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REPORT
FOR
1971/72

KENYA NATIONAL PARKS

(as at 30.6.1971 to 1.7.1972)

PATRON

HIS EXCELLENCY THE HON. MZEE JOMO KENYATTA, M.P.

The President of the Republic of Kenya
Commander-in-Chief of the Armed Forces

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KENYA NATIONAL PARKS
ANNUAL REPORT
JULY 1971 TO JUNE 1972
REPORT FROM THE CHAIRMAN

PART I

This was a remarkable year of consolidation and achievements. During the period under review the full Board of Trustees met on schedule five times: the first four meetings were held at Kenya National Parks Headquarters and the fifth at Malindi. A great deal of business that included negotiations on a variety of leases; publications of comprehensive and authentic brochures on Marine and Lake Nakuru National Parks; the Chairman's tour and report on Lake Jipe and Macktau areas within Tsavo West National Park; recruitment; promotion and review of staff terms and conditions of service consistent with the Ndegwa Commission of inquiry; etc. was transacted.

The 93rd Board Meeting was urgently summoned following the resolution and recommendations of the Executive Committee that had met on 6th July, 1971. Amongst major items to be discussed were some of the implications of the new wildlife (conservation and management) Bill that had earlier been circulated to all the members of the Board. The Trustees and their officers expressed much interest in the proposed Bill and were pleased to note that at this early stage Government had deemed it fit to solicit their reactions, views and advice concerning this very important document.

The subject of the Draft Bill was discussed extensively on various Board and Sub-Committee Meetings bearing in mind that the Board's views were not meant to represent an opposition to Government intentions but to provide an authoritative advice, having been intimately involved on conservation activities for many years, on complex conservation policies that could wisely be pursued in this country. Basically the Trustees feel "genuinely in sympathy with the concept of bringing about a rationalization and streamlining of the two principal organs of conservation in the country, namely Kenya National Parks and the Game Department.

The Trustees have accepted that traditionally the two organs have worked in somewhat different frames of reference, the Game Department permitting a regulated amount of public game shooting while the National Parks have concentrated on a complete conservation of the total biological, geological and geographical areas under the jurisdiction of the Trustees. Nevertheless, the

Trustees felt that this approach is probably outmoded and might indeed have been a major contributory factor to the severe limitation that the Game Department has been facing in achieving a realistic conservation impact."

The Trustees have however felt that their experience and lessons that have been learned by the organization over the last 25 years should be carefully considered. There is no doubt that Kenya National Parks have become the success story of conservation not only in the developing world but also throughout the entire world. The degree and magnitude of success is all the more impressive during the post independence period and the Trustees have been mindful that this has come about fundamentally because of the wise leadership generated by H.E. Mzee Jomo Kenyatta, the President and Father of the Nation. Indeed the very continuing of the "system of having a Board of Trustees of Kenya National Parks, easy as it might have been to disband it as a colonial anachronism has been an act of vision and foresight. It is the humble opinion of the Trustees that the last 9 years of Independence have thoroughly vindicated this policy".

It is the Trustees express hope that before the new Bill becomes law the Board's views will have been sought and incorporated in the new document intended to fully rationalize and integrate the present wildlife services.

During the year under review the Board has discussed a wide variety of topics on matters of policy and we shall only single out of a few, and in particular the deliberations that followed a brief speech that I made at Malindi during the Full Board Meeting held at Eden Roc Hotel on 25th of May, 1972, during which the Board critically asked itself "What it was basically there for?" Albeit outwardly the members appreciated that they had been appointed in trust to look after one of the most important heritages and legacies of their country. It was generally felt that there was some need to document and codify the various aspects of the fundamental philosophy, that we as a Board have operated over the years. There was clear need to expound the following three fundamental policies and the corollaries arising from them as indeed the operation dynamics of the Parks pivots on these three:

- (a) A conservation policy for the country as a whole and for each National Park was required;
- (b) A research policy for the entire National Park system and for each National Park was needed and such research shall be broad enough to cover the following fields:—
 - (i) Scientific disciplines that will include such facets as biological, geographical, geological, climatical dimensions, etc.;

- (ii) Economic postulates to find the best way to ensure that the economic impact that the Parks have both to the Parks organization and the people in the adjoining areas be realized with the minimum of trauma and the maximum of efficiency;
 - (iii) Sociological: to understand more fully and improve the relationship with the people living adjacent to the Parks.
- (c) An education policy for the National Parks as a whole and for each individual Park in order to win the "battle of the mind".

With these objectives in mind the Trustees set out to employ impartial and highly qualified experts to clearly define and codify these areas of policy. Fortunately as a result of the two trips I made abroad in North America I successfully negotiated with Rockefeller Brothers Fund in New York, African Leadership Foundation in Washington and the U.S. Park Service in Washington D.C. for the funding and release of Mr. John McLaughlin, an experienced Superintendent in U.S. Park Service to work on and produce a master plan and policy that will provide the board guidelines outlined above. Mr. John McLaughlin is due to arrive in November, 1972, to work on and produce this document. This has been made possible by a tax-free grant to cover all his expenses of over £26,000 out of which Rockefeller Brothers Fund contributed £18,800 and the African Leadership Foundation £6,200. The other two aspects of policy in relation to research and Education will be covered by Dr. J. B. Sale and Dan Dougherty of University of Nairobi and Peace Corps Units respectively at very little cost to the Trustees. We hope to receive these comprehensive reports by or before June, 1973.

One other important development that took place was the ratification of the Kenya National Parks and University of Nairobi functional Association as contained in the memorandum of understanding signed between the two bodies. As a result of this understanding, and following the recommendations of the Tsavo Research co-ordinating committee. The University of Nairobi requested permission to lease two acres of land inside Tsavo East National Park in order to build accommodation for the University students since the Parks had no free houses. Construction of such houses were to be outside the Park Gate but within the Park boundary and at the expiry of the 5 years lease if not renewed, the houses would become National Parks property.

In general, there were many activities throughout the year and I must genuinely thank all the members of the Board of Trustees for their great contribution and the co-operation that they have given me during the period under review. At this point I would

also like to formally record the Trustees vote of thanks to Mr. George M. Matheka until recently Permanent Secretary of Tourism and Wildlife and simultaneously welcome Mr. J. A. Koitie who took over from Mr. Matheka on 24th April, 1971.

On behalf of all Trustees I must formally record our thanks to the Minister for Tourism and Wildlife, Hon. J. L. M. Shako, M.P., for the continued trust and confidence he has bestowed upon us; our appreciation go also to the members of the public for their patronage and good conduct whilst within the National Parks; the Government for the budgetary support; and a variety of donors without whose help some of our projects could not have been undertaken.

I must also thank all the officers and every employee for the splendid and excellent job that they performed. As a result of their high all-round performance, conservation activities continued to thrive within the National Parks attracting more and more external and internal visitors.

PART II

By the 30th of June, 1972, we had 10 National Parks and three National Reserves covering an area of approximately 10,000 sq. miles (about 4% of the country's land acreage) spread all over the country and representing various types of vegetation, climate, fauna and geographical features. It is significant to note that five of these National Parks and two of the National Reserves have been established after independence; viz. Lake Nakuru National Park 1967; Meru National Park 1965; Ol Donyo Sabuk National Park 1967; Marine National Park 1968; Mt. Elgon National Park 1968; Shimba Hills National Reserve 1968; and Marine National Reserve 1968, as well as significant extension that was undertaken for the Aberdare and Mt. Kenya Parks in 1968.

The Officers of the Board in consistency with their established performances maintained high standards of service in a manner that continually earned both the organization and the country high esteem locally and abroad. Although there were no real dramatics other than the excessive drought in Tsavo that claimed over 3,000 lives of young and older elephants, a great deal of events that included initiation and completion of a variety of capital developments; catering for V.I.P. visitors and general Park users; staff training on operational methods; intensification of law enforcement activities; and a host of other activities that will be explained in greater detail on the forthcoming pages were undertaken and successfully completed within the year.

Without being daunted by considerable uncertainty that prevailed throughout the year in view of the impending wildlife

reorganization, the pulse of the Kenya National Parks in the salient fields of Development, Research, Visitation, Education, Land acquisition, and Staff position is clearly reflected in the following paragraphs.

DEVELOPMENT:

During the period under review, the Organization undertook a variety of development projects and in this connection we are grateful to the Ministry of Tourism and Wildlife through which we received through the Treasury a grant in aid totalling £166,100 plus an addition Ministry of Works grant of £80,000 for road development. The total amount spent on a variety of projects including Tourists Roads was £363,761.8.90 out of which £42,006.12.25 was spent on both Junior and Senior Staff Houses. The other main items of expenditure included improvement of Airstrips, Surveying and Demarcation of the Southern Boundary of Tsavo West National Park.

In the year 1970/71 over £59,800 was expended on staff houses, out of which £32,500 was spent on Junior Staff houses. During current financial year over £15,242 was spent on junior staff houses as compared to £26,763 that was spent on senior staff houses. Although these two items constituted the bulk of our development expenditure, office buildings were completed at Marine, Elgon Tsavo East and Shimba Hills National Parks and Reserve at the cost of £3,134. Some tourist facilities including trout fishing camps in the Aberdare Park were constructed at over £1,400 and new entrance gates offices for Mt. Elgon National Park were constructed at the cost of £892. New ablution facilities were installed at Tsavo East National Park and additional camping facilities were provided for at Tsavo West National Park. Additional pens for the animals at the Animal Orphanage in Nairobi Park were constructed at the cost of over £3,341 and new water supplies were installed at Shimba Hills National Reserve. Other projects that were undertaken during the year under review included camping equipment for Nairobi Education Centre, Bantam Radio sets for Tsavo East National Park, new equipment for mountain rescue and the purchase of a new aircraft in part-exchange for the former aircraft at Tsavo West Park — survey/demarcation of southern boundary of Tsavo West National Park, improvement of airstrips and construction of elephant enclosures.

Over and above these projects, by 31st December, 1972, we anticipated to spend over £153,450 on additional development projects comprising of Park Headquarters office extension, junior staff houses and senior staff houses, purchase of land around Lake Nakuru National Park — in fact on this project alone Parks will spend over £216,000 although additional money totalling about

£155,000 will be forthcoming from foreign donations; and in particular the WWF will contribute financing for the purchase of Ring land around Lake Nakuru National Park.

Another development item was the improvement and completion of Tourist Road Phase II and up to 30th June, 1972, this Organization had spent Shs. 529,277.65 out of which Shs. 293,505/90 was spent on Tsavo East National Park, and Shs. 197,317/05 was spent on Aberdare National Park. In Tsavo National Park (East) the new road following Ashaka Water Course was completed. "Ashaka" means "still pools" in the Waliangulu tongue and is well named, for the road faces deep pools and is shaded by Tamarin trees and acacia elatior. These pools feed from springs that have appeared within the last five years. The internal roads in Tsavo East were undertaken at great cost but we are happy to report that within the first quarter of the year concrete drifts were installed across the many luggas which now into the main Ashaka Water Course thus making the road an all weather tourist circuit. Two Graders were employed throughout the first quarter of the year to re-shape the roads in the northern area of the Park which had deteriorated badly over the last three years.

Another road attended to in Tsavo National Park (East) was the Buffalo/Wallo/Hatulo/Bisani road where additional culverts were installed and concrete drifts built across some of the water courses flowing into Mbororo. Five inches of rain over a period of two days in May caused havoc on roads around the Park Headquarters particularly undertaken on the Lugard Falls/Sala road which in fact was a very difficult road to build because it follows the Galana river closely for its entirety and the country is very rocky with innumerable drainage channels and deep water courses crossing at right angles. Large diameter re-enforced culverts were used in every deep crossings three or more banks of culverts. Concrete drifts built over the deep were placed in some of the large "Karongos". Certain low lying sections of the road had to be raised three feet or more which necessitated moving large quantities of soil. In some places the road passes over a series of limestone ranges where the surface consists of loose pebbles after grading. These stretches had to be covered with at least six inches of red soil in order to bind the pebbles together and so prevent them being scattered by the passage of cars.

The road from Voi Township to the Voi Safari Lodge carried a large volume of traffic as a result of which we had to embark upon a regular and constant maintenance programme to keep it in reasonable condition. This is not always easy in a dry season when any surfacing material used soon blows away in the form of dust, and in the future, subject to further availability of funds, we

might think in terms of tarmacing that section of the Park with an 18 ft. carriage way. In the period between July, August and September 1971, because of excessive drought it was impossible to complete any road maintenance work on the main tourist roads in the southern area of the Park. The Warden reports that grading under dry conditions where the volume of traffic was heavy merely resulted in the formation of corrugation and aggravated the already dusty conditions. All the minor Tourists roads were re-shaped and although the road surfaces were loose at that time, further soil grading was undertaken and the situation improved in January, February and March, 1972, when considerable amounts of rain fell on that part of the Park.

In Tsavo National Park (West) road work completed included the road to Murka via Longolongo which was widened and re-shaped making a quicker and shorter access to Murka. Culverts were put on the circuit around Rhodesia Hill and the road to Poachers Look out was murramed and a small section near the Springs between Poachers look out and Kitani was re-aligned. During the early part of the year little progress was done on road making and maintenance because of the drought, although work commenced again in the middle of November. By the end of March, 1972, a new road alignment had been completed between Loshoto and several culverts have been built on the same road near Kitani. This was part of the road programme to make a main road from Mbyuni Gate into the Park all weather. Mr. Wassong from the Consulting Engineering firm involved with Phase II of road development visited Tsavo West National Park in the middle of February and spent his time examining the proposals that the Warden had put up. The Ngulia Safari Camp circuit was finally completed before the end of March and this was facilitated by recent rainfall. Although there had been general retardation on the grading. Work on the major Tourists Road together into some of the other localities that were worked on included Mtito Andei/ Mzima Springs and from Number 4 Sign Post to Ngulia Lodge, Kitani Lodge via Rhino Valley and Chaimu and from sign number 15 to Kitani via sign number 7.

A short cut was bulldozed and shaped up to link the Ngulia Valley circuit and the Ngulia Safari Camp. A new alignment from Loshoto Hill to Kangechwa down to the Tsavo River was completed while culvert work continued around Kamboyo, Ndawe and Kitani and along the new alignment to Mbyuni Gate. At the same time gravelling and profiling of the second runway of the Kitani air field was completed in mid-May but the strip was closed to all traffic until rain enables proper rolling and consolidation of markers.

In Meru National Park the main road through the Park from Murera Gate to Ura Gate was re-graded. The section between the

Rujerweru course way and Mugungu suffered extensive damage during rains in April, 1971, and a number of places had to be built up and additional drains were put in. All the circuits and loop roads were re-graded after the rains in June, 1971, and a further 45 kilometers of new circuits was constructed. However, owing to the volcanic nature of the soil in the northern part of the Park, some of the circuit roads have become deeply cut up and this is partly due because some of these circuits are in the rest game viewing areas and are used by an ever increasing amount of traffic, although in 1971 calendar year only 816 vehicles were recorded as having visited Meru National Park. Indeed an insignificant number when compared to 46,665 vehicles that were recorded as having entered Nairobi National Park in the same year or the over 25,600 vehicles that visited both Tsavo East and Tsavo West National Parks in the same year.

