

52. *Lighthouse* :
- (a) Reserved on 21.8.1939.
 - (b) 7.28 morgen in extent.
 - (c) Situated in the Cwebe Forest Reserve near Elliotdale (Umtata area).
 - (d) For the protection of indigenous forest comprising yellowwood, sneezewood, ironwood, stinkwood and Cape boxwood.
53. *Umbanyane* :
- (a) Reserved on 21.8.1939.
 - (b) 1.04 morgen in extent.
 - (c) Situated in the Cwebe Forest Reserve near Elliotdale (Umtata area).
 - (d) For the protection of typical indigenous coastal forest with Cape boxwood.
54. *Dlokolwana* :
- (a) Reserved on 24.6.1935.
 - (b) 22.68 morgen in extent.
 - (c) Situated in the Insikeni Forest Reserve near Umzimkulu.
 - (d) For the protection of indigenous forest comprising wild lemon, sneezewood, wild peach, red pear, Camdeboo and black stinkwood.
55. *Di Kadiki* :
- (a) Reserved on 9.10.1936.
 - (b) 21.50 morgen in extent.
 - (c) Situated in the Insikeni Forest Reserve near Umzimkulu.
 - (d) For the protection of indigenous forest comprising yellowwood, sneezewood, ironwood, assegai and red pear.
56. *Umtavuna* :
- (a) Reserved on 9.2.1931.
 - (b) 118.12 morgen in extent.
 - (c) Situated in the Weza Forest Reserve near Port Shepstone.
 - (d) For the protection of indigenous forest comprising white stinkwood, sneezewood, Kaffir plum and red stinkwood, as well as for the protection of the natural scenery.
57. *Bazeni* :
- (a) Reserved on 17.9.1931.
 - (b) 66.15 morgen in extent.
 - (c) Situated in the Ingwangwane Forest Reserve near Polela (Pietermaritzburg area).
 - (d) For the protection of indigenous forest, comprising yellowwood, black ironwood, lemon wood, knobthorn and Camdeboo stinkwood.
58. *Xumeni* :
- (a) Reserved on 17.6.1940.
 - (b) 99.69 morgen in extent.

- (c) Situated in the Sarina Forest Reserve near Polela (Pietermaritzburg area).
 - (d) For the protection of indigenous forest comprising yellowwood, sneezewood, stinkwood, assegai, black pear and white pear and South African beech, as well as for interesting shrubs and ferns.
59. *Mikobi* :
- (a) Reserved on 6.7.1933.
 - (b) 188.99 morgen in extent.
 - (c) Situated in the Dukuduku Forest Reserve near Hlabisa (Eshowe area).
 - (d) For the protection of natural scenery and the protection of flowers.
60. *Helpmekaar* :
- (a) Reserved on 2.3.1939.
 - (b) 15.54 morgen in extent.
 - (c) Situated in the Broederstroom-Woodbush Reserve near Letaba.
 - (d) For the protection of the indigenous forest comprising assegai, wild chestnut, lemon wood, ironwood, blackwood and cypress for purposes of study.
61. *Patatabos* :
- (a) Reserved on 7.3.1939.
 - (b) 37.80 morgen in extent.
 - (c) Situated in the Broederstroom-Woodbush Reserve near Letaba.
 - (d) For the protection of indigenous trees (as in the Helpmekaar Reserve) and as a beauty spot for the public.
62. *Entabeni* :
- (a) Reserved on 25.2.1939.
 - (b) 26.41 morgen in extent.
 - (c) Situated in the Entabeni Forest Reserve in the Soutpansberg.
 - (d) For the protection of indigenous virgin forest, comprising red pear, essenhout, white stinkwood, wild chestnut and waterbessie for purposes of study.
63. *Veraskop* :
- (a) Reserved on 25.2.1939.
 - (b) 9.78 morgen in extent.
 - (c) Situated in the Entabeni Forest Reserve in the Soutpansberg.
 - (d) For study of natural rejuvenation of an indigenous timber forest destroyed by fire.
64. *Skelmwater* :
- (a) Reserved in 1938.
 - (b) 4.50 morgen in extent.
 - (c) Situated in the Hangklip Forest Reserve in the Soutpansberg.
 - (d) For the protection of 12 large baobab trees and other indigenous

tree species such as sandvaalbos, marula, witgat, mopani kannedood, white stinkwood, wild chestnut and lemonwood.

65. *Magalieskop* :

