

Tsavo Royal National Park (East): Aruba Safari Lodge

via Voi on the Mombasa Road—234 miles.

Marsabit National Reserve: 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.

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.

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

The Ol Tukai Safari Lodge is provided with electric light.

At Ol Tukai a Land Rover can be hired at the rate of shs. 3/- per mile run, or shs. 20/- an hour (or part of an hour) whichever is the greater.

Shops equipped with a variety of tinned food and visitors' normal non-perishable requirements are available at Ol Tukai, 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 4708).

Closed Seasons:

Amboseli National Reserve (Ol Tukai Safari Lodge)	} 1st April—31st May inclusive 1st November—15th December inclusive.
Tsavo Royal National Park (West) (Kitani and Ngulia Safari Lodges)	} 1st April—31st May inclusive 1st November—15th December inclusive.
Tsavo Royal National Park (East) (Aruba Safari Lodge)	} 1st April—31st May inclusive 1st November—31st December inclusive
Marsabit National Reserve: (Uaso Nyiro Safari Lodge)	} 1st April—31st May inclusive 1st November—20th December inclusive.
(Marsabit Forest Lodge)	} 15th March—15th June inclusive 15th October—31st December inclusive.
Aberdare Royal National Park	16th April—15th June inclusive

ROYAL NATIONAL PARKS OF KENYA

BALANCE SHEET AS AT 31ST DECEMBER, 1958

LIABILITIES		ASSETS	
	£ s. cts.		£ s. cts.
Fund Accounts :		Cash :	
<i>Capital Fund Account</i> —Balance at 31.12.58	4,342. 16.02	Cash at Bank	3,897. 14.22
<i>General Fund Account</i> :		Cash on hand (all areas)	1,787. 13.50
Excess of expenditure over income as at			5,685. 7.72
31.12.58	2,751. 6.92	Investments :	
Less: Balance brought forward from 31.12.57	2,121. 4.56	Deposits (at 4%) with Land and Agricultural Bank	15,000. —.—
	630. 2.36	Fort Jesus Reconstruction Fund	23,000. —.—
	3,712. 13.66	Other Credit Balances	38,000. —.—
Fort Jesus Reconstruction Fund:		Current Assets :	
Balance at 31.12.58	15,341. 5.06	Sundry Debtors	699. 16.15
	19,053. 18.72	Advances (Motor Vehicles)	529. 17.—
Reserves :		Deposit Accounts with E.A.R. & H. at Voi and Mito Andei	89. 7.29
Staff Home Leave Passages	2,508. 19.50	Interest accrued on Investments	589. 11.80
Gratuities and Retiring Benefits	1,997. 16.04	Motor Vehicle Replacement Suspense Account (Payments in advance)	3,028. 6.89
Donations Suspense Account	2,446. 11.55		4,936. 19.13
Add: Donations received during 1958	126. 18.10	Stocks-in-Hand :	
	2,573. 9.65	Sundry Items, including publications for sale	1,086. —.60
	229. 17.40	Miscellaneous Stores on hand	806. 1.38
Less: Authorised disbursements	2,343. 12.25	Payments in advance	305. 4.—
	20,000. —.—	Preliminary Expenses:—	
General Reserve Account	26,850. 7.79	New Gates for Nairobi Park	50. —.—
	4,608. 13.28		355. 4.—
Current Liabilities :			
Sundry Creditors	351. 4.—		
Deposit Accounts (Staff)	5. 9.04		
Inter-Parks Suspense Account	4,965. 6.32		

£50,869.12.83

£50,869.12.83

On behalf of the Trustees :