However, the volcanic soil in Meru National Park does not stand up to heavy traffic and dust often becomes a major problem on some of the commonly used circuit roads. In the first quarter of the financial year considerable amount of work was done on the airfields and particularly on the one of Park Headquarters which had become very dusty and work on runway 19/01 was completed to Ministry of Works specifications. The main runway had over 1000 yards gravel. The link Taxi-way and parking area had also been gravelled. In January a Ministry of Works Engineer laid a 1200 yd. runway at the new Mulika Lodge out of which 600yards have now been tarmacked. We have now closed the old Leopard Rock — airstrip because the new Mulika Lodge runway is only 5 k.m. from Leopard Rock Bandas.

In March, 1972, work on graveling the link road from Mugwongo Hill to Leopard Rock was completed making that road an all weather road. By the end of the year a total of approximately 140 k.m. of new circuits, were cut by bulldozer and a further 60 k.m. of existing track were gravelled — and 11 concrete courseways constructed over river crossings although the two main access roads into the Park remained in very bad condition and in particular the southern access road to the Ura Gate. It is in fact the element of incredibly poor access roads in areas outside the National Park that have really debarred many visitors from coming into Meru National Park — a fact verified by the very poor numbers of visitors recorded at our Gates.

At Marsabit National Reserve the roads were generally in good condition within the Reserve itself although the main Isiolo Marsabit Township road was full of bumps and corrugations despite recent re-alignment by National Youth Service road gangs. Within the Reserve a number of culverts were installed on the road along the shoreline on the western part of Lake Paradise and a new road was planned on the Eastern Shoreline for completion

soon as the status of the Reserve is conclusively determined by next year. Additional signboards were made and installed throughout the main junctions of the Reserve and we anticipate that as intensive expansion of the road system and an improvement of the existing network will be embarked upon.

In the Aberdare National Park work carried out during the year included:

Ditch maintenance that continued throughout with constant repairs along over 40,000 yards of ditch. The ditch is unbelievably effective and constitutes the symbol of peaceful co-existence and harmony between agriculture and game conservation. Work has started on the planting of a species of South American prickly pear along the outside of the ditch. It is hoped that this will form an effective impassable live barrier in due course, thereby relieving costly maintenance efforts on the fence and ditch. There is no chance of this species growing rampant and spreading uncontrollably. We have carefully observed the way it grows in many parts of the Rift Valley and are quite satisfied with its control and ultimate effect against marauding animals. Work has started on the construction of a large cedar post barbed wire barrier running several hundred feet across the Amboni river gorge. Due to the steep sides it was impossible to ditch, with the result that the gap had become a regular crossing zone for game.

Several thousands of tons of top soil have again been dumped at both the Treetops and Ark waterholes. This work has to be carried out twice a year in an effort to replace the soil taken away by game. The restoration is already looking very successful, and obviously regular dumping and shaping of soil, and planting of grass and trees will, in time, be noticeable and become less of a task in the future than it is now.

Roadside bush clearing programmes and road maintenance has been carried out regularly on all roads. All the plant and machinery has been busy. Numerous culverts have been laid and work started on the construction of the new-look signposts.

Road murraming programmes continued on the moorlands when conditions were dry enough; and, when very wet conditions prevail, all plan was moved to the lower reaches of the Park where re-murraming is constantly required to be done on local roads to Treetops and the Ark.

RECURRENT FINANCE:

During the year under review there was considerable improvement in the recurrent finances of the Parks and the year ended 30th June, 1972, indicated a small surplus of revenue over expenditure. During the year, annual recurrent grants voted to the Parks

by the Ministry of Tourism and Wildlife were increased from £60,000 to £72,000 and the revenue relating to entry fees and vehicles fees showed a reasonable increase over the previous year. Revenue from rental of various lodges remained steady but there was significant rise in the revenue from the sale of trophies.

Overall revenue in 1971/72 exceeded the previous year's receipts by about 21.9%, increase on entry fees on persons for the same period was 19.2% and that on vehicles was up by 17.73% over previous year. Revenue for the sale of trophies nearly doubled in 1971/72.

On the expenditure side during the year 1971/72, there was an overall increase in expenditure of 14.07% over the previous year's expenditure. This can be attributed mainly to the increase in personal emoluments resulting from the Ndegwa Commission's recommendations which were accepted by the Parks in modified form. Increase in personal emoluments over previous year was approximately 30%. Increase in duty and tariffs contributed to corresponding increase in the replacement cost of vehicles and equipment and in the running and maintenance costs. Maintenance of camps and buildings roads, airfields and lodges within the Parks showed an increase of 16.21% over previous year's expenditure, and there was also a significant increase in the expenditure on publications and publicity which rose by 200%.

In general, finances of the Parks showed a satisfactory trend and it will be constant efforts of the Parks Administration to ensure that revenue derived from the Government and public revenue are put to the best use and the maximum interest of the Parks. The details on the general income and expenditure account for the year 1971/72 are reflected at the appendix on Balance Sheet.

VISITORS TO THE NATIONAL PARKS:

The economic value of National Parks is found mainly in the willingness of foreign and local visitors to pay a substantial sum of money to see, photograph, relax or enjoy and study the plants and animals within our National Parks and National Reserves. Over the years, there has been a rapid increase in the total number of visitors recorded as having visited the various National Parks. Tourism is certainly becoming a major industry in the Republic of Kenya and it will have to play a vital role for the overall economic growth of this country. This is reflected by the cumulative growth in the total number of paying in visitors into the National Parks over the last several years. At the time of independence (1963/64), the total number of paying in visitors into all our National Parks was recorded as 183,811 out of which 112,870 visited Nairobi National Park. This was an average of about 9000 visitors per

month in Nairobi Park alone. Notice that Nairobi Park even in 1963, was responsible for nearly 60% of the total number of persons visiting the entire organization. The increase is dramatic in that in the year 1970/71 the total number of visitors to all National Parks (excluding Fort Jesus, Gedi, Olorgesailie) and Reserves had risen to 363,594 out of which 143,974 visited Nairobi National Park, an average of nearly 12,00 visitors per month which represents an upserge of 30% in the 1963/64 monthly average in a space of seven years.

Our statistical records indicate that in the year 1971/72 the number of non-resident visitors paying to enter through our National Parks had risen to 193,066 representing 45.1% of the gross totals (423,747). On the other hand, there was a slight drop percentage wise on the number of paying adult residents who 40.0% of the gross totals of the 1970/71 visitors.

This is because of the popularity of Kenya as a growing Tourist Centre and because of the intensive Tourist Promotional Campaign that has been carried in U.S.A., Britain, Continental Europe and Japan and particularly Germany which in fact are the main sources of the large number of Tourists visiting Kenya.

It is our estimation that with the added intensification of Tourist Sales Promotion supplemented by the recent brochures that are being published by the Trustees of enya National Parks that the number of foreign visitors will rise significantly in the forthcoming years.

On the other hand, the great increase in the number of visitors into our National Parks reflects the growing awareness and importance that both the local and foreign visitors attach to our National Parks and to a very great extent the Government and the Trustees' efforts in sustaining and improving facilities within the game sanctuaries with a view to enhancing the tourist industry in this country. This enthusiasm is not unfound. The table below indicates foreign exchange earnings in tourism industries since 1960.

1960 — £ 3.9 millions	1967 — £14.7 millions
1962 — £ 7.3 „	1968 — £17.3 „
1963 — £ 9.0 „	1969 — £16.7 „
1964 — £ 9.4 „	1970 — £18.5 „
1965 — £10.8 „	1971 — £24.1 „
1966 — £14.3 „	

These figures are not entirely comparable because data processing methods applied at the earlier stages of economic planning (upto 1966 calendar year) differ from succeeding years where data formulation has been more standardized and refined. The Government is actively committed to sustain and expand the growth of

the tourist industry albeit the need to critically examine the main tributaries bringing in the charted revenue and formulation of the best and most equitable programmes to spread net revenue to as many people as possible can never be over-emphasised. So far critical questions like where and how does foreign exchange enter the Kenya market? Who are the principal beneficiaries? How is the money distributed internally? What programmes should Government adopt sector-wise to approach equity equilibrium? and such other related problems will no doubt remain uppermost in our minds and it is our hope that the new pool of skills provided by re-organized wildlife services will provide some answers to these questions.

On the Foreign Exchange earning schedule above, 1971, looks like a boom year and conservative predictions indicate that by December, 1974, the Tourism Industry will get just about £37 million Foreign Exchange. Economists estimate that subject to all things being normal internally and externally a long-range forecast is that we shall have about 1,000,000 (one million) tourists visiting Kenya by 1980. The country has consistently endeavoured to plan for expansion of the Tourist industry in that since 1967, the number of available tourist beds rose up from 7,000 to 13,900 by September, 1972.

A local newspaper in an attempt to analyse why visitors come to Kenya gave a preview of "Nairobi Airport Tourist Survey" published by the Ministry of Finance and Planning recently; in which out of a sample of 806 holiday visitors to Kenya, 82% confirmed that they would recommend Kenya to their friends at home as a unique holiday spot and only 2% had a negative attitude with 16% stating they had not made up their mind.

"The high percentage of visitors who said they would recommend Kenya to their friends is a clear indication of the favourable overall impression gained by visitors to Kenya". the report indicated:

53% of the total positive responses indicated "beautiful scenery" as an incentive for recommending Kenya to friends, wildlife scored 34% while friendly people scored 28% and good climate 18%. Hotel service received a rather low response 4% and good food was also low on the list as an incentive for gratuitous promotion of Kenya abroad.

The report examines how visitors spent their time and money in Kenya, analyses replies to questions concerning Kenya's position vis-a-vis competitor countries, and ends with a section on holiday visitors attitude to their stay.

Responses to other questions suggest that the decision to travel to Kenya was mostly influenced by friends (East African

friends, 22%; other friends 17%). Thus "word of mouth" appears to be the most effective promotion medium. For instance, North American and West German visitors gave personal contacts a fairly strong response (37% and 31% respectively).

The obvious conclusion is that the more we send people away well satisfied with their holiday, the more productive is the "snow-ball effect" by word-of-mouth recommendations.

Among other "media" travel writers and travel agents appear to have a fairly strong influence on a holiday-maker decision to travel to Kenya. Thirteen percent of North Americans; 11% of West Germans and 12% of "other Europeans" said they were persuaded to make the trip by agents and journalists.

Our visitors ticked off the things they enjoyed most in Kenya 73% liked game watching, 70% enjoyed the food, 66% thought just travelling around the country was the most rewarding activity, and 59% liked shopping.

Fishing and other water-sport activities are also areas with a clear potential for expansion (10% of all respondents indicated they had enjoyed fishing).

Respondents were asked what other countries in Africa they planned to visit on their trip, and the majority (64%) had plans for East Africa only so the survey concluded.

Although the total number of paying in visitors recorded as having paid to enter our various Parks/Reserves in 1971/72 was 305,656 people in 73,281 vehicles, the position is a little more different when we combine the total number of visitors both paying and non-paying guests who went through our Gates as at 30th June, 1972 and this is reflected as 487,755 and the gross number of vehicles passing through all our National Park system was 96,657. It is significant to note that Nairobi National Park topped the rest with 193,325 visitors at a monthly average of 16,110 visitors as compared to 1970/71 monthly average of 12,000 visitors. The number of vehicles recorded in Nairobi National Park was 43,271 again with a monthly average of 3,606 vehicles which further calculation again indicates that at least 130 vehicles per day passed through our 5 gates of Nairobi National Park at the rate of over 10 vehicles per hour.

This imposes a considerable strain on a limited ecological area of 44 square miles (113 sq. kilometers) although there are no serious physical symptoms that the Park is over used and it might be necessary for us to undertake intensive Research in the forthcoming years regarding the smooth flow of traffic within the Park at a manner that would be comfortable and convenient to

the drivers and the passengers whilst at the same time ensuring that there is no serious destruction of the hagtut of the Park.

The rising degree of visitation into the Park provides a stronger argument to widen the ecological zone of Nairobi National Park, to cover Kitengera area so that the incoming visitors could be spread over a wider area than the present 113 square kilometres. It is also true to state that the Kitengera area is extremely rich in plains game albeit recently there has been wanton destruction of the flora and fauna by the unprecedented influx of settlers and poachers in this area. We estimate that an additional area of at least 100 square miles of land will be required if the situation on both the flow of the visitors and the conservation of animals is to be perpetuated in Nairobi National Park.

The following charts reflect the gross number of visitors paying and non-paying into the National Parks upto 30th June, 1972.

Table 1 shows the consolidated figure of 487,755 people in 96,597 vehicles excluding Park staff and Table 2 actual paying guests as 423,747. Mathematically, over 64,000 visitors must have gone through our National Parks without paying. Assuming that our records are accurately kept, the situation is alarming and need serious review.

TABLE II
NUMBER OF PAYING VISITORS INTO KENYA NATIONAL
PARKS FROM JULY 1971 to JUNE 1972 — ONE YEAR

<i>Name of the Park</i>	<i>Adult Resid-ents</i>	<i>Adult Non-Resid-ents</i>	<i>Travel-ers & Child-ren</i>	<i>School Child-ren</i>	<i>Total No. of Visitors</i>	<i>Total No. of vehicles</i>
Nairobi National Park	58,133	58,039	19,326	17,653	153,151	36,120
Tsavo E. N. Park	17,541	29,484	4,215	295	51,535	11,721
Tsavo W. N. Park	29,988	40,473	8,871	1,327	80,659	17,715
Aberdare N. Park	9,022	29,938	1,412	51	40,423	1,073
Mount Kenya N. Park	1,375	634	827	110	2,946	514
Lake Nakuru N. Park	23,756	18,082	6,521	8,143	56,502	12,316
Shimba Hills N. Reserve	2,399	1,966	712	99	5,174	1,509
Meru N. Park	1,654	322	216	2,091	4,283	549
Marine N. Park	10,727	14,128	4,199	20	29,074	
TOTALS	154,593	193,066	46,299	29,789	423,747	81,517

	<i>Adults</i>	<i>Child- ren</i>	<i>TOTAL</i>
Orphanage	94,451	74,625	169,076
Education			44,627
Treetops			21,679

MONTHLY SUMMARY OF VISITORS TO NATIONAL PARKS AND GAME RESERVES

1st July '71 — June '72

1. NATIONAL PARKS

<i>Park</i>	<i>Adult Resid-ents</i>	<i>Adult Non-Resid-ents</i>	<i>Child-ren</i>	<i>School Child-ren</i>	<i>Non-Paying Visitors/V.I.P.s</i>	<i>Duty/Other Pass Holders</i>	<i>Season Ticket Holders</i>	<i>Total Visitors</i>	<i>Total Vehi-cles</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Nairobi	55,453	65,058	18,303	14,259	402	670	39,280	193,325	43,271
*Animal Orphanage									
*Ol Doinyo Sapuk									
Mount Kenya	2,249	1,030	1,615	209	64	146	14	5,327	1,038
Aberdare	8,780	29,882	958	2	518	340	60	40,540	1,659
Tsavo (East)	17,626	29,774	4,187	254	859	626	87	53,413	11,872
Tsavo (West)	29,869	40,763	7,849	1,086	874	2,045	790	83,276	18,332
Meru	1,651	328	216	2,091	1,104	1,504	9	6,903	1,174
Marine	9,815	14,035	4,199	20	1,152	16	624	29,861	2,303
Shimba Hills	2,448	2,145	717	132	3,397	261	36	9,136	2,714
*Marsabit									
Mount Elgon	1,874	332	651	18	5	—	—	2,880	642
Lake Nakuru	23,964	18,354	6,506	8,132	169	1,581	4,388	63,094	13,552
TOTAL	153,729	201,701	45,101	26,203	8,505	7,228	45,288	487,755	96,557

* No records are available.

