SECTION A: CONSERVANCY DESCRIPTION

1. INTRODUCTION

Fransmanshoek Conservancy was established in 1994, therefore being the oldest established conservancy within the Western Cape. It is also the first to appoint full-time rangers. The main objectives of the conservancy are the conservation, protection and rehabilitation of the 14 km stretch of coastline, from Cape Vacca in the west to Springerbaai Eco-estate in the east, and associated inland sections. It is important to note that Cape Vacca and Kanon are no longer a member of Fransmanshoek Conservancy, however it was agreed that the Conservancy, Cape Vacca and Kanon will still be in collaboration concerning monitoring and compliance.

The natural beauty of the southern Cape is in danger of being scarred by the encroachment of ribbon developments along its coastline. The influx of people to coastal areas is also placing a further burden on our already stressed marine resources. On the land there are still natural areas that are largely intact and can act as corridors and linkages for animals (and plants) to move and/or adapt in response to changing environmental factors, e.g. lower average annual rainfall or a rise in average temperature (due to global climate change for example).

The problem faced by formal conservation is that many of these critically important areas exist on privately owned property. This has necessitated the formulation of different strategies to secure these habitat fragments for conservation and future generations. On the eastern side of the Gouritz River mouth there are a group of concerned landowners who have taken steps to ensure the long-term conservation of the area's biodiversity, both terrestrial and marine. Fransmanshoek Conservancy took the lead and initiated conservation projects in the area.

21 years down the line, the Fransmanshoek Conservancy is stronger than ever. Support for the Conservancy is widespread throughout the property owners and other conservation bodies.

In 2012, the Conservancy won a Biodiversity award through the Gouritz Cluster Biosphere as being one of the best managed Conservancies in the Western Cape. In 2013, the Conservancy has been nominated by Conservation at Work (umbrella organisation for all Conservancies in the Western Cape) as the most successful Conservancy in the Western Cape.

2. LOCATION

Fransmanshoek Conservancy is situated approximately 35 kilometers west of the town of Mossel Bay in the southern Cape, South Africa. It consists of various private properties stretching from Springerbaai Eco-estate in the east to the Cape Vacca Parking lot in the west. See Figure 1.

Figure 1: Detailed aerial photograph showing the Fransmanshoek Conservancy boundaries, parking areas and location of information centre. (Van Zyl, 2012)

Springerbaai Eco-estate is currently being developed and will finally consist of 117 residences dotted in amongst the indigenous vegetation. This low-density development, along with Kleinbos (40 residences), which are both largely eco-friendly, relying on solar panels for electricity. Both have only narrow gravel roads as access roads and allow no exotic plants to be planted.

The town of Boggomsbaai contains about 260 erven, and although densely developed, is also environmentally conscious. The dunes between Boggomsbaai and Vleesbaai are unstable and therefore not suitable for development, but do have great conservation and archaeological value, although they are largely covered in Rooikranz (*Acacia cyclops*).

The town of Vleesbaai (about 500 residences) is developing at a rapid rate, with residential and holiday homes being built continuously. The old Karmosyn caravan park which borders Vleesbaai is currently being developed and consists of 70 erven. Karmosyn is now included as one of the companies under Vleesbaai Dienste. There are also new development proposals constantly popping up. The Kloofsig development of 65 erven was approved in the second half of 2009 and is currently being developed.

The area stretching from Vleesbaai to Fransmanshoek and around to Vegkop (Fransmanshoek Peninsula) contains only single or double residences on large erven (averaging about 9 ha each) and which, except for Fransmanshoek point, are privately owned and still zoned as agricultural ground. Most of the current owners are members of the conservancy and it is unlikely that these owners would develop their properties densely in the future.

To the west of Fransmanshoek is the farm of Misgunst, owned by Mr HJ (Riekie) van Rensburg and his wife, Chriselda. Misgunst has one of the largest dune systems in the southern Cape. Further to the west are Kanon Valley Estates owned by Jan Naude and his wife Belinda and BaieVis owned by Frik De Villiers. On the western border of the conservancy lies the small cluster of houses at Kanon and the Cape Vacca Private Nature Reserve, now a former member. Cape Vacca consists of pristine Strandveld and thicket vegetation which has massive conservation value and should never be developed.

3. HISTORICAL BACKGROUND

On recommendation of the Department of Nature Conservation, the founding meeting of Fransmanshoek Conservancy was held on the 29 August 1994. Mr HJ van Rensburg chaired the meeting at which the decision was taken to establish the conservancy and a committee for the conservancy was elected.

Since then the conservancy has grown from strength to strength and has increased in size at a gradual rate. The continued support of Eden District Municipality and CapeNature has facilitated the ongoing contribution that the conservancy has made to the conservation of the area.

4. ADMINISTRATIVE BACKGROUND

The conservancy management committee is made up of the following seats:

- The Chairperson
- The Vice Chairperson
- The Secretary
- The Treasurer
- And at least six additional members

The committee was initially elected during the first general meeting and from then on at every Annual General Meeting by majority vote. Committee members may be re-elected. Facilitators may be co-opted by the committee, as they deem necessary. These facilitators may only be brought in to fulfil a certain task or for a specific time period. The facilitators further have a full right of vote equal to that of the elected committee. Membership of Management is dissolved if the member fails to attend two consecutive meetings without excuse or reason.

5. MEMBERS LIST

The following property owners are members of Fransmanshoek Conservancy:

1. Eden District Municipality (George)
2. Mr Riekie Janse van Rensburg (Vleesbaai)
3. Mr Coen Hanekom (Hermanus)
4. Mr Nicol Hanekom (Cape Town)
5. Mr Piet E Beyers (Stellenbosch)
6. Dr Fritz Snykers (Cape Town)
7. Mr Pierre Le Roux (Windhoek, Namibia)
8. Mr Hennie Blaauw (Hermanus)
9. Mr Johan & Mrs Dora Boshoff (Boggomsbaai)
10. Mr Fred Orban (Boggomsbaai)
11. Mr Allen Barret (Cape Town)
12. Dr Nellis Beyers (Snr) (Cape Town)
13. Mr Larry D' Aguiar (Cape Town)
14. Ms L Beyers (Cape Town)
15. Mr Andre Beyers (Cape Town)
16. Mrs Barbara Muller (Oudtshoorn)
17. Dr Jannie Snyman (Mossel Bay)
18. Mrs Connie Theron (Johannesburg)
19. Mr Henri and Mrs Elmarie van Rooy (Pretoria)
20. Mr Steve and Mrs Ninon Kotze (St Francis Bay)
21. Mr Frik Orban (Swakopmund, Namibia)
22. Dr Nellis Beyers (Jnr) (Mossel Bay)
23. Mr Solomon De Jager
24. Mr Sakkie vd Merve (George)
25. Mr Laurence Watson (George)
26. Mr Barry and Mrs Lyn De Vos (Pretoria)
27. Mr Willie Marais
28. Mr Len Sloan (Pretoria)

The following towns/organisations/estates/developments are members of Fransmanshoek Conservancy:

1. Vleesbaai Dienste (c/o Prof Martin Pauw)
2. BaieVis Holidays (c/o Mr Frik De Villiers)
3. (Former member) Kanon (c/o Mr Roger Johnson)
4. (Former member) Cape Vacca Private Nature Reserve (c/o Mr Roger Johnson)
5. Kanon Valley Estates (c/o Mr Jannie Naude')
6. Boggomsbaai Rate Payers Association (c/a Mr Jacob Graaf)
7. Kleinbos (c/o Dr Fritz Snyckers)
8. Springerbaai Eco-Estate (c/o Ms Talitha Venter)
9. Oystercatcher Trails (c/o Mr Fred Orban)

The following organisations are partners with Fransmanshoek Conservancy:

1. CapeNature (representative: Mr Barend Le Roux)
2. Eden District Municipality (representative: Mr Vernon Gibbs-Halls)
3. Department of Fisheries (representative: Mrs Thisiwe Fono)
4. The Rescue Vleesbaai Action Group (representative: Mr Mareo Bekker)
5. Conservation @ Work (representative: Mrs Liz Eglington)
6. South Cape Fire Protection Association (representative: Mr Charl Wade)

6. CONSTITUTION

CONSERVANCY CONSTITUTION
(Amended 26 August 2002)

1. Name

The conservancy is called the Fransmanshoek Conservancy, hereafter called the organization.

2. Objectives

The purpose of the organization is to;

(a) promote the protection of indigenous plants and animals, undisturbed or important biological communities and/or landscapes of exceptional beauty;
(b) co-operate with authorities in respect of the management of the conservancy;
(c) to collect funds and use such funds for the promotions of the organization's activities;
(d) to preserve and improve its natural assets;
(e) to manage the conservancy for the mutual benefit of present and future generations.

3. Membership

Membership of the organization shall be open to any landowner within the defined conservancy and any other owner of adjacent land who wants to add his land to the defined area with the approval of the committee. Landowner being the registered owner of the land, or in case of land leased, the lessee of such land.

4. Defined area

The defined area of the organization includes the land that the conservancy consists of.

5. Legal personality

The organization is a legal entity and may institute lawsuits.

6. Financial

The financial year of the organization extends from 1 March to 28 February (the following year). All financial transactions shall be duly recorded by the Secretary/Treasurer who shall submit annually, at the close of the financial year to the annual general meeting, a complete financial report signed by himself, the Chairman and the full executive committee. The organization shall have the authority to receive, invest and spend funds.

7. Annual general meeting

An annual general meeting of members of the organization shall be held annually within December or January at a place and time determined by the executive committee. Written notice of such annual general meeting shall be given to each member at least 21 days prior to the intended meeting.

Matters to be dealt with at the annual general meeting are as follows:

- Chairman's report of activities
- Senior Rangers report of activities
- Financial report
- Election of office-bearers for following year
- Determination of membership fees
- Any other matters on the agenda

An ordinary majority of votes shall be conclusive in all cases where decisions are made.

8. Special delivery meetings

A special general meeting may at any time be convened by the executive committee, provided that notice is given in the same manner as for an annual general meeting and the matters to be discussed are clearly stated in such notice. No other matters shall be discussed at such a special

meeting. A special general meeting shall be convened if one-third or more of the members, whose fees are paid up to date, request such a special meeting. A written request for such a special general meeting shall be addressed to the executive committee, the matter to be discussed shall be contained therein and it shall contain the signatures of the members requesting the special meeting and shall reach the executive committee at least 30 days prior to the proposed date of such a special general meeting.

9. Executive committee

The executive committee of the organization shall be elected annually at the annual general meeting and shall consist of the following persons:

- Chairman
- Senior Ranger
- Secretary
- Treasurer
- Additional members as required and decided by the annual general meeting.

The executive may co-opt additional members as needed and such co-opted member shall have the right to attend and vote at all meetings of the executive for the period he remains co-opted.