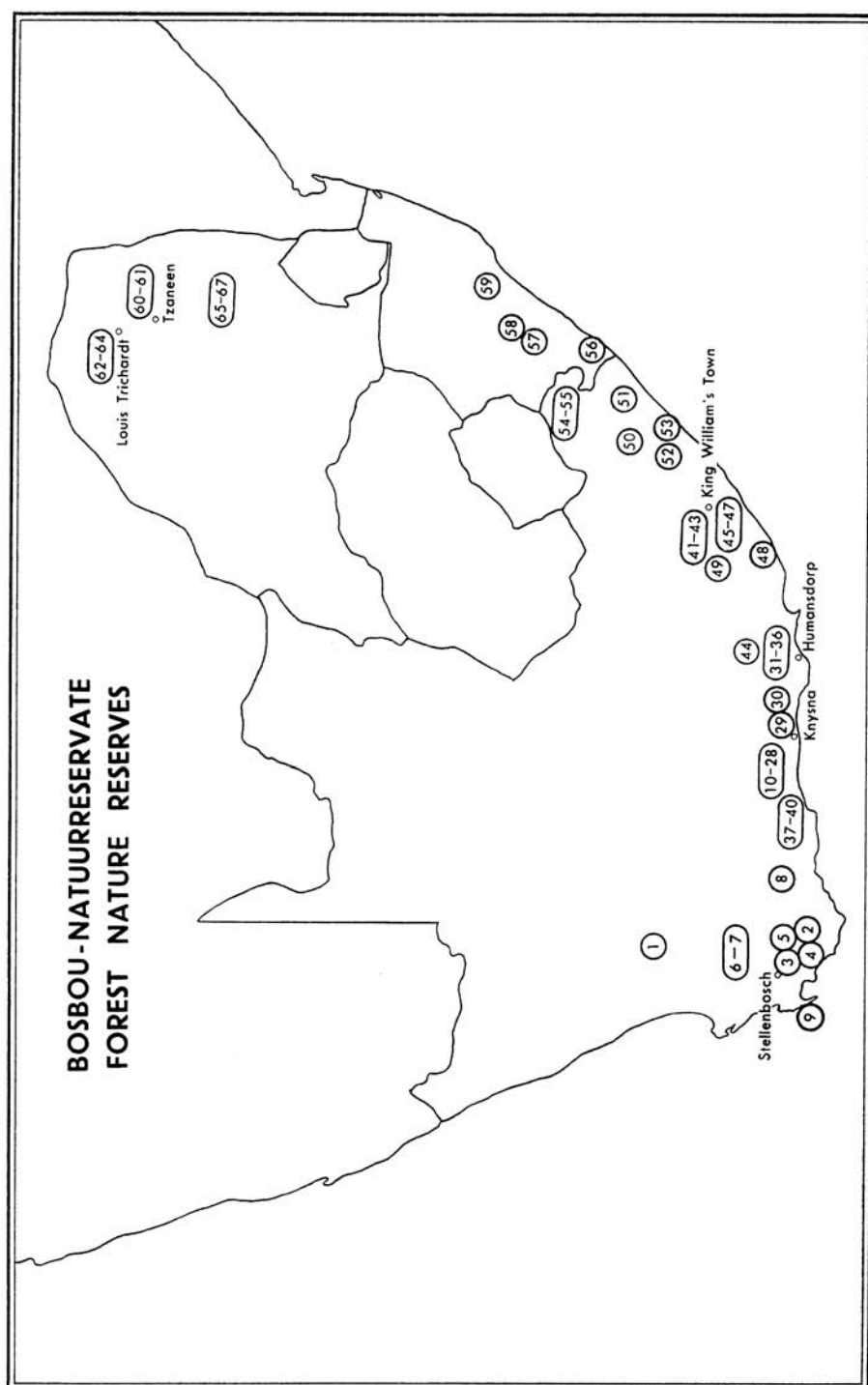
- (a) Reserved on 5.6.1940.
- (b) 22.68 morgen in extent.
- (c) Situated in the Mariepskop Forest Reserve near Pilgrim's Rest.
- (d) For the protection of indigenous tree species such as terblans, Cape beech, ironwood, yellowwood and assegai. Also a beauty spot for the public.

66. *F. C. Erasmus* :

- (a) Reserved on 27.5.1958.
- (b) 7,799.90 morgen in extent.
- (c) Situated in the F. C. Erasmus Nature Reserve, district of Pilgrim's Rest.
- (d) For the protection of indigenous vegetation and tree species typical of the Lowveld such as kiaat, marula and Cape beech.

67. *Flora* :

- (a) Reserved on 10.3.1959.
- (b) 54.50 morgen in extent.
- (c) Situated in the Mokokulaan Forest Reserve near Pilgrim's Rest.
- (d) For the protection of a small species of kaffirbreadfruit tree (*Encephalartos humilis*).



BOSBOU-NATUURRESERVATE FOREST NATURE RESERVES

LEGENDE

LEGEND

- | | |
|----------------------------------|------------------------|
| 1. Algeria. | 34. Klein-Witelsbos. |
| 2. Kathleen Murray. | 35. Bloueliebos. |
| 3. Swartbos-Sasynkloof. | 36. Die Plaats. |
| 4. Rooskraal. | 37. Groenkop. |
| 5. Assegaaibos. | 38. Woodville. |
| 6. en 7. Zevenfontein A en B. | 39. Jonkersberg. |
| 8. Marloth-Blomreservaat. | 40. Geelhoutboomberg. |
| 9. Hout Bay. | 41. Pirie. |
| 10. Lelievleibos. | 42. Wolf Ridge. |
| 11. Lelievlei. | 43. Nyokana. |
| 12. Kombos. | 44. Loerie. |
| 13. Garden of Eden. | 45, 46, 47. Fort Grey. |
| 14. Koffiehoek. | 48. Water's Meeting. |
| 15. Witels (Knysna). | 49. Auckland. |
| 16. Grooteiland-Wapad. | 50. Ceasar Henkel. |
| 17. Fesanthoek. | 51. Tonti. |
| 18. Petrus-Brandrivier. | 52. Lighthouse. |
| 19. Spitskop. | 53. Umbanyane. |
| 20. Modderlyn. | 54. Dlokolwana. |
| 21. Grootboom (Big Tree). | 55. Di kadiki. |
| 22. Watervalbos. | 56. Umtavuna. |
| 23. Streepbos. | 57. Bazeni. |
| 24. Forest Creek. | 58. Xumeni. |
| 25. Skelmkloof (Die Eiland Bos). | 59. Mikobi. |
| 26. Hontini. | 60. Helpmekaar. |
| 27. Kleinbos. | 61. Patatabos. |
| 28. Rooiwal. | 62. Entabeni. |
| 29. Keurboomsrivier. | 63. Veraskop. |
| 30. Grootrivier. | 64. Skelmwater. |
| 31. Ratelbos. | 65. Magalieskop. |
| 32. Cold Stream. | 66. F. C. Erasmus. |
| 33. Witels (Humansdorp) | 67. Flora. |

DEPARTMENT OF ENTOMOLOGY-ZOOLOGY

Although this Department is not concerned with nature conservation as such, the result of the activities of officers in controlling pests and encroaching vegetation must of necessity affect the ecology of the area in which these officers operate.