Although it is not an immediate problem judging by the recent trend of the inflow of visitors into various of our National Parks very soon we may have to undertake intensive research to determine the Park visitors capacity. Will our areas and particularly Nairobi and Nakuru National Parks be able to carry more visitors, say 10 times the figures of the present visitors? What will happen by 1980 when we get 1 million visitors? We do know of other parks in other parts of the World which have carried between 7 to 10 million visitors per annum but it is doubtful if our own Parks and particularly the small areas of less than 100 sq. miles will ever be capable of carrying such population although conditions prevalent in this country and particularly the population dynamics and mobility are certainly much more different from say U.S. whose population is presently 18 times larger than this country. As we approach the "visitor capacity" per unit Park we should progressively device ways and means of containing the situation such as introduction of tourists buses as it is the practice in Grand Canyon and Yosemite Parks, U.S.A. This, however, is not an immediate problem and we may have to await for another 20 years before we introduce the bus system.

While on this note we would like to report that the year was generally peaceful as we had no serious reported accidents and we are pleased to report that most visitors behaved well when within the Park and followed the various Park rules and regulations. This element of people's strict observance of the law greatly helped to smoothen the administration of the Parks. There was no major disturbance of game or engagement in other illegal activities, although some isolated cases of poaching were reported in Mt. Elgon, Meru and the outskirts of Tsavo and Nairobi National Parks.

RESEARCH ACTIVITIES:

National Parks personnel was engaged in the following research programmes:

- (a) The Tsavo Research Project, where studies begun earlier were continued and, in addition, research on elephant biology was renewed;
- (b) The Environmental Pollution Research Programme concerned in the Lake Nakuru National Park, initiated in January, 1972.

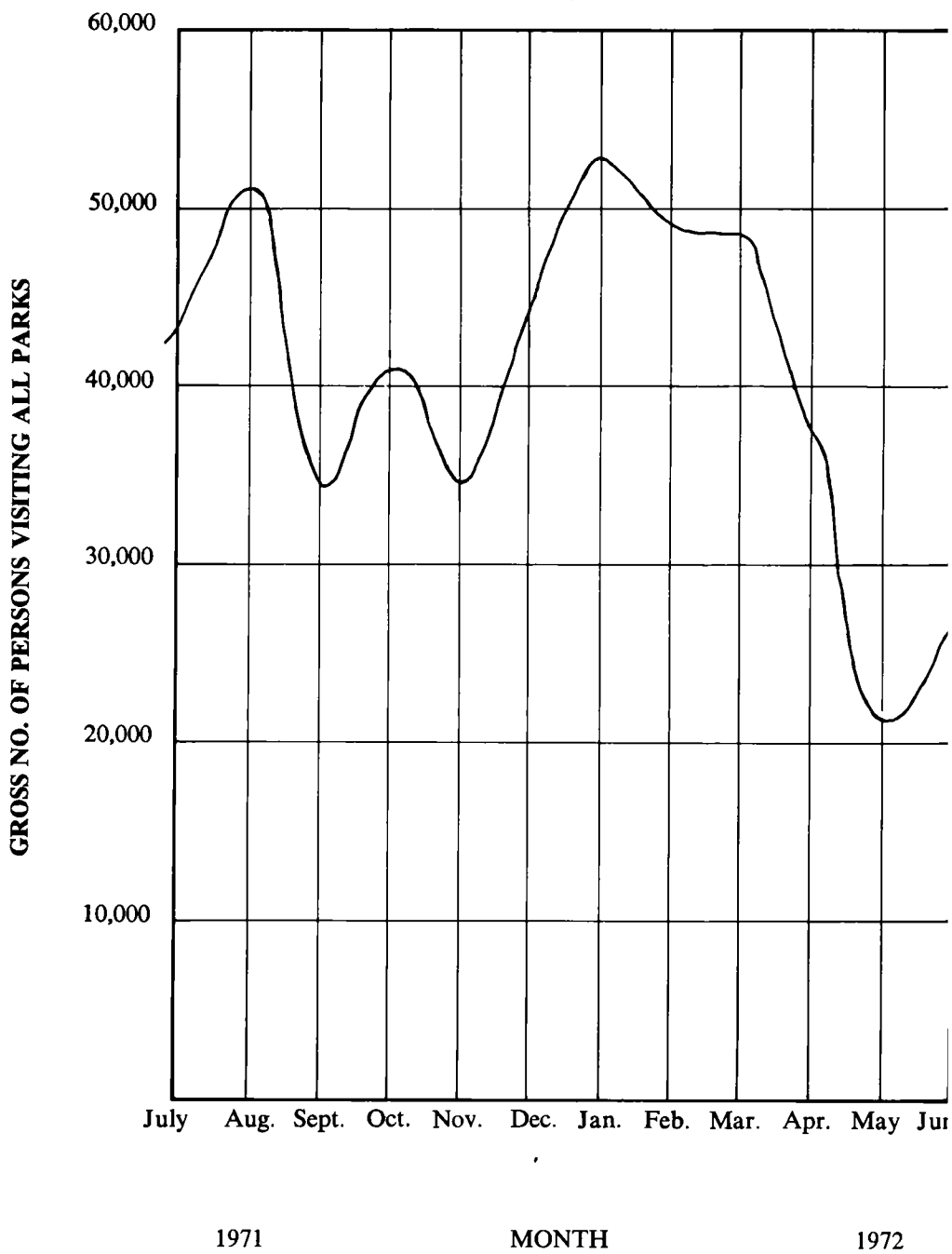
A summary of these research activities follows:

(a) Tsavo Research Project

- (1) Habitat Studies: (Dr. E. Glover, Chief Biologist)

This work consisted largely of a continuation of studies begun earlier, involving measurements and records of climatic conditions,

**GRAPH ON MONTHLY TOTAL VISITORS TO ALL PARKS
1971/72**



soils involving and vegetation analysis. Rainfall data collected in several localities in both Tsavo East and West indicated that as in earlier years rainfall was very unevenly distributed, both in time and in space. The resultant patchwork of green and dry vegetation is of major importance to distribution and movements of animals, particularly elephants (see below). In most places total rainfall was below average, but sufficient to avert further elephant mortality.

Vegetation exclosures in both Tsavo East and West were completed and the vegetation in them, as well as in adjacent control areas, was recorded in detail. These exclosures, as well as some transects laid out several years ago, were photographed from the air by a team from the Serengeti Research Institute, which is better equipped for such work than the Tsavo Research Project. Later in the year, Mr. Christopher Cheseny of the Tsavo Research Project were to go to the Serengeti Research Institute to be trained in the analysis and interpretation of vegetation patterns from aerial photographs. This training will enable them to carry out such work independently in the future. The assistance provided by the Serengeti Research Institute is gratefully acknowledged.

Analysis of vegetation transects fire control and pests in Tsavo West was undertaken, mainly by Mr. F. Wainaina, who also collected soil samples in some areas.

Material from a number of trees was collected in the Park and sent to Manchester University for chemical analysis which, it is hoped, might throw some light on the question of why some trees are eaten by elephants and other not.

(2) Elephant Studies: (Dr. W. Leuthold, Research Zoologist)

In the wake of the extraordinary mortality of elephants in Tsavo East during the 1970/71 drought and the consequent revival of this "elephant controversy", Dr. Leuthold was asked to discontinue his earlier studies on browsing herbivores and to initiate research on distribution, movements and social structure of elephants. Emphasis was laid on ways and means to re-investigate the hypothesis, developed earlier by Dr. Laws, that the Tsavo Elephant population was permanently subdivided into about ten discreet unit populations. The main lines pursued were:

Group size counts, both from the air and on the ground, to determine mean group sizes in different parts of the Park, and possible seasonal variations;

Monitoring of movements by known individuals, identified either visually with the aid of photographs or by means of radio transmitters attached to a few animals.

The group size counts, combined with a preliminary analysis of group sizes recorded during earlier elephant counts, showed that groups tended to be larger in the wet season and smaller in the dry season, but very few consistent differences between areas were found.

By the end of the year two bulls and two cow elephants had been captured in Tsavo West, by means of the immobilizing drug M99, and fitted with radio transmitters attached to collars. One cow lost the collar after one month, but the transmitter was recovered and later attached to another cow. So far, the animals have occupied fairly home ranges extending over 30 Km., at the most, in one direction. The only exception is one bull who, on 30th May, was found 20 Km. to the south of his former range. On 2nd June, however, he was back within that range but, unfortunately, lost his transmitter soon afterwards. The total air distance between extreme locations of this bull was 45 Km. Some technical problems (damage to or malfunction of transmitters) caused serious gaps in the tracking which had to be done approx. twice a week.

In Tsavo East, one bull and two cows were fitted with radio-collars between 14th and 16th June, 1972. Within a few days, one cow moved some 50 km. to the northwest, and the bull nearly 60 km. Thus, the initial results of the radio-tracking exercise look very interesting and rather unexpected.

During ground observations on visually identified animals several movements over 25-30 km. were recorded. The frequency of resightings of known individuals is, however, low. On the other hand, this method permits exact determination of group size and composition on each occasion, which often cannot be done from the air during radio-tracking.

In view of the large-scale morality of elephants, which sparked off world-wide publicity and discussion, an elephant count was scheduled to be carried out during the year, but for various reasons, had to be postponed until September, 1972.

(3) Ungulate Studies: (Dr. Leuthold, Research Zoologist, and Mrs. B. Leuthold)

As Dr. Leuthold's first contract expired in October, 1971, he spent considerable time on writing up earlier work. In October, he proceeded on leave, during which he attended an international symposium on "The behaviour of ungulates and its relation to management" in Calgary, Canada, presenting a paper on social organization of lesser kudu.

Soon after his return and reappointment in December, Dr. Leuthold was asked to commence research on elephants (see preceding section). Some of the earlier studies were continued by

Mrs. B. Leuthold, particularly on giraffe (food habits, movements and habit, utilization, social organization), but also the routine recording of known individuals of genenuk and lesser kudu was undertaken. The work on individually identifiable giraffe has shown that they commonly move over 20-30 km. between dry and wet seasons, the maximum distance between sightings of one bull being 42 km. The study of giraffe food habits was completed and written up during the year (see below). Emphasis in observations was then shifted to such topics as activity patterns and mother-young relations, including survival rates of young animals.

Data from aerial and ground counts of various ungulates in Tsavo East are expected to be analyzed during the coming year. It is hoped that some of this work will be carried on by a pre-doctoral student from Oxford University who is expected to commence field work later in 1972.

(4) Other Studies:

In addition to Kenya National Parks personnel, a number of other scientists are, or have been, working in both Tsavo Parks on a variety of projects which will be mentioned briefly without, going into details.

Elephant Mortality: (Dr. T. F. Corfield)

To determine the extent and distribution of elephant mortality during the 1960/71 drought and its effects on the overall population. Aerial and ground census work provided the data to assess the total number of elephants that died (around 5,000) as well as the localities involved (mainly areas near permanent water, i.e. the Galana and Tiva River and Aruba Dam). Examination of about 3,000 lower jaws collected by the Field Force, assisted on two occasions by a helicopter provided by the Police Airwing, showed that calves and older cows were primarily affected by the mortality. A preliminary press release was issued in February.

The full report will be completed during the coming year.

Elephant Food Habits: (Dr. J. B. Sale, University of Nairobi)

Collection of observational data was continued, during much of the year. More work is, however, needed before reliable conclusions can be drawn.

Decomposition Studies: (Dr. M. S. Coe, Oxford University)

The aim of this study is to determine the ecological effects and importance of dung decomposition by elephants, and of the decomposition of animal carcasses. A preliminary paper on "Defaecation by African Elephants" has been prepared by Dr. Coe.

Leopard Project: (Mr. P. H. Hamilton, University of Nairobi)

During the first part of the year under review, progress was slow, mainly due to lack of success in trapping leopards. The main problem was to obtain suitable bait. Initially, goats were used, but were soon abandoned due to their small size and high cost. In March, a permit was granted by the Chief Game Warden to shoot limited number of specified animals outside the Park.

Trapping success then improved as, coincidentally, leopards appeared to take up dry-season ranges nearer the hills which made the setting-up of traps easier. Three leopards were caught and equipped with radio-collars, so that their study finally got underway more successfully. Tracking was done variously from the air, vehicles and on foot, and these began to yield interesting information on leopards that could not be obtained in another way. The study, conducted in Tsavo West and financed by the African Wildlife Leadership Foundation, will continue.

Birds of Prey: (Mr. and Mrs. C. Smeent, University of Leiden, Holland)

Observations on food habits, reproduction and other aspects of the biology of birds of prey were continued throughout the year.

Environmental Pollution Research Programme:

In recent years, concern has been expressed by a number of people about the possible damage to Lake Nakuru and other Rift Valley Lakes, originating from continued inflow of water pollution agents, such as pesticides and fertilizers from surrounding agricultural land and untreated sewage from areas of human habitation.

Following a generous grant from the Frankfurt Zoological Society of 1858, and the support given by Kenya Government both in money and spirit, the Environmental Pollution Research Programme was set up under the auspices of Kenya National Parks, with the following objectives:

- to make detailed analyses of various components of the aquatic and terrestrial ecosystems, in order to determine:
 - (a) the nature, distribution and quantities of various pollutants and their sources of origin;
 - (b) the effects of natural or human — induced phenomena in transporting, modifying and concerning such pollutants in components of the ecosystems in question.
- to make recommendations on short and long-term measures to contain further pollution of the lakes and/or to remove

or reduce the existing pollutants to levels tolerable and compatible with the intended uses of the areas in question.

Mr. Paul I. M. Chabeda was appointed to head the Programme and while facilities and personnel available are still well below ultimate requirements, he has collected a considerable amount of information relevant to the aims of the projects.

The following sources of pollutants have been identified and subjected to preliminary analysis:

- (a) Run-off rainfall waters carry considerable quantities of pesticides and fertilizers (e.g. 0.3-0.7 parts per million of DDT/DDE alone!) from surrounding farmland. In addition, storm drains bring in a heavy load of oil-based pollutants;
- (b) Domestic sewage and municipal solid wastes while these sources contribute appreciably to the pesticide levels, their main significance lies in their potential for eutrophication of lake waters (introduction of phosphorous and nitrogen containing compounds and heavy metal poisoning.
- (c) Air and dust particles also carry limited amounts of pesticides and fertilizers which can enter the lakes, mainly via rainfall.