Members of the executive committee shall hold office until election of their successors at the following annual general meeting. Members of the executive committee may be re-elected.

10. Executive committee meetings

The executive committee shall meet at least 4 times a year at a place and time determined by the Chairman who shall notify the local nature conservator of the meeting at least 78 days prior to such a meeting.

11. Minutes

The student rangers or the senior ranger shall duly record the minutes of each meeting. Minutes, after being approved, shall both be signed by the Chairman. A copy of the minutes of the annual general meeting together with the financial statements and the names of the elected members of the executive committee shall be sent to Director of CapeNature within 30 days of the annual general meeting.

12. Constitution

Immediately after the establishment of a conservation area the minutes of the inaugural meeting and the accepted constitution, together with the names of the executive committee members, shall be sent to the Director of CapeNature. Amendments to the constitution may only be made at an annual general meeting or at a special general meeting convened specifically for such purpose. Any amendment to the constitution shall be

approved by a two-third majority of the members present. Any notice of a meeting convened to amend the constitution shall contain full particulars of the proposed amendment.

13. Staff

The executive committee shall be authorised to appoint staff for the promotions of the organizations' objectives and to determine and pay the remuneration and benefits of such staff. Such staff shall be under the direct supervision of the Chairman or a person appointed by the committee.

14. Dissolution

The organization may be dissolved only if two-thirds of the members present at a special general meeting convened specially for such purpose vote in favour of such dissolution.

Upon dissolution all assets shall be divided among the members whose fees are paid to date. The Director of CapeNature shall be notified of such dissolution.

15. Interpretation

During all meetings of the organization decisions shall be made by consensus.

16. Cessation of activities

In case of a cessation of activities the Director of CapeNature may convene a special meeting of members, whose fees are paid up to date, with the purpose of dissolving the organization.

17. Amendments

The following amendments regarding membership (3) have been properly authorised by the Western Cape Nature Conservation Board:

- A non-landowner may become a member of the organisation but his request to become a member must be done in writing for consideration by the executive committee.
- A non-landowner may serve on the executive committee but will not have any voting rights.
- The number of non-landowners to become members of the organisation are restricted to one-third of the number of members as well as the executive committee.

7. JURISDICTION AND LEGAL STATUS

The Fransmanshoek Conservancy is regulated by the following legislation:

The Constitution of the Republic of South Africa [No. 108 of 1996]
Nature Conservation Ordinance [No. 15 of 1974]
Marine Living Resources Act [No. 18 of 1998]
National Water Act [No. 36 of 1998]
Conservation of Agricultural Resources Act [No. 43 of 1983]
Environment Conservation Act [No. 73 of 1989]
Land Use Planning Ordinance [No. 15 of 1985]
National Environmental Management Act [No. 107 of 1998]
National Environmental Management: Biodiversity Act [No. 10 of 2004]
National Environmental Management: Protected Areas Act [No. 57 of 2003]
National Environmental Management: Integrated Coastal management Act [No. 24 of 2008]
Western Cape Nature Conservation Laws Amendment Act [No. 3 of 2000]
Western Cape Nature Conservation Board Act [No. 15 of 1998]
National Forest Act [No. 84 of 1998]
Environmental Impact Assessment regulations (EIA regulations)
Noise Control Regulations
Eden District Municipality by-laws
Building Regulations
Mossel Bay Municipality by-laws

8. RELEVANT AUTHORITIES AND PARTNERS

The responsible authority in charge of the residential areas that make up the Fransmanshoek Conservancy is the Mossel Bay Municipality within the Eden District Municipality.

CapeNature provides support and guidance on various matters and projects within the conservancy. They also administer the Conservation Ordinance (19 of 1974).

Department of Fisheries, Mossel Bay work in close relation with the Conservancy rangers. The Dept of Fisheries also assists the conservancy on environmental education days by providing support and resource materials. The Dept of Fisheries assists the conservancy in patrolling the coastline and confronting more serious offences within the conservancy.

8.1. The Southern Cape Fire Protection Association (SCFPA)

In 2007 Ms Talitha Venter, Mr Aiden Beck and Mr Paul Gerber initiated the MBSCFPA which extends from the Gouritz River in the west to the Hartenbos River in the east to the border of the Voelvlei Farmer's Association in the north. The conservancy held a seat on the steering committee at that time.

The purpose of the FPA is to assist landowners in complying with legislation regarding owning property within a high fire risk area. This is done by compiling action plans, raising awareness, pooling resources and ensuring that everyone is complying with the national fire laws.

Toward the end of 2010 the MBSCFPA was de-registered, and now falls directly under the SCFPA. With the groundwork done and the different Fire Management Units (FMU) set up for the Mossel Bay area, it was not necessary for the continuation of the MBSCFPA. All administrative duties have been handed over to the SCFPA. Each FMU under the former MBSCFPA, still meet when necessary in order to discuss the progress of each group's action plan.

All private property owners within the Conservancy are urged to become members of the association, so as to better formulate fire management in the area.

8.2. The Rescue Vleesbaai Action Group (REVAG)

REVAG was established in 2008 in response to PetroSA's proposal to develop a liquefied natural gas (LNG) offloading facility in the bay of Vleesbaai. It was set up by a number of expert individuals from Dana Bay to Vleesbaai. The conservancy holds a seat on the steering committee and is a registered member.

REVAG raised just over R600 000 from landowners in order to oppose the proposal professionally. The proposal went through an environmental impact assessment process (EIA) and the final draft scoping report was released at the end of 2009 for a 45 day public comment period. Massive amounts of time and money (R400 000) were invested into this cause by REVAG.

On the 30th of September 2010, after much delay, the Department of Environmental Affairs rejected PetroSA's scoping report, thereby prohibiting the

EIA process to continue. Shortly afterwards, PetroSA declined to review the decision.

This was seen as a great victory for REVAG and all who participated, however the threat of other projects of similar nature is never far off. Therefore REVAG decided to remain a body and not dissolve, retaining all its left over funds (+/-R200 000) for some two years in case the threat should re-appear.

Toward the end of 2012, REVAG's fears were realized when PetroSA decided to revisit its plans to erect a platform near Vleesbaai for the importation and offloading of LNG. PetroSA appointed the CSIR as the Environmental Assessment Practitioners (EAP) and the process got underway.

Once again REVAG mobilised with Mareo Bekker stepping in as chairman again. REVAG challenged every step of the process and presented the most up to date comments regarding the financial feasibility, technical feasibility and national strategy for gas importation in South Africa. The first step in the process that allowed REVAG the upper hand was a formal letter to the DEA (just after the release of the Draft Scoping Report) requesting the process to be suspended based on the notion that the CSIR was not a fully independent Environmental Assessment Practitioner. Further points on the letter included the non-independence of WorleyParsons who were to carry out the quantitative risk assessment (QRA) as well as the lack of safety material data sheets. The request was granted by the DEA, who suspended the process on the 22 November 2013.

This put PetroSA on the backfoot, requiring them to prove the independence of their EAP as well as addressing the other issues raised. REVAG however didn't back down and continued to apply pressure with formal letter after formal letter requesting answers to a number of issues including the previous stranding of the Pentow Skua, the appointment of the new QRA specialists and a media article that stated that PetroSA had already imported LNG.

The suspension lasted until 2nd July 2014, when the DEA informed the public that it was satisfied that the EAP was independent. REVAG appealed the decision, ultimately postponing the suspension, and again demanded answers to the numerous queries raised.

The good news then came on the 25th of August 2014 that PetroSA had withdrawn their application to erect any marine LNG offloading facility in the area. PetroSA cited technical and feasibility restraints as the reason for withdrawal. REVAG has no doubt however that the pressure applied during the process played a major role.

The cumulative effort of landowners and stakeholders in the bay surely prevented the pristine bay of Vleesbaai becoming industrialised.

9. CONSERVANCY BUDGET

The conservancy budget is comprised of membership fees, sponsorships and donations. The budget has been designed to ensure that membership fees cover all the running costs, such as the rangers' salaries, petrol and maintenance of the bakkie. Donations and sponsorships (external funding) are used for the execution of conservation related or environmental education projects. Membership fees are calculated with respect to the length of coastline adjacent to the property.

Fransmanshoek Conservancy is a non-profit organisation. Large amounts of money should not be carried over to following financial years without good reason.

SECTION B: ECOLOGICAL BACKGROUND

LANDSCAPE DESCRIPTION AND TOPOGRAPHY

The Fransmanshoek Conservancy coastline consists mainly of exposed rocky headlands, wave-cut platforms and protected sandy and pebble beaches (Jackson & Lipschits 1982).

Bay of Vleeschbaai

The resort of Vleesbaai lies in the south-westerly corner of the sandy bay of Vleesbaai (previously called Visbaai before a mapping mistake). North of the town, for about 1.4 km, stabilised dunes (highly infested with Rooikranz *Acacia cyclops*) rise gradually to 50 m above sea level (asl). North of these dunes one will find the village of Boggomsbaai and then further north the development of Kleinbos. The northern/western boundary of the conservancy is Springerbaai Eco-Estate rising more steeply at first to 50 m asl and then gradually to 100m asl in the game area of 175 ha. The Boggomsbaai, Kleinbos and Springerbaai dunes are naturally stabilized on the upper reaches with Strandveld/thicket. On the lower reaches they are partly infested with Rooikranz *A. cyclops* and Marram Grass *Ammophila arenaria*.

Figure 2: Vleesbaai from the 4X4 Route camping site, note the steep drop in topography

Fransmanshoek

From Vleesbaai Resort towards the Fransmanshoek Peninsula the landscape rises rapidly from the sea to approximately 50 m asl (Fig. 2) and changes from rocky headlands to sand dunes on the southern slopes of the Fransmanshoek peninsula. These sand dunes (which were found on Karmosyn and the Erf 257/37) formed part of a mobile dune corridor until the early 1940's when stabilization by *A. cyclops* occurred. Sand used to blow from the Misgunst dune system through the corridor over the peninsula into Vleesbaai where it used to replenish the beaches. The dune system is now mostly stabilised with *A. cyclops* and in Karmosyn has been developed.

The focal point of the conservancy is the Fransmanshoek Point from where the conservancy's name originates. The total surface area of the point is approximately 5.4 ha. The highest point here is situated approximately 20 m asl and consists mainly of rocky outcrops which fall directly into the ocean.

The neck of the point is formed by two small bays called Malbaai (Figure 3) (facing directly south) and Stilbaaitjie (facing north-east). Stilbaaitjie (Figure 4) consists of a fine grain sandy beach whereas Malbaai has no sand and consists only of rock and pebble shingle.

Malbaai derives its name from the fact that the waters are very rough due to the bay picking up 95 % of the general ocean swell direction. Stilbaaitjie derives its name from the fact that the waters are 95 % of the time calm due to it facing a

north-easterly direction. The southern Cape coastline is characterised by receiving 95 % of its swell from the south-westerly direction.

