

THE DEVELOPMENT OF WILDLIFE UTILIZATION IN SOUTH WEST AFRICA

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ABSTRACT

A brief description of South West Africa is given together with its physiographic features. The development of the legislation regarding wildlife from the German period up to the present is given. Game laws are used to guard against over-utilization of this valuable natural resource. The history of conservation in the Territory is divided into three eras: an active period during German occupation; a second period of stagnation which lasted almost 40 years and a third dynamic period which started in the early fifties. The acquisition of land to form the various nature conservation areas, as well as their development, is discussed. The various wildlife practices, tourism, trophy hunting, game dealers and the trade in skins and hides, are mentioned. The importance of the ownership of game is stressed.

INTRODUCTION

South West Africa (SWA) lies between 17° and 29° S, and 19° and 29° E. It covers 824 268 km² with a population density of 1,04/km² (official figures for 1960). It is bounded in the north by the Kunene, Okavango and Zambezi Rivers and in the south by the Orange River, and has a 1 600 km Atlantic shoreline. It borders on Angola and Zambia in the north, Botswana and Rhodesia in the east and the Republic of South Africa in the south. Physiographically SWA may be divided into the coastal desert in the west, the escarpment, and the plateau to the east.

The desert is known as the Namib. It stretches along the full length of the Atlantic coast and is c. 72 km wide. Between the Orange and Kuiseb Rivers an extensive dune area occurs, while another very much smaller dune area lies to the south of the Kunene River. In the central region, between the Kuiseb and the Hoanib Rivers, sand dunes only occur in the immediate proximity of the coast. Large areas consist of gravel peninsulas and, towards the east, Inselbergs. The vegetation is sparse and for the greater part the ground is bare. The Namib is traversed by several seasonal river courses which carry animal and plant life far into the desert itself.

The escarpment is no true escarpment as found on the south-eastern side of the subcontinent, but rather a mountainous transition belt, which is sometimes completely absent, such as between the Swakop and Ugab Rivers. The vegetation on the escarpment is denser and of a much more complex and varied nature.

The inland plateau forms part of the great African plateau. It reaches its highest elevations, between 1 500 m and 2 579 m, along the western rim. This forms the watershed between the rivers draining into the Atlantic Ocean and the endoreic basin of the Etosha Pan in the north and into the Molopo further south. For the greater part the inland plateau is a featureless plain with isolated mountain outcrops such as the Waterberg, Karasberg and the dolomite mountains between Otavi, Tsumeb and Grootfontein.

The highest precipitation, 750 mm per annum, is in the north-east. The rainfall declines towards the south and west, the Namib Desert and the far south receiving only an average of 25-50 mm per annum. The vegetation is for the greater part correlated with the average rainfall and local soil conditions. It varies from a dense woodland in the north-east, through open savanna country to the short shrublands of the south. As can be seen from the above, almost two-thirds of the territory may be considered to be marginal or submarginal.

THE DEVELOPMENT OF LEGISLATION

The first hunting regulations in SWA came into force during 1892. Hunting was open all the year round but, before a hunt could be organized, permission had to be obtained from the Governor. The only restrictions at this stage were that elephant cows (*Loxodonta africana*) and calves were protected against hunting and there was a closed season for ostriches (*Struthio camelus*) from 1 August to 31 October every year. In 1896 the closed season for ostriches was extended to 31 November.

During 1902 the first ordinance was proclaimed and signed by Governor von Estorff. It was called "Verordnung betreffend Jagd der Ausübung der Jagd in Deutsch-Südwest Afrika Schutzgebiete". Certain areas were closed to hunting (these areas were proclaimed as game reserves by Governor von Lindequist in 1907), and it was furthermore illegal to set any form of traps or snares. The Territory was divided into districts (later to become magisterial districts) and each district had an official known as a District Chief. This District Chief had the authority to enforce hunting seasons of varying duration for various game species depending on circumstances in his district every year.

In 1909 a few amendments to the game ordinance of 1902 were passed. The one amendment made provision for the Governor to give permission for any of the protected game to be shot for "economic or scientific reasons". A general closed hunting season from 1 November to the end of February also came into force, although the District Chief still had the authority to shorten or lengthen the hunting season according to conditions in his district. One also had to obtain the permission of landowners to hunt on their land.