Samples of lake water, sediments and algae, as well as a variety of animal tissues (fish, amphibia, birds, mammals) have been analyzed for various organic pesticides and metallic elements. As an example of results obtained so far the following figures may be quoted from Mr. Chabeda's first progress report:

Monthly variations of some pesticide residues in fish

From Lakes Nakuru and Naivasha (figures = parts per million)

Month	Lake Nakuru			Lake Naivasha		
	DDT/DDE	Dieldrin	BHC*	DDT/DDE	Dieldrin	BHC*
January	0.022	0.019	0.217	0.006	0.002	0.004
February	0.115	0.015	0.014	0.011	0.007	0.004
March	0.052	0.035	0.219	0.014	0.024	0.016
April	0.032	0.019	0.008	0.008	0.006	0.009
May	0.059	0.022	0.024	0.020	0.012	0.009
June	0.020	0.010	0.027	0.009	0.007	0.004

* Benzene Hecachloride

Lake Nakuru fish contain considerably higher amounts of organic pesticides than those from Lake Naivasha. Similarly,

residues of some heavy metals are higher in Lake Naivasha, particularly lead and zinc. Most likely, these findings are related to the proximity of Lake Nakuru to a large town with considerable industry, and possibly to differences in the hydrological regime of the two Lakes.

The research programmes is to continue along the lines indicated above.

Consevation Education:

As in the pevious year our responsibility on Education was diversified and extended to include both adult citizens and school children plus the external visitors. Our responsibility towards the citizens was to help them appreciate their natural heritage by establishing Educational Centres and a hostel in Tsavo East National Park at Voi to cater for Education Groups and by providing exhibits with educational value as it was the case in the Nairobi Centre. We also provided transport for tour groups throughout the year.

The popularity of the Education Centres is reflected by the total number of visitors who utilized the Centre during the period under review. About 102,993 people went through the Nairobi Centre out of which over 88% were made up of school children and 12% were made up of adult groups. At Lake Nakuru Education Centre 20,947 people passed through the Centre out of which 19,205 26% were children and 1,742 adults, and the Voi Centre had record of 625 guests during the year.

The following charts reflect the details of visitors to Nairobi and Nakuru Education Centres half yearly on monthly basis:

NAIROBI EDUCATION CENTRE

1972

Month	School Children	Adults	Total
June	2,903	765	3,668
July	6,832	1,200	8,032
August	5,509	1,350	6,859
September	5,292	1,150	6,442
October	10,613	900	11,513
November	13,682	450	14,132
December	5,000	1,698	6,698
Half Year Totals	49,831	7,513	57,344

LAKE NAKURU EDUCATION CENTRE

1972

Month	School Children	Adults	Total
June	731	46	777
July	1,653	98	1,751
August	1,121	95	1,216
September	777	34	811
October	3,791	393	4,184
November	3,433	452	3,885
December	1,848	192	2,040
Half Year Totals	13,354	1,310	14,464

We are pleased with the composition of groups of people utilizing the centres in that we have often aimed at the young generation upon whom we shall entrust the future of conservation activities in the years to come. It is therefore gratifying to note that the bulk of our clients in these three education centres have been young school children. Another pleasing development was greater utilization of centre facilities by local people as indeed it is upon the good-will and better education of the wananchi that conservation policies in this country will be vested in the future and the need for mass education on the viability of conservation activities will be felt all the more vis-a-vis multiple land alternatives that we shall be faced with as population increases within static and non-elastic territorial boundaries.

It was possible to reach many parts of the country through the mobile film unit which operated in Thika, Ol Doinyo Sapuk National Park, Kitui and Machakos Districts during the first quarter. During the day our officers presented Wildlife Management talks to schools and colleges in Machakos. Where and when dark rooms were provided, films were shown during the day — otherwise film programmes are all scheduled for evenings.

The attachment of an Officer of the rank of Assistant Warden to the Mobile Education Unit has added a new Lease of life to our country-wide Conservation Education Programmes. Instead of merely showing wildlife films to groups of people at night, lectures about Conservation policies and allied problems are often given with a Scientific approach. In the past, most of the film programmes were geared to the general public, but now schools, colleges and other institutions like Farmer's Training Centres are given a higher priority. A systematic programme is under way to reach most of Kenya's rural districts.

During the 2nd half of the year the unit operated in the western Province, and also visited Kericho/Kisumu Districts en route. Due to break-down of the vehicle, the schedule that has been drawn up had to be abandoned and the Unit returned to Nairobi after reaching schools and institutions with well over 3,842 pupils and staff in Western and Nyanza Provinces.

In January, diploma students from Mweka College of African Wildlife Management stayed at the Education Centre for one week and the Warden Education lectured to them on the "Kenya National Parks' Organization and Sources of Funds". Mr. Hassan S. Mohamed, Warden Nairobi National Park, talked to them on "Park Administration and Management".

The Education Centre organized a programme for a Swiss Television Film Unit, under Dr. Rudolf Flury, who filmed the activities of the Centre. Some school children from Nairobi South Primary with their three teachers, participated in the programme.

The Education Centre, in co-operation with the Wildlife Clubs of Kenya and the National Museums, participated in running a "Teachers' Workshop" for Wildlife Clubs advisors in secondary schools. The purpose of the Seminar/Workshop was to provide the teachers with more background for carrying out relevant Wildlife Club activities, some of which included organization of more meaningful visits to the National Parks and particularly Tsavo East where the Wildlife Club carried out a Seminar with the assistance of the Education Centre Personnel.

Evening programmes: Lecture/talks plus film or slide shows were given to several groups, by the Warden Education, including Kenya Institute of Administration, Kabete; Central Training School (E.A.P.&T.), Mbagathi; Masai Rural Training Centre, Kajiado, and C.I.D. Training School.

Staff and Conferences:

International Engagements:

Our organization has attracted international recognition within the last year and this is a fact that has been vividly demonstrated by various International Conferences that preceded I.U.C.N. Stockholm Conference to which the Director of Kenya National Parks, Mr. P. M. Olindo was invited to attend and this culminated in the mammoth Stockholm Conference in which the Kenya delegation contributed very productively.

Also the Deputy Director of Kenya National Parks, Mr. F. A. Njiri, was awarded in 1972, the Eisenhower Exchange Fellowship which facilitated him and his wife to tour the United States of America for six and half months during which period he went

through over 60 National Parks of United States. Mr. Njiri has already submitted his full report to the Board of Trustees of Kenya National Parks.

Recently the Kenya delegation was invited to the Second World Conference of National Parks held at Yellow Stone to mark the Centenary of the founding of U.S. National Parks System in September, 1972, Prof. Mohamed Hyder, Chairman of the Kenya National Parks Board of Trustees would lead the Kenya delegation that comprises of: the Chief Game Warden, Mr. J. Mutinda; Mr. G. G. Kago as Vice-Chairman of the Board and Mr. P. M. Olindo, Director of the Kenya National Parks.

Staff:

Mr. Paul Chabeda was recruited to undertake Pollution studies around Lake Nakuru National Park and Mr. H. C. Kimeriah was recruited to undertake the responsibility of Senior Accountant at the National Parks Headquarters.

The U.S. Peace Corps, Mr. Daniel Dougherty and Mr. Ron Stanek joined the service on a two year contract and were posted at Nakuru and Voi Education Centres respectively. Another American, Mr. P. Snyder was given a two year contract as Asst. Warden Mountain Parks.

With regard to Junior Staff there was a considerable amount of unrest as a result of excessive union agitation. This particular year has been rather violent as far as Industrial Relations go in that we have had constant threats from the Union General Secretary who has been irresponsible in including his members to go on strike at the time when management of Kenya National Parks have done everything possible to meet and often modify its terms and conditions of service in consistency with the recent Ndegwa Commission report.

Union Activities:

Our Organization has so far spent £32,500 within the last financial year and we further plan to spend £28,800 by 31st December, 1972, on junior staff houses. Over the last six years up to 30th June, 1972, we have spent £114,408 on Junior Staff houses. This clearly indicates that the management of Kenya National Parks has not ignored the housing conditions of our subordinate staff. We have in fact planned to spend a significant amount of our development funds on junior staff houses. After the recent meeting which was held between the Officers of the National Park and the Union under the Chairmanship of the Hon Minister at the beginning of this year, we have endeavoured relentlessly to obtain better relations between the Management and the Workers' representative although quite recently some matters were taken before the Industrial Court as a result of which junior staff employees who will be earning less than Shs. 250/- by the end of this year

would get an increment of Shs. 15/- per month with effect from the 1st January, 1973.

With a few exceptions, however, most of the grievances that have of late been aired by the Secretary General of the Union through the Press have been exaggerated and, with the right attitude and spirit from the Union side, these grievances ought not to constitute any serious rift or disagreement, and it is our hope that the liberal attitude which the Minister of Labour has adopted will completely clear any hurdles that may crop up and particularly in view of the fact that we have planned to put up new junior staff houses in the years to come with a view to ultimately providing each individual employee with a two-roomed house by the end of 1974/78 development plan. Following the recommendation of Ndegwa Commission of enquiry this organization spent a substantial amount of money by raising the wages of our junior staff employees of all categories.

ACTIVITIES AROUND THE PARKS:

Nairobi Park:

1971 has been a busy year, we undertook to complete several projects in Nairobi Park. Several houses were built and occupied by subordinate staff. This has reduced congestion in the main labour camp where two or three people shared small rooms. But we have still a long way to go to accommodate every one of our employees in 2 roomed units.

Another interesting development in the Park neighbourhood was the commencement of work on the Masai Lodge in the Kitengela conservation area. We anticipate that with this new development it might be desirable to open up a new gate to service Masai Lodge.

The climate and security conditions in the Park have been generally good and favourable for animals. Food was plentiful for them: grasses and other vegetation has never really dried out completely. The dams held water well except the two smaller ones that started to dry out but were soon filled by short rains. The health of animals have been satisfactory albeit a few old Kongoni females looked thin during November, but no deaths were recorded.

Movement of animals from the Park was insignificant after rains. This is because a large area at Eastern portion of the Park that was burned late 1970, attracted most of the migratory animals particularly zebra and wildebeest. Usually those species move out as soon as the rains start and remain out until the rain water ones out.

Poaching was under control and no incidents were detected or reported in the Park. However, several animals were seen with

wire snares outside the Park and particularly on the Kitengela river. On many occasions our Rangers on patrol along this river have removed wire snares that have been craftly placed to trap animals.

The Warden personally carried out several expeditions into the Kitengela and observed several new manyattas that have been established recently and some have not yet been occupied. According to information from a few Masai friends, we are told that people are moving into this area for two reasons:

- (a) to establish as many manyattas as possible to make it difficult for Government to take over the area for Nairobi Park purposes — a clear political speculation;
- (b) if the Government takes over, then many Masai should be paid compensation. The whole situation is rather disturbing and is detrimental to survival of Nairobi National Park and something must be done quickly to save this Park.

One little self-contained house for Park Assistant was completed. The old Park Assistant timber house was renovated and erected as Radio Office next to Head Quarters buildings. Similar houses were modernized and re-erected for the petrol attendant and other labourers who had no houses. With Police advise, several modifications were carried out on the entrance gates with a view to providing adequate security for cash storage. This was done with steel reinforcement on the doors and windows.

GAME NEWS:

Lion:

The lions population by the end of the year numbered 38 animals out of which 26 are cubs from 2 months to 8 months old. The two main prides of nine and eight animals are the main attraction in the Park as they are seen nearly every day in the central plain. The Forest prides are somewhat timid and they don't show up very frequently. The two dominant males left the Park since the last cubs were born, but they do visit their families once in a while. A young male lion was found earlier in the year with snare round its waist which cut deep and almost went through its guts. The snare was removed by the Warden and the wound healed quickly.

Mrs. Rudani is still studying lions in the Park. We have stopped her from remaining in the Park during full moonlight. This action was taken due to the fact that whenever she stays overnight in the Park, next morning the lions show sign of agitation and in many cases they don't show up the following day.

Cheetah:

Patience the famous mother cheetah, had one of her cubs taken to the Orphanage with fractured front leg. We don't know for sure what was the cause. But it is likely that it was inflicted by a warthog, that she may have tried to catch. The rest of the cubs are doing well. They have started hunting without their mothers help. By the end of July they were nearly 13 months old.

Hyena:

Hyena have become very rare animals in this Park; about nine months ago we had a mother that gave birth to three cubs at No. 30A but soon the family disappeared. At the moment we have three adult hyenas in the forest but they are very shy. We are told that Masai have formed a habit of poisoning these animals with cooper-tox chemicals used in cattle-dip but we have no proof of this allegation although the rarity of these animals in Nairobi Park indirectly confirms the rumour.

Rhino:

On the record we have 31 rhinos, but our officers frequently have only seen and identified 17 animals. It is encouraging to note that during the last 12 months, 3 calves were born in the Park The youngest was in August, in the forest area. Mukuki (male rhino) is always found near Warden's camp. He has been naughty recently for destroying staff flower gardens. On 17th November, he bashed the rear mudguard of Warden's land rover at the Parking Shed at 5.00 a.m.

Buffalo:

Number of buffalo have increased by 5 animals which raised the buffalo population to 34 within the Park. But one was killed recently by three male lions and another one died of tick infestation.

Plains Game:

During the year the movement of wildbeeste and zebra were very limited. This is because large areas on the eastern portion of the Park that had been burned late 1970 attracted them and therefore most of them remained in the Park after the rainy session.

The following charts A and B give clear summary on the climatic conditions and approximate animal population dynamics on selected species throughout the year.

12 MONTHS RAINFALL NAIROBI NATIONAL PARK

January	1.41	July	1.14
February	.27	August	.34
March	.22	September	.39
April	14.17	October	.38
May	25.42	November	1.04
June	2.44	December	5.29
TOTAL RAINFALL		52.51	

APPR GAME CENSUS — NAIROBI PARK 1971/72

	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
Baboons	36	42	281	175	153	75	10	40	22	57			
Vervet Monkey	61	30	43	11	10	8	4	16	3				
Lions		3	1										
Leopard													
Cheetah	11	5	12	16	6	13	13	3	15	2			
Jackal	2	1	1										
Cerval Cat													
Giraffe	96	48	108	36	31	68	71	52	70	103			
Eland	133	25	243	56	13	28	41	39	19	69			
Wildebeest	239	78	232	298	137	243	345	445	249	193			
Hartbeest	1,246	796	1,210	2,077	614	2,330	2,200	2,234	1,751	1,759			
Waterbuck	147	60	288	262	516	151	144	171	119	245			
Impala	425	319	816	989	499	724	756	332	485	329			
Grants Gazelle	337	319	364	469	189	530	678	503	421	389			
Thompson's Gazelle	93	65	124	132	75	211	215	245	206	131			
Bohor R. Buck	1	3	4										
Bush Buck	9	27	31	6	12	10	23	6	25	19			
Steinbok				7									
Warthog	41	58	97	220	148	148	200	99	154	81			
Zebra	756	304	1,362	290	36	165	171	557	108	156			
Rhino	2	5	4										
Buffalo	13	6		3	3	6	7	16	9	14			
Hippo		4	4										
Crocodile	1		1										
Sykes Monkey	1				1	1	1						
Bat Eared Fox	1												
Ostrich	110	60	125	136	163	165	210	208	160	141			
Secretary Bird	3	3	3	11		5	6	6	8	10			
Crested Crane	1	2	2		2	4							
Marabou Stork	1	87	52	1	53	53	123		18	47			
Vultures			1	2					18				
Francoline	6	1				10	2	9	5				

OL DONYO SAPUK NATIONAL PARK:

Range Improvement Work:

A gang of ten casual labourers was engaged early this year to work on the road up the mountain that had been eroded following the heavy rains. Picnic sites were cleared and increased to four. Road signs to show direction to the park were put at four main points from Thika Township to guide visitors to the park.