Figure 3: Fransmanshoek viewed from the Malbaai side (Photo: Pereira 2005).

Figure 4: The Fransmanshoek Peninsula viewed from the Stilbaaitjie side (Photo: Pereira 2005).

Vischbaai

From Fransmanshoek in a southerly direction towards the rest of Misgunst (1100 ha) the landscape climbs rapidly to 85 m asl. The coastline changes from rocky headlands to the mixed pebble and sandy bay of Fonteintjies to another rocky headland known as Vegkop and then sprawls out on to the long sandy bay of Vischbaai with the Misgunst mobile dune system as the backdrop. The dune system falls rapidly in a south-easterly direction from its highest point of 95 m asl to the high-water mark.

West of the mobile dune system the gradient gradually drops back to approximately 25 m asl and the dune system again turns into stabilized sandy flats (infested heavily with *A. cyclops*), towards the western border of Misgunst.

To the south of the mobile dune system one once again finds stabilised dunes (infested heavily with *A. cyclops*) up to 9 m asl in a southerly direction on to Kanon. South of Kanon is the pebble-rock point of Cape Vacca which protrudes in an easterly direction. The Cape Vacca point and the surrounding nature reserve (37 ha) is flat at 3 m asl. The game section of Cape Vacca Private Nature Reserve (90 ha) rises steadily to a hill of 50 m asl.

Figure 5: Aerial photo of the entire Conservancy with Cape Vacca in the foreground. (Photo: Unknown)

From Cape Vacca in a south-westerly direction the coast is rocky to the western border of the conservancy, the Cape Vacca parking area, and beyond to the Gouritz Rivermouth.

11. GEOLOGY AND SOILS

The Cape folded belt dominates the Cape Floristic Region landscape which is comprised of quartzites and quartzitic sandstones of the Cape Supergroup's Table Mountain and Witterberg group (Cowling et al., 2009). The Cape fold belt extends its range in an east-west orientation parallel to the Indian Ocean of which the Langeberg Mountains are found just to the north of Fransmanshoek Conservancy.

The coastal plain, on which Fransmanshoek is situated on its coastal margin, is covered by calcareous marine sediments which are constituted by limestone and aeolian sands and underlain by shales of the Bokkeveld group. The soils are mostly derived from shales of which are moderately fertile and fine-grained.

The continental shelf extends, and gradually descends, for about 120km out to sea from the Conservancies coastline. Lowered sea levels of the middle to late Quaternary, exposed large tracts of coastal landscape that were the source for much of the aeolian sands that now make up the extensive dune systems on the land (Bar-Matthews et al., 2010).

12. HYDROLOGY

Fransmanshoek Conservancy has no natural standing water, dams, rivers or lagoons. The only natural fresh water that can be found is from four natural springs that flow throughout the year. The one spring is situated in a small bay called "Fonteintjies" (hence the name) at S 34° 18' 55'', E 21°55' 54''. The second spring is situated on the stretch of coast between Vleesbaai and Fransmanshoek, 20 m to the east of the Vleesbaai tidal pool at S 34°17' 33'' E 21°55' 22''. The third spring can be found just north of Vleesbaai in the Tarka kloof at S 34°17'4.05", E 21°54'30.28". In years gone by this used to be the spring where all of Vleesbaai fetched its drinking water. The fourth spring is found at the bottom of Cape Vacca Nature Reserve next to the road at S 34.335° E 21.9044°.

South of the conservancy is the Gouritz Estuary, which should ideally be incorporated into the conservancy in the future.

Voelvlei (brak water) and the Johnsons Salt Pan is the biggest standing natural water bodies in the greater area and are a major attraction for water birds.

During periods of heavy rains, a number of ephemeral pans of water form in the farmlands of the surrounding area. The most well known is named Langvlei, which is situated on the Witteklip road, between the Vleesbaai cross and the N2.

There are a also a number of artificial standing water bodies in Springerbaai Eco-estate, as well as the open-air sewerage dams on Misgunst, which all attract a number of waterbirds.

13. OCEAN AND ASSOCIATED CURRENTS

Situated on the southern Cape coast, Fransmanshoek Conservancy is bathed by the Indian Ocean and influenced by the warm Agulhas Current (Branch & Branch, 1981). The Agulhas flows from Mozambique towards Cape Point. Close inshore, cooler pockets of water often flow parallel to the coast, but in a direction opposite to the Agulhas current. On the southern Cape coast this counter current is frequent.

The Agulhas is a swift and massive current, up to 160 km wide and flowing at a speed of up to 5 knots (2.6 m per second), transporting 80 million tonnes of water per second (Branch & Branch, 1981). It's not surprising that it also has a strong influence on the sediments. Inshore, where the current is weak, the sediments are fine, or even muddy, and are formed mainly from particles swept down rivers or from the coastline.

14. CLIMATE

The climate is greatly influenced by the warm Agulhas current and sits at the junction between a winter rainfall system to the west and a summer rainfall system to the east (Bar-Matthews et al., 2010) and thus this transition zone provides an all-year rainfall.

According to Tinley (1985) the prevailing winds and swell are predominantly from the southwest. Reliable data from the South African Data Centre for Oceanography, collected over a 53 year period and shown in Appendix 4, agrees with Tinley's statement on swell direction, however contradicts his statement that wind is from the same direction and shows that wind direction is in fact predominantly from the west and east respectively. The data shows that the most predominant westerly winds occur with the highest frequency and velocity year round and during the winter, whilst the easterly winds occur mostly through summer months. There is an even distribution of wind from the east and west through spring and autumn in the region.

Rainfall

The rainfall in the area is less seasonal that that of the winter and summer rainfall areas to the west and east respectively. The processes of advection, whereby moist air passes across the warm Indian Ocean, create post-frontal rainfall events providing rain to the region throughout the year (Cowling et al., 2009)
The Figure 6 (Schulze, 1997) shows the region of all year rainfall that Fransmanshoek Conservancy is situated in, where there is an average annual

rainfall of 377mm in the immediate area taken from a reading at Pinnacle point (Bar-Matthews et al., 2010) less than 15km from Fransmanshoek Conservancy's eastern most border. Figure 7 illustrates a similar annual rainfall over a seven year period taken at Misgunst farm on Fransmanshoek Conservancy.

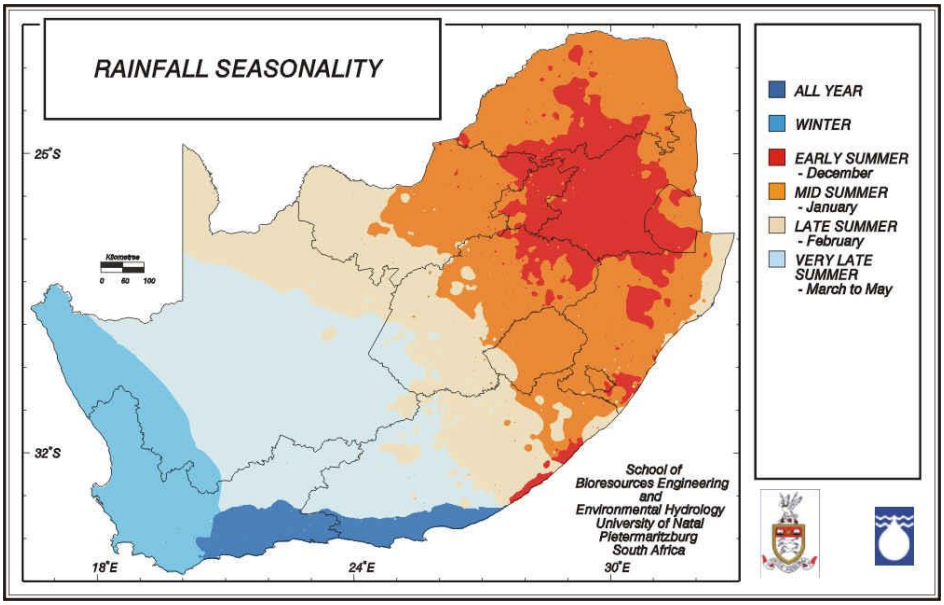

Figure 6: A map showing the regions of rainfall season (Schulze, 1997)

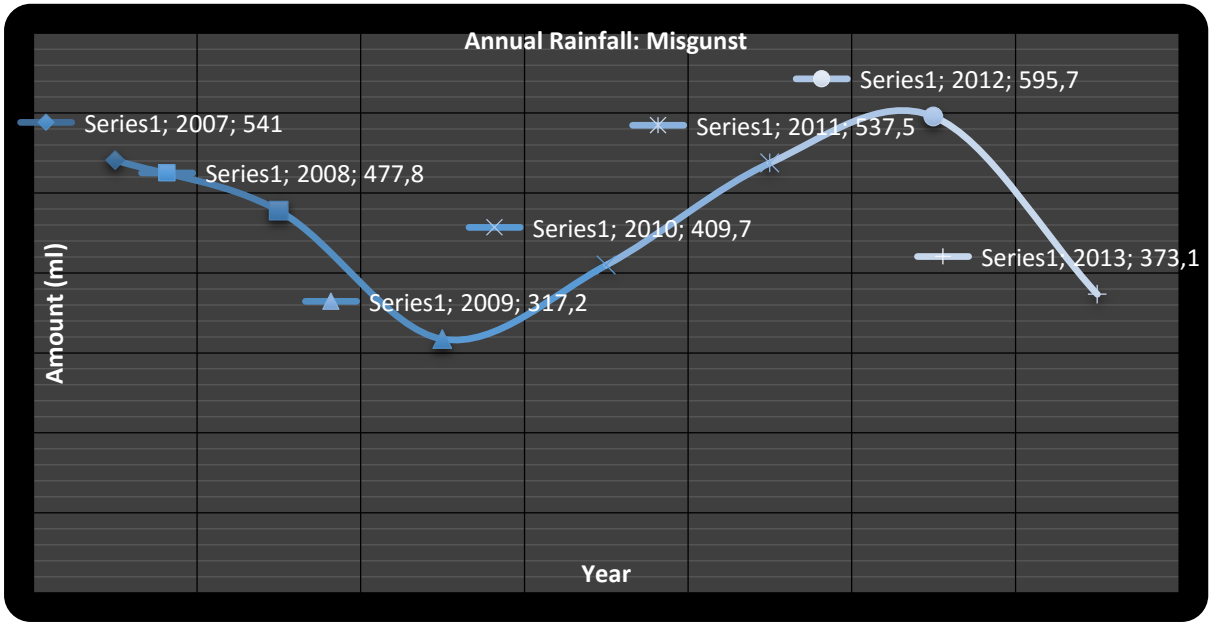

Figure 7: The yearly trend of rainfall at Misgunst

The region shows spikes in rainfall during the spring and autumn (Cowling et al., 2009) which shares a similar correlation with the seven years of rainfall data collection by the Conservancy at Farm Misgunst at the co-ordinates 34° 17.765'S, 21° 54.929'E (Figure 8).