The Department has a staff specifically engaged on research in connection with and control of pests, but in the case of particular action temporary staff are employed :

1. *Quelea* (red-billed finches) : The staff consists of 2 professional officers and 2 technical officers and control is generally carried out by aircraft spraying large concentrations of quelea with contact poisons at night.
2. *Harmful Rodents* : Animals such as spring hare, mice, gerbilles, rats and moles can cause considerable damage to lands and plantations, and are controlled in various ways. One professional officer is responsible for this work.
3. *Crop-damaging insects* : Various species fall under this group, and are either controlled by means of a suitable poison, or efforts are made to apply biological control by introducing a natural enemy, in other words some parasite or other, to control the pest.
 - (a) *Locusts* : A staff consisting of 7 professional officers and 8 technical officers are responsible for this work, and during an outbreak they are assisted by temporary staff. Control is generally effected by scattering poisonous bait for hoppers or by air-spraying swarms with contact poisons.
 - (b) *Army worm* : Two professional officers are responsible for the control of this pest, but during extensive outbreaks they are assisted by temporary staff. Air-spraying with contact poisons is the best method of control.
 - (c) *Termites* : Harvester termites, in particular, may cause considerable damage to grazing, and 2 professional officers and 3 technical officers are responsible for their control. Control is effected by means of air-spraying with contact poisons or by distributing bait.
 - (d) *Insects causing damage to forests* : These insects constitute a great danger not only to our indigenous tree species, but also to our culti-

vated tree species especially. Control is in the hands of 2 professional officers and 4 technical officers. Air-spraying is also carried out in this case.

4. *Prickly pear and other cacti* : These plants have become a menace in certain parts of the country, and control has been assigned to an external division.

Biological control by means of insects and plant-destroying sprays even, where necessary, from the air made large areas of grazing available again.

The fact that this Department and the National Parks Boards work in close collaboration and particularly the fact that they often act jointly in the Kruger National Park, indicate that his work is also of particular significance to the nature conservator.

DIVISION OF SOIL CONSERVATION AND EXTENSION

Introduction :

Although the main object of this Division is to ensure that soil utilisation in farming is based on sound long-term planning, it is the result of the action following on planning that is so essential to the conservation of wild life in South Africa.

It is, of course, true that in the past farming activities were responsible for the ousting and driving away of game to other sanctuaries, and so numerous species of animals have disappeared from regions where previously they were present in large numbers. Yet, despite adverse conditions, only the true quagga, bloubok and Cape lion are today extinct.

At the same time, however, we owe a debt of gratitude to the South African farmer for the fact that there are still living examples of the black wildebeest, mountain zebra, bontebok and Addo elephant. Today nearly every farmer feels the need of protecting the game on his farm and where certain species have in fact disappeared, to introduce such species again. The old-fashioned notion that game and farming do not belong together has long been disproved.

The Soil Conservation Act No. 45 of 1946 :

In 1946 the Soil Conservation Act was passed by Parliament. This Act aims at the promotion of the conservation and judicious utilisation of the agricultural resources. This Act made possible the effective co-operation between State and farmer in their common task to control soil erosion and desiccation.

Planning is essential in undertaking conservation works, and in this respect the State assists the farmer, in making available suitably trained personnel.

The area of the Republic of South Africa is 473,000 square miles, i.e. approximately 143,000,000 morgen. Some five-sixths of this area, i.e. some 120,000,000 morgen, is suited to farming but only about 10 - 12% may be regarded as arable land, the remaining being either too mountainous or too stony.

Soil Conservation and Game :

Although conservation farming under the Soil Conservation Act embraces a great deal more than mere erosion control and water conservation, it is in fact these two aspects that are of so much value to the nature conservator.

In combating soil erosion (whether caused by wind or water), use is made of trees, shrubs and crops, in addition to the fencing off of such areas, whereby natural vegetation is protected and encouraged to form the necessary cover. Indigenous plants are usually used for this purpose, and this in itself is a valuable contribution to the conservation of our indigenous vegetation. It is, however, the shelter which wild animals are afforded in this manner, which is so important to the promotion of wild life on farms.

Game are very quick to respond to protection and if the sanctuary also offers sufficient shelter and food (including water), there will be a rapid increase in numbers. In the beginning mainly small game such as the hare and the smaller species of buck such as steenbok, duikers, etc., as well as birds such as pheasants, francolins and guinea-fowl, move in, but if the area is large enough, the larger species of buck could also find sanctuary there.

Usually weirs built with a view to the ultimate silting up of dongas initially serve as storage dams for water, and birds are attracted by water. Various species of wild duck prefer confined areas of water, and will soon feel at home and commence breeding.