Control and Anti-Poaching Work:

Crop damage by buffaloes has not been significant in the farms bordering the park as compared to last year. 42 owners of domestic animals found straying in the park were arrested, taken to court and fined an average of £5 each during the year. A few people were also arrested and convicted for destroying vegetation along the Park boundary.

ANIMAL ORPHANAGE:

Animal Population:

At the beginning of the quarter we had about 200 animals (mammals) and one crocodile. We have also been getting various species of birds and since we do not do wing pinioning, as soon as the birds get better they fly away into the Park.

At the time of writing this report we have only 120 animals, the specific number fluctuates due to the fact that there are times that we release more animals to the Game Trappers for their clients in various zoos abroad.

(i) Animals Sold or Given Away:

Three lions were sold to Mr. George Adamson for his rehabilitation studies.

Two lions and one lioness were sold to the Messrs. Carr Hartly Organization.

One male Cape Hunting Dog was also bought by Messrs. Hartley.

One female Cheetah was taken to the Solio Game Ranch Naru-Moru.

One young male leopard born at the Orphanage was given to the Emperor Haile Selassie of Ethiopia.

(ii) Animals Released:

Eight Leopard released in Meru National Park.

Two Male Leopards born at the Orphanage released into Tsavo National Park (West) near Lake Jipe.

One female leopard into Nairobi Park.

Two buffaloes into Nairobi Park.

Three wildebeestes released into Nairobi Park.

One male bushbuck into Nairobi Park.

One male Thomson's Gazelle into Nairobi Park.

Twenty five vervet monkeys into Nairobi Park.

Five baboons into Nairobi Park.

(iii) Animals Darded For Treatment:

Two female Cheetahs, one named "Patience" and her daughter were found in the Park at different dates each had a swollen leg, they were darded by using a Cap chur gun. They were X-rayed and an operation performed at Kabete Small Animals Clinics within the faculty of Veterinary medicine. They were then taken to the Orphanage until they had recovered completely before they were released back into the Park.

Another 4 Cheetah cubs were captured in Nairobi Park when only 10 months old after their mother was found dead in order to save them from being devoured by predators.

(iv) Animals Breeding:

The female pygmy Hippo that was presented to His Excellency, the President of the Republic of Kenya by His Excellency, the President of Liberia, gave birth to a female calf but she rejected her for unknown reasons. We did try to keep her alive but she died after 5 days due to congested internal organs.

Another male calf was born on the 7th May, 1972, but unfortunately this was at night. The calf was found dead after drowning in the pool. The two lionesses have bred twice now but have killed their cubs. We suppose it is because they are still young and do not have enough seclusion to make them motherly.

Bushbuck and dik dik have been breeding very successfully; 2 vervet monkeys were born; 1 sykes monkey was born and 4 dwarf mongoose were born during this period.

(v) Animal Mortality

This quarter has been a rather hard on our animals. One female cheetah was killed by a leopard from the Park. A pair of caracal, one serval cat, one young bushbuck, a young eland were also killed by this leopard. We are astonished by this notorious

habits of this leopard and all our endeavours to keep him out did not succeed. There were two leopards found in the Orphanage at Leopard Pen. They were darted and released into Nairobi Park, perhaps one of these leopards is responsible for the damage.

One of our famous Lions "Brutus" died here at the Orphanage on 29th January, 1972, at the age of 24½ years. The carcass was handed on to Mr. Herman Steyn.

TSAVO NATIONAL PARK (EAST)

Game Notes:

The past 18 months have been the driest period we have experienced in the 23 year old history of Tsavo East. Conditions have been particularly severe East of the line Voi/Lugard Falls and in some parts virtually no rain has fallen for nearly 12 months. Grazing animals continued to remain healthy and in good condition, but the mortality amongst some of the larger browsing animals has been heavy. A very large number of elephant calves and old cows died chiefly from malnutrition and it seems possible that this will be nature's solution to the Tsavo Elephant problem that has plagued us for so long. Lower jaws have been collected from all the dead elephants located and these will be examined in order to be able to assess what effect this mortality will have on population numbers in the future, but it is likely to be considerable.

Rhinos have also been dying in the same general area, although to date the mortality has not been as heavy as that experienced in the 1960/61 drought when we lost over 300 rhinos on the upper reaches of the Athi river.

In January, the Kenya Police very kindly placed two helicopters at our disposal to help with the collection of elephant jaws and ivory from animals that died during last year's drought. We are most grateful to the Commissioner of Police for his assistance. It is estimated that approximately 5,000 elephants died during the drought, mainly young elephants up to 8 years old and aged cows and sickly bulls. It was interesting to note that some of the scientists from the foreign countries, with experience in Tsavo are of the view that natural regulatory processes should be allowed to run their course and that populations should not be reduced by artificial means. It has been difficult to arrive at an estimate of the number of elephants that died in the Park as the deaths occurred over a very wide area and the remains of small calves soon disappear. Our Tsavo Research Personnel have spent much time and effort in measuring and ageing the jaws as well as checking on mortality by means of ground and aerial transects over areas of varying density.

Later in the year, elephants were concentrated in large numbers where the vegetation was green following the rather patchy long rains. A particularly large concentration remained in the Irima area from March up until June before dispersing. At one time, nearly 2,000 elephants were massed in the valley in front of the Voi Safari Lodge and provided an unforgettable spectacle for those who were fortunate enough to witness it.

During the later half of February, a breeding colony of Quelea were nesting astride the Lugard Falls road between Mbololo and the river. A smaller colony was found North East of Mukwaju in March. Large flocks were seen in the Irima area during March.

Many lesser kudu deaths were recorded in the northern area from a mysterious disease prevalent amongst this species which causes blindness followed by death in two to three days. A similar epidemic occurred in the Voi river valley in 1952.

The Grevy Zebra which were introduced some years ago continue to thrive and a nice herd of 9 including three foals born in the Park, can usually be found near the Buchuma Gate. One stallion was seen north of the Galana river with some common zebra. They are obviously well suited to the arid country here in Tsavo East, but it will be many years before they will be seen in any significant numbers, unless more can be introduced from Northern Kenya.

Lions seem to be coming very numerous with the increase in smaller plains animals, and one pride totalling 18 was often seen near the Ndare borehole. Visitors at the Voi Safari Lodge witnessed a lioness killing a zebra in broad daylight near the pool below the lodge. This particular lioness, who has four half grown cubs is a regular attraction and appears to live on the hill just behind the lodge. Leopard and cheetah have also been seen by visitors at the Lodge, and plains animals are beginning to make use of the pool throughout the day. A herd of 500 buffaloes water regularly and very often spend most of the day lying around near the pool.

Lions were much in evidence near the permanent water, and killed many abandoned or orphaned elephant calves wandering about on their own. On one occasion, the tables were turned, however, when an elephant calf was seen chasing two adult lions near Aruba.

One of our tame buffalo, Lollipa, was gored by a wild rhino near the Voi river. She suffered fairly severe wounds in the foreleg and in the stomach, but fortunately no serious internal damage occurred and she recovered. All four tame buffaloes, who were starting to show a tendency to aggressiveness with strangers have

now been handed over to the Galana Ranch, where a semi-domestic herd is being established. They have settled down very well at Lali.

The cock ostrich at the Lodge, which was reared by the Manager's wife, also had to be deported when he started chasing members of the staff and threatening tourists. He was roped and transported to the Mopea Gap to join the other deportees who moved some years ago. The hen ostrich remains at the Lodge, and is a great tourist attraction. So far, she has caused no trouble, and is extremely gentle. Ostrich hatchings have been pleasing. 38 chicks were seen together near Irima in October.

The male rhino "Reudi", which was reared at Voi and later released near Cottars Camp, proved to be too friendly and spent most of his time actually in the camp, to the consternation of visitors who doubted his intentions, who were not always informed of the fact that he was tame. Tour operators taking clients to the camp were worried in case there should be an accident and it was finally decided to try and move the rhino. Mr. Parfitt of Solio Ranch agreed to accept him and carry all transport costs, so "Reudi" was duly moved to Naro Moru and now resides in that part of the ranch surrounded by a game proof fence. He has settled down well in his new surroundings.

Poaching:

Poachers have not been nearly so active in the Park this quarter as they were earlier in the year. Nevertheless, the Field Force has been fully committed patrolling our borders, for any relaxation on our part promptly leads to a re-surgence of poaching.

A total of 18 rhinos and 14 elephants were killed between Kenani and Mtito Andei in the first 7 months of this year. On the 15th July, the Rangers found a dead elephant which had been killed by poisoned arrows a few miles from Kanga Station. The tusks had not yet been removed, so the Rangers laid an ambush on the carcass. On the second day three men armed with bows and arrows approached, but unfortunately the country was very open at this point, and the Rangers were unable to conceal themselves very effectively. Their presence was detected by the poachers who promptly ran away. They were pursued by the Rangers who succeeded in capturing one man, but the other two made good their escape, discarding most of the clothing in the process. It was noticed that they were heading straight for Kanga Station, so the Rangers returned to the camp where they boarded a lorry and went round to Kanga Station via Mtito Andei, picking up a Game Scout en route. On arrival at Kanga Station, they carried out a search of the buildings, but there was no sign of the

poachers. While searching the bush nearby, however, the bows and arrows were recovered hidden in the grass.

Subsequent investigations revealed that one of the railway employes had assisted the two men to escape by providing them with clothes, and getting them aboard one of the many buses that are constantly passing along the main road. Apparently, this man had harboured these poachers for many months while at the same time assisting them to dispose of their illicit trophies.

A serious outbreak of poaching occurred in the Mtito Andei/Tsavo area at the beginning of the year 1972. Several rhinos were killed with poisoned arrows and their carcasses discovered later without horns. Two gangs of poachers were spotted but managed to escape dropping bows and arrows in their haste to get away. A recently vacated hideout was also discovered near the Athi. The occupants had obviously seen or heard the Rangers Field Force because everything pointed to a hurried flight, and three bows, 16 poisoned arrows and a cooking pot had been left behind. Nearby was the carcass of a rhino with two arrowheads projecting from its body. Finally, the tracks of two poachers were picked up and followed to a point where another freshly killed rhino was found. The Rangers continued on the spoor and a little further on they saw where the poachers had fired at yet another rhino and then proceeded to follow it. The Rangers spotted the poachers ahead shortly afterwards, and approaching cautiously succeeded in arresting them both. The poachers were later sentenced to 20 months imprisonment and 100/- fine each. After this episode, word must have got around, because no further evidence of poachers was seen around the area.

Field Force:

The field force was kept very busy throughout the year, firstly, attempting to keep Wakamba poachers out of the northern area, and secondly, recovering trophies from the elephant and rhino that perished in large numbers as a result of the severe drought. Poaching reached a peak at the end of the dry season, and there was constant trouble along the northern boundary and adjacent territories.

There has been a steady deterioration in discipline amongst the Field Force Rangers in the past few months as we attributed this to the very substantial trophy rewards being paid to Rangers following the heavy elephant mortality, which has encouraged the Rangers to search for dead elephants to the exclusion of their other duties. Another contributory factor has been the Industrial Court's decision that there is no legal obstacle to the National Parks Rangers joining the Union, with the result that Rangers pay more attention to Union officials than they do to their own

N.C.O.'s Arrangements were made with Col. Godana of the 5th Kenya Rifles to put the Rangers through a course of training at the Langata Barracks under the strictest discipline. The entire force spent two weeks in Nairobi, after which the Rangers returned leaving the N.C.O.'s to continue with their training for a fortnight. The results have been very pleasing, and we have had no further trouble. We are most grateful to the Kenya Army and Col. Godana in particular, for organizing this course.

TSAVO WEST NATIONAL PARK:

Game Notes:

Elephants:

In the first part of the year there were problems with elephants becoming a nuisance at Mbololo Prison Camp, Ngulia Lodge, Kitani Lodge and around Kitani. We had to use thunder-flashes to chase the animals away and the Warden had to shoot one bull elephant at Mbololo Prison Camp. At Ngulia Lodge an elephant was observed climbing the steps of the Swimming Pool with a view to getting a vantage point to get water while at Kitani on several occasions an elephant attempted to put his trunk through the kitchen window to get water from the kitchen basin. Not many elephants were recorded dead in Tsavo West National Park. The fair amount of rain which had fallen, made the food contents for elephants much more nutritious in value than the dry shrubs that had long persisted on the other side of the Park — see chart below.

The mortality rate of elephants during October/November was normal in that only about 12 animals were reported dead in the month of November and 17 animals died in December, 1971, mainly because of the sudden climatic changes.

It was observed by the Warden at Kitani where acacia tortilis trees were seeding and sending off their attractive aroma that the scent attracted the elephants, and at one stage one bull elephant tried to scrape fallen seeds off the roof of a banda and ended up by seriously damaging it.

In February, 1972, the Warden observed several cow/calves groups concentrating in an area east of Mungai and North of Kangetchwa. This area joins the bull area Kamboyo/Kilaguni which is about 20 miles long and 5 miles wide. So far, the cows showed considerable less movement than the bulls and in fact at this particular time owing to recent climatic changes, elephant movement in the area was hardly noticeable and large herds were observed concentrating in the areas between Longolongo Loshioto Hill and Upper Tsavo.

Buffaloes

While game viewing with the Assistant Minister the Hon. J. M. Kariuki, in the Ngulia Valley on September 4, a herd of buffalo was seen stretching over approximately two miles from sign post 16 to sign post 15. They were going down to water at No. 16. The buffaloes were walking nose to tail and in places two and threes. It is estimated that there were about 1,000 animals. Another similar herd has often been seen in the region of Abyssinia Camping watering at Tsavo River.

In the quarter ending 31st December, 1972, lone bulls were observed around Ndawe/Ngulia/Kamboyo and reasonably large herds of approximately 100 to 150 animals were observed in the same general areas but after the rains the Ngulia Valley population moved into the plains between Ndawe and Tsavo River. Later on in the year bachelor herds and solitary bulls were observed stringing along side the main tarmac between Mtito Andei and Tsavo Gate at night. As a result of this concentration along the road 5 buffaloes were killed by fast moving vehicles by 30th June, 1972. Two baby buffaloes were found abandoned by their mothers in the Park and the first of these babies was found walking by itself near Ngulia Lodge. The calf was taken by the Lodge staff, given milk and kept in a warm place and then the Warden later collected it and took the calf to Kamboyo, whilst at the same time treated its deep wounds at the rear left thigh which had presumably been inflicted by a carnivore. Unfortunately, this wound became worse and worse and subsequently the young baby died. The second calf which had been found abandoned near Chyulu Waterhole after a heavy storm was in good shape and could easily accept milk, move about and jump in excitement. This animal was transported to the Nairobi Animal Orphanage.

Rhino:

On the whole the rhino as a breed took the drought very well in Tsavo West. A rhino was found dead at Kichwa Ya Tembo Peak and a young calf also died near Tsavo Gate on the river circuit and the Warden could not establish the cause of the death of these two animals. A lot of calves were born in the Park around September, and all were generally in good condition. During the October, December, heavy rains, many rhinos were seen in the Park. A couple that was copulating on the lava between Kilaguni and Ngulia was watched by a VW/Kombi that was loaded with tourists for nearly two hours. Two minor accidents occurred, the first one being a member of the Field Force who had surprised a rhino in thick grass near Ziwani. He was in fact thrown down by the animal but miraculously was not gored. The animal had run over him and stood on his knee although he suffered no major breakages, the knee was badly bruised. Later on a car was hit by a lone bull and was very badly damaged at the driver's side half

way between Kitani and Kilaguni. It was concluded that this car had frightened the rhino while cutting the corner.