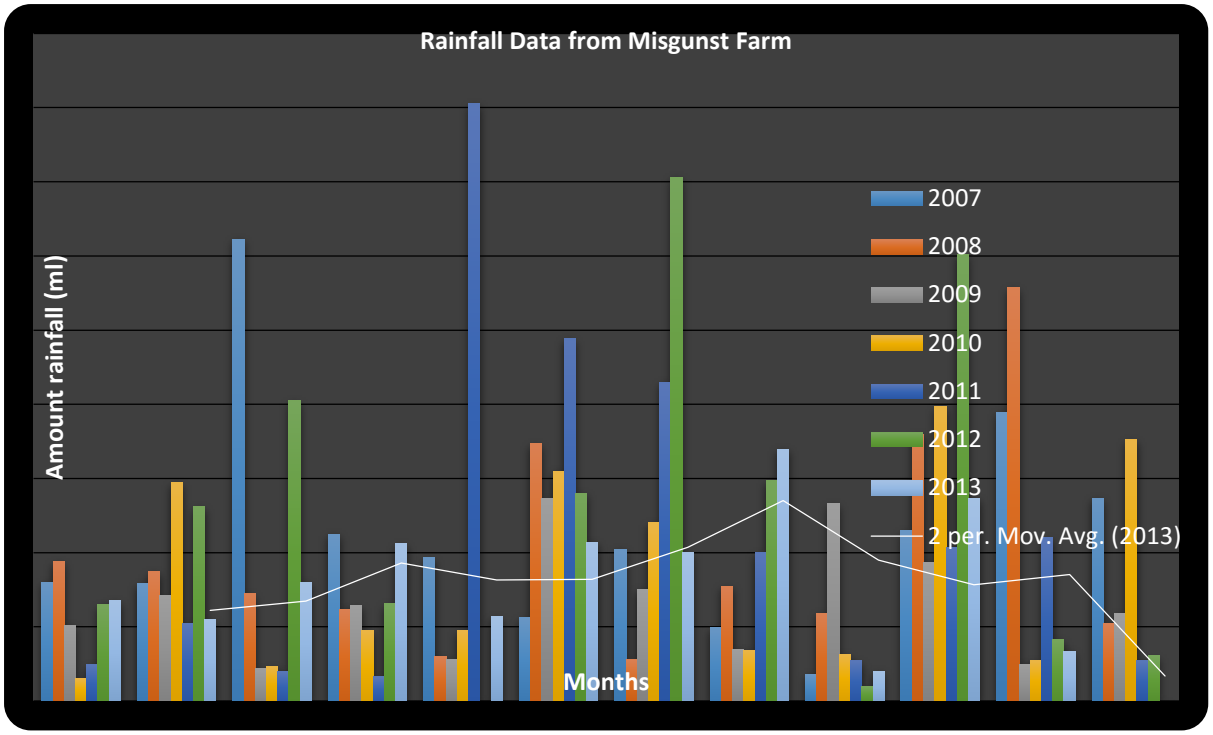

Figure 8: Rainfall data from Misgunst Farm

Temperature

The temperatures are generally mild, reaching a summer maximum of 30°C and frost seldom occurring in the winter, except in the interior valleys (Cowling et al., 2009). The average annual temperature is recorded as being 17°C from Pinnacle point (Bar-Matthews et al., 2010) which Figure 9 (Schulze, 1997) illustrates.

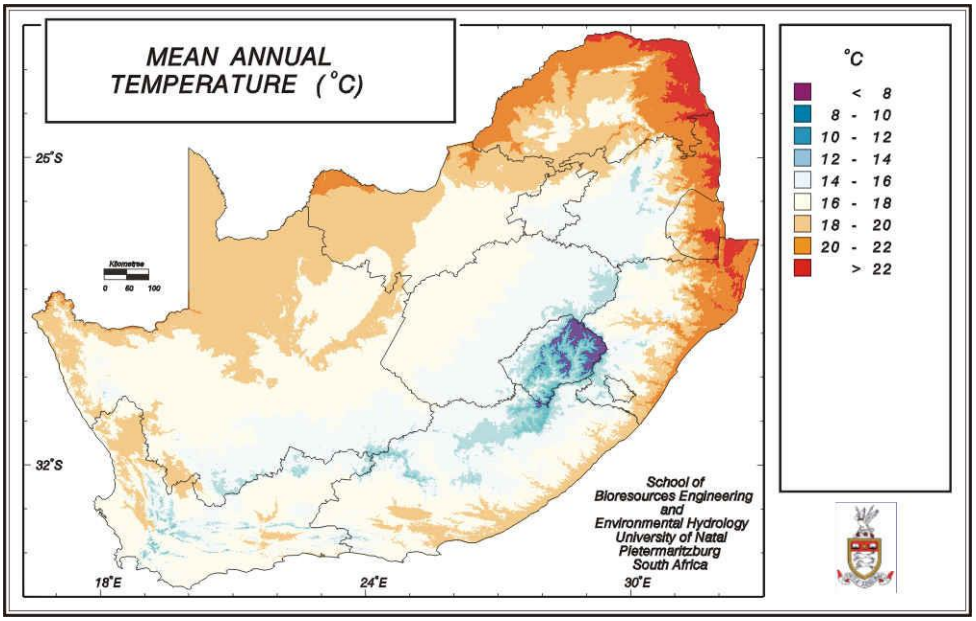

Figure 9: A map showing the regions of mean annual temperature (Schulze, 1997)

15. COASTAL INFORMATION/DESCRIPTION

The coastal waters of the Garden Route are productive and support a diversity of plant, animal and bird life. The Garden Route coastline contains five major bays: Visbaai, Vleesbaai, Mossel Bay, Buffalo Bay and Plettenberg Bay. Two of these bays occur along the Fransmanshoek Conservancy coastline i.e. Vleesbaai (half the bay) and Visbaai (the entire bay).

Fransmanshoek Conservancy is situated on the western border of the Garden Route. The Garden Route stretches from the Gouritz River mouth, 225 km in an easterly direction, to the Bloukrans River which marks the boundary between the Western Cape and the Eastern Cape (Attwood, 2000).

Description of coastal habitats found within Fransmanshoek Conservancy

Dune Systems

The Fransmanshoek Conservancy contains a large mobile dune system (Figure 10), covering approximately 2 million square meters, and almost occurring entirely on the farm, Misgunst. The eco-friendly Vleesbaai 4X4 Dune Route is operated by Mr HJ van Rensburg on the Misgunst dunes in the form of a well maintained circle route. See Figure 10.

Figure 10: Vehicles on the Vleesbaai 4X4 Dune Route (Photo: Pereira 2005).

According to Matthews (2000) dunes are an integral part of sandy shore systems, acting as a natural sand reservoir for the replenishment of beaches during and/or after periods of beach erosion. They also serve as an important buffer zone between the sea and land, protecting coastal developments from flooding and wave damage.

Unfortunately much of the dune system is currently being detrimentally stabilised by alien vegetation i.e. Rooikranz *Acacia cyclops*, Marram Grass *Ammophila arenaria* and the new and ultimately worse threat of Manatoka *Myoporum tenuifolium* subs. *montanum*. These alien plants in turn act as seed traps for indigenous vegetation such as Blombos *Metalasia muricata,* Ganabos *Passerina rigida*, Kankerbos *Lessertia frutescens* and Bietou *Crysanthemoides monilifera*.

According to Van Rensburg (*pers. comm.* 2007) the large dunes still shift 1m to the north in summer and then back 1 m to the south in winter (due to prevailing winds). The open sands may seem lifeless, but on closer inspection the myriad of different spoor indicate otherwise. The dunes are characterised by nocturnal animal life.

There is a previously-mobile sand dune system between Vleesbaai and Boggomsbaai, but it is totally overgrown with Rooikranz.

Rocky Shores

The rocky shore habitats within Fransmanshoek Conservancy range from headlands with vertical cliffs, to wide, wave-cut platforms or jumbles of boulders polished by the motions of the ocean. A fascinating array of plants and animals live on the rocky shores of the conservancy. Many of the animals live totally submerged in pools and gullies while those on open rocks are exposed by the fall of the tide twice a day and confronted with physical stresses such as heat, light, salinity and water loss that lead to the formation of distinctive zones on the shore.

Biologists have described four distinct zones of colonisation that typify South Africa's rocky shores: the Littorina Zone, the Upper Balanoid Zone, the Lower Balanoid Zone and the Infratidal Zone. Each zone is characterised by its height above or below sea level and a well-defined group of plants and animals.

The following are brief descriptions of the distinct zones that occur on the rocky shores of Fransmanshoek Conservancy organised from highest on the shoreline to the lowest:

- **The Littorina Zone** is the highest and most barren zone on the shore. It is inhabited by small, air-breathing Littorinid snails (i.e. *Littorina africana*).
- **The Oyster Belt** is primarily dominated by oysters. This belt occurs along the entire rocky shoreline of the conservancy, where millions of oysters are growing packed on top or next to each other. This is the zone that is exploited by the commercial oyster harvesters. Local residents who have

lived in the area for a long period (some over 50 years) say that over the years oyster numbers have dropped drastically due to seemingly unregulated commercial oyster harvesting.

- **The Upper Balanoid Zone** is dominated by barnacles. The Toothed Barnacle *Chthamalus dentatus* is the most common within this zone in the conservancy. Winkles, limpets and a few seaweeds are able to survive in the semi-dry conditions that prevail in this zone.
- **The Lower Balanoid Zone** is also dominated by barnacles and limpets within the conservancy, but more seaweeds species and Brown Mussels *Perna perna* occur than in the Upper Balanoid Zone.
- **The Cochlear Zone** supports dense bands of Pear Limpets *Scutellastra cochlear* at the low tide mark, between the Lower Balanoid and Infratidal zones. This zone is characterized by the pink algae blooms that occur on the rock surface.
- **The Infratidal Zone** is the lowest region on the shore and the richest in plant and animal life, especially Red Bait (Sea Squirts) *Pyura* spp, anemones, sea urchins and starfish.

The rocky shores within the conservancy have been exploited to a large extent but fortunately not to the same extent as those of some areas closer to major urban settlements such as Mossel Bay and Cape Town. These different zones are still in a relatively good condition, and only further monitoring and regulating of harvesting will ensure that the rocky shores stay in their current fair condition. The Oyster Belt has been hit hard and evasive measures need to be taken to ensure its sustainability.

In an effort to control harvesting from the rocky shores, harvesting regulations with permits were introduced which restrict the numbers and sizes of most species that may be collected as well as the use of certain implements that damage the ecosystem (Attwood 2000).