M. H. COWIE, *Director.*
A. E. BILLINGSLEY, *Chief Accountant.*

ROYAL NATIONAL PARKS OF KENYA

STATEMENT OF INCOME AND EXPENDITURE ON GENERAL ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER, 1958

	£ s. cts.	£ s. cts.	£ s. cts.
EXPENDITURE			
To Staff Salaries, Allowances, Pension Fund, Home Leave Passages and Medical Benefits	42,948. 1.41		
„ Provision for Gratuities and Retiring Benefits for African Staff	700.—.04		
„ Publications and Publicity	1,615.12.57		
„ Printing, Stationery, Rent, Rates, Telephone, Electricity, Office and General Expenses and Insurances	8,683.15.61		
„ Travelling Expenses, Maintenance of Transport, Licences and Insurance	15,163.12.63		
„ Replacement of Motor Vehicles	5,280.19.72		
„ Repairs and Renewals, Maintenance of Radio Equipment, and Sundry Small Tools	625. 9.55		
„ Maintenance of Buildings, Safari Lodges, Roads, Water Supplies, Boundaries, Fences, Airstrips and Equipment	7,842. 2.70		
„ Rangers' Expenses, Equipment, Patrols, Arms and Ammunition, Game Control, Trophy Rewards and Expenses	17,414.14.26		
„ Upkeep of Historical/Prehistoric Sites	582. 3.82		
„ Payments due to and made to African District Councils	1,162.15.—		
„ Expenditure on Research	62.18.22		
„ Amounts written off (see footnote)	102,082. 5.53		
		39.12.05	
		<u>£102,121.17.58</u>	
REVENUE			
By Grants-in-aid from Kenya Government			64,000.—.—
„ Entry and Accommodation Fees			28,183.15.—
„ Rent—"Treetops Hotel"			1,111. 7.15
„ Sale of Trophies			2,949. 5.17
„ Sale of Publications	£945.12.25		
„ Less Discounts/written off	304.18.85		
		<u>640.13.40</u>	
„ Revenue from Shops and Trading			490. 7.51
„ Sundry Revenue			748.14.03
„ Interest on Investments			1,246. 8.40
„ Balance on General Fund Account carried to Balance Sheet			2,751. 6.92
			<u>34,124. 2.26</u>
			<u>£102,121.17.58</u>

NOTE : Details of the amounts written off by authority of the Board of Trustees are :

Bad Debts	£20.05.30
Loss of cheques	19.06.75
	<u>£39.12.05</u>

ROYAL NATIONAL PARKS OF KENYA

STATEMENT OF INCOME AND EXPENDITURE ON CAPITAL ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER, 1958

	£ s. cts.	£ s. cts.	£ s. cts.
EXPENDITURE			
To Roads, Bridges, Boundaries, Fencing and Surveys	5,980. 15. 51		
„ Safari Lodges, Buildings, Ranger Posts, Staff Housing, Stores and Offices	3,306. 4. 73		
„ Water Supplies	2,853. 6. 49		
„ Films	941. —. —		
„ Road Machinery and Plant and additional Vehicle for Hire	2,742. 4. 88		
„ Radio, Scientific Instruments, Tools and Equipment	3,021. 12. 88		
„ Furniture	187. 19. 80		
„ <i>Balance on Capital Account carried to Balance Sheet</i>	4,342. 16. 02		
			<u>£23,376. —. 31</u>
REVENUE			
By Balance on Capital Account at 31st December, 1957, brought forward			3,176. —. 31
„ Kenya Government (Part 1957/58—1958/59 Development Plan)			16,600. —. —
„ Ministry of Agriculture—Aberdares Boundary Excision			3,000. —. —
„ Transfer from Reserve for Nairobi Park Fencing			600. —. —
			<u>£19,600. —. —</u>

STATEMENT OF INCOME AND EXPENDITURE ON CAPITAL ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER, 1958

FORT JESUS RECONSTRUCTION FUND

	£ s. cts.	£ s. cts.
EXPENDITURE		
To Preliminary Expenses	421. 14. 94	
„ <i>Balance carried to Balance Sheet</i>	15,341. 5. 06	
		<u>£15,763. —. —</u>
REVENUE		
By Grant from Calouste Gulbenkian Foundation		15,000. —. —
„ Grant from Kenya Government		500. —. —
„ Interest accrued on investment		263. —. —
		<u>£15,763. —. —</u>

ROYAL NATIONAL PARKS OF KENYA

SCHEDULE OF RECURRENT EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER, 1958