Lion:

22 lions were seen on an elephant kill between September 6th and 12th at Kitani; one of them, a young male had severe porcupine quills sticking out of his chest. He was very thin and covered in nasty wounds inflicted by the other lions. The Warden darted him, pulled the quills out, dressed the wounds and fed him with a zebra which he had found suffering from an advanced sore and swollen leg. The young lion made a rapid recovery and has often been seen hunting zebras around the area.

The Kitani pride of 22 lions have not been observed making spectacular kills in that area and in fact later on in the year the famous pride were observed breaking up and particularly on 15th May when they killed a large buffalo near Campi Ya Mwarabu. During the year a hyena was observed being killed by a lion at Ngulia Lodge when the hyena came too close to a buffalo carcass that several lions were feeding on.

Leopard:

A University student undertaking research on leopards in the Park reported seeing a substantial number of leopard tracks particularly along the base of roaring rocks, although he actually saw very few of these animals and the bait he had put at Ndawe did not catch the victim until the 20th of November when he trapped one male leopard which was later tranquilised for research purposes. Another male leopard was caught and fitted with a radio, U.S. model. The animal was then tracked for a few more days by picking up the "peeps" in the Ndawe Hills. He eventually lost the animal and it was suspected that the radio had either packed-up or the animal had been poached. On the 23rd June, another leopard was trapped but closer investigations revealed that this leopard was the same one that had been caught and released earlier on the 9th of April, 1972. Its radio was not transmitting at all. The broken radio was removed and the animal fitted with a new radio. On comparison with the previous note the animal had lost weight; it had several wounds around its neck which were attributed perhaps by a fight with another male or possibly a scratch against a sharp edge in an endeavour to remove the radio and the collar.

Other Game:

At Poachers Look-Out, a group of tourists watched a pride of 5 lions follow an expectant giraffee that was due to give birth and immediately the giraffe delivered, the hungry lions snatched

the baby away from the mother and devoured it rapidly. Earlier in the year following the drought a number of hippos left Mzima Spring and ventured several kilometers in search of grazing. Unfortunately, one hippo had to be shot near Tsavo Gate as the lower half of his right leg had rottened off completely and the animal was suffering from excessive pain. This was as the result of a snare that had caught it during the animals' nightly wanderings. Throughout the year the Warden kept records of the number of average game counts observed at around Murka and these are shown hereunder:

(a) Kevas

	<i>Lion</i>	<i>Zebra</i>	<i>Harte- beest</i>	<i>Oryx</i>	<i>Rhino</i>	<i>Gazelle</i>	<i>Giraffe</i>	<i>Eele- phant</i>
1971/July	2	170	131	1	—	70	—	30
„ Aug.	4	463	183	8	3	68	6	12
„ Sept.	1	171	119	1	2	61	3	8
„ Oct.	24	142	1	1	4	7	—	6
„ Nov.	1	126	105	9	—	—	8	2
„ Dec.	—	46	47	10	4	—	8	—

(b) Macktau

1971/July	—	83	24	3	1	37	—	—
„ Aug.	—	15	1	2	4	5	—	—
„ Sept.	—	29	54	2	3	23	3	1
„ Oct.	—	8	12	—	5	—	—	—
„ Nov.	—	4	47	2	6	—	—	—
„ Dec.	—	20	15	14	—	7	2	2

TSAVO WEST NATIONAL PARK

In Tsavo West National Park, considerable activities were undertaken during the year and I will discuss this under several headings:

Rainfall

The following chart reflects the amount of rain that we had in Tsavo West National Park:

Daily Gauges	July mm	Aug. mm	Sept. mm	Oct. mm	Nov. mm	Dec. mm	Jan. mm	Feb. mm	Mar. mm	April mm	May mm	June mm
Kamboyo	—	—	—	0.7	60.6	205.3	27.8	40.8	4.0	26.3	49.3	—
Tsavo Gate	—	—	—	—	25.5	103.4	15.5	49.0	15.5	1.5	40.9	—
Ngulia Lodge	0.4	—	1.5	0.5	36.1	198.4	36.3	69.4	6.3	6.3	72.1	—
Chyulu Gate	—	—	—	8.4	31.9	225.4	99.0	29.2	11.1	98.3	29.7	—
Murka Camp	—	—	—	2.6	—	86.0	3.2	47.1	26.0	85.6	38.7	—
Kitani Lodge	—	—	—	19.1	51.1	144.0	8.2	34.1	—	17.7	92.8	—
Robo	—	—	—	27.3	61.4	12.0	16.3	39.9	24.3	57.5	108.8	1.8
Mbuyuni Gate	—	—	—	2.0	—	85.8	0.5	30.8	37.2	124.5	65.1	—
	<i>in.</i>			<i>in.</i>		<i>in.</i>			<i>in.</i>	<i>in.</i>	<i>in.</i>	
Chyulu I	1	—	—	0.5	—	15.0	—	—	7.5	22.5	30.5	—
Chyulu II	—	—	<i>in.</i>	—	—	—	—	—	—	—	—	—
Chyulu III	1	—	.5	0.5	—	20.5	—	—	9.5	30.0	38.5	—
				1.0		14.5			8.5	23.0	28.5	
						<i>mm</i>						
Kanjaro	—	—	—	—	—	80.8	—	—	—	—	—	—
Kavuma	—	—	—	—	—	156.9	—	—	—	—	—	—
						<i>in.</i>						
Kangetchwa	—	—	—	—	—	4	—	—	—	—	—	—
						<i>in.</i>						
Chamei	—	—	—	—	—	1.0	—	—	—	<i>mm</i>	<i>mm</i>	—
Lake Jipe	—	—	—	—	—	0.6	—	—	—	4.5	5.0	—
Macktau	—	—	—	—	—	—	<i>in.</i>	<i>in.</i>	<i>in.</i>	—	—	—
							10.0	9.9	10.0	—	—	—

General:

Among the V.I.P. Visitors in Tsavo West National Park was Prof. M. Hyder, Chairman of the Board of Trustees of Kenya National Parks who made an official visit to the Park on 30th and 21st July, 1971, and Hon. J. M. Kariuki who visited the Park on 3rd and 4th September, spending the night at Ngulia Lodge. The Chairman of C.D.C., Lord Howick also visited the Park early November and in January, Charles Voucher from the World Wildlife Fund, his wife and Mr. Llyod Swift also from W.W.F. visited the Park. Mzima Springs continue to be one of the most attractive spot within the Park and in the quarter ending on the 30th September, over 17,271 people had passed through the tank out of which figure, 8,000 visitors were recorded in August. During that period about 3,713 cars had been registered at Mzima Spring, Parking Bay.

Vervet monkeys continued to harass the visitors by grabbing things from the unlocked cars, mainly food but at times other odd items like cameras, ladies handbags, papers etc., this was often amusing for the visitors, while the main attraction at the Pool continued; Mzima's clear water, the hippo, and fish all of which could be clearly seen through the tank.

Law enforcement activities were successfully carried out throughout the Park. The Ziwani and Poaching Patrol ambushed a gang with a rifle who had shot a buffalo at Njuguini and although the man with a rifle got away, 5 rounds of 8.57 were recovered from the rest of the gang members who were arrested and were later found to be comprised of Chaggas from Northern Tanzania. Between October and September, over 59 elephant tusks and 28 rhino horns were captured by anti-poaching units but no significant arrest was made.

In January, however, 2 poachers out of a gang that had been constantly hunted by our Rangers were caught in an ambush at Kiulu Station and these two people were prosecuted and given a deterrent sentence.

LAKE NAKURU NATIONAL PARK:

Negotiations for the acquisition of additional land for Lake Nakuru National Park advanced rapidly and the Government has already set aside £216,000 for the purchase of land to be added to Lake Nakuru National Park. We are also hopeful that the long standing negotiations particularly on Baharini Wildlife Sanctuary will be finalised before the end of the current calendar year. Extension of the Lake Nakuru National Park is all the more significant in that at present the Park is too small to cater for other wildlife within its borders or the future touristic require-

ments. The Park is approximately 14,261 acres of which over 10,000 acres is in the Lake and forms the water carpet and less than 4,000 acres is the surrounding land. Land up to a minimum of a mile back from the water edge must be included and we hope that this will present a necessary buffer zone between the intensive encroachment of human development with all the related problems of destruction of habitat, pollution, and siltation and therefore create a more viable ecological unit by preserving an essential part of the basin ecosystem to which the Lake belongs. It is a matter of great regret that Nakuru Lake Forest was not free or available for conservation purposes as it has already been settled by landless people and the same goes for Roda Sisal Estate that was bought by two groups of cooperative units and the same goes for Ex-Pretty-John's farm. At this rate, hopes are fading fast of even acquiring the surrounding land on the north and western side of the Park at least in the immediate present.

Prior to Roda Estate being purchased by the Cooperative Unit it was reasonably stocked with a variety of game but with recent cultivation all the game has been frightened by the farmers. Also the Municipal Council Plot has been taken up by new farmers who have cut down considerable amount of acacia trees for the purposes of charcoal making. A great number of animals have also been frightened from that area and in particular the Impalas, Redbucks which had taken that zone as their natural habitat.

During the period under review there was a remarkable increase in the number of visitors compared with the previous year and number of school children had increased by 63.3% between July and September, 1972. Among the important visitors who visited Lake Nakuru National Park was His Excellency, the President and Mama Ngina Kenyatta who have semi-permanent banda at the shore of the lake and other distinguished visitors included various Kenya Ambassadors: Hon. M. A. Hinawy; Hon. L. O. Kibinge; Hon. M. Kisalia; Hon. J. B. Keti; Hon. Ngethe Njoroge; Hon. Odero Jowi; Hon. Henry Muli; Hon. S. K. Kimalel; Hon. E. J. Mulinki; and other guests that included Chief Game Warden of Zaire; Mrs. Lessigina, His Royal Highness, Duke of Edinburgh; the Chairman of the Board of Trustees of Kenya National Parks, Prof. Mohamed Hyder; Princess of Lesotho and many other dignitaries.

Law Enforcement:

Although poaching did not exist within the Park there was an element of poaching on the fringe of the Park from both settlers and some of the employees of the adjoining farm. Often they trapped animals that are wandering from the Park in search of good grazing at night. On 12th August, 1971, one male

hippo that had left the Lake for Municipal Sewage Dam returned with a large wound in the back and the Rangers were asked to keep watch of that animal for 2 days. Unfortunately the wound deteriorated and the animal was in excessive agony and had to be shot by the Rangers. Eleven water buck, were destroyed at the Park boundary between 1st July and 31st December, 1971. There were a few more incidents of animals being wounded, trapped and snared but fortunately, our vigilant Rangers rescued these animals and cut them off their traps and snares.

Our law enforcement forces arrested three people in Ndereti Estate on 18th October, 1971 and charged them for being in possession of illegal water-buck and buffalo meat. They were each fined Shs. 30/- or 14 days imprisonment. Indeed a very lenient sentence but the judiciary maintained there was not adequate evidence for heavier sentence.

Game Notes:

Intensive Surveys of several species of game had been undertaken in the quarter ending on 30th July, 1972 and indicate that contrary to popular opinion the Park is well stocked by several species of plains game and during that period over 232 Thompsons gazelle were recorded 304 Impalas, 272 Boho Reedbucks; 2 leopards, 1,450 water bucks, 40 buffalos, 47 bush bucks, 14 hippos, 17 vervet monkeys and 12 Colobus monkeys, as well as other animals around the Lake shore.

MERU NATIONAL PARK:

Climatic Conditions:

These are broadly reflected by the following rainfall chart:
Rainfall: In inches

Month	H.Q.	Murera	Ura
July	—	.43	—
August	.90	.09	.02
September	—	—	—
October	0.05	0.23	0.88
November	7.51	6.75	8.97
December	1.58	0.66	0.20
January	0.47	0.90	1.86
February	0.85	1.07	2.23
March	0.71	0.54	0.59
April	.30	—	—
May	3.26	7.48	11.07
June	.22	.08	.25

Field Force and Poaching:

The field force in Meru National Park worked extremely well with constant patrols inside and outside the Park. The new roads that were completed within the Park gave free and easy mobility to our law enforcement forces that gained access to hideouts for the poachers. Although the Field Force has been under strength and in certain cases short of all desirable equipments their good performance greatly reduced poaching in the neighbourhood of the Parks except Bisanadi Conservation area which our limited personnel could not adequately cover. There was hardly any poaching inside the Park but outside the Park, poachers played havoc with some of the key game and this state of affairs must eventually have an effect on such a small Park like Meru National Park because a large number of animals leave the Park during the rains and trapping and snaring in the adjacent controlled area often reach dangerous proportions.

Game Notes:

Meru National Park is certainly one of the richest areas in wildlife and has some of the rare animals like reticulated giraffe, blue necked ostrich and the beautiful grevy zebra besides the recently introduced species of white rhino. For the purposes of this report we shall only limit our discussions to the progress made by the White Rhino and the released leopards. The female white rhino Matazela gave birth to a female calf on April 10th 1972, but the other cow disappeared on May 4th and her tracks were followed as far as Magando but unfortunately the search had to be abandoned due to extremely heavy rain and flooded rivers. Fortunately on her own accord she returned to the Park and was found on the Bisanadi river on August 23rd after having disappeared for about 3½ months. When she came back she was in excellent condition when found and perfectly tame and she easily settled again with Matazela and her baby. When she came back she was in calf and it is expected that she will give birth to an additional calf later on during the year.

The two bulls constantly attacked cow Matazela and her calf and ended up by inflicting a large wound on the cow on her hind quarters and a great deal of difficulty was experienced in treating this wound which eventually healed up. As a result of this fighting it was decided that the only alternative was to turn the bulls loose before they could kill the two cows and the baby. Both bulls are now living in the wild and are seen fairly frequently as they have already established a territory near the Park Headquarters and at Rojerwero Causeway. The third bull which was turned loose in the last calendar year has also been seen regularly in the Leopard Rock/Murera Gate area.

18 leopards which had been killing stock in the up-country area were released in Meru National Park in the quarter ending

30th September, 1971, and this gave us a total of 23 leopards that had been released within this Park during the last two years. Although we have no evidence to prove whether all these leopards remained within the Park we are sure that a good number of them are still within.

Most of the Tourists and local visitors who happened to be in Meru National Park have been spell-bound by the density and variety of game and particularly the big-five that they have been able to see within a day's drive whilst in the Park. Some of the large herds of buffaloes which are common in this Park can now be approached by a vehicle with'n reasonable distance and lions are also regularly seen especially on the Muguongo and Kindani Plains where there are several prides of over 15.

General:

The western boundary of the Park became over-grown during the first quarter and we had to widen the entire boundary line and re-grade it for a distance of 35 kilometers. Owing to the new circuits of roads that have been cut during the last three years the present Park Map has become generally out of date and the new map drawn will be sent to the Survey Department for new prints. We hope the new map will be ready within the 1972/73 financial year.