<u>Sandy Beaches</u>

Fransmanshoek Conservancy's coastline consists of a large percentage of sandy beaches. According to Matthews (2000) sandy beach ecosystems can be divided into three zones:

- **The surf zone**, where waves break,
- **The beach**, which includes the intertidal and backshore zones, and
- **The dunes**, made up of small, recently formed foredunes and large, established backdunes.

In the sea, waves and currents continually move sediment along the shore, as well as on- and offshore, in a process known as littoral transport. On land wind blows sand from the beach into the dunes, called aeolian transport. When sand blown up the beach by onshore winds is trapped by plants growing near the driftline, it forms

mounds called hummocks, which initiate the development of foredunes. Sandy beach systems therefore comprise of a marine wave driven ecosystem and a terrestrial wind-driven ecosystem that together make up the littoral active zone – the area in which sand exchange occurs (Matthews 2000).

Matthews (2000) also states that during stormy weather rough seas erode sand away from the beach and foredunes, and deposit it at an offshore sandbar. When calm conditions return, gentle waves carry the sand back to rebuild the beach. In this way, the beach undergoes seasonal cycles of erosion and accretion.

At first glance the sandy beaches of Fransmanshoek Conservancy may seem devoid of life; but actually they support a diversity of animals and plants interacting in a complex food pyramid. Most of these organisms are hidden below the sand and are smaller than 1 mm in size.

A variety of fish are found in the **surf zone** of Fransmanshoek Conservancy. These include Southern Mullet *Liza richardsonii*, Spotted Grunter *Pomadasys commersonnii* White Steenbras *Lithognathus lithognathus*, Galjoen *Dichistius capensis*, Elf *Pomatomus saltatrix* and Lesser Sandshark *Rhinobatos annulatus*.

No rooted plants or attached seaweeds can survive the harsh environment of the **intertidal zone** (the area between the high and low water mark), but some animals are able to burrow into the sand to escape the pounding waves, and rely on food imported from the sea. For example, White Mussel *Donax serra* filter phytoplankton from the water as well as the detritus of seaweeds broken into small particles by the pounding surf. The Pure Plough Snail *Bullia pura* emerges from the sand to scavenge on stranded jellyfish and bluebottles. Birds are, however, the top predators of the sandy beach food web. Kelp Gulls *Larus dominicanus* and African Black Oystercatchers *Haematopus moquini* are able to open the shells of sand mussels to reach the succulent flesh inside, while White Fronted Plovers *Charadrius marginatus* pick shrimps and worms from the sand.

In the **backshore zone** (the part of the beach above the high tide mark) stranded animals and seaweeds that accumulate along the driftline are food for Ghost Crabs *Ocypode ceratophthalmus*, insects, amphipods and isopods. They in turn are consumed by predatory beetles and birds. In addition, African Black Oystercatchers and White Fronted Plovers nest in this particular zone.

According to Matthews (2000) sandy beaches and dunes are sensitive systems that can be damaged or disrupted in a number of ways:

- Development in the Littoral Active Zone, including breakwaters, groynes or buildings, impedes the natural movement of sediment along the shore, as well as between the dune, beach and surf zones. This may result in erosion of beaches or sand inundation of buildings.

- Artificially stabilizing dunes with vegetation, often through unchecked infestation by aliens e.g. Marram Grass *Ammophila arenaria*, or removing the foredunes for development or mining, removes the reservoir that supplies sand to the beach.
- Offroad vehicles, and trampling by people and livestock, destroy dune vegetation. As a result dunes may gradually move inland, devaluing and threatening adjacent property. Offroad vehicles may also crush animals buried in the sand, as well as the eggs and young of birds nesting above the driftline. Furthermore offroad vehicles tracks can impede the movement of small animals, such as turtle hatchlings and Ghost Crabs *O. ceratophthalmus*.
- Pollution also impacts sandy beaches, especially oil spills which can have devastating consequences. Oil is toxic to most animals and can smother them or affect their swimming capability. Plastic and other forms of litter are not only unsightly, but can cause painful deaths for animals through entanglement or if they are mistaken for food.

16. FLORA

Four main vegetation types make up the Conservancy area. Namely:

- Cape Seashore Vegetation
- Groot Brak Dune Strandveld
- Herbertsdale Renoster Thicket
- Gouritz Dune Thicket

The length of the Conservancy coastlines (except for Cape Vacca) primary dunes and mobile dune areas are vegetated with Cape Seashore Vegetation with varying degrees of alien plant infestation.

The Fransmanhoek peninsula, most of Kleinbos and Boggomsbaai as well as the areas between the primary dunes and agricultural land in Springerbaai comprises of Groot Brak Dune Strandveld vegetation.

The area immediately bordering the old agricultural fields within Springerbaai comprise largely of disturbed Herbertsdale Renoster Thicket.

And lastly the Cape Vacca Private Nature Reserve comprises of pristine Gouritz Dune Thicket thought to have never burned.

This classification of vegetation types is a combination approach based on Mucina and Rutherford (2006), Vlok and Euston-Brown (2002) and the authors on the ground experience.

17. FAUNA

MAMMALS

Fransmanshoek conservancy contains a healthy population of small mammal species. Signs of a large variety of mammal occurrence are visible all over in the form of spoor, dung, burrows, nests, carcasses and sounds. This healthy population is most likely due to the fact that very little hunting has occurred in the conservancy region for the past two decades, and the greater availability of habitat due to dune stabilisation. There is, however, some concern regarding the relentless killing of so-called problem animals such as Porcupine, Honey Badger, Black-backed Jackal and Caracal by many of the local farmers.

The conservancy still contains large portions of intact natural vegetation which promotes small game numbers, and favours mammal reproduction. Common Duiker *Sylvicapra grimmia,* Cape Grysbok *Raphicerus melanotis* and Bushbuck *Tragelaphus scriptus* thrive within the confines of the conservancy. They are equally well adapted to the Rooikranz infested areas as well as the indigenous veld areas.

The highly infested Rooikranz *A. cyclops* areas provide shelter and food for a variety of animals, and create a habitat that is favourable to most small mammal and bird species.

Sightings of marine mammals occur on an almost daily basis. The area is especially favourable for whale watching during the whaling season. The most common whales are the Humpback *Megaptera novaeangliaer* and Southern Right *Eubalaena australis*.

Please refer to Appendix 1 for a full list of terrestrial and marine mammals. New species must be added to the list at any time, but only if a confirmed sighting has been recorded.

REPTILES & AMPHIBIANS

The list of amphibians and reptiles seen in Appendix 2 have been compiled based on the availability of suitable habitat in the area, known distribution records and the habitat requirements of the species (FitzSimons 1970). Those species actually recorded in the Fransmanshoek Conservancy are marked with an asterisk (*). Once again any new sightings should be added to the list if they are observed in the Conservancy or surrounding area.

BIRDS

A total of 169 bird species have been recorded by means of confirmed sightings within the Fransmanshoek Conservancy and surrounding areas. Any new bird species observed should be added to the list seen in Appendix 3.

18. ARCHAEOLOGICAL INFORMATION

Hominines, most likely *Homo erectus, Homo rhodesienis and Homo helmei* occurred throughout sub-sharan Africa from at least 1.2Myr ago until around 220kyr ago (Beaumont and Vogel, 2006)(Berna et al., 2012)(Klein et al., 2007) Acheulian hand axes from this time can be found in great numbers throughout the farm lands surrounding the Conservancy.

Modern human (*Homo sapien)* seem to have arisen in Africa from between 200kyr -100kyr ago, with evidence of complex cognition appearing between 164kyr and 75kyr ago (Jerardino and Marean, 2010, Marean et al., 2007, Marean, 2010).

The rich archaeological evidence from the caves at Blombos, Die Kelders, Neslon Bay, Pinnacle Point and Klasies River have produced some of the best evidence for possibly the earliest records of modern human behaviour and shellfish harvesting from around the world (Bartram and Marean, 1999, Jerardino and Marean, 2010, Marean et al., 2007, Matthews et al., 2011)

Curtis Marean, Project Leader for the SACP4 (South African Coast Paleoclimate, Paleoenvironmental, Paleoecology and Paleoanthropology) and the excavations being carried out at Pinnacle Point has recently expanded the project to include working on the paleosols that occur in the area. The Misgunst dunes hold very good examples of paleosols and Curtis and his team should be carrying out work on them in the winter months of each year. The Conservancy should try to assist wherever possible and join the team should they be working in the area.

A number of shell middens are visible along the Conservancies coastline and are generally found within 300 m of the high water mark. The surface layers of the middens can be as recent as a few hundred years ago, while many have stratified layers dating to between 60kyr ago and 120kyr ago. The middens consist of shellfish such as Brown Mussels *Perna perna*, limpets, Alikreukel *Turbo sarmaticus*, bone, stone, ostrich egg and pottery artefacts. The people who left these shell middens are known as the Khoi-San (either San Hunter-Gatherers or Khoi herders and often a mixture of both cultures). They were a nomadic people who moved around in response to the seasons, available grazing for their stock and the availability of fresh water. The presence of many fresh water springs and fountains would explain the high density of shell middens (Wurz, 2012).

About 2000 years ago the Khoi herders moved into the area integrating with the hunter-gatherer southern San resulting in clans along the southern and Western Cape coastline being referred to as Khoi-San (Klein, 1986).

Several fossils have been uncovered in the mobile dune system. Most notably the remains of a fossilized elephant were recovered. These fossils stem from a time when there was a forest where the dune system now stands.

A prehistoric human skeleton was discovered just east of Snuifklip within the last 10 years and there is talk of many other unrecorded discoveries.

Note: All archaeological sites are protected under the National Heritage Act. No person may disturb, collect, dig or in any other manner disturb these sites.

19. HISTORICAL INFORMATION

By 1730 colonists had started moving out of the white heartland in the south-western Cape to find more land for stock farming and hunting and they reached the vicinity of Grootbrak, thus indicating the first reports of Europeans to the area (Hummel 1998).

On 11 September 1763 the French warship *Le Fortune* was wrecked off the southern side of the Fransmanshoek Peninsula (near Vegkop). It is reported in the entries from the castle in Cape Town that all the ships crew survived and walked to Cape Town with the assistance of the local farmers. Along the way locals wanted to know where the band of French people was coming from and hence the name was born, 'Frenchman's Corner' or Fransmanshoek. All the crew made it to Cape Town where they boarded another French warship en route to France. Upon the *Le Fortune* were thought to be close to or more than 50 cannons. Between the 1930's and 1960's three of these cannons were salvaged from near where the wreck took place. The cannons were moved by oxen and donkey cart through the years to the present day Kanon (hence the name), where they are still on display.