The ordinance remained in force when the Territory was occupied by the South African forces in 1915 and E.H.L. Gorges was appointed Governor of the Military Regime. In 1921 a Game Preservation Proclamation came into effect, which was based on the legislation in use during German occupation. The SWA Administration was established in 1925 and E.H.L. Gorges became the first Administrator. The first meeting of the new Legislative Assembly took place in 1926 during which time the Game Preservation Ordinance No. 5 was passed. This extended the list of protected game species considerably and hunting licences had to be obtained from the Secretary for SWA. Section 8 of this ordinance made provision for some form of management in that "every person who has taken out a big game licence . . . shall within one month . . . furnish a return in writing showing the number, sex and variation of big game killed by him". At this stage licence fees were 20

pounds "for the killing or capture of not more than 16 animals". The trade in ivory and rhino horns also now became illegal.

Then followed the International Convention for the preservation of African fauna and flora in London in 1933 which resulted in Ordinance 19 of 1937 which read:

"To provide for the preservation of the fauna and flora of the Territory in their natural state and to amend in other aspects the law relating to the preservation of game".

Apart from *Welwitschia mirabilis* which was protected from 1916, this ordinance now for the first time included the protection of plants. Enforcement of the game laws until then had been the sole responsibility of the SWA Police. This ordinance also permitted interested people to help with the applicable law enforcement in the capacity of honorary game wardens.

This legislation was again improved in 1951 by Ordinance 11 which gave more details about honorary game wardens and made provision for the appointment of game wardens in game reserves. Also of great practical effect was the authority given in this Ordinance to the Administrator to establish a Board to be known as the Game Preservation and Hunting Board, to consist of not less than five members. Their duty was to oversee the preservation of game and to make any necessary recommendations to the Administrator.

This "Hunting Board", as it was generally known, was terminated by Ordinance 18 of 1958 and replaced by the Parks Board, with similar functions and duties to those of the previous board. It became more specialized, and consisted of the chairman who was the member of the Executive Committee charged with Game Preservation, the Director of Agriculture, the Deputy Commissioner of Police, the Chief Native Commissioner, a member of the SWA Farmers' Association, a member of the Hunters' Association and in an advisory capacity the then Chief Game Warden and at present the Director of Nature Conservation and Tourism.

Furthermore, it provided for the creation of the Etosha Game Park. This Ordinance was also notable in that it enabled farmers to have their property proclaimed private game reserves with the same legal protection as a game park. Between 1958 and 1972, 132 farms, with an area of 1 021 902 ha, have been proclaimed.

The Division of Nature Conservation and Tourism was the first in southern Africa to, subject to Ordinance 31 of 1967, ". . . give the owner or occupier of a farm full ownership of all game, other than specially protected and protected game, while such game is lawfully upon such farm and while such farm is enclosed with a sufficient fence". It furthermore made provision for the farmer to lease his hunting rights to any competent person. This, as well as the right for a visitor from overseas to hunt for trophies throughout the year, was a major concession to the trophy trade in SWA.

This Ordinance also changed the name of the Parks Board to the Nature Conservation Board, and the Etosha Game Park to the Etosha National Park.

In general the game laws in SWA have served their purpose well, and as the utilization of this very important natural resource develops, the Ordinance is changed annually to facilitate the development of certain aspects or, more important, to guard against over-exploitation which could lead to its destruction.

DEVELOPMENT OF AN OFFICIAL NATURE CONSERVATION BODY

The development of nature conservation in SWA may be divided into three very distinct eras.

The first era

This covers the period of German occupation when conservation was actively practised with the formulation of hunting laws and the proclamation of game reserves.

The second era

Then followed a period of stagnation which lasted almost 40 years, during which time virtually no progress was made regarding conservation as a whole. Various Ordinances were proclaimed but enforcement in the vast area of SWA was virtually impossible, especially since no officials directly responsible for nature conservation existed. In the 1930's a Captain Nelson was appointed as game warden at Namutoni as an experiment. He was, however, dismissed after a few months. In the early 1950's a revival of the conservation concept led to the third era.

The third era

The necessity for appointees to deal solely with nature conservation matters was realized and in 1947 J.J. Pienaar was appointed the first additional game warden (the Secretary for SWA being the Game Warden) in a full-time paid capacity. He was stationed at Otjiwarongo and was in charge of Game Reserve No. 2. Until then Game Reserve No. 2 was "managed" by the Native Commissioner stationed in Ovamboland at Ondangwa. The need for wildlife management practices to be based on scientific principles was recognized and the first biologist, B.J.G. de la Bat, was appointed in 1953.

