

T01/12-2013/13: Overberg Coastal Management Programme

Final Situation Analysis Report

June 2015

Overberg District Municipality



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Executive Summary

In response to the requirements of Section 48 and 49 of the National Environmental Management Integrated Coastal Management Act (ICMA; Act No 24 of 2008), Overberg District Municipality (ODM) have appointed Mott MacDonald PDNA (Pty) Ltd to develop a Coastal Management Programme (CMP) for the area of its jurisdiction, including the local municipalities (LMs) of Overstrand, Cape Agulhas and Swellendam.

This document, the Situation Analysis Report (SAR), forms the precursor to the development of the CMP and has been drafted to assist in the identification of key coastal issues which should be addressed in the CMP. The document is comprised of the following components:

- Status Quo Assessment
- Situation Assessment
- Gap Analysis, and
- Needs Assessment

Section A: Status Quo Assessment

Legal Status Quo

Although the protection and management of the South African coastal environment is largely governed by ICMA, a large number of laws are concerned with coastal management. This section provides an overview of the National, Provincial and Municipal legislation which play a part in coastal management. It also notes the applicable international obligations and discusses the various South African policy and guideline documents with relevance to the coast.

Overview of Existing Coastal Management Practices

Coastal management is a crosscutting function and involves a number of roleplayers at all levels of government. This section sets out the coastal management functions currently being undertaken at national, provincial and local level. Coastal management practices of the following key roleplayers are discussed:

National roleplayers:

- Department of Environmental Affairs
- Department of Agriculture, Forestry and Fisheries
- Department of Public Works

Provincial roleplayers:

- Department of Environmental Affairs and Development Planning
- Department of Water and Sanitation
- SANParks

Municipal roleplayers

- City of Cape Town
- Eden District
- Overberg District
 - Overberg Municipal Coastal Committee
 - CapeNature
 - Estuary Advisory Forums
- Overstrand Local Municipality
- Cape Agulhas Local Municipality
 - DENEL
- Swellendam Local Municipality
 - Lower Breede River Conservancy Trust

Biophysical and Socio-Economic Status Quo

The biophysical and socio-economic status quo provides an overview of the following components of both the district and the coastal local municipalities:

- Geography
 - Municipal extent
 - Length of coastline
 - Main coastal towns
- Climate and weather
 - Rainfall and temperature
- Local oceanography
 - Sea temperatures
 - Coastal morphology
 - Coastal management lines
- Marine living resources
- Terrestrial living resources
 - Threatened vegetation types
 - Important bird and biodiversity areas
 - Formal protected areas

- Estuarine and freshwater resources
- Socio-economic setting
- Land use
- Cultural and heritage resources
- Built environment and infrastructure
- Coastal recreation
- Coastal access, and
- Key coastal areas

Consultative Process Followed

As part of the situation analysis the local municipalities were engaged to discuss challenges and identify gaps and needs for successful coastal management within their various municipalities. Staff dealing with environmental and coastal management issues were involved in a questionnaire-based meeting. A number of meetings were also held with key stakeholders and telephonic and email correspondence undertaken to obtain their inputs into the status quo assessment and identification of needs and gaps.

Section B: Situation Assessment

Following the status quo analysis, a SWOT (strengths, weaknesses, opportunities and threats) analysis was undertaken to enable the identification of needs and gaps within the district.

Strengths

- High number protected areas (incl. Marine Protected Areas, Biosphere Reserve, National Parks, Provincial Nature Reserves and private reserves)
- Falls within the Cape Floristic Region (UNESCO World Heritage Site)
- Five (5) Important Bird Areas
- Two Ramsar sites
- Close proximity of urban nodes to protected areas
- Various boat launch sites as well as slipways available for public use across the District
- Abalone Farms
- Whale watching charter and recreational ski-boating
- Marine-based tourism
- Agriculture: wild flower collection (Agulhas Biodiversity Initiative aimed at making economically viable land use of the Agulhas Plain)

- Draft Estuary Management Plans (EMPs) for Bot, Klein, Uilkraals, Heuningnes and Breede river estuaries and Estuary Advisory Forums largely in place
- Shark Research Institute (Hermanus)
- Kleinmond is an example of low intensity clean services industries (promote low emission industry along the coast)
- Stringent building controls (e.g. Rooi Els, Pringle Bay and Betty's Bay allows no industry)
- 4 proclaimed fishing harbours, and
- High number of coastal heritage sites (eco-tourism potential).