There has been rapid progress on the construction of the new 100 bed Mulika Lodge at the Mulika Swamp and the Leopard Rock. The Leopard Rock Safari Camp has been completely re-built by Meru County Council which now consists of 6 double bandas fitted with new equipments. The Lodge was formally opened by the Minister for Wildlife and Tourism, Hon. J. M. Shako on the 22nd February, 1972, and bookings for the Lodge started at the beginning of March and we are pleased to note that this particular lodge has proved to be extremely popular and the Meru County Council must be commended for the splendid work that they have put up in re-constructing this lodge to very high standards.

MARINE NATIONAL PARK:

The sea was rough towards the 'kusi' season: the period when everybody tries to clean and re-paint their vessels and this in fact is the time when our Warden and his staff become more occupied in that potential poachers invade the area of the Park and the Reserve which is less tempestuous. Fortunately the vigilance of our rangers kept all forms of trespass under control. Between October and December the Marine Park was generally gay with people from many parts of the world. Throughout the year although the weather was a little hot for those people who had come from cooler countries. It was evident that the Tourists

enjoyed our hot season because it was produced the tan they wanted. During the year, there were more holiday makers from Kenya up-country than usual, and hotliers were well patronised. Another colourful occasion was the 4th of December, when Kilifi District Show run by A.S.K., was opened and our Warden participated in this Show inconjunction with the Game Department and the Fisheries Department. The Ministry of Tourism and Wildlife's Stand won first position in Government Trade stands. Items of display included like fish and corals from the Marine Park in an aquarium and the Game Department displayed animals from the Nairobi Animal Orphanage and the Fisheries Department displayed preserved and dried fresh water fish.

Law Enforcement:

Three fishermen who were illegally in the Park were arrested and fined Shs. 250/- each and this acted as a good deterrent to other would-be poachers. The local fishermen who did not appear to understand what we were trying to do however hit lack in November while the Warden was on leave. About 20 people purporting themselves to be fishermen attacked the Rangers at Watamu and the Junior Assistant Warden informed the Police after which appropriate and swift measures were taken to normalise the situation.

On the 22nd February, 1972, two local African, and two Italians were arrested 2 miles from the lagoon engaged in spear fishing. These people purporting themselves to be fishermen attacked Rangers. Despite conclusive evidence no prosecution was effected although the 4 people were arrested 2 miles from the lagoon. They were released by the National Park Warden.

Amongst the important visitors who toured the Park during the period under review were members of the Trustees of Kenya National Parks who had one of their Full Board Meetings in Malindi on May, 1972. President Kaunda's family visited the Park when they were in Kenya for a holiday. Other important visitors in the Park were Robert Higgins of the Smithsonian Institute, Washington D.C.; Mr. Robertson of World Wildlife Fund; Hon. Mr. Ekra, Minister for Tourism and Wildlife, Ivory Coast; Mrs. J. Koitie, wife of Permanent Secretary, Ministry of Tourism and Wildlife; Capt. Kelly, Commander of Kenya Navy; Mr. & Mrs. Robert Kan of the Council of Environmental Quality from Washington D.C.; and many other dignitaries. Headquarters staff of Kenya National Parks also visited the area.

MOUNT ELGON NATIONAL PARK:

Poaching:

A forest-sweeping type of anti poaching patrol started during the last quarter of 1971 and the method was effective as it nets the poachers, discovers their wire snares and scares off latent poachers. Altogether 5 hideouts were discovered and destroyed. A total of 34 snares were removed from the bush. Most of the poachers use their dogs for hunting and a total of 6 dogs were killed, one of them with a bell on the neck for the purpose of warning the poachers when the dog has killed an animal. This method is, of course, a disadvantage to them as it warns our patrols of their whereabouts.

Whilst poaching in Mount Elgon National Park has been fought with all the means at our disposal, there remains a lot to be done to eliminate poaching activities in the Park.

KITALE AGRICULTURAL SHOW:

Our stand, combined with the Game Department, Kitale won a third prize certificate. This was the first time for our Ministry's stand to win a prize at Kitale and our sincere congratulations go to all the staff who made this show a success, especially Mr. Daniel Nyeki, our Assistant Warden, who devoted his time to completing the necessary arrangements in time.

Game News:

A uniformly coloured colobus was found abandoned by its parents on 27th October, 1971. The baby was captured and brought to the Park Headquarters, where it at first seemed to be doing well. Unfortunately, the baby became sick after a few days and it was taken to Kitale Veterinary Clinic and a fee of fifteen shillings paid for its treatment. However, it died a day later of unknown cause. Another young black and white colobus found in the same state died after a lot of efforts to keep it comfortable in a cage.

Bushbuck:

An albino bushbuck is staying near Chepuyalili Caves. This is a very interesting sight for anyone who has not seen a half-white bushbuck. A total of sixteen bushbucks perished in some old latrine pits at the former Kimothon Village adjacent to the Park. We immediately filled the pits with soil.

Vervet Monkeys:

An orphaned vervet monkey was brought to the headquarters on 6th April, 1972. The monkey is doing well and has become a

lively receptionist tourists entering the Park.

Elephant:

Elephants in Mount Elgon National Park enter and stay in the caves found in the Park. They rest in these caves in hundreds and our officers noticed them licking the walls or blowing dust over themselves. During the first week of June 1972, one of them fell into a crevice in Kitum Cave by accident. The animal could not extract itself and died. We recovered the tusks after the tourists visiting the cave reported the incident to us.

Saiwa Swamp:

Saiwa Swamp is becoming increasingly popular as the best place for seeing Sitatunga in Kenya. Both local and foreign visitors to the Swamp have been on the increase and we are hopeful that this area will be gazetted as a National Park next year.

SHIMBA HILLS NATIONAL PARK:

Bush Clearing:

It was necessary to clear the bush growing in an area of at least 00 hect (hectares) between No. 3-No. 6 to enlarge our present grasslands. This will be extended in future if time allows to the other areas that need similar extensions and we hope to provide as much grass land as possible next year.

Animal Notes:

Roan Antelope:

During the period under review it was observed that there were three established herds of roan with territorial claims: each herd comprising of 4 to 6 animals. The number of roan frequently observed during the period in review were approximately 17 animals, although we reckon the Reserve carries more Roan than these.

Sable Antelope:

The officer in charge recorded that the sable antelope population was on the increase. At one time over 44 animals were counted at Longomagadi Camp Zone. We estimate these animals to be well over 100 in the Reserve and after the rains lot of young ones were born.

Other Animals:

Most species particularly buffaloes, elephants and plains game took refuge in the Reserve to avoid wanton killing in the neighbouring settlement. We received regular complaints from

the farmers that animals were destroying crops and in a few cases leopards and lions were reported as having mauled domestic animals and frightened innocent people.

MOUNT KENYA AND ABERDARE NATIONAL PARKS:

Mount Kenya National Park — General:

The establishment of the new Headquarters at Naro Moru and the organization and training of the Rescue Team have been basically the main occupation during the year and keeping the administration abreast with the fantastic rate of growth of tourists that visit the Mountain.

Assistant Warden (Cadet) W. K. Labosso was posted to Naro Moru on 6th October, 1971, where he supervised all road works, buildings, participated on various rescues, and assisted with the administration of several rescue training exercises for the Police and Parks Personnel at Lukenya, Ndeiya, Hells Gate and finally on the Mountain. He was posted back to Meiga Headquarters at the end of June, 1972.

Numerous National Mountain Rescue Committee Meetings and adhoc meetings were held to organize and coordinate the rescue training programmes which involved close liaison with the Police and the Austrian Embassy. We were indeed fortunate to obtain the services of Mr. Phil Snyder, a very experienced American mountaineer. He was engaged by the Rescue Committee on a daily paid basis, to closely supervise, organize and train the Police and Parks Personnel at Lukenya, Ndeiya and Hells Gate. During October, November and December he knocked the men into shape and brought them up to a high degree of climbing ability that enabled the trainees to absorb the second Austrian Training Mission scheduled to include the cruel rigours of the mountain. Mr. Snyder was later engaged as an Asst. Warden.

In February, 1972, the second Austrian Training Mission arrived and a training camp was set up in the Teleki Valley on the mountain at 1,400 feet. The Austria Instructors assisted by Mr. Phil Snyder spent four weeks teaching ice-snow-and-rock climbing techniques at high altitudes including cold condition bivouacs. The climax to the exercise was the successful ascent of the second summit Nelion, 17,022 ft. by 14 trainees (7 from each organization, — Parks and Police). It was interesting to note that the original groups consisted of 14 men from each organization, and after dropouts 50% succeeded; further drop-outs are clearly expected. The mountain conditions were not popular with a number of the softer hearted men, who grasped any excuse to leave the mountain. The tough ones however became confident and proved themselves very good, efficient and able. Further training continued on the

mountain after the Austrian team departed, in preparation for the final Austrian Mission schedule for October, 1972.

Mountain Rescues and Searchers:

Several emergencies occurred during the year under review, with one death involving an elderly German, Doctor Hans Hoffmann, who died from a heart attack whilst in the Teleki valley at 14,000 feet on the 20th January, 1972. His body was carried down the mountain. On 18th October, 1971, a member of a Royal Marine Detachment, Marine Merritt was carried down from Top Hut, suffering from pulmonary oedema. Airdrops of the drug Lastix were made, which facilitated early administration and Marine Merritt quickly recovered at the Consolata Mission Hospital at Nyeri.

On the 9th December, 1971, a German climber was carried down the mountain, after which he too made a rapid recovery from pulmonary oedema. Fortunately he was evacuated during the early stages and treated with Lastix, an important diuretic vital in the treatment of this dreaded attack.

On 26th December, 1971, a young African boy of 19 years named Jasper Imwene Osang'ri was carried down suffering from a very severe and very advanced condition of pulmonary oedema. The Warden made airdrops of Lastix and we successfully got the patient to the Consolata Hospital, where Xrays revealed an extremely serious condition showing over 90% blood fluid congestion of the lungs. He was treated with the aid of the new positive pressure cyclator, and he made a total recovery within a week.

On 22nd July, 1972, a Game Warden, Mr. Shadrack Oltone who was accompanying Assistant Warden John Muhanga on the mountain, replenishing drug and oxygen supplies, developed early symptoms of pulmonary oedema. Fortunately Assistant Warden Muhanga acted quickly and administered Lastix, in response to which Mr. Oltone recovered, and was able to descend with limited assistance.

On 7th March, 1972, two German climbers were lost on the upper reaches of the Sirimon route. Fortunately they were quickly traced by aircraft, without serious mishap.

In late June, 1972, a Canadian climber was lost on the mountain for nine days. He had taken a circuitous route around the Entrance ate avoiding the payment of entrance and camping fees. He became involved in snowstorms in the vicinity of the main peaks and finally after many days returned to Naro Moru Gate, just at we were in the process of mounting a search operation on the strength of information received from the workmen engaged on the bridge building, who had seen him. They had originally thought

that he was bona fide, but their suspicions became aroused several days later when they realized the climber was alone. We released him with a reprimand as we considered that he had suffered enough and had learnt from his stupidity.

The Mountain continues to grow in popularity and a corresponding increase in emergencies must be anticipated. We are confident that our resources, experience and high standard of training of the Rescue Team will be more than capable of meeting up with all eventualities. Around and atop the Mountain; Park fire danger was low due to high and constant rains.

Crime:

A total of 8 cases were taken to court during the year, all involving petty cases of kuni cutting, trespass and honey hunting.

Patrols have operated in all areas throughout the year, and no doubt these activities have proved a deterrent to any would be poachers. Poaching in the Aberdare Park has never constituted any major threat, and would well appear to be now at an all time minimum.

Mount Kenya National Park:

Work carried out included road maintenance, involving much grading, bulldozing and widening of both the Naro Moru and Sirimon tracks periodically during the year, in conjunction with roadside bush clearing. Continuous rain caused considerable havoc on the roads and much repetitive work has to be done.

Seven four roomed permanent houses for staff were completed. Two further buildings consisting of a two roomed Gate Office and Ranger room, and another main store and Assistant Warden's Office were also constructed. Rhino gates were installed and a permanent engine room constructed. The staff are very comfortably accommodated now, and work continues re-erecting, on a more permanent basis, some of the old off-cut temporary house. The Naro Moru Headquarters is now looking very attractive, set among the large forest trees and the log cabin type houses in keeping with the mountain background.

Percival's Bridge on the Naro Moru route was completely rebuilt, strengthened and widened, now that heavy machinery has to gain access to the upper reaches of the road.

A start has been made on the construction of three visitors cabins situated at the head of the Naro Moru track. These cabins will contain 10 bunks each and will accommodate 30 visitors. This accommodation will enable visitors to stay at a road head, thereby preventing frequent last minute rushes up the Mountain

and will theoretically reduce the incidence of pulmonary oedema cases.

The Mountain Club of Kenya have commenced carrying the materials for the new Austria Hut, and construction will start shortly at the site of the Arthur Firmin Memorial Hut that was burnt down accidentally in December, 1971.

Aberdare National Park — General:

Rainfall is a decisive factor in these high mountainous zones and minor jobs frequently assume major proportions at such times, and work programmes totally upset and help up for long periods. We have below a rainfall chart showing the amount of rain around the Park. These figures are interesting and clearly illustrate the long periods of wet seasons prevailing, particularly in the higher zones.

Airfield maintenance has been carried out and work has commenced on the construction of a new airfield at Fort Jerusalem at an altitude of 10,500 feet. This will be the highest airfield in East Africa and will serve as a firefighting operations base, and other park administrative operations including anti-poaching patrols.

Treetops Hotel and The Ark:

Both Lodges have done exceedingly well, with Treetops being full most nights of the year, and the Ark proving progressively more popular as its reputation continues to grow.

Game attendance has been phenomenal at both Lodges, with the elusive bongo antelope and leopards showing themselves at very regular intervals at the Ark in particular.

As usual both Lodges continue to have a great appeal to many dignitaries and important members of States from all over the world, who never fail to enjoy the relaxing atmosphere prevalent in the mountain forest environment.

Notable visitors included Mr. Sprig Agnew, the American Vice-President, who was met on arrival by a large bull elephant. He was later entertained by a rather lengthy performance of two rhino's making violent love. Mr. Karan Singh, the Minister of Tourism and Civil Aviation from New Delhi, accompanied by the Indian High Commissioner, enjoyed a very successful game viewing night. The Zaire Chief Game Warden Mama Lesingina spent a comfortable night at the Ark.

Fireplan:

Suitable conditions prevailed during October, 1971, with the result that we were able to carry out very extensive control burning

over most of the Aberdare moorlands, in conjunction with the Forest Department. The operations were controlled both from the air and on the ground, and proved to be very successful burning a mass of accumulated dead grass and vegetational litter. The fires were followed immediately by good rain, with the result that no high fire risk occurred during the following fire season, and the position is likely to remain secure for at least another two or three years.

Mr. Helmut Senn, a well known cable car Engineer from Austria visited both the Mountain Parks in May, 1972, on a scheme arranged between the Kenyan and the Austrian Governments to carry out a feasibility study and survey into the possibilities of cable car installations to enhance tourism. His report will be presented to the Ministry of Tourism and Wildlife in due course.