During this period the three existing Game Reserves, and legislation regarding game laws, were the responsibility of the General Branch of the Administration. This branch also handled many aspects which could not be attached to any other branch of the Administration. In 1955 the section "Game Preservation" was established with B.J.G. de la Bat as its first chief. The personnel, who until then were appointed on a 1 year contract basis, became incorporated in the Administration of SWA. By 1963 the activities of this section assumed such proportions that it became the Division of Nature Conservation and Tourism. The progress by, first, the section and now the Division since 1955 is spectacular, especially if viewed against its achievements as shown in Table 1.

TABLE 1. Development of the division of nature conservation and tourism in South West Africa.

	1953	1963	1972
Status	Subsection	Section	Division
Staff	15	46	593
Budget	R16 000	R105 200	R2 112 000
Conservation areas	3	3	12
Private Game Reserves	0	47	132
Rest Camps	1	3	6
Tourists	6 210	73 478	228 916

The Division diversified to a considerable extent in 1969. It was divided into five sections, each with an officer in control. This meant that the Director could delegate much of his responsibilities leaving him free for more immediate and important matters. The five sections which now formed the Division were Tourism, with a control tourist officer and two chief tourist officers, one in charge of rest camps to the north of Windhoek and the other of those to the south; Nature Conservation, with a control nature conservator and a chief nature conservator for game reserves to the north and one for game reserves to the south (regional nature conservators were stationed in Windhoek, Otjiwarongo and Keetmanshoop, their main function being law enforcement); Research, with a chief professional officer in charge; an inspectorate for accommodation establishments and finally an Administrative Section. This latter section is also in charge of the subsections Roads and Maintenance. Since Table 1 was completed, the Tourism and Nature Conservation sections have almost doubled in staff.

ACQUISITION OF LAND

On the establishment of the sub-section Game Preservation in 1955 three game reserves were under its jurisdiction, viz., Game Reserves No. 1, 2 (the present Etosha National Park) and 3 (Namib Desert Park). In contrast with the Etosha National Park where the boundaries were changed several times before being finalized by legislation in 1970, the boundaries of the Namib Desert Park remained virtually the same since its proclamation in 1907. The only change was in 1958 when the eastern boundary was moved inland and the northern boundary northwards to include land to the north of the Swakop River. This enlarged the game reserve with an additional 5 120 km².

The three game reserves only represented three ecological regions of SWA. Several more areas were required to protect a representative sample of each habitat and its characteristic fauna and flora, to fulfill a basic aim of conservation. This, however, was not an easy task as available land was scarce. Two factors, however helped; large areas of the country are marginal and not suitable for viable farming, especially in the extreme south and western regions; the building of two large dams, one in the Fish River and the other in the Swakop River, meant that farms that were to be submerged or partially submerged had to be bought out. This land surrounding the man-made lakes was then handed over to the Division of Nature Conservation and Tourism for development.

In other areas, however, where viable farming was being practised, detailed ecological surveys and other research were required to motivate acquisition. The merit of these applications had to be approved by the Nature Conservation Board before being laid before the Executive Committee. The acceptance of the Odendaal Commission's proposal that some 400 farms were to be bought out to enlarge existing Native Homelands resulted in an increase in the value of farming property and also in a large number of farmers looking for other farms to settle.

Despite all these problems, the aim of a game reserve in each habitat has been achieved to a large extent. Since 1962/63 when the Division of Nature Conservation and Tourism became a reality, ten nature conservation areas have been proclaimed at a rate of almost one

a year with a total of 1 830 289 ha. Approval has also been given for two existing game reserves to be enlarged: the Fish River Canyon with some 400 000 ha to include the Huns Mountains, and the Naukluft Mountain Zebra Park with 144 000 ha to include all of the Naukluft Mountain massif and to link up this game reserve with the Namib Desert Park. Furthermore, Giess (1971) recognizes 15 major vegetative zones in SWA, of which 12 are protected in the present game reserves (See Fig. 1, Table 2, 3 and 4).

TABLE 2. The major vegetation zones in South West Africa (Giess 1971) with the game reserves in which representative areas are protected.