Total	Headquarters		Nairobi National Park		Tsavo National Park (East)		Tsavo National Park (West)		Amboseli National Reserve		Marsabit National Reserve		Gedi National Park		Mountain National Park		Mara National Reserve		Prehistoric Sites		
	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	
42,948. 1.41	18,928. 11.70	3,181. 17.28	6,059. 2.27	4,074. 6.80	2,912. 4.61	3,734. 18.73	1,872. 5.72	1,648. 10.82	—	—	—	—	—	—	—	—	—	—	—	—	536. 3.48
700. —.04	700. —.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,615. 12.57	1,577. 11.12	—	22. 18.85	2. 3. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,683. 15.61	6,063. 1.33	780. 12. —	429. 5.88	476. —.55	465. 4.87	5. —. —	201. 11.43	82. 14.62	168. 1.53	—	—	—	—	—	—	—	—	—	—	—	—
15,163. 12.63	2,496. 9.45	2,602. 4.73	3,751. 4.13	2,148. 10.12	1,363. 12.26	1,137. 6.22	130. 15.84	784. 17.06	1,137. 6.22	—	—	—	—	—	—	—	—	—	—	—	—
5,280. 19.72	5,280. 19.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
625. 9.55	367. 4.77	13. 18. —	114. 12.60	17. 8. —	101. 10.18	19. 90. —	3. 2.50	6. 13.60	—	—	—	—	—	—	—	—	—	—	—	—	—
7,842. 2.70	149. 13.25	1,873. 5.50	1,910. 1.16	1,708. 12.96	986. 15.06	595. 6.68	107. 16. —	418. 18.83	986. 15.06	—	—	—	—	—	—	—	—	—	—	—	—
17,414. 14.26	41. 1. —	4,019. 16.62	4,719. 18.72	2,922. 12.60	1,857. 16.20	2,445. 2.96	365. 4.63	659. 6.01	1,857. 16.20	—	—	—	—	—	—	—	—	—	—	—	—
582. 3.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,162. 15. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
62. 18.22	56. 2.80	—	1. 14.50	—	862. 15. —	300. —. —	5. —.92	—	862. 15. —	—	—	—	—	—	—	—	—	—	—	—	—
£102,082. 5.53	35,660. 15.18	12,471. 14.13	17,008. 18.11	11,349. 14.03	8,554. 19.10	8,386. 16.02	2,726. 10.81	3,603. 3.44	8,554. 19.10	—	—	—	—	—	—	—	—	—	—	—	—
																					621 —.02

SCHEDULE OF REVENUE FOR THE YEAR ENDED 31ST DECEMBER, 1958

Total	Headquarters		Nairobi National Park		Tsavo National Park (East)		Tsavo National Park (West)		Amboseli National Reserve		Marsabit National Reserve		Gedi National Park		Mountain National Park		Prehistoric Sites				
	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.			
28,183. 15. —	—	14,083. 9. —	1,775. 13.50	3,982. 9. —	6,616. 9. —	1,335. 1. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,111. 7.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2,949. 5.17	2,823. 13.62	—	125. 11.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
640. 13.40	124. 3.85	638. 14.25	23. 7. —	22. 7. —	17. 10. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
490. 7.51	—	—	24. 4.62	4. 17.70	471. —.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
748. 14.03	55. 15. —	114. 18.50	22. 19. —	3. —. —	500. —. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
£34,124. 2.26	2,755. 4.77	14,837. 1.75	1,971. 15.67	4,002. 18.30	7,604. 19.59	1,335. 1. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
																					176. 8.50

SCHEDULE OF CAPITAL EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER, 1958

Total	Headquarters		Nairobi National Park		Tsavo National Park (East)		Tsavo National Park (West)		Amboseli National Reserve		Marsabit National Reserve		Gedi National Park		Mountain National Park		Prehistoric Sites				
	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.	£	s. cts.			
5,980. 15.51	—	1,960. 11.30	204. 9.85	83. 19.06	876. 7.23	573. 12.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3,306. 4.73	—	—	1,091. 17.64	677. 14.33	695. 5.75	303. 19.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2,853. 6.49	—	495. 10. —	—	1,784. 5.58	525. 19.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
941. —. —	941. —. —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2,742. 4.88	—	1,367. 17.10	139. 11.18	—	1,234. 16.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3,021. 12.88	2,555. 8.58	144. —. —	15. 16.50	89. 2. —	187. 19.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
187. 19.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
£19,033. 4.29	3,496. 8.58	3,967. 18.40	1,451. 15.17	2,635. —.97	3,520. 8.94	967. 11.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
																					2,994. —.82

Salaries, Allowances, etc.
 Pension for Gratuities and Retiring benefits
 Publications and Publicity
 Printing, Stationery, etc.
 Travelling Expenses, Transport etc.
 Replacement of Motor Vehicles
 Repairs and Renewals, etc.
 Maintenance of Buildings, Safari Lodges, etc.
 Officers' Expenses, Equipment, etc.
 Repair of Historic/Prehistoric Sites
 Expenditure made due to A.D.C.'s
 Research

Travel and Accommodation Fees
 Rent—“Treetops Hotel”
 Purchase of Trophies
 Printing of Publications (less discounts and written off)
 Revenue from Shops and Trading
 Laundry Revenue

Roads, Bridges, Boundaries, Fencing and Surveys
 Safari Lodges, Buildings, Ranger Posts, Staff Housing, Stores and Offices
 Water Supplies
 Tools
 Road Machinery and Plant and additional Vehicle for Hire
 Radio, Scientific Instruments, Tools and Equipment
 Furniture