In 2012 a fourth cannon was seen near Vegkop, exposed after rough seas had carved metres of sand away. The discovery was reported to Riekie and Roland and plans were immediately put in place to salvage the cannon. A permit was obtained from the South African Heritage Resources Agency and on the next spring tide, a team of people were gathered for the salvage operation. After half a day of edging the cannon closer to the dry sand where Riekies tractor could take it further the cannon was safely transported to shed on Misgunst farm.

Here the treatment process got underway and after 18 months of treatment the cannon was placed in the information centre on Fransmanshoek where it can be viewed and appreciated by all who visit the area.

Figure 11: The copper plaque donated by the French Embassy in memory of the Le Fortune can be viewed just next to the information centre on Fransmanshoek(Photo: Periera 2005)

It is said that when Bartholomew Dias passed the Cape of Good Hope from a westerly direction in a storm which didn't allow him any sight of land. The first land he then saw after sailing North-East was Cape Vacca (Kanon Punt). Cape Vacca is Portuguese for "Cape of Cows" named after the cattle that the local Khoi-San had grazing near the point. This particular clan however was apparently hostile at first and had no interest in trading with Diaz. Diaz then sailed further around the Mossel Bay point where he made land, obtaining fresh water and trading with the local Khoi-San clan.

"Vleesch" is Dutch for "Flesh". What is today known as Visbaai (bay of Kanon) was first named Vleeschbaai as passing ships were later able to trade for meat here with the local clan. Sometime later on the names were misprinted on a number of maps and the swap in names somehow stuck.

A wooden cross has been erected at the top of the Cape Vacca point in remembrance of Bartholomew Diaz.

Boggomsbaai apparently gets its name from one of the original local farmers who spoke like a baboon. "Boggom" is associated with the sound a baboon makes.

The earliest records in the Department of Land Affairs Office (Deeds Office, Cape Town) refers to the allocation of 3 177 hectares of land, Farm Misgunst aan de Gouritz, (Farm No. 257) to the Janse van Rensburg family in 11 undivided shares. The farm was subsequently subdivided, portions were sold, portions expropriated

in favour of the Mossel Bay Divisional Council and some transferred within the Janse van Rensburg family.

Much more on the history of the area can be found in "Fransmanshoek" by Aletta Hanekom or "Kanon" by Colin Davies. There are another one or two smaller local publications that have been passed around.

20. CURRENT LAND USES

The farm Misgunst 257/0 is currently zoned as agricultural land. Although the farm is zoned as agricultural land, it consists of mobile sand-dune fields. As such, a section of it is completely unsuitable for any agricultural or building practices.

The dunes were stabilized with Rooikranz (early 60's) and Marram Grass (early 70's) which has vegetated large portions of the dune system, and engineered the ecology of the area. This was done to halt the continued sand movement over the dunes into Vleesbaai and surrounding agricultural lands to the north. This practice was actively encouraged by the Dept of Agriculture, and landowners were even instructed to stabilise these mobile dune systems (Figure 12). The alien vegetation threat has now shifted from Rooikranz and Marram Grass to Manatoka.

Figure 12: Mr H. Janse van Rensburg and his staff planting Marram Grass in the early eighties by order of the Dept of Agriculture (Photo: van Rensburg, undated).

Within the conservancy borders are the developments of Vleesbaai and Karmosyn beach resorts, these sectors experiences a high degree of residential development. The development of these sectors will most likely continue for years to come.

Other developments within the conservancy are Kleinbos, Kanon and Springerbaai. Kleinbos and Kanon are not likely to grow (without the rezoning of the land) whilst Springerbaai is still being completed. The village of Boggomsbaai, also within the conservancy, is unlikely to get any larger. The remainder of the conservancy is zoned as agricultural land which means that only a house or two may be built on the (average) 9 ha plots.

Fransmanshoek Peninsula (point) is currently being utilized by the public as a recreational area only, and is the property of the Eden District Municipality.

SECTION C: CONSERVATION

21. STRATEGIC MANAGEMENT FRAMEWORK

The following strategic framework is aimed at providing the basis for the protection, development and operation of the Fransmanshoek Conservancy for the future and **should serve as the main guide to be used by mangers for on the ground operations.**

The vision describes the overall long-term goal for the operation, protection and development of Fransmanshoek Conservancy. The objectives and strategic outcomes that follow are intended to provide the basis for the achievement of the vision. The objectives provide a broad description of the goals for each key performance area. The strategic outcomes, which flow from the objectives, set out what is needed to achieve the objectives, based on the management challenges, issues and opportunities described in Section B above.

21.1 Fransmanshoek Conservancy's purpose, vision and mission

Purpose:
Fransmanshoek Conservancy strives for the protection, rehabilitation and restoration of threatened ecosystems; and allows for nature based tourism. Fransmanshoek Conservancy serves in the protection of South Africa's threatened and rare species, provides protection to ecosystems and preserves ecological integrity. Benefits of nature based tourism will be utilised to promote human, social, cultural, and economic development while protecting ecosystems that are vulnerable and ecologically sensitive.

Vision:
The vision for Fransmanshoek Conservancy is to manage, rehabilitate and conserve the natural assets and aesthetic values in a sustainable way for the benefit of current and future generations and should be financially, ecologically and socially sustainable in the long term.

Mission:
The mission is to rehabilitate and conserve the natural area, the species it contains and the natural processes it supports through the effective implementation of the management objectives set out for the Fransmanshoek Conservancy.

Management Programme	Objective	Strategic outcome
Biodiversity Management		
Fire management	To conserve and protect the fauna and flora within the Fransmanshoek Conservancy and surrounding areas To assist and contribute towards the goals of the Southern Cape Fire Protection Association. To manage the fuel loads and fire risk attributed to alien invasive plants, specifically *A. cyclops* in the Conservancy area.	Reduce/Prevent the Spread of Fires. Maintain Partnerships between Estates and Fire Authorities to Improve Fire Management. Reduce Wildfires due to Human Negligence.
Invasive vegetation management	To prevent the further spread of alien invasive vegetation from infested area into pristine areas. To continue with the rehabilitation of disturbed areas and to implement long term monitoring programmes for these areas and any new identified sensitive areas. Create income opportunities for local woodcutter contractors.	Actively Manage Alien and Invasive Species. Monitor sites where alien vegetation management or rehabilitation has taken place Prevent Further Introduction of Aliens plants. Assist woodcutter contractors in obtaining access to firewood on private properties and assist in setting up quotes for complete cleaning of properties.
Wildlife management	To maintain the biodiversity of both the terrestrial and marine environments in and around the Fransmanshoek Peninsula and to promote a clean and healthy environment for members of the public. To consolidate conservation worthy land and to enhance the conservation status of the area by creating and protecting biological corridors along the coast and in the greater area.	Prevent the introduction of alien fauna species. Control alien invasive fauna and flora. Manage the introduction of fauna on the Reserve. Evaluate and monitor impact and movements of fauna on the Reserve.
Sustainable harvesting	To provide environmental education to the local schools, farming	Identify Management Zones Minimise Harvesting Impact

	community, land owners and visitors to the area. Manage and police the sustainable harvesting of suitable resources where applicable	Monitor and Record Keeping of Harvesting Compliance with Relevant Legislation
Archaeological, Cultural and Historical Resources	To conserve sites of cultural and/or historical significance within the conservancy. To advertise and promote the value and importance of Archaeological, Cultural and Historical sites to residents and local and international tourists. To provide environmental education to the local schools, farming community, land owners and visitors to the area.	Identify, Protect and Promote sites of Archaeological, Cultural and Historical value. Collaborate with specialists to better understand these sites. Include these sites in environmental education days.
Erosion prevention and control	To maintain the biodiversity of both the terrestrial and marine environments in and around the Fransmanshoek Peninsula and to promote a clean and healthy environment for members of the public. To consolidate conservation worthy land and to enhance the conservation status of the area by creating and protecting biological corridors along the coast and in the greater area.	Prevent and mitigate soil erosion where ever possible.
Monitoring and Baseline data collection	To conserve and protect the fauna and flora within the Fransmanshoek Conservancy and surrounding areas. To maintain the biodiversity of both the terrestrial and marine environments in and around the Fransmanshoek Conservancy and to promote a clean and healthy environment for members of the public.	Compile Monitoring Plan of Operations. Create a Biodiversity Resource Inventory (Species Lists). Implement Monitoring and Research Programmes where applicable. Monitor where possible any consumptive utilisation of biological resources.
Biodiversity security	To engage and create partnerships with Eden district Municipality, Mossel Bay Municipality, CapeNature, Department of Fisheries Mossel Bay, SAPS, and	Attend forums and meetings to strengthen ties with other conservation bodies. Conduct coastal patrols to enforce the MLRA

	other bodies and organisations that work in the area. To advertise and promote the value and importance of the natural environment to residents and local and international tourists. To improve law enforcement awareness in the area and to provide a visible law enforcement presence with regard to the Marine Living Resources Act (MLRA). To control and manage the spread of alien invasive species from the area. To continue with the rehabilitation of disturbed areas and to implement long term monitoring programmes for these areas and any new identified sensitive areas. To act as a watchdog for potential urban, and other developments, and to ensure that Fransmanshoek Conservancy is registered as an Interested or Affected Party in all Environmental Impact Assessments that affect the area. To assist and contribute towards the goals of the Southern Cape Fire Protection Association. To provide environmental education to the local schools, farming community, land owners and visitors to the area.	Implement relevant monitoring to aid decision making for future management decisions. Deliver high quality comments to any EIA applications that affect the area Arrange environmental education days where possible to instil in the local youth an appreciation for the natural assets of the area.
Development		
Development of tourism opportunities	To advertise and promote the value and importance of the natural environment to residents and local and international tourists. To provide environmental education to the local schools, farming community, land owners and visitors to the area. To provide visitor facilities and services of an acceptable standard.	Development of tourism opportunities that generate revenue for the Conservancy.
Operational Management		
Legal compliance	To engage and create partnerships with Eden district Municipality, Mossel Bay Municipality, CapeNature, Department of Fisheries Mossel Bay Mossel Bay, SAPS, and other bodies and organisations that work in the area.	Ensure, where possible, that all legislation is adhered to within the Conservancy and surrounding area.

	To improve law enforcement awareness in the area and to provide a visible law enforcement presence.	
Management effectiveness	To be thorough and carry out each of the main objectives to the highest standard possible with the available resources. Communicate with local provincial nature reserves (eg Goukamma) and measure productivity against theirs. Ensure thorough monitoring and record keeping is carried out for all management actions.	Monthly Reports Align monitoring methodologies with provincial or national monitoring strategies where possible.
Infrastructure	To act as a watchdog for potential urban, and other developments, and to ensure that Fransmanshoek Conservancy is registered as an Interested or Affected Party in all Environmental Impact Assessments. To provide visitor facilities and services of an acceptable standard. To conserve sites of cultural and/or historical significance within the conservancy.	All infrastructures on the Reserve is adequately maintained.