Vegetative zone	Game reserve
Desert:	
1. Northern Namib	Skeleton Coast Park
2. Central Namib	Skeleton Coast Park
3. Southern Namib	Namib Desert Park
4. Desert and succulent steppe (Winter rainfall area)	Fish River Canyon extension
5. Saline desert with dwarf shrub savanna	Etosha National Park (fringe of pan)
Savanna:	
6. Semi-desert and savanna Transition (escarpment zone)	Naukluft Mountain Park
7. Mopane savanna	Etosha National Park
8. Mountain savanna and karst veld (Otavi and Tsumeb dolomite mountains).	Not protected
9. Thornbush savanna (tree and shrub savanna)	Von Bach Recreation Resort
10. Highland savanna	Daan Viljoen Game Park
11. Dwarf shrub savanna	Hardap Game Reserve
12. Camelthorn savanna (Central Kalahari).	Not protected
13. Mixed tree and shrub savanna (Southern Kalahari).	Not protected
Woodland:	
14. Tree savanna and woodland (Northern Kalahari)	Waterberg Plateau Park (Caprivi Game Reserve)
15. Riverine woodland	Namib Desert Park

TABLE 3. Distribution of land in South West Africa in 1972.

	km ²	Percentage
1. Total surface area of South West Africa	506 054	
2. Total diamond area	51 790	10,2
3. Total proclaimed conservation area	54 638	10,8
4. Approved extensions	5 440	1,1
5. Proclaimed Private Nature Reserves	10 219	2,0
6. TOTAL PROTECTED AREA	112 087	24,1

1. Does not include Native Homelands.
2. For all practical purposes game reserves as no unauthorised people are allowed to enter, and the game is protected.
3. Does not include game reserves proclaimed and being proclaimed as game reserves in Native Homelands.
4. Extension of existing game reserves approved by the Executive Committee.
5. Does not include areas of Government land not yet issued for farming or other development.