Weaknesses

- Nine (9) estuaries with an ecosystem threat status of critically endangered
- Impaired ecological integrity of estuarine systems due to:
 - Flow reduction resulting from upstream abstraction and dam development
 - Sedimentation
 - Artificial breaching
 - Poor land use practices, resulting in increased nutrient loading
 - Poor water quality (faecal bacteria)
 - Reed encroachment (Onrus River Estuary – worst estuary)
- Fishing pressure at the Bot River Estuary (which is a nursery habitat)
- Polluted storm water (impacts on recreational use)
- Gansbaai Landfill
- Existing tanker service unable to cater for emptying of septic tanks during peak holiday season
- Lack of adequate access for disabled persons
- Lack of institutional resources, and
- Lack of funding for implementation.

Opportunities

- Aquaculture, including abalone with kelp readily available
- Marine Living Resources: West Coast Rock Lobster
- Marine Living Resources: Kelp harvesting
- Tourism
- Real estate (construction)
- Desalination
- Reclaimed water
- N2 and main towns situated away from coast, allowing development pressure to be focused away from the coastal areas

- Smallholder Aquaculture Producer Associations (implementation of National Aquaculture Policy Framework)
- Fisheries as an important vehicle to achieve the vision for an integrated rural economy especially for coastal communities (as per the Small-Scale Fisheries Policy)
- Food Security Strategy (fisheries sector)
- Marine Living Resources Fund (for research, monitoring and surveillance)
- Working for Fisheries Programme
- Working for the Coast Programme
- High number of coastal heritage sites (eco-tourism potential)
- Enforce programmes to curb illegal harvesting, and
- Infrastructure development and investment into fishing harbours (increase socio-economic and tourism opportunities).

Threats

- Declining fish stocks, particularly reef species within the Overstrand Local Municipality
- Over-fishing and illegal harvesting
- Climate change and coastal erosion
- Mobile dunes
- Alien invasive plants
- Fire regimes
- Habitat transformation
- Impact and pressure on coastal resources during peak holiday periods
- Poorly managed wild flower harvesting (fynbos)
- Close proximity of urban nodes to protected areas
- Decreasing rights to holders of licences to reduce pressure on fishing stocks (loss of income and jobs), and
- Pollution from sewer systems, treatment plants and polluted stormwater.

Desired States

- Compliance with ICMA:
 - Reasonable and equitable access (in line with National Access Management Plan and Strategy)
 - Coastal management lines delineated and contained in municipal zoning schemes
 - Determination and adjustment of coastal boundaries of coastal access land and delineation on zoning scheme maps
 - Adopted Municipal CMP in place (in line with the Guide for the Development of Coastal Management Programmes in South Africa; National CMP, Provincial CMP and National Estuarine Management Protocol)

- Alignment of CMP and other coastal plans, policies and programmes
- Adopted by-law for administration of Municipal CMP
- Sustainable utilization of marine living resources
 - Healthy populations of reef fish
 - Well-developed, sustainable aquaculture industry
 - No reported incidents of illegal harvesting within MPAs and reduction in illegal harvesting incidents in other areas
- Protection of all threatened ecosystems
- Maintenance of development margins for the nationally important estuaries
- Adopted Estuary Management Plans for all estuaries and functional and well-represented Estuary Advisory Forums
- Tourism centred around eco-tourism opportunities
- Maintenance or increase in number of Blue Flag beaches
- Maintained and adequate provision of stormwater management system
- Sustainable livelihoods for local communities
- Regular monitoring and reporting on water quality
- Maintained sewage infrastructure network to minimize spills and pollution risks
- Sufficient capacity (human resource) and budget to undertake coastal management functions
- Clearly defined mandates and agreements in place between organisations and governmental bodies for coastal management and estuarine management, and
- Disaster management plan which includes coastal risks (such as storm surges).

Section C: Gap Analysis and Needs Assessment

As part of the situation analysis the local and district municipalities were engaged to discuss their performance and capability to execute the various coastal management functions, and to identify issues of concern regarding coastal management within their borders. These discussions are summarised in Appendix B.

In addition to the engagement with the municipalities, other stakeholders and the general public were also engaged in a series of workshops to identify the most pressing issues within the Overberg coastal zone (please see Appendix B for all the issues raised during stakeholder engagement). The comments received were then used to identify the various gaps and needs that should be addressed. Where possible, similar issues were grouped to facilitate the process.