Aberdare National Park:

Mweiga HQ	347.5 mm	Culvert Camp	727.4 mm
Mweiga HQ	347 mm	Fort Jerusalem	914.4 mm
Gate		Miogo River	939.8 mm
Wandare Gate	567.8 mm	Kiandongoro Gate	968.4 mm
Magura River	850.9 mm	Ark Gate	458.9 mm
Karuru River	863.6 mm	Rionge Hill	762.0 mm
Queens (West)	894.7 mm	Nyeri Chania River	812.8 mm
Gate		Kurase Hill	787.4 mm
Treetops Gate	395.3 mm	River	

New National Parks:

The Trustees completed much ground work towards eventual gazettement of new National Parks and we are happy to report that subject to all things remaining unaltered, East Lake Rudolf; Saiwa Swamp; and Amboseli will be gazetted as National Parks and sometime in the future other areas like Kisiti; Kiunga; Lake Hannington; Mount Suswa; Hell's Gate, etc. that are currently under investigation might be gazetted as National Parks or National Reserves.

M. HYDER

Chairman

BOARD OF TRUSTEES OF KENYA NATIONAL PARKS

KENYA NATIONAL PARKS

BALANCE SHEET AT 30th JUNE, 1972

	K.£ s. c.	K.£ s. c.	K.£ s. c.	1970/1971 K.£ s. c.
LIABILITIES				
FUND ACCOUNTS:				
Development Fund —				
As per attached account	84,075. 6.30			
Water for Wild Animals Fund —				
As per attached account		264,250.10.50		
Donations Funds:				
As per attached accounts —				
Animal Arphanage (Nairobi)	1,729. 7.80			
Animal Veterinary Aid Fund	511. 7.95			
Kitengela Scheme	930.12.55			
Rift Valley Survey	1,323.17.00			
	<u>3,346.11.50</u>			
	2,967. 4.80			
	<u>90,389. 2.60</u>			
General Fund —				
Balance on General Income and				
Expenditure Account attached	39,178. 0.40			
Add: Balance at 30th June, 1971,				
brought forward	40,514. 9.55			
	<u>79,692. 9.95</u>			
	40,514. 9.55			
	<u>(36,939.14.16)</u>			
	93,963.17.99			
	5,799.15.14			
	<u>30,000. 0.00</u>			
	129,763.13.13			
	<u>191,000. 0.00</u>			
	191,000. 0.00			
	<u>91,000. 0.00</u>			
	1,294. 7.60			
	179. 6.55			
	256. 0.50			
	33. 5.45			
	<u>14,713.15.25</u>			
	16,476.15.35			
	155,250. 3.70			
	<u>19,099.13.83</u>			
	190,826.12.88			
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KENYA NATIONAL PARKS
BALANCE SHEET AT 30th JUNE, 1972
(CONTINUED)

	1970/1971 K.£ s. c.		K.£ s. c.	1970/1971 K.£ s. c.
LIABILITIES				
Brought forward	129,763.13.13		367,048. 3.98	381,827.12.88
DEFERRED LIABILITIES:				
Provision for Gratuities (Senior Staff)	2,403. 6.70			
Provision for Gratuities (Junior Staff)	7,999. 4.75			
	<u>9,686.16.70</u>	10,402.11.45		
CURRENT LIABILITIES:				
Sundry Creditors	1,944. 0.95	Chairman of Trustees		
National Social Security Fund	683. 5.50			
Kenya Union of National Parks' Employees	168. 6.00			
Central Organisation of Trade Unions (Kenya)	29.14.00			
Paymaster-General — PAYE Income Tax	1,051.11.00			
Provision for Audit Fee	500. 0.00			
	<u>3,066.19.25</u>			
			<u>K.£381,827.12.88</u>	<u>142,517. 9.08</u>
			<u>K.£381,827.12.88</u>	<u>142,517. 9.08</u>

AUDITORS' REPORT

We have examined the above Balance Sheet with the books and vouchers of the Kenya National Parks and we have obtained all the information and explanations we have required. The Balance Sheet is, in our opinion, properly drawn up to show a true and correct view of the state of affairs at 30th June, 1972, of the Kenya National Parks according to the best of our information and the explanations given to us, and as shown by the books produced to us.

KENYA NATIONAL PARKS

GENERAL INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1972.

EXPENDITURE		REVENUE	
To:	K.£ s. c.	By:	K.£ s. c.
Salaries and Allowances	75,611. 5.55	Grant-in-aid from Kenya Government	72,000. 0.00
Pension Fund Contributions	4,792. 4.80	Grant — Ministry of Works — for Maintenance of Roads	99,195. 0.00
Medical Insurance	171.12.70	Grant — Ministry of Works — for Maintenance of Airfields	12,900. 0.00
Leave Passage Allowances	720. 0.00	Grant — Ministry of Tourism & Wildlife — for Agricultural Showground Expenses	388.10.00
Provision for Gratuities (Senior Staff)	2,066. 2.85	Grant — Ministry of Tourism & Wildlife — for Implementation of Tripartite Agreement	5,520. 0.00
Provision for Bonuses (Senior Staff)	7,866. 6.70	Donation — Cash — Marine Parks	1.10.00
National Social Security Fund Contributions	4,041.12.60	Donation — Munitalp Foundation — for Mount Elgon	5,000. 0.00
Wages — Office and Clerical Staff	117. 6.80	Entry Fees — Car Passes	8,084. 0.00
Expenses — Office and Clerical Staff	3,669.19.75	Entry Fees — Passes (Marine)	53.10.00
Printing and Stationery	393. 2.25	Entry Fees — Persons	210,937.16.05
Postages and Telegrams	2,323. 9.90	Entry Fees — Vehicles	39,992.10.00
Telephone	3.18.40	Entry Fees — Animal Orphanage (Nairobi)	11,386. 7.50
Bank Exchange and Charges	2,203.12.35	Accommodation Fees — Aruba/Kitani/Ngulia Lodges	9,207. 5.10
Insurances — General	52.14.00	Camping Fees	7,168.14.60
Legal Expenses	255.12.00	Ranger Guide Fees	23. 0.00
Land Rent and Rates	7,983.19.40	Photography Fees	141. 5.00
Publications and Publicity	7,054. 6.55	Prospecting Fees	943. 6.45
Travelling, Subsistence and Attendance Allowances	1,223.14.90	Rent — "Treetops"	75. 0.00
Entertainment Fund — Chairman	600. 0.00	Rent — Kilaguni Lodge	11,360. 3.90
Honarium — Chairman	2,414. 9.10	Rent — Voi Lodge	17,255. 2.40
Expenses — National/International Conferences	8,292. 8.10	Rent — Ngulia Lodge	3,000. 0.00
Training Expenses (Staff/Recruits)	2,859. 6.20	Rent — The Ark	6,136.10.00
General Expenses	924.15.25	Rent — Camp Site	2,349. 0.00
Agricultural Showground Expenses	2,138. 9.50	Water Supply — Kilaguni Lodge	1,200. 0.00
Insurances — Aircraft	7,548.17.55	Hire of Lodge Equipment	932.17.00
Maintenance of Aircraft	2,221.14.90	Hire of Vehicles	547. 1.00
Petrol and Oils — Aircrafts	570.15.95	Sale of Guide Books, Maps, etc.	119.11.05
Expenses — Flying	2,800. 3.10	Sundry Revenue	3,948.19.00
Wages — Park Assistants	71. 4.05	Revenue from Shops and Trading	46,025.10.70
Expenses — Park Assistants	30,690.14.50	Interest received on Investments	333.12.25
Replacement of Vehicles/Equipment	4,612. 7.60	Interest accrued on Car Loans	1,140. 6.30
Licences — Vehicles/Equipment	3,409. 8.25	Rent — Kilaguni Lodge	311.16.20
Insurance — Vehicle/Equipment	4,969. 5.60	Less: Interest paid on Loan	66. 7.50
Maintenance of Vehicles/Equipment	14,402. 3.60		574,085.13.50
Petrol and Oils — Vehicles/Equipment	19,827.18.70		456,017. 0.45
Wages — Transport Staff	661. 9.10		14,882.16.50
Expenses — Transport Staff	9,289. 7.05		
Wages — Artisans	145.13.25		
Expenses — Artisans	46,311.16.50		
Wages — Labour	534.16.90		
Expenses — Labour	10,868.16.35		
Expenses — Animal Orphanage (Nairobi)	2,554.17.25		
Expenses — Animal Orphanage Staff (Nairobi)	121.17.50		
Expenses — Animal Orphanage Staff (Nairobi)	568.19.45		
Maintenance of Animal Orphanage (Nairobi)	951.18.50		
Maintenance of Lodges	9,592.16.05		
Maintenance of Camps and Buildings	93,848.15.95		
Maintenance of Roads	10,959.19.65		
Maintenance of Airfields	K.£415,578.10.15		
Carried forward	K.£574,085.13.50		
	470,899.16.95		

KENYA NATIONAL PARKS

GENERAL INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1972.

(CONTINUED)

	1970/1971 K.£ s. c.		1970/1971 K.£ s. c.
		Brought forward	574,085.13.50
		Brought forward	415,578.10.15
To:			
359,045.14.63		Maintenance of Fences, Signposts and Boundaries	2,988. 7.80
2,763. 8.95		Maintenance of Dams and Water Supplies	4,465.17.20
4,228.16.25		Maintenance of Workshops and Plant	2,074. 6.45
1,862.14.80		Maintenance of Office Equipment and Furniture	4,024.18.25
1,690.15.10		Maintenance of Radio and Scientific Equipment	992.17.40
1,410.11.45		Supplies for Upkeep of Lodges	1,765.14.95
1,140. 6.60		Wages — Rangers	31,999.14.75
27,528.13.75		Expenses — Rangers	3,455. 1.55
3,033.17.00		Commission on Guide Fees — Rangers	4.14.00
9,14.00		Wages — Ranger Field Force	12,254.10.40
10,045. 6.30		Expenses — Ranger Field Force	1,828.14.75
2,330. 7.75		Expenses of Honorary Officers	360. 0.00
360. 0.00		Animal Rescue, Transport and Maintenance	827.10.15
901.17.25		Trophy Rewards and Expenses	3,723.19.00
1,426. 0.35		Research	50. 0.50
20.18.00		Uniforms and Equipment	10,332.14.70
8,012.16.50		Electricity Supplies	2,437.11.30
—		Water Supplies	1,420.16.85
—		Marine Marks:—	
5,668.15.20		Wages — Junior Staff	6,133. 9.40
783. 4.85		Expenses — Junior Staff	656.16.85
337. 1.10		Maintenance of Boats	411. 2.75
264. 2.75		Petrol and Oils — Boats	370. 7.15
91. 9.00		Insurances — Boats	70. 8.20
211.10.95		Maintenance of Marine Equipment	212.13.65
48. 4.90		Loss of Trading — Fishing — Aruba Dam	—
—		Loss on Trading — Nairobi Park Filling Station	517.17.20
—		Bad Debts	28.17.75
450. 0.00		Provision for Audit Fee	450. 0.00
5,243.18.30		Rents — Housing (Senior Staff)	470. 0.00
30,000. 0.00		Transfer to Kilaguni Lodge Maintenance — Reserve in Balance Sheet	—
—		— Loan repayments during the year (balance)	—
—		Transfer to Reserve for the Replacement of Road Machinery/Equipment in Balance Sheet	—
—		Transfer to Development Fund — Provision for the Establishment of Education Centre — Voi — Tsavo East	25,000. 0.00
468,910. 5.75		Balance, being surplus, carried to Balance Sheet	534,907.13.10
1,989.11.22			39,178. 0.40
470,899.16.95			574,085.13.50
			470,899.16.95

KENYA NATIONAL PARKS

STATEMENTS OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 30th JUNE, 1972.

DEVELOPMENT FUND

	K.£	s.	c.
EXPENDITURE			
To: Junior Staff Quarters	15,243.	5.75	
Senior Staff Quarters	26,763.	6.50	
Construction of Buildings (Various)	3,144.	0.20	
Tourist Accommodation — Mount Kenya	525.	0.00	
Trout Fishing Camp — Aberdare	896.14	35	
Entrance Gates, Offices, etc.	892.17	95	
Game Blind/Camp Site — Tsavo East	34.10	0.00	
Ablution Facilities at Gates — Tsavo East	644.	6.20	
Camping Facilities — Ngulia — Tsavo West	743.18	50	
Animal Hospital and Pens — Animal Orphanage — Nairobi	3,341.	1.20	
Survey/Investigations — Lake Nakuru	1,500.	0.20	
Water Supplies — Shimba Hills	1,725.	0.00	
Camping Equipment — Education Centre (Nairobi)	100.16	15	
Bantam Radio Sets — Tsavo East	312.10	0.00	
Materials for Education Centre — Voi — Tsavo East	86.	1.00	
Equipment for Mountain Rescue — Mount Kenya	355.	1.80	
Aircraft (part-exchange) — Tsavo West	1,425.	6.70	
Elephant Enclosures	1,435.	16.30	
Survey/Demarcation — Southern Boundary — Tsavo West	2,174.	13.30	
Improvements to Airstrips	2,743.	9.40	
Tourist Roads	26,463.	17.65	
Internal Roads	8,959.	5.25	
Balance, carried to Balance Sheet	264,250.	10.50	
	K.£363,761.	8.90	
REVENUE			
By: Balance at 30th June, 1971, brought forward			84,075. 6.30
Grants-in-aid from Kenya Government (per Ministry of Tourism and Wildlife)			166,100. 0.00
Grants-in-aid from Kenya Government (per Ministry of Works)			82,000. 0.00
Grant — Fisheries Department — Water Supplies — Trout Fishing Camp — Aberdare			200. 0.00
Donation — East African Wild Life Society — Elephant Enclosure — Tsavo East			700. 0.00
Donation — East African Wild Life Society — Elephant Enclosure — Tsavo West			230. 0.00
Donation — East African Wild Life Society — Bantam Radio Sets — Tsavo East			312.10.00
Donation — World Wildlife Fund — Equipment for Mountain Rescue — Mount Kenya			355. 1.80
Donation — African Wildlife Leadership Foundation — Materials for Education Centre — Voi Tsavo East			95. 9.00
Donation — Dr. M. J. Coe — Banda — Tsavo East			326.17.00
Donation — Unspecified — Aberdare			30. 0.00
Donations — Sundry — Education Centre (Nairobi)			223.15.60
Compensation — Compulsory Land Acquisition			230. 0.00
Interest received and accrued on Investments			3,882. 9.20
Transfer from General Fund Account — Establishment of Education Centre — Voi — Tsavo East			25,000. 0.00
			K.£363,761. 8.90

WATER FOR WILD ANIMALS FUND

	K.£	s.	c.
EXPENDITURE			
To: Balance, carried to Balance Sheet			K.£ 3,559.14.70
			3,559.14.70
REVENUE			
By: Balance at 30th June, 1971, brought forward			K.£ 3,346.11.50
Donations:			
Donations received during the year			39.14.40
Sales:			
Ivory Souvenirs (less expens) ...			45.14.00
Interest:			
Interest received on Investments			127.14.80
			K.£3,559.14.70

DONATIONS FUND — ANIMAL ORPHANAGE (NAIROBI)

	K.£	s.	c.
EXPENDITURE			
To: Balance, carried to Balance Sheet			K.£ 1,729. 7.80
			1,729. 7.80
REVENUE			
By: Balance at 30th June, 1971, brought forward			K.£ 1,256. 3.00
Donations received during the year			419. 1.60
Interest received on Investments			54. 3.20
			K.£1,729. 7.80