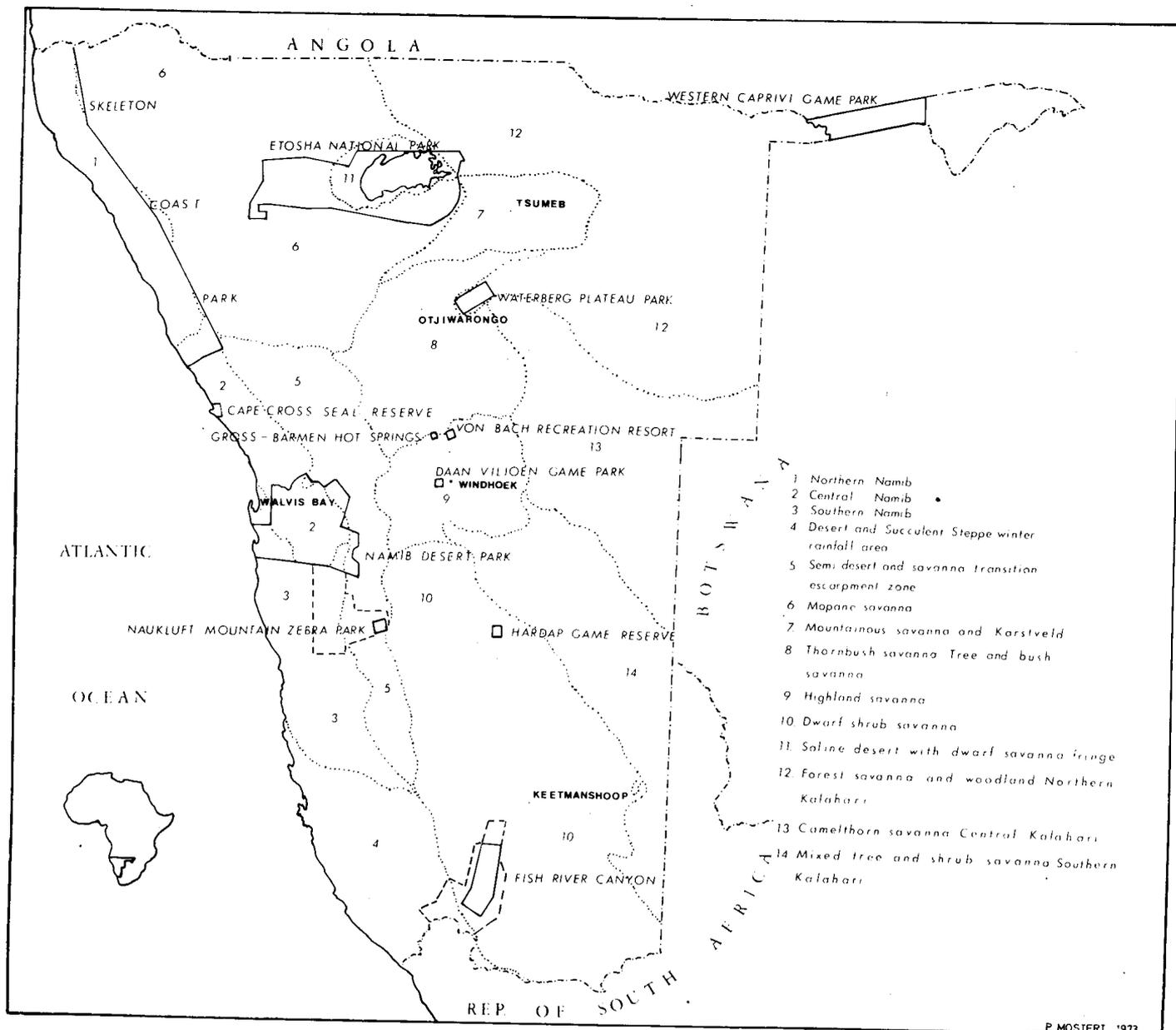


Fig. 1. The location of the 12 nature conservation areas in S.W.A. in relation to the vegetation zones. The broken lines indicate approved extensions.

TABLE 4. Nature conservation areas in South West Africa protected by legislation in 1972.

Conservation area	Date established	Size in ha	Present value per ha	(1) Land value total
Etosha National P.	1907	2 227 000	R16	(2) R22 250 000
Namib Desert P.	1907	1 409 500	+	+
Daan Viljoen G.R.	1962	3 953	R25	R 98 825
Caprivi G.R.	1963	53 000	R15	R 750 000
Hardap G.R.	1964	15 845	R17	R 269 365
Fish River Canyon P.	1965	(3) 46 117	R 3	R 138 351
Gross-Barmen	1966	103	R20	R 2 060
Naukluft Mountain Zebra P.	1967	(4) 21 986	R 6	R 131 916
Cape Cross	1968	6 000	+	+
Skeleton Coast P.	1971	1 639 000	+	+
Waterberg Plateau P.	1972	40 000	R18	R 720 000
Von Bach R.R.	1972	4 285	R20	R 85 700
TOTAL		5 466 789		R24 546 217

+ Difficult to determine land value, desert country but with undetermined mineral deposits.

(1) Rest camps and other improvements not taken into consideration.

(2) Excluding the surface of the pan itself.

(3) Will be enlarged in near future by an additional 400 000 ha.

(4) Approved by the Executive Committee to be enlarged by an additional 144 000 ha.

The area covered by game reserves under the jurisdiction of the Division in SWA (this does not include game reserves in Native Homelands) forms at present 10,8 per cent of the total area in SWA. As already mentioned, approval has already been given to add another 1,1 per cent. The diamond areas in SWA may also be considered specially protected game reserves as nobody is allowed to enter these areas without permits and no hunting is allowed. This increases the area under protection by another 10,2 percent. Private nature reserves constitute another 2 percent, to bring the overall total to 24 percent.

DEVELOPMENT OF NATURE CONSERVATION AREAS

A shortage of trained personnel and of funds, and the rather sudden increase in the number of conservation areas during the last decade, have made it difficult to develop the conservation areas. Of the 12 conservation areas only four have rest camps with facilities for tourists. The game reserves which have been developed partially are the Etosha National Park, the Daan Viljoen Game Park, Hardap Game Reserve, Ai-Ais in the Fish River Canyon Park and the Namib Desert Park. It was decided early on to concentrate on those areas on the main tourist routes. (When all the conservation areas are fully developed camps of approximately equal size are envisaged throughout the Territory, on a circular tourist route.) This policy had additional advantages in that it gave the Division time to "experiment" in some of its older game reserves and to acquire considerable experience; it allowed the acquisition of trained staff and let them settle in; and it satisfied tourist requirements for some time.