Issues and subsequent needs and gaps were grouped into provisional priority areas to provide some structure and facilitate the identification of priority options in the next step. These priority areas were guided by the issues identified and the priority areas identified by the National CMP, Draft Western Cape Provincial CMP and Kogelberg Integrated CMP.

The provisional priority areas identified were as follows:

- Facilitation of Coastal Access
- Infrastructure and Services
- Cooperative Governance
- Natural Resource Management
- Compliance, Enforcement and Management
- Awareness, Education and Training
- Land and Marine-based Sources of Pollution
- Climate Change and Coastal Processes
- Coastal Planning and Development
- Social and Economic Development
- Culture and Heritage Management

Identification of priority options

The identification of priority options was, as a first step, informed by the legal mandates and requirements of the local and district municipalities as set out in the Constitution, ICMA and the Municipal Structures Act, with a high initial priority assigned to issues required by law and a medium priority assigned to those that are suggested in the legislation.

A second level of prioritisation was then undertaken on the coastal management functions that fall within the municipal mandate. Higher priority was assigned to issues rated as such by the workshop participants (indicated in issues summary table in Appendix B) as well as issues that were raised on several occasions and in several locations. Lastly, issues that have existing biophysical or socio-economic impacts along the coast were also given a higher priority rating.

The issues identified above were then balanced against the degree to which they are already being addressed within current structures.

Following from this process, the following were identified as issues of high and medium priority for inclusion in the CMP:

High Priorities

- Provision of coastal access
- Control and monitoring of access
- Provision and maintenance of access infrastructure
- Clarity on roles and responsibilities between district and local municipalities
- Integrated coastal management
- Funding
- Management of alien invasive species
- Estuarine management
- Coastal access signage
- Pollution from sewer systems and other sources of pollution (e.g. litter)
- Stormwater management
- Erosion
- Mobile dune management
- Aquaculture (local economic development and sustainable job creation)

Medium Priorities

- Management of slipways, jetties, public launch sites, harbours
- Programme of predicted expenditure and investment in coastal management
- Upgrade and maintenance of infrastructure for jetties, piers, harbours
- Beaches
- Alignment with other plans, policies and programmes
- Disaster management
- Protection of coastal and marine species
- Consideration and maintenance of ecological processes
- Conservation of biodiversity
- Scientific input into decision-making
- Waste disposal
- Climate change
- Infrastructure and services
- Illegal developments
- Development of tourist facilities
- Lifesaving
- Archaeological cultural and heritage sites

Once the priority options have been agreed upon for the development of the CMP, a Cost-Benefit analysis will be undertaken (as part of the next phase). This will be done by means of a Cost Effectiveness Analysis to inform the timing and implementation of the priority options to ensure the greatest benefit from the limited funding available for coastal management.

Way Forward

The revised draft Situation Analysis Report (SAR) was circulated for key stakeholder comment and was amended accordingly before being distributed for general stakeholder review and comment. Nine stakeholder workshops were also held to discuss the SAR. Comments received on the revised draft SAR were used to produce the final SAR (this document).

The draft CMP will now be developed, along with the Coastal Management by-law, which will again be circulated for public review and comment, and accompanied by a number of stakeholder workshops in December 2015.

Abbreviations & Acronyms

AET	Awareness, Education and Training
BGCMA	Breede-Gouritz Catchment Management Agency
BREAF	Breede River Estuary Advisory Forum
CAM	Cape Agulhas Local Municipality
CAPE	Cape Action for People and the Environment
CMP	Coastal Management Programme
CMU	Coastal Management Unit
CoCT	City of Cape Town
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs (National)
DEA&DP	Department of Environmental Affairs & Development Planning (Western Cape)
DM	District Municipality
DPW	Department of Public Works
DRMP	Disaster Risk Management Plan
DWS	Department of Water and Sanitation
EEZ	Exclusive Economic Zone
EAF	Estuary Advisory Forum
EMP	Estuarine Management Plan
EPWP	Expanded Public Works Programme
GDP	Gross Domestic Product
GIS	Geographic Information Systems
HWM	High Water Mark
IBA	Important Bird and Biodiversity Area
ICM	Integrated Coastal Management