Of the 102,704,622 morgen of land owned by Whites in the Republic about 95%, i.e. 99,612,098 morgen has since the promulgation of the Soil Conservation Act, been proclaimed soil conservation districts. This area represents about 90% of the land owned by White farmers. This means that 9 out of every 10 farmers in the Republic of South Africa have already solemnly undertaken to apply the necessary protective measures on their properties. Conservation farming plans have already been drawn up for 21,000 of approximately 108,000 farms in the Republic and these plans are in the process of completion. Each year an additional 3,000 farms are planned according to conservation principles.

Bearing in mind that through the conservation works on all these thousands of farms, favourable conditions are being created for wild life, the rôle played in nature conservation in South Africa by the Division of Soil Conservation and Extension cannot be sufficiently commended.

Conclusion :

The Division of Soil Conservation and Extension plays an extremely important rôle in the planning of conservation works in the National Parks of South Africa. With the advice and assistance of the staff of this Division, the Mountain Zebra Park in the Cradock district has been converted into a model area.

The Division is also keenly interested in nature conservation on farms and with the Director's permission, the project planned is quoted in full :

"ANNEXURE :

NATURE CONSERVATION

Compiled by Mr. J. P. J. van Vuren.

A. *Conditions which led to Project :*

Owing to the lack of appreciation of the economic as well as the aesthetic advantages of the protection and conservation of our fauna and flora to the country in general and to the farmer in particular, private landowners often neglect and even exploit our indigenous plants and game to such an extent that on many farms total extinction constitutes a constant threat.

Although nature conservation constitutes an integral part of the conservation pattern as a whole, no specific provision for this aspect has been made in the Soil Conservation Act.

This project is accordingly aimed at advocating and promoting those aspects of conservation for which no provision is made in the Act.

B. *Fundamental Objects :*

- (1) To regulate the basic resources, soil, water, vegetation and animal life in such a manner that the one will so influence the existence and function of the other that the balance of nature will be restored and biological stability will be ensured;
- (2) to allow the full development of both the aesthetic and the economic potential of these additional agricultural resources;
- (3) to develop the rural social recreational facilities by way of nature conservation;
- (4) to safeguard the fauna and flora on private farms against deterioration, exploitation and ultimate extinction;
- (5) to promote the knowledge of and love for nature and its various components on the part of both the public at large and the farming community; and
- (6) to protect and conserve resorts of scenic beauty and of socio-historical interest.

C. *Implementation of Programme :*

- (1) The collection of statistics concerning the present position as regards the nature conservation efforts on farms, to serve as a yardstick whereby the progress in this connection can be gauged from time to time.
- (2) Acquainting Regions and extension officers with objects and proposed method of carrying out the nature conservation programme.
- (3) The linking up, as far as possible, of nature conservation programmes with normal farm and soil conservation planning.
- (4) Interviews with Provincial and other Nature Conservation Organisations concerning the various aspects of nature conservation on farms with a view to co-ordination and co-operation.

- (5) Arousing the interest and co-operation of youth organisations and schools for the propagation of objects.
- (6) Making available —
 - (a) Visual educational aids (films, colour slides, photographs, posters, etc.).
 - (b) Publications, and
 - (c) Radio talks.
- (7) Organising —
 - (a) Excursions for, and
 - (b) Competitions between active participants.
- (8) The establishment of nature-conservation clubs, where matters of common interest can be discussed and promoted.
- (9) Formulating nature-conservation codes for voluntary application by participants.
- (10) The creation of sanctuaries (reserves) on farms for the various types of wild life (game, game birds and fish).
- (11) The introduction of game, birds and fish adapted to conditions.
- (12) The judicious utilisation of the products of nature conservation."

DIVISION OF FISHERIES, DEPARTMENT OF COMMERCE AND INDUSTRY

Before discussing the function of the Division of Fisheries in the conservation of sea life, it is essential to mention that :

- (a) Tidal rivers and lagoons in the Cape Province, except that portion of the Berg River (Piketberg district) and the Knysna River, which are affected by the tide, are under the control of the Provincial Administration of the Cape Province;
- (b) in Natal, the catching of the fish from the coast and in partly closed bays, tidal rivers and estuaries falls under the control of the Natal Provincial Administration;
- (c) seals and sea-birds fall under the control exercised by the Superintendent, State Guano Islands;
- (d) seaweed is controlled by the Department of Lands under the provisions of the Sea-shore Act, Regional representatives in Cape Town and Pietermaritzburg being the responsible officers; and
- (e) the Sea Fisheries Act does not apply to South-West Africa, since a separate Fisheries Ordinance is in force in that territory.

Seaweed :

Although control over seaweed along our coasts is vested in the Department of Lands, the Director of Fisheries is approached by the regional representative when there is a request to collect growing seaweed (as against seaweed that has been washed ashore). This is essential in view of the fact that the removal of seaweed from the rocks or bottom of the sea may well affect the fish, rock-lobster and other sea-life.

The Department has in its employ an algologist stationed at the University of Cape Town, who does full-time research into seaweed.

Marine Animals :

The Division of Fisheries concerns itself with the protection of fish and other marine animals of commercial importance, such as stockfish, sole, rock-lobster, crabs, perlemoen, oysters and various types of bait such as redbait, mussels, shrimps, bloodworms, etc.