When the development of the earliest game reserves was begun no masterplan for present and future development and management existed. Despite this a sensitivity to the environment existed and the camps and road networks linking these camps were all situated to create the minimum disturbance to the local fauna and flora. These developments were so successful that all the reserves comply with the International Union for the Conservation of Nature's prerequisites for national parks and equivalent reserves. The early developments also fit into the masterplan of all conservation areas which is now being put into practice.

This masterplan is based on the zonation concept. All areas under the jurisdiction of the Division of Nature Conservation and Tourism will be known as Nature Conservation Areas. These areas are subdivided into two main categories, viz. game reserves and/or nature reserves; and recreational areas.

Game reserves and nature reserves are in turn zoned into four areas.

Special conservation areas

In these areas no development will be permitted, except for protective purposes. Entry will be controlled and shall be for scientific reasons only.

Wilderness areas

These will be natural areas of such size as to contain, as far as possible, the complete flora and fauna of the locality and should bear no more than incidental signs of occupation by civilized man. Development within these areas will be limited to tracks, suitable only for 4-wheel drive vehicles, and such temporary structures,

constructed of natural materials, as may be necessary for administrative purposes.

Natural areas

These will include areas served by roads (to which vehicles will be restricted), in which the interests of the fauna, flora and historical sites are nevertheless paramount. Accordingly over-development of the road system will be avoided and all roads will be aligned so as to harmonise with the natural ecosystems with minimum disturbance to wildlife and its habitats.

Development areas

These will be areas set aside within the Park for tourist amenities, permanent staff quarters, administrative, interpretative and research installations (see Table 5).

WILDLIFE MANAGEMENT PRACTICES

Tourism

Of the various management practices intended for financial gain, the biggest money spinner is the tourist trade. Tourism, however, if not properly controlled also represents one of the biggest problems conservation faces today. The tendency to over-develop and commercialize natural areas can be seen all over South Africa. SWA, however, has — owing to the long distances and only recent paving of roads — been largely saved from the public pressure and income from the tourist trade that have caused problems to many conservation authorities. The most important advantage in this respect, is that in SWA there is, as the Director has called it, "a happy marriage between nature conservation and tourism" under one department.

Despite this the importance of tourism, both for income and public backing, is realised. The present policy of the Administration is, however, not to advertise its tourist attractions, because the Territory does not at present have the facilities to accommodate a sudden increase in tourist numbers. Development over the last number of years has been fast, however, and it is with this in mind that the Administration has started with the grading of accommodation establishments in the Territory. Loans amounting to approximately R3,5 million have been granted for improvements to existing establishments. The Division had six tourist camps under its management last year (another is to be added this year), four of which came into use during the last 5 years at a cost of more than R5 million. Another three are in an advanced stage of planning.

The number of tourists handled by the Division last year (1972) was 228 916 compared to 215 736 the previous year. The income from the tourist trade amounted to R860 440,07 compared with R546 274,19 in 1971.

TABLE 5. Zonation of areas under the jurisdiction of the Division of Nature Conservation and Tourism.

Nature Conservation Areas	
Game and nature reserves	Recreation areas
Special conservation areas	Recreation resorts
Wilderness areas	Sports fields
Natural areas	
Development areas	

This was despite the fact that two rest camps were damaged by floods and were closed for considerable periods of time. With only two conservation areas developed to almost their optimum, and six conservation areas still undeveloped, the number of tourists and the revenue from the tourist trade can still increase by more than five times the present figures without taxing the conservation areas at all (see Tables 6 & 7).

Trophy hunting

Trophy hunting is very much in its infancy in SWA. This may be attributed mainly to the relatively small variety of trophy animals in the territory — they are mainly kudu (*Tragelaphus strepsiceros*), gemsbok (*Oryx gazella*), springbok (*Antidorcas marsupialis*), hartebeest (*Alcelaphus caama*), eland (*Taurotragus oryx*) and Hartmann's mountain zebra (*Equus zebra hartmannae*); the fact that no hunting concession areas exist in the territory; the relatively low numbers of the various species of animals; and the fact that until 1967 the legal position was such that it did not encourage trophy hunting.

TABLE 6. The number of tourists handled by the various rest camps and revenue derived from the tourist trade in 1972.