ICMA	National Environmental Management Integrated Coastal Management Act
IDP	Integrated Development Plan
IUCN	International Union for the Conservation of Nature
LBRCT	Lower Breede River Conservancy Trust
LM	Local Municipality
MCC	Municipal Coastal Committee
MCMP	Municipal Coastal Management Programme
MoU	Memorandum of Understanding
MSL	Mean Sea Level
NCMP	National Coastal Management Programme
NP	National Park
NR	Nature Reserve
ODM	Overberg District Municipality
ORV	Off-Road Vehicles
PCC	Provincial Coastal Committee
PCMP	Provincial Coastal Management Programme
PSDF	Provincial Spatial Development Framework
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SAPS	South African Police Services
SDF	Spatial Development Framework
SLA	Service Level Agreement
TWK	Theewaterskloof Local Municipality
WESSA	Wildlife and Environmental Society of South Africa

WftC Working for the Coast

1 Introduction

Mott MacDonald PDNA has been appointed to develop a Coastal Management Programme (CMP) on behalf of the Overberg District Municipality (ODM).

This is in response to Sections 48 and 49 of the National Environmental Management: Integrated Coastal Management Act (ICMA; Act No. 24 of 2008), which states that each municipality must include in its Integrated Development Plan (IDP) a CMP. This is also in response to the municipality's mission, which is: *"To render sustainable, client directed services and to be the preferred Provider of Shared Services within the Overberg"* (Overberg District Municipality, 2013).

Importantly, the ICMA states that "the coastal zone is a unique part of the environment in which biophysical, economic, social and institutional considerations interconnect in a manner that requires a dedicated and integrated management approach".

Through assessing the current situation of coastal management across the Overberg District, the CMP will result in the setting of short, medium and long term goals to the effect that it will continuously improve coastal management in the region.

The development of the Overberg CMP will address the need to manage the biophysical and developmental requirements of the coastal region of the ODM in a holistic manner, and will ensure compliance with the requirements of sections 48 and 49 of the ICMA.

1.1 Terms of Reference

The scope of the Overberg CMP is set out in the Tender Document.

This includes:

- The compilation of an Inception Report (this has been completed)
- The compilation of a Status Quo Report, Situation Analysis, Gap Analysis and Needs Assessment, including public participation
- The compilation of a Coastal Management Programme for the Overberg District, including public participation and cost-benefit analysis
- The compilation of a Draft Coastal Management By-Law for the Overberg District and local municipalities of Swellendam, Cape Agulhas and Overstrand, including public participation, and
- The formalisation and expansion of the Municipal Coastal Committee membership.

1.2 Study Area

The study area includes the four local municipalities within the Overberg District Municipality, namely the Overstrand Local Municipality, the Cape Agulhas Local Municipality, the Swellendam Local Municipality and the Theewaterskloof Local Municipality. The core study area comprises the coastal zone of the Overberg District Municipality, which extends from the Rooiels River in the west to the Breede River in the east.

1.3 Purpose of the Report

This report forms the first of three critical stages of reporting on the Overberg CMP, namely:

- A Situation Analysis, comprised of
 - Status Quo Assessment
 - Situation Assessment
 - Gap Analysis, and
 - Needs Assessment
- A CMP (which includes the setting out a vision and specific objectives for the management of the municipality's coastal zone which will be both strategic and operational in nature), including cost-benefit analysis; and
- The drafting of Coastal Management By-laws for the enforcement of locally appropriate and specific coastal management requirements.

The purpose of this report is to define the status quo of the study in broad social, economic and environmental terms, followed by a more detailed overview of the Overberg coastal area and an associated gap analysis which, based on the information contained in the situational analysis, will highlight priority areas to focus on going forward (i.e. during the CMP phase).

Section A: Status Quo Assessment

2 Legal Status Quo

The National Environmental Management: Integrated Coastal Management Act is the primary legislative tool concerned with the protection and management of South Africa's coastal environment. The ICMA however makes up a part of a broader tapestry of legislative and policy interventions (at the national, provincial and municipal level) which are concerned with coastal management.

An overview of this legal framework is outlined below.