Protection is afforded by the following methods :

- (a) By determining the minimum sizes of fish, rock-lobster, crabs, oysters, perlemoen and whales which may be taken or captured or which any person may have in his possession;
- (b) by determining the mesh size of various types of fish nets, in order that fish which are still too small, may escape before the net is hauled in;
- (c) by limiting or prohibiting the use of various types of nets in specific areas;

- (d) by prohibiting the catching of Cape rock-lobster (*Jasus lalandii*) which is moulting as well as the catching of crab or rock-lobster in berry;
- (e) by proclaiming sanctuaries where the catching of rock-lobster is prohibited;
- (f) the control of whale catching by the Republic's whaling company by way of special regulations in terms of the provisions of the Annexure to the International Whaling Convention of 1946, to which the Republic is a signatory;
- (g) by introducing closed seasons for the catching of pilchards, maasbankers, mackerel, snoek and for the collection of oysters.
- (h) by determining a maximum weight at which pilchards, maasbankers and mackerel may be caught;
- (i) by determining a maximum weight of rock-lobster that may be exported;
- (j) requiring permits for the collection of oysters, perlemoen, mussels, red-bait, etc., for commercial purposes, and limiting the number that may be collected by private persons for their own use;
- (k) by prohibiting the collection of mussels, perlemoen, bloodworms, pencil bait, etc., in certain districts as well as their removal and transport to places outside those areas;
- (l) by limiting the establishment of new factories for the processing or canning of maasbankers or perlemoen.

Application of Act and Regulations :

The Division of Fisheries is responsible for the enforcement of the following acts and regulations :

- (1) The Rock Lobster Export Act (Act No. 9 of 1940),
- (2) The Sea Fisheries Act (No. 10 of 1940),
- (3) The Fishing Industry Development Act (Act No. 44 of 1944) and amendment acts.

Regulations are contained in the Regulations governing Sea Fishing of 1955, as amended.

Fisheries Inspectors, members of the South African Police, Honorary Fishery officials, Fishing Harbour Supervisors and personnel of the Divisional Councils and local authorities ensure compliance with the provisions of the Acts and regulations.

The rock-lobster industry has, with the approval of the Division of Fisheries, appointed from the industry's own organisation, the South African Rock-Lobster Packers (Pty.) Ltd., four inspectors to assist in enforcing the regulations in respect of rock-lobster.

The Sea Fisheries Act provides for the control of sea fisheries, its object being the conservation of fish. As defined in the Act, the word *fish* does not include only fish, but also mammals found in the sea, such as whales and porpoises (but not seals), reptiles such as turtles and invertebrates such as oysters, crustaceans, sea worms, etc.

In the Cape Province fishery officers may exercise their jurisdiction along the coast, but they have no control over fishing in tidal waters of rivers, except in those of the Knysna and Berg Rivers. In the other rivers, the Cape Provincial Administration exercises control over fishing as well as over the collection of bait and shell-fish.

In Natal, the Sea Fisheries Act applies to sea fisheries only. Fishing in tidal rivers, estuaries and partly closed bays along the coast, or line-fishing and net-fishing from the coast, or the collection of shell-fish and bait, all fall under the control of the Provincial Administration of Natal.

Research :

Research is largely dependent on experimental catches in order to determine the effectiveness of conservation measures.

The research activities have for many years been aimed mainly at a study of pilchards and maasbankers. Since 1945 these fish have constituted the basis of a very large industry on our coast. The fishing industry of the Republic, together with that of South-West Africa, now ranks tenth in the world.

The Division of Fisheries has well-equipped laboratories for oceanographic research and a reference library at Sea Point, Cape Town, with an out-station at St. Helena Bay in the Vredenburg district. In addition, there are four research boats, namely R.S. *Africana II* (water-displacement tonnage 1,300 tons), R.S. *Sardinops* (250 tons), R.V. *Trachurus* (85 tons) and R.V. *Kunene* (85 tons).

The Division has a research staff of 24 professional and technical officers, and the officers and crew on the four boats number 61. They are assisted by a staff of 10 clerical officers.

Reserves :

There are 5 sanctuaries on the coast, where no person may catch or disturb any rock-lobster.

1. *Table Bay Sanctuary :*

The area within 3 nautical miles seaward from the low-water mark on the coast between the Diep River estuary and Oudeklip.

2. *Hout Bay Sanctuary :*

The whole of Hout Bay, bordered on the open-sea side by a straight line from Duiker Point directly opposite the bay up to Die Josie.