	Tourist numbers	Revenue
Etosha National Park	81 669	R374 250
1. Hardap Recreation Resort	38 730	R 16 858
2. Ai-Ais Hot Springs	8 577	R 71 407
3. Daan Viljoen Game Park	60 536	R 23 568
4. Namib Desert Park	14 128	R 11 621
5. West Coast	24 444	R 10 836
6. Von Bach Recreation Resort	832	401
Trade — Shops, etc.		R351 499
TOTAL	228 916	R860 440

1,2 Both were closed for extended period due to damage caused by floods (Ai-Ais was closed for half its tourist season).

3,4 Figures largely made up by day visitors.

4,5,6 Only the minimum of facilities are provided, with no rest camps.

Despite this, SWA has recently become known for its fine trophies, especially for kudu, gemsbok and springbok, and several records have been collected during the last few years. The small variety of trophy species has the advantage that only the dedicated and experienced trophy hunters visit the Territory to complete their trophy collection. The novice rather visits the East African and Botswana hunting areas, where animals are more varied and numerous, to get the biggest collection in the shortest possible time.

The first official trophy hunting in SWA started in 1959. Fortunately, in Ordinance 18 of 1958 a clause stating that the Administrator could give permission to very important visitors to hunt during the non-hunting season provided the proverbial "escape clause". Until 1967 a safari leader had to apply for each individual trophy hunter to the Administrator. These requests were normally granted, provided the prospective hunter was a foreigner.

During the next decade trophy hunting slowly became established in the Territory and in 1967 legislation was passed to accommodate it. Provision was made for foreign visitors to hunt trophy animals throughout the year apart from those specially protected. Furthermore hunting safaris now had to register with the Division of Nature Conservation and Tourism for accommodation, and the camp facilities had to comply with strict requirements. There has, however, been such an increase in the number of trophy hunters in SWA, as well as such a variation in prices and quality of services, that it has been decided to revise the legislation for hunting later this year.

In SWA all trophy hunting is done on private farms. Trophy hunting has many advantages to the Territory and the farmer. It earns valuable foreign currency. Approximately 50 percent of the foreign trophy hunters buy ammunition and spend a lot on expensive gifts such as karakul pelt garments and semi-precious stones. The main advantages to the farmer are that he earns an income with minimal outlay, has little responsibility and normally gets the meat of the killed animal. The amount paid to every farmer for a trophy animal varies, as it is a private arrangement between him and the

TABLE 7. Rest camps managed by the division of nature conservation and tourism in South West Africa, 1972.

	Established	(2) Size (beds)	(1) Approximate costs
ETOSHA NATIONAL PARK:			
Okaukuejo	1955	292	R1 184 275
Halali	1967	278	R 807 197
Namutoni	1958	171	R 423 500
FISH RIVER CANYON PARK:			
Ai-Ais Hot Springs	1971	320	R1 310 314
DAAN VILJOEN GAME PARK:			
(3)Daan Viljoen Restcamp	1964	58	R 259 936
HARDAP GAME RESERVE:			
Hardap Recreation Resort	1972	188	R1 848 591
WEST COAST:			
Mile 14	1970	250 sites	R 75 049
(4)Swakopmund Restcamp	1973	960	
(5)Mile 4	1973	560 sites	

1 Includes staff housing, administrative buildings etc.

2 An almost equal number of camping facilities exist in each camp.

3 Mainly day visitors.

4,5 Taken over from the Swakopmund municipality at a cost of R2,5 million.

safari leader. The normal prices are approximately R100 for an eland, R35 for a gemsbok or a kudu and R10 for a springbok. A total of 209 trophy hunters visited SWA last year. Using the average price for a trophy and at one trophy of each species per hunter, revenue amounted to approximately R62 700,00 during 1972.

Game dealers and trade in skins and hides

Two game dealers have been operating in the Territory since the early 1960's. They concentrate on export, while the Division with the aid of its game capture team supplies farmers with game. The registered game dealers are allowed to capture game on private land with the owner's permission. They have to apply to the Administration for export permits and are only allowed a certain quota for the protected and specially protected species. This method has proved to be a satisfactory control mechanism.

When legislation was passed in 1967 which made the farmer the owner of the game on his fenced-in farm, many said that it would be the end of game on private land in SWA. The Division hoped that the farmer would recognize the economic value of his game and show a responsible attitude towards this important natural resource. This is what happened and from 1967 the value of game, especially live game, increased sharply. During 1972 permits were issued for 3 3134 head of game to be sold. Calculated at the Administration's prices when selling game to farmers, the farmers netted R219 445,00 from the sale of these animals. Farmers, however, tend to get higher prices. Licenced game dealers earned R215 250,00 from the export of game. The value was calculated at the average prices given by dealers. They paid export levies to the amount of R8 376,00 to the Administration.