21.2 Clarification of Management Activities

Law Enforcement and Compliance Management

- Regular foot and vehicle patrols of the coastal and inland areas of the conservancy.
- Foot and vehicle coastal patrols should be focused around weekends, public holidays and school holidays
- Over a two day weekend the whole of the conservancy coastline should be covered by foot.
- Checking of fishing permits, bag and size limits of recreational fishermen and bait collectors and commercial oyster harvesters should be the main focus of the patrols.
- On occasion and when necessary joint patrols should be conducted with the Department of Fisheries (Mossel Bay Office), Border Police or the South African Police Service. Phone numbers for each should always be available to whoever is on duty.

- A good relationship should be built and maintained with all three institutions mentioned above in order to be able to call on them for support during serious incidents.
- Provide a general security presence for all dwellings/landholdings within the conservancy.
- Maintain an updated list of all permits checked, fines issued throughout each year.
- Maintain a good working relationship with the local fisherman and residents in order to maximise the possibility of receiving inside information.
- Provide accurate and correct regulations information to the local fishermen.
- Provide monthly law enforcement statistics.
- Provide a monthly law enforcement section in each monthly report.
- Conduct ad hoc night patrols being alert to illegal game hunting, especially over the festive season, and illegal fishing and bait collecting activities, especially during a full moon.
- **Strive to have a complete knowledge of environmental laws.**
- Be on the look out for illegal building and dumping activities, especially within a 100m from the high water mark.
- Monitor fishing boats coming into the bays (a straight line from Cape Vacca Point to St Blaize Point marks the landward area closed to demersal trawling).
- Enlighten the public to the municipal by-law prohibiting domestic animals and fires on beaches.
- Enlighten the public to the laws against littering.

<u>Conservation Management</u>

- Collection of baseline data through monitoring programs as set out in the baseline data manual.
- Submit baseline data in the correct format to the correct persons on a monthly basis by the 5th of the following month.
- Maintain accurate records of observations.
- Implement monitoring programs as identified by CapeNature and in conjunction with other Conservation bodies.
- Report regularly (both written and orally) on the progress of monitoring projects.
- Maintain and monitor road and path conditions at Fransmanshoek.
- Maintain, monitor and improve rehabilitation work at Fransmanshoek, e.g. erosion control and vegetation rehabilitation.
- Maintain and improve or assist the municipality in maintaining and improving tourist facilities at all of the public access points to the coast i.e. toilets, info centre, benches, signage, braai areas, bins and boardwalks.

- Constantly update and maintain species lists.
- Update and maintain the digital herbarium and live herbarium display.
- Provide assistance in managing the Vleesbaai 4x4 Route and camping site.
- Provide assistance and advice to all land owners concerning conservation and related issues within the conservancy.
- Take daily rain gauge measurements at the Office in the Misgunst Camp site.
- Conduct at least one scientific research project annually per ranger which has significance to the conservancy.
- Keep up to date vegetation maps of the Conservancy area.
- Take all injured seabirds to the Seabird and Penguin Rehabilitation Centre (SAPREC) in Mossdustria.
- Take all other injured animals and terrestrial birds to Kim Schoeman Umkhondo Rehabilitation centre at the Garden Route Game Lodge
- Regular litter collecting activities as necessary, especially at common fishing spots. At least one full bag of litter should be collected by each ranger when doing law enforcement patrols or roving creel surveys. Try to incorporate beach cleanups in environmental education events.
- Provide assistance to all members in conservation related activities as requested, with prior approval of the conservancy executive committee.
- Be the eyes of conservation in all aspects for the entire conservancy area.
- Initiate new ideas and manufacture methods to solve conservation related problems in the conservancy.

Environmental Education and Training

- Assist local schools in implementing environmental education programs where possible.
- Coordinate the International Coastal Cleanup operation (mid-September) within the conservancy.
- Maintain and keep up to date the "Punt Huisie" information centre at Fransmanshoek. Replace out of date posters and displays.
- Provide guided services to visitors when required.
- Provide mentorship and training to subordinate conservancy rangers.
- Assist the Oystercatcher and Hunter Gatherer Trails in guiding tourists, on predetermined dates.
- Present relevant power point presentations for any forum, meeting or event as the opportunity arises.
- Attend and give report back at Outeniqua Conservancy Forum meetings.
- Assist in environmental education days or projects in surrounding areas, such as Mossel Bay and George as requested (e.g. Conville Schools Expo).
- Enrol the conservancy as a member of the Marine and Coastal Educator's Network (MCEN) and attend all meetings.

- Hold awareness campaigns, distribute leaflets, circulate informative emails to all members, design posters for the info centre and local shop and regularly write newspaper articles etc.
- Students may design at least one poster each during their practical year, for display in the information centre or Vleesbaai shop.
- Promote conservation awareness during day to day conversations with the public.
- Provide lessons and tasks to the Voortrekkers who camp annually on the Misgunst dunes. The same goes for any other interested groups.
- Seek to arrange an intertidal excursion at spring low tide during the December season for the Vleesbaai holiday makers.

Alien Vegetation Management

- Study and apply the Alien Vegetation Management Plan.
- Assist woodcutter teams, namely Abie Steenberg and Steven Prins in arranging access to Rooikranz stands and complete clearing of properties.
- Where complete clearing of all alien species is possible, assist the two contractors in setting up accurate quotes.
- All harvesting of firewood on members properties are subject to members carrying the cost of chipping the left over branches.
- No firewood harvesting should be allowed to take place if there is no funding for the branches to be chipped.
- At least one ranger should be present during all chipping operations. The chipper is never to be operated by the contractors or anyone else in the absence of a ranger.
- Members have priority use of the chipper at R80/hr. Non members may hire the chipper at commercial rates.
- Branches should never be allowed to dry out completely before being chipped.
- Follow up operations of previously cleared properties and areas are of vital importance.
- Monitoring through fixed-point photo sites of cleared areas is also of vital importance.
- Areas of high fuel loads and fire risk should be targeted in order to minimise the fuel load and fire risk throughout the Conservancy.
- With that said however, pristine areas should receive priority focus in order to maintain their pristiness.
- All clearing activities should be recorded in the Alien Vegetation Clearing Database.

Administration

- Attend all conservancy meetings and serve as the secretary for the conservancy, including:

        - The taking of accurate minutes at meetings.
        - The distribution of minutes and agendas/notices of meetings.
        - The provision of updated information concerning the conservancy for inclusion on the website or social media platforms.
        - The writing of popular articles and reports for the monthly report, website, facebook page and local newspapers.
        - The compilation, distribution and loading of the monthly report onto the conservancy webpage.
- Attend regular meetings with the Voelvlei Farmers Association, MECN, any Security or Crime prevention related meeting, the Fire Protection Association, the St Blaize Biodiversity Forum, the Outeniqua Conservancy Forum, Gouritz Estuary Management Forum, Gouritz Cluster Biosphere Reserve and Garden Route Initiative Forum.
- Complete and distribute all monthly reports and monitoring records on a monthly basis by the 5th of the following month.
- Maintain all tools, equipment and vehicles lists and logbooks.
- Maintain regular contact with CapeNature conservation services.
- Maintain and update the Conservancy Management Plan when necessary and have one hard copy available in the office.
- Maintain, keep updated and back-up the conservancy computer records and data base, including regular backups, and the conservancy office filing system.
- Maintain an accurate and up to date budget of all income and expenditure from the petty cash, and any extra income eg chipper, owl boxes, donation box from info centre, and guided hiking trail money.
- Keep hard copies filed accurately for each month of all invoices from petty cash expenditure.
- Ensure that the conservancy is registered as an interested and affected party in all environmental impact assessments within the conservancy and in surrounding areas as seen necessary.
- Supervise any work teams that are conducting work for the conservancy, including the monitoring of waste removals from the Fransmanshoek Peninsula, alien clearers and the FMH gate watch during the festive season.
- Seek external funding through the typing up and submission of funding proposals for equipment or specific projects.

Monitoring

- Carry out monitoring according to the baseline data collection manual.
- Carry out as many monitoring programs of ecological process' as possible
- Monitor any major management actions.
- Align monitoring programs with provincial or national monitoring programs in the interest of comparability and standardisation.
- All data captured should be entered digitally in the correct program and backed up.

22. CONSERVATION SIGNIFICANCE OF THE AREA

South Africa has some of the highest levels of biological diversity found anywhere on earth. The Cape Floristic Region (CFR), which primarily falls within the Western Cape, is one of the world's most biologically complex ecosystems and is an epicentre of diversity and endemism. Although the CFR is only 90 000 km² in extent, it contains the highest density of plant species in the world. At least 70% of the plant species and nearly 20% of the genera that make up this region are found nowhere else on earth, making the CFR a biodiversity "hotspot" of global significance(Cowling and Pressey, 2003, Cowling et al., 2003).

The Fransmanshoek Conservancy falls within the Cape Floristic Region and although it doesn't house many threatened or endangered species it is home to threatened vegetation types. However the conservation value of Fransmanshoek really lies in the almost unbroken corridor of vegetation it creates along the coastal strip of land stretching from the Gouritz river right up to Springerbaai. On either side of the Conservancy's boundaries areas of unbroken natural and semi natural vegetation exist, creating an important large network of available habitat for wildlife. Its success and value can be measured by the presence of Cape Leopard, an apex predator and indicator of ecosystem health (Gavashelishvili and Lukarevskiy, 2008, Braczkowski et al., 2012). Even though certain areas are invaded by Rooikranz, the shelter it provides still contributes greatly in allowing the movements of plants and animals. These corridors of vegetated areas are of great importance to biodiversity conservation (Damschen et al., 2006, Lombard et al., 2010)

The Conservancy coastlines most important assets are the two protected bays it encompasses. Bays form unique sheltered habitat for marine life. Although there are some offshore reefs just adjacent to the coast, the density of reef unfortunately do not warrant Marine Protected Area status as of yet. While the Conservancy coastline is a good representation of the Agulhas Bioregion habitat and is valuable to the marine resources occurring there, it is not within the scope of the Conservancy to attempt achieving Marine Protected Area status. This process is simply not within the reach of the Conservancy's financial resources. Nevertheless, enforcing the Marine Living Resources Act efficiently plays a major role in ensuring long term health of the local marine resources. Focus should rather be given to this task as well as ensuring no 'ribbon' development occurs along the land adjacent to the coast.

23. MAN INDUCED THREATS TO THE ENVIRONMENT

The following threats to the environment could pose problems in the near future, or already do, and need to be dealt with by incorporating appropriate mitigation measures:

Proposed Mitigation Measures

- Excessive destruction of natural vegetation:
  - The destruction of natural habitat should be prohibited within the management policy of the conservancy. Only under inevitable circumstances should natural vegetation be removed when the appropriate permission has been received from the Department of Forestry.
  - Illegal destruction of natural vegetation should be reported to the relevant authority either the Department of Environmental Affairs and Development Planning or the Department of Forestry depending on the case.