3. *Saldanha Bay Sanctuary :*

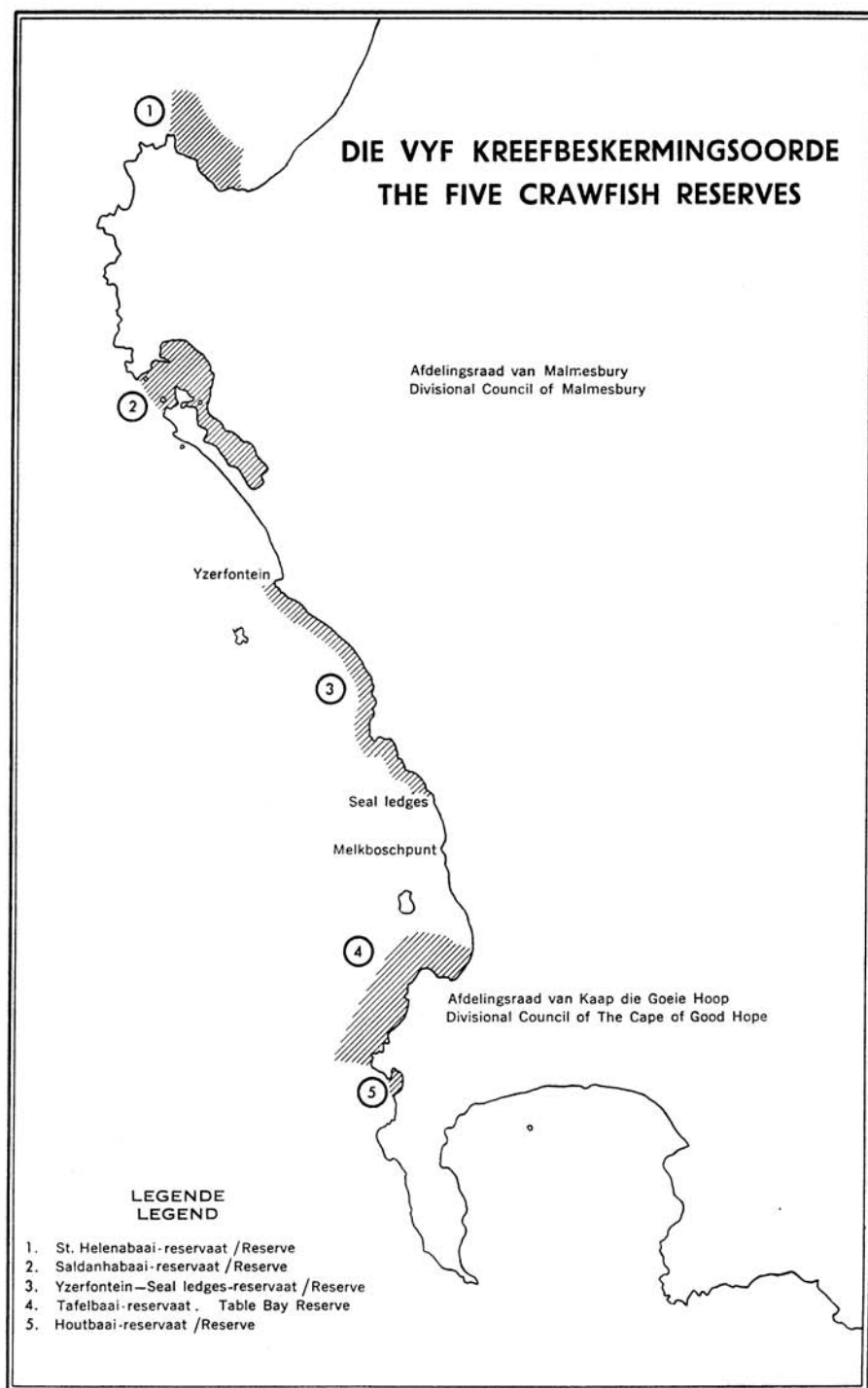
The whole of Saldanha Bay, bordered on the open-sea side by a straight line from North Head directly opposite the bay up to South Head.

4. *St. Helena Bay Sanctuary :*

The area within three nautical miles seaward from the low-water mark on the coast between Stompneus Point and Doctor's Reef.

5. *Yzerfontein-Seal Ledges Sanctuary :*

The area within half a nautical mile seaward from low-water mark on the coast between Yzerfontein and about a quarter of a mile to the north of Sea Ledges.



GUANO ISLANDS

Since 1890 the protection of sea birds and seals within the territorial waters along the coastline of the Cape of Good Hope Colony or on, or within three nautical miles from, the islands along the coastline of the Cape and South-West Africa (the latter islands became part of the Cape Colony by annexation in 1866), had been the function of the former Colonial Department of Agriculture and Forestry, and for that purpose a "Government Guano Islands Division" under the direction of a Superintendent was established on 1st July, 1898. But with the establishment of Union, it became the task of the Union Department of Agriculture and Forestry under the same Division. The administration of the State Guano Islands, as well as the protection of animal species on these islands, and the collection of guano and penguin eggs, and seal hunting was transferred to the Department of Commerce and Industry on 1st October, 1951, and since that date the Division, under the control of a Superintendent, falls under that Department.

Plant Life :

Land plants, with the exception of a few scattered saltbushes, are almost non-existent on the islands and, together with seaweed they are virtually automatically protected since no private person is permitted to remove anything from the islands. Vegetation on the islands is, however, not mentioned at all in the protective legislation.

Animal Life :

Only one mammal, the seal (*Arctocephalus pusillus* Schreber) and some 15 bird species of which the penguin (*Spheniscus demersa* Linn.), Cape gannet (*Sula capensis* Licht.) and cormorant (*Phalacrocoracidae* sp.) are the most important, are protected.

There are approximately 38 islands and rocks over which the said Division exercises control, the collection of guano and penguin eggs being the principal tasks. The most important islands are continually manned, but members of the staff do not pay regular visits to the minor ones, although all are patrolled by means of Divisional patrol services.

Some of the islands have few birds, because there are only a few places to breed or because these places are occupied by seals, but there are also some with neither seals nor sea birds because of a lack of the necessary food in the immediate vicinity.

Legislation :

The Act at present in force is the "Fish Protection Act" of 1893, as amended, and in accordance with section 2 of this Act the present basic operative authority for the control of the State Guano Islands, sea birds and seals has been granted by Proclamation No. 158 of 1936, as amended.

In accordance with this proclamation, the Superintendent of the State Guano Islands is appointed as controlling officer, and he is assisted by the island staff as well as by the skippers of two patrol boats appointed as special constables.