There is a 2 months' hunting season and last year a total of 4 577 hunting licences was sold. Unfortunately the receivers of revenue do not keep statistics and the number of each species cannot be ascertained. It is therefore also difficult to determine the exact revenue for the farmers. If, however, the calculation is based on the number of hides marketed, the revenue must have been approximately R56 254,00. The Administration keeps an administrative fee of 50c per licence and thus netted R2 288,00 from the licences (Table 8).

TABLE 8. Estimated revenue for the territory from game, carcasses, hides and hunting licences during 1972.

Sale of live game by farmers	R219 445,00
Export of game by dealers	R215 250,00
Sale of carcasses by farmers	R171 496,00
Export of hides by dealers	R213 732,50
Levies on export of hides (State)	4 695,38
Hunting licence fees for farmers	R 56 254,00
Levies on hunting licences (State)	R 2 288,50
Trophy hunters' fees for farmers	R 62 700,00
Levies on trophy hunting licences	R 5 225,00
Sale of game by Administration	R 2 682,00
Levies on export of game (State)	R 8 376,00
TOTAL	R967 144,00

DISCUSSION

Five aspects are normally mentioned when wildlife utilization is discussed: they are tourism, trophy hunting, game dealers, game ranching and the trade in hides and skins. Of these five only the first, tourism, does not include the actual handling of game, and it is also the one least utilized by the private sector in a wildlife utilization sense. Wildlife is generally known to be a renewable resource; what is not so well known is that it becomes non-renewable under certain conditions, for example when the population of a species falls below a critical level. H. Scott Gordon (1954) showed that when a resource is held as common property, as in the case of sea fisheries, this leads to its exploitation and may lead to the extermination of a species which should be conserved on economic grounds.

As already stated, legislation is used to guard against over-exploitation in SWA. Over-exploitation is economically inefficient. This was the situation in the Territory up to 1967 when the general practice was to shoot game on one's land before it become available to one's neighbour. This is also pointed out by H. Scott Gordon (1954) who says "There appears . . . to be some truth in the conservative dictum that everybody's property is nobody's property". Legislation in 1967 changed this and the attitude at present is to conserve and keep the game on one's property with the aid of gameproof fences, salt licks, reducing hunting pressure by more selective hunting and various other methods. This had led to a much more efficient wildlife utilization, to the advantage of the whole Territory.

When conservation in SWA is discussed outside the Territory, the Odendaal Commission's report is invariably mentioned and sharply criticized. It is true that the Kaokoveld was excised from the "Etosha Game Reserve" as it was known then, but equally true that the Kaokoveld was only a game reserve on paper, in actual fact being a native homeland utilized and denuded as such. What really troubled people who knew the Territory was the land to the west of Otjovasandu between the Hoanib River in the north and the Ugab River in the south and the Atlantic Ocean in the west, which was added to the Damara Homeland. This area was exchanged in 1962 for Game Reserve No. 1, which was deproclaimed as game reserve and became part of the Kavango Homeland. The western part of the Etosha Game Reserve abounds with game, especially Hartmann's mountain zebra, black rhinoceros, springbok and elephant. The statement by the Deputy Minister of Bantu Administration and Development in 1971 that that area will be turned into a game reserve for the Damara Homeland was received with great appreciation.

However, a fact which is normally not realized is that the Odendaal Commission's report managed to make the SWA public conservation-conscious, as nothing else would have been able to do. Indirectly, it also made the acquisition of land elsewhere in the Territory for conservation purposes a little easier. This led to the diversification of the game reserves amongst various biotic regions throughout the Territory, which in turn is probably preferable to having one large game reserve.

At present wildlife in SWA is utilized over a wide spectrum, although the utilization in certain sectors is only in its infancy, but it shows vigour and promises to become a well-established industry. Economic success is the only way to ensure a lasting conservation policy, as

well as to justify possible expansion of conservation areas. To ensure a healthy growth and development of wildlife utilization in the Territory, extensive use is made of legislation and guidance of the farmers by the Division, the latter based on research work. SWA foresees a bright future for conservation in the Territory.

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