- Habitat destruction by means of fire:
  - The natural vegetation within the Conservancy consists of Thicket and Strandveld which does not need to burn. Therefore fire should be kept out if at all possible.
  - Where possible fire risks exist, due to present vegetation or human activity, all precautions necessary should be taken to avoid a fire breakout.
  - Areas of dense alien vegetation where large fuel loads exist should be prioritised with the idea of reducing fuel loads.
  - Areas which experience regular recreational activity, e.g. braai areas, should be cleared of vegetation that could pose as a fire threat and monitored carefully for overnight campers.
  - Each conservancy member should be urged to become a member of the Southern Cape Fire Protection Association.
  - Illegal camping activities must be monitored and any illegal beach fires should be stopped.

Table 4: Fire management regime

FIRE MANAGEMENT			
Objectives	· To ensure conservation of species and processes by maintaining and improving ecosystem functioning.		
	· To implement effective Integrated Fire Management in the Area.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Reduce/Prevent the Spread of Fires.	Construct and maintain priority firebreaks as determined by the Mossel Bay Fire Department and the FPA	Management Authority	Annually
	Negotiate Firebreak Exemptions where possible and necessary in conjunction with the Mossel		

	Bay Fire Department and the FPA		
	Reduce fuel loads in critical areas through the use of woodcutter contractors and the Conservancies chipper.		
	Promote fire awareness in the area and encourage rapid response systems		
	Mapping of all Fires and Capture on GIS.		
	Attend Local FPA Meetings.	Management Authority	Annually
Maintain Partnerships to Improve Fire Management.	Arrange fire suppression courses for FPA members as well as events where neighbouring estates and towns can test their equipment and see what is lacking.		

- <u>Habitat destruction by means of excessive trampling and vehicle access</u>:
  - All paths and roads should be clearly marked to prevent trampling.
  - During peak periods public vehicle access must be controlled to the popular recreational area of the Fransmanshoek Peninsula. Only 39 cars are to be allowed on the peninsula at any one time (excluding residents).
  - Appropriate signage, directions and warnings should at all times be visible and in good condition.
  - Badly degraded paths and roads should be closed or rerouted or rehabilitated.
  - Barriers must be erected where people persist to park or enter into sensitive areas.
  - Fixed point photography data capturing must be done annually and photos must be comprehensively compared with previous years. Management actions must then be taken where necessary.
  - Erosion must be controlled.

- <u>Habitat destruction as a result of over-development and negligence, especially coastal ribbon development:</u>
  - The conservancy should attempt to prohibit any activity that could damage natural vegetation within its borders and surrounding areas.
  - Construction projects within the conservancy should be monitored on a regular basis, and any negligence should be reported to the appropriate authorities.

- The conservancy should register as an interested or affected party in all environmental impact assessments (EIA) in the area and give valuable input.
- The conservancy should fight against large, ecologically insensitive developments and promote balanced developments such as Springerbaai Eco-estate as opposed to high density residential.
- Rangers must keep an eye on people illegally developing over their plot boundaries or against their record of decision (ROD) issued by the department of Environmental Affairs and Development Planning or without the appropriate EIA.
- If any inevitable damage has occurred to natural vegetation, it should be followed by a feasible rehabilitation strategy where possible.
- Continue to look into the possibility of establishing a structure plan in line with the Municipality and the systems Act. This will lay down development guidelines for the future for an entire area. Vleesbaai has lead discussions in the past, the Conservancy should be involved where possible.

❖ <u>Extermination of fauna by means of hunting, poisoning, traps and habitat destruction, especially small game and birdlife:</u>
- Any form of hunting is prohibited within the Conservancy, with the exception of planned culls.
- Any illegal activity which could possibly harm the natural fauna and flora of the conservancy should be prohibited, and if encountered should be immediately reported to the appropriate authorities.
- Farmers should be persuaded to adopt holistic measures to counter problem animals.
- Night patrols on the lookout for illegal hunting activities must be conducted on an ad hoc basis during peak seasons.
- Searches for illegal game traps must be conducted, especially in the vicinity of building site operations.
- Biological corridors should be promoted as much as possible, highlighting the necessity of small scale (within the conservancy) as well as large scale corridors.

❖ <u>Fauna extermination as a result of domestic animals i.e. cats & dogs:</u>
- Day visitors and conservancy residents/property owners must at all times have their animals on a leash within the conservancy when outside of their properties. Domestic animals found on private properties without the property owner's permission are liable to be taken to the SPCA or exterminated.
- On large natural plots owners should restrict the movement of their domestic animals.
- The conservancy has a substantial problem with domestic cats which are now living wild in the bush.

- Mossel Bay Municipality by-laws should be followed regarding the zoning of which beaches dogs are allowed on.

❖ Over-utilization of marine intertidal organisms i.e. bait collecting and commercial oyster harvesting:
- Conservancy intertidal zones should be patrolled by the appointed rangers at least once weekly (weekends), especially during spring low tide conditions.
- Only harvesters with the appropriate permits are to harvest intertidal bait organisms.
- Bag limits should be enforced at all times.
- The Dept of Fisheries should immediately be informed when an intolerable violation of the Marine Living Resources Act has taken place.
- Commercial oyster harvesters must be strictly monitored as certain elements have gained an unsavoury reputation for proven reasons. While most of the operators have commercial permits, regular communication with the Dept of Fisheries is advised in order to determine who hasn't received their annual permit. Right holders often lose their permit due to criminal charges against them, yet they continue to harvest illegally.
- Any large scale impact by commercial operators should be monitored and reported to the Dept of Fisheries.

❖ Pollution:
- Ablution facilities must be well maintained and hygienic. This lessens the use of the veld as a toilet.
- Refuse bins should be well maintained, strategically placed and emptied regularly as required of the appointed contractor (see below).
- Refuse bins are contracted to be emptied on a weekly basis and during December on a twice weekly basis. During the months of May, June, July and August refuse bins are emptied on a bi-weekly basis.
- The refuse bins mentioned above are on Fransmanshoek Peninsula and at Cape Vacca and Kanon parking lots. Rangers must ensure the contractor is carrying out the work and ensure that Eden District Municipality has put the contract out for tender in time each year.
- The appointed rangers should patrol the frequently visited area's popular fishing spots on a weekly basis and collect and dispose of all litter.
- The bins on Verleeklip and Die Saal need to be emptied by the rangers and either disposed of in the bins along the road at Fransmanshoek or in Vleesbaai's refuse facility.
- Signage that discourages littering should be maintained and erected.

- Local anglers should be encouraged to be on the lookout and report littering visitors.
- Time should be set aside to clear inaccessible areas of litter washed up from the sea.
- In cases where the beach gets covered with floating litter washed ashore by strong easterly conditions, ranger may get two labourers to help with cleaning a specific section of beach. Rangers must first make sure funding is available for such operations.

❖ Illegal (and legal) offshore fishing activities:

- Illegal offshore activities such as demersal trawling within the bays of Vleesbaai or Visbaai should immediately be reported to the Dept of Fisheries (Vleesbaai and Visbaai are closed to demersal trawling).

24. SOCIAL AND CULTURAL SIGNIFICANCE

The Fransmanshoek Peninsula and surrounding area are exceptionally popular recreational areas for local and international tourists. Over the December period the number of South African Tourists from up country increases drastically and the quiet peninsula becomes so busy, the number of cars needs to be controlled. Throughout the year more local visitors from all over the Garden Route and Klein Karoo visit the peninsula together with more international tourists. Many of the day visitors are avid anglers, whilst others simply come to enjoy the amazing views whilst having a braai.

The Fransmanshoek Peninsula serves an excellent vantage point to watch dolphins and whales during whale season. Whales sometimes come within a stone's throw from the rocks at Fransmanshoek, creating an unforgettable experience for the awestruck visitors. See Figure 13. In 2012 the Mossel Bay Municipality built a lovely whale watching deck at Boggomsbaai's main parking area, where great views of the bay and of the majestic marine mammals can be viewed.

Figure 13: A Southern Right Whale viewed from Die Saal (Photo: Pereira 2005).

The shell midden, paleosols and 'vis vywers', i.e. the fish traps, occurring within the conservancy are a treasure trove for any archaeologist and also proves to be quite an attraction for tourists. The history of the region is very in-depth and interesting. The story of the *Le Fortune* never ceases to amaze anyone willing to listen.

The conservancy serves as an excellent environmental educational platform for the local schools and far of schools alike. See Figure 14.

Figure 14: A group of primary school children on an environmental education trip at Fransmanshoek (Photo: Purves 2005).

Figure 15: Fransmanshoek during the December period. The large number of visitors indicates the recreational popularity of the peninsula (Photo: Pereira 2005).

The Fransmanshoek Conservancy serves as an aesthetically pleasing recreational "wilderness area" whereby people living in the greater Mossel Bay district can come to relax and unwind for the day. The conservancy is also characterised by its relatively crime-free history. All of this serves as outstanding motivation to continue conserving the region for future generations to enjoy.

SECTION D: MANAGEMENT PROJECTS

Table 5 : Monitoring and baseline collection regime

MONITORING AND BASELINE DATA COLLECTION			
Objectives	· To obtain biodiversity knowledge to ensure effective conservation management. · To implement measures to ensure resilience and persistence of biodiversity in light of climate change and other anthropogenic factors. · To ensure the implementation of effective conservation management interventions. · To ensure conservation of species and processes by maintaining and improving ecosystem functioning.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Compile Ecological Plan of Operations	Compile Ecological Plan of Operations. Collate all relevant Monitoring and Research Protocols and Data Sheets.	Management Authority	Annually
Create a Biodiversity Resource Inventory	Prioritise Species for inclusion on the Ecological Matrix. Compile and Implement the Ecological Matrix. Collect Specimens and Submit to CapeNature Scientific Services. Analyse data, re-assess and implement Adaptive Management Strategies.	MA/CapeNature	Annually
Create a Biodiversity Resource Inventory	Prioritise Species for inclusion on the Ecological Matrix. Compile and Implement the Ecological Matrix. Collect Specimens and Submit to CapeNature Scientific Services.	MA/CapeNature	Annually

	Analyse data, re-assess and implement Adaptive Management Strategies.		
Implement Monitoring Programme	Review Monitoring Protocols. Identify Monitoring Needs of VNR in consultation with CapeNature. Establish Indicators for Monitoring. Implement Monitoring Activities as per Ecological Matrix. Report on Monitoring Activities as per Ecological Matrix.	MA/CapeNature	Annually
	Analyse data, re-assess and implement Adaptive Management Strategies.		
	Implement Monitoring Programmes as per Ecological matrix.		

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