The proclamation *inter alia* provides that :

- (1) No person shall land upon any of the islands or rocks specified hereunder, except under the authority of a permit issued by the Superintendent;
- (2) no person shall, except under the authority of a permit issued by the Superintendent, kill, capture, shoot at or pursue any sea bird, or discharge firearms at any such bird, or use any other means whatsoever which may tend to disturb any such bird, or collect the eggs of any such bird, within the territorial waters of the Republic of South Africa along the coastline of the Province of the Cape of Good Hope, including islands along the coastline of South-West Africa, or within a radius of three nautical miles from islands or rocks specified in the schedules.
- (3) No person shall kill, capture or shoot any penguin (*Spheniscus demersa* Linn.), Cape gannet (*Sula capensis* Licht.) or cormorant (any variety) within the said territorial waters or within a radius of three nautical miles from any of the islands or rocks mentioned hereunder, or in any place 15 miles inland from the coastline of the Cape Province, except on or above any river or any lake or the estuary of any river and under the authority of and in accordance with a permit issued, on the recommendation of the magistrate of the district within which such river, lake or estuary is situate, by an officer authorised thereto by the Minister.
4. Unless authorised thereto by the Superintendent, no person shall kill, capture or pursue any seal (*Arctocephalus pusillus* Schreber) within the territorial waters of the Republic of South Africa along the coastline of the Province of the Cape of Good Hope or within a radius of three nautical miles from any of the islands and rocks specified hereunder (including islands along the coastline of South-West Africa).

Islands and Rocks :

1. Bird, St. Croix, Jahleel, Stag and other bird islands and contiguous rocks, Algoa Bay.
2. Seal Island, Mossel Bay.
3. Seal Point near Plettenberg Bay.
4. Seal Ledges and Walker Point, near Knysna.
5. Islands in and near the mouth of the Ratel River; Division of Bredasdorp.

6. Dyers Island, including Geyser Island and contiguous rocks, Bredasdorp coast.
7. Duikerklip, Hout Bay.
8. Seal Island, False Bay.
9. Vogelsteen and Robbensteen, Blaauwberg Beach.
10. Dassen Island, Malmesbury Coast.
11. Yzerklip, Malmesbury coast.
12. Foundlings Island, south of Saldanha Bay.
13. Jutten Island, in Saldanha Bay.
14. Malgas Island, in Saldanha Bay.
15. Marcus Island, in Saldanha Bay.
16. Schaapen and Meeuwen Islands, in Saldanha Bay.
17. Jacobs Rock, north of Saldanha Bay.
18. North West Rock, north of Saldanha Bay.
19. Paternoster Island, at Paternoster Point, Malmesbury coast.
20. Bird Island, Lamberts Bay, Clanwilliam coast.
21. Elephant Rock, near Olifants River, north of Vanrhynsdorp coast.
22. Sinclairs Island
23. Plumpudding Island
24. Pomona Island
25. Albatross Rock
26. Possession Island
27. Long Islands
28. Halifax Island
29. Penguin Island
30. Seal Island
31. Ichaboe Island
32. Mercury Island
33. Hollams Bird Island

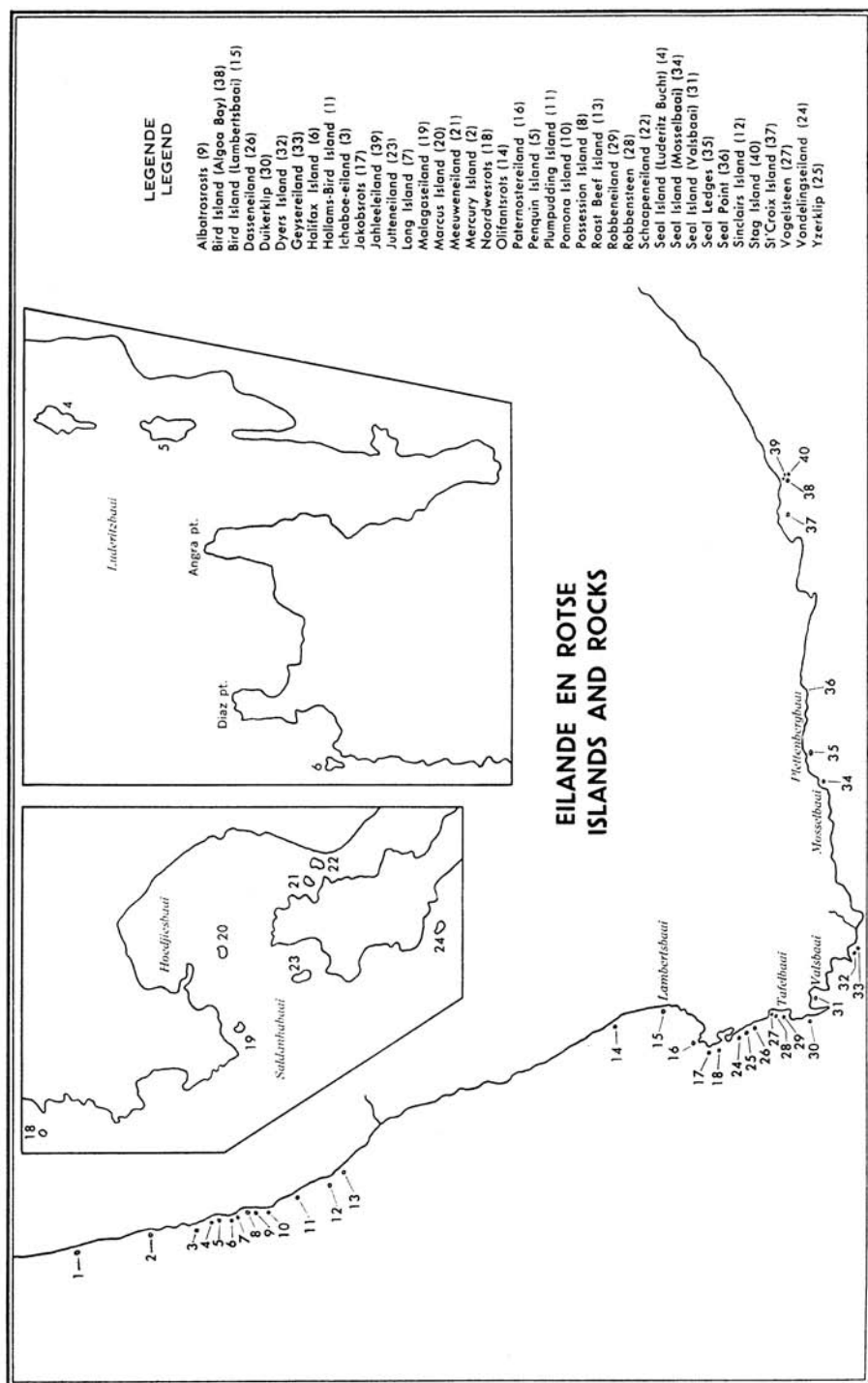
Situated off the coast of South-West Africa.