2.1 National Legislation

2.1.1 The Constitution of the Republic of South Africa (Act No 108 of 1996)

The South African Constitution provides the legal foundation for the development of legislation aimed at protecting and managing environmental resources (including coastal resources). In particular, section 24 of the Constitution provides that:

"Everyone has the right-

- (a) to an environment that is not harmful to their well-being; and*
- (b) to have the environment protected for the benefit of present and future generations through reasonable and other legislative measures that-*
 - i. prevent pollution and ecological degradation;*
 - ii. promote conservation; and*
 - iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

The Constitution furthermore assigns legislative and executive authority to the various spheres of government in respect of the functional areas set out in Schedule 4 and 5 thereof. Insofar as the legislative authority is concerned, the Constitution provides that a municipality may make bylaws for the effective administration of the matters listed in Part B of both Schedule 4 and 5 to the Constitution¹, which include:

- Local tourism
- Municipal planning
- Municipal public works only in respect of the needs of municipalities in the discharge of their responsibilities to administer functions specifically assigned to them under this Constitution or any other law
- Pontoons, ferries, jetties, piers and harbours, excluding the regulation of international and national shipping and matters related thereto
- Stormwater management systems in built-up areas
- Beaches and amusement facilities
- Cleansing
- Public places, and
- Municipal parks and recreation.

Municipalities have executive authority in respect of (1) the local government matters listed in Part B to both Schedule 4 and 5 of the Constitution and (2) any other matter assigned to them by national or provincial legislation.² National and provincial government must however assign to a municipality by

¹ Section 156 of the Constitution.

² Section 156 and of the Constitution.

agreement (and subject to any conditions) the administration of a matter listed in Part A of Schedule 4 or 5 which necessarily relates to local government if (a) that matter would most effectively be administered locally; and (b) the municipality has the capacity to administer it.³

While the role of local authorities in coastal management is apparent from the functional areas listed in Part B of Schedules 4 and 5, it is also apparent from section 151 the Constitution, which lists the requirement to “promote a safe and healthy environment” amongst the objectives of local government.

A series of national legislation has been promulgated with a view to facilitating the attainment of the mandates which are conferred upon municipalities by the Constitution.

2.1.2 Local Government: Municipal Systems Act (Act No 32 of 2000)

The Local Government: Municipal Systems Act (Act No. 32 of 2000) provides for the regulation of key municipal organisational, planning, participatory and service delivery systems.

Significantly in the context of coastal management, the Act promotes sustainable development through the integrated development planning which takes account of social, economic and environmental considerations (including spatial, infrastructural, institutional and organisational constraints and opportunities). In addition, it emphasises the role of public participation in municipal processes and is intended to create a framework for municipal performance and human resource management within municipalities. In this regard the Act recognises that development is required to improve the living standards of communities while serving the interests of present and future generations.

In particular, the Act makes provision for *inter alia*:

- The manner in which a municipality must exercise its legislative and executive authority
- Municipal legislative processes
- Municipal planning, development and implementation of Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs) (which may be intrinsically linked with municipal coastal management programmes), and
- The funding and capacitation of municipalities.

2.1.3 Local Government: Municipal Structures Act (Act No 117 of 1998)

The Local Government: Municipal Structures Act (Act No. 117 of 1998) provides for the establishment of municipalities (as demarcated in terms of the Local Government: Municipal Demarcation Act (Act No. 27 of 1998) and defines the various types and categories of municipalities. It also regulates the internal systems, structures and office-bearers of municipalities and provides for appropriate electoral systems. The Act categorises district municipalities as Category C and local municipalities as Category B and assigns different roles and responsibilities according to the particular category of the municipality.

Chapter 5 of the Municipal Structures Act makes provision for the division of functions and powers between local and district municipalities. Section 83(3) notes that a district municipality is responsible for integrated, sustainable and equitable social and economic development of the area as a whole, whilst

³ Section 156 of the Constitution.

Section 84 of the Act sets out the functions of district and local municipalities. Section 84(1) lists the functions assigned to the district. The following are relevant to coastal management:

- Integrated development planning for the District Municipality (DM) as a whole, including a framework for integrated development plans of all municipalities in the area of the DM
- Potable water supply systems
- Domestic waste-water and sewage disposal systems
- Solid waste disposal sites
- Municipal roads
- Promotion of local tourism within the DM
- Municipal public works relating to the above functions or any other functions assigned to the DM
- The receipt, allocation and distribution of grants made to the DM, and
- The imposition and collection of taxes, levies and duties as related to the above functions or as assigned to the DM in terms of national legislation.

Section 84(2) indicates that local municipalities have the functions assigned to them by the constitution, and excluding the functions assigned to the district municipalities in section 84(1), but that this does not prevent them from performing functions in their area and exercising their powers of the nature set out in subsection (1).

Functions and powers can be delegated, as set out in Section 85, but co-operation between local and district municipalities are promoted (Section 88).

2.1.4 Spatial Planning and Land Use Management Act (SPLUMA; Act No. 16 of 2013)

SPLUMA sets out to provide a framework for spatial planning and land use management to allow all spheres of government to undertake spatial planning that is inclusive, equitable and efficient. It sets out to provide a framework for the monitoring, coordination and review of the spatial planning and land use management system, and the development of policies, principles, norms and standards to govern them. It also aims to promote greater consistency and uniformity in the application procedures and applications and provides for the facilitation and enforcement of land use development measures.

2.1.5 National Environmental Management Act (Act No 107 of 1998)

The National Environmental Management Act (NEMA; Act No 107 of 1998) provides an overarching framework for environmental management in South Africa. In this regard it promotes co-operative governance and establishes national environmental management principles which are aimed at guiding decision-making in respect of matters which affected the environment.

The National Environmental Management Principles include the following:

- Environmental management must place people and their needs first
- Development must be socially, environmentally and economically sustainable and must consider:
 - That disturbance of ecosystems and biodiversity is avoided, or where unavoidable, is minimised and remedied
 - That pollution and degradation of the environment is avoided, or where unavoidable, is minimised and remedied

- That the disturbance of cultural heritage is avoided, or where unavoidable, is minimised and remedied
 - That production of waste is avoided, or where not altogether avoidable is reused and recycled where possible and otherwise disposed of in a responsible manner
 - That exploitation and use of non-renewable resources is done in a responsible and equitable manner and do not exceed the level beyond which their integrity is jeopardised
 - That the precautionary principle is applied
 - That negative impacts are anticipated and prevented, and where not altogether preventable, are minimised and remedied
- Environmental management must be integrated and the best practical environmental option pursued
 - Environmental justice must be pursued to prevent negative environmental impacts being distributed unfairly
 - There should be equitable access to environmental resources, benefits and services to meet basic human needs
 - Responsibility for environmental health and safety consequences of any policy, programme or project must continue throughout the project lifecycle
 - Public participation of all interested and affected parties must be promoted and participation by vulnerable and disadvantaged persons encouraged
 - Decisions must take into account the interests, needs and desires of the interested and affected parties
 - Community wellbeing and empowerment must be encouraged through environmental education, awareness raising and knowledge sharing
 - The environmental, social and economic impacts of an activity must be considered, assessed and evaluated
 - Workers' right to refuse work that is harmful to human health or the environment and to be informed of dangers must be protected and respected
 - Decisions must be made in an open and transparent manner and access to information provided
 - There must be intergovernmental coordination and harmonisation of environmental policies, legislation and actions
 - Conflicts of interest between organs of state should be resolved through conflict resolution procedures
 - Global and international responsibilities relating to the environment must be discharged in the national interest
 - The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage
 - The polluter must pay for the costs of remedying pollution, environmental degradation and adverse health impacts
 - The important role of youth and women in environmental management must be recognized and their participation promoted, and
 - Sensitive or stressed ecosystems must receive special attention in planning which might affect them.

NEMA includes various mechanisms aimed at facilitating environmental management. In particular, section 24 of NEMA (read with the Environmental Impact Assessment (EIA) Regulations and Listing Notices promulgated in terms of NEMA) provides for the management and protection of environmental resources through the imposition of environmental authorisation and associated impact assessment) requirements. In this regard, the NEMA EIA Regulations are contained in GN R982 in GG 38282 of 4 December 2014, and Listing Notices 1-3 are contained in GN R983, GN 984 and GN 985 in GG 38282 of 4 December 2014. In

addition, a general “duty of care” (which requires that measures are taken to avoid and/or remediate environmental degradation) is provided for in section 28 of the Act. Regulations relating to Environmental Management Frameworks have also been promulgated in terms of NEMA in GN R 547 of 2010.

The following legislation (which will be addressed in more detail below) has been promulgated to compliment NEMA, and to address specific areas of environmental management (including coastal environmental management):

- National Environmental Management Biodiversity Act (Act No. 10 of 2004)
- National Environmental Management Protected Areas Act (Act No. 57 of 2004)
- National Environmental Management Waste Act (Act No. 59 of 2008), and
- National Environmental Management Integrated Coastal Management Act (Act No. 24 of 2008).

2.1.6 National Environmental Management: Integrated Coastal Management Act (Act No 24 of 2008)

The ICMA is the primary legislative tool aimed at the protection and integrated management of South Africa’s coastal environment.

The objectives set out in section 2 of ICMA are as follows:

- To determine the coastal zone of the Republic of South Africa.
- To provide for the coordinated and integrated management of the coastal zone by all spheres of government in accordance with the principles of co-operative governance:
 - to preserve, protect, extend and enhance the status of coastal public property as being held in trust by the State on behalf of all South Africans, including future generations
 - to secure equitable access to the opportunities and benefits of coastal public property, and
 - to give effect to the Republic’s obligations in terms of international law regarding coastal management and the marine environment.

ICMA establishes and regulates the area defined in the act as the “coastal zone”. The coastal zone is comprised of coastal public property, the coastal protection zone, coastal access land, coastal protected areas, the sea-shore, coastal waters and the exclusive economic zone and includes any aspect of the environment on, in, under or above such area. ICMA provides coastal management mechanisms in relation to the areas which make up the coastal zone, with the underlying objective being to establish a system that the sensitive coastal ecosystem is adequately protected. Such measures relate to marine and coastal pollution control, protection of coastal resources and coastal management through the development of coastal management programmes.

The Act also determines the responsibilities of organs of state in relation to the coastal areas. Please see Appendix A for the roles and responsibilities of municipalities in coastal management in South African in terms of ICMA.

Certain amendments to the ICMA have been proposed in terms of the National Environmental Management: Integrated Coastal Management Bill (2013) which was introduced to Parliament in 2013.

The amendments proposed in terms of the Bill seek to:

- Ensure coastal public property does not impact on the ownership of assets and operations of other Organs of State
- Expand the provisions on reclamation
- Simplify the administration of coastal access fee approvals
- Extend the powers of the MECs to issue coastal protection notices and coastal access notices
- Simplify and amend powers relating to coastal leases
- Abolish the National Coastal Committee
- Expand the powers of delegation by MECs
- Expand categories of activities requiring dumping permits
- Provide for exemptions
- Revise offences and increase penalties, and
- Make corrections.

The proposed amendments which are of particular relevance to the coastal management role played by municipalities include the following:

- Clause 4 of the Bill (relating to amendment of section 7 – coastal public property) aims to clarify that coastal public property does not include infrastructure or assets above or below the high water mark. This is of particular relevance to Transnet who lease out infrastructure (e.g. jetties) above the high water mark.
- Clause 8 (relating to the amendment of section 13) proposes the publication of a maximum fee for access to coastal public property. In this regard, only persons wishing to charge a higher fee needing to apply to the Minister for permission to do so.
- Clause 14 and 15 of the Bill (relating to amendments of sections 18 and 19 of the Act) aims to empower an MEC or Minister to designate coastal access land if a municipality fails to do so.
- Clause 15-17 (relating to the amendment of section 25), proposes the amendment of “coastal setback lines” to “coastal management lines” to avoid confusion with “development management lines” as referred to in NEMA.
- Lastly, clause 18 of the Bill (which relates to the amendment of section 27 of the Act) proposes to grant an MEC the power to issue coastal protection and coastal access notices.

2.1.7 NEM:ICMA National Estuarine Management Protocol (GN R 341 of 2013)

The National Estuarine Management Protocol published in terms of ICMA sets out to:

- Determine a strategic vision and objectives for achieving integrated management of estuaries
- Set standards for estuarine management
- Provide guidance on how estuaries should be managed and how the responsibilities of different organs of state should be exercised
- Establish minimum requirements for estuarine management plans (EMPs)
- Identify the responsible parties for the compilation of estuarine management plans and the process to be followed, and
- Outline the review process for estuarine management plans to ensure compliance with ICMA.

The Protocol specifies that, where an estuary falls within the boundaries of a single municipality, the municipality must develop an EMP in consultation with the relevant government departments (except where the estuary falls within the boundary of a protected area). However, where an estuary falls within the

boundary of more than one local municipality, the district municipality is responsible for the development of the EMP in consultation with the relevant local municipalities and government departments. District municipalities may in writing agree with local municipalities that the latter be responsible for the development of an EMP where they have the capacity to undertake this.

2.1.8 NEM:ICMA Control of use of Vehicles in the Coastal Area Regulations (GN R 496 of 2014)

The regulations that control vehicle use in the coastal zone (Control of Vehicles in the Coastal Zone) were published in terms of section