The principal guano-producing islands are Nos. 1 (Bird), 6, 10, 13, 14, 24, 26, 31 and 32 of this list, Ichaboe Island (No. 31) being by far the most important. The principal islands and rocks populated by seals are Nos. 6 (Geyser), 21, 22, 25 and 27.

Summary :

Guano is an extremely valuable natural fertiliser in farming, and for this reason it is essential that the sea birds should be under the protection of a responsible State Division.

In view of the fact that over-population of seals can adversely affect the catches of the local fish industry, judicious restriction of their numbers on certain islands and rocks is and has been necessary in the past. Moreover, the revenue derived from seal skins and seal oil is largely instrumental in keeping the State Guano Islands Division financially self-supporting.



Biological research is not at present being undertaken by the said Division, such research being undertaken by the Division of Fisheries of the Department of Commerce and Industry, while taxonomical work and biological studies on sea birds are conducted by the Department of Zoology of the University of Cape Town. Research on seaweed is being carried out by a phycologist of the Department of Botany of the University of Cape Town.

PRIVATE COMPANIES

The De Beers Consolidated Mines own a large number of farms, but only two are controlled as game farms. On the other farms, leased by the owners as grazing to farmers, there are game such as springbok, steenbok, duiker and game birds, but the lessees are not allowed to hunt such game. In this manner the Company also controls the game on those farms.

1. Rooipoort Estate :

- (a) Rooipoort has been controlled as a game farm since the turn of the century.
- (b) 47,180 morgen.
- (c) 22 miles from Kimberley (Longitude 24° 50' and Latitude 28° 40').
- (d) Springbok (*Antidorcas marsupialis*)
Impala (*Aepyceros melampus*)
Blesbok (*Damaliscus albifrons*)
Red hartebeest (*Alcelaphus caama*)
Black wildebeest (*Connochaetes gnou*)
Kudu (*Tragelaphus strepsiceros*)
Eland (*Taurotragus oryx*)
Steenbok (*Raphicerus campestris*)
Duiker (*Sylvicapra grimmia*).

Efforts are being made to establish the gemsbok (*Oryx gazella*) there as well.

The country is hilly and vegetation consists mainly of grass, thorn trees (*Acacia* spp.), karee trees (*Rhus* spp.) and wild olive (*Olea africana*).

Research is being undertaken at Rooipoort by the Staff of the McGregor Museum at Kimberley and the following are at present receiving attention :

- (i) A botanical survey, special attention being devoted to those plants eaten by the game.
- (ii) Habits of the springbok, particularly in regard to grazing and propagation.
- (iii) Increase in numbers of all the species of buck on the farm.
- (iv) Observations are made in connection with the distribution of all the species of buck over the area as well as daily and seasonal movements, several buck having been marked to facilitate identification. Many more buck will be marked.
- (v) The reaction of newly introduced species is being closely watched particularly of the types which were formerly indigenous in those parts, but

have now disappeared for some reason or other. The distribution and successful establishment in the "new" area is of great ecological significance.

- (vi) A study of the body measurements of the springbok in comparison with data available from other areas.

2. *Benaauwdheidsfontein* :

(a) Has also been controlled as a game farm from the beginning of this century.

(b) 12,978 morgen in extent.

(c) 7 Miles from Kimberley (Longitude $24^{\circ} 10'$ and Latitude $28^{\circ} 40'$).

(d) Springbok (*Antidorcas marsupialis*)

Black wildebeest (*Connochaetes gnou*).

Black wildebeest calves are captured on this farm from time to time to supplement the herd at Rooipoort.

The springbok herd is thinned out during the hunting season under strict control only, and then only to maintain the balance between grazing and the number of game.

The area is open grassveld, thorn trees (*Acacia* spp.) being the main species of tree.

Research on this farm is devoted exclusively to regular counts to determine the increase in the number of game. The number shot each year is determined according to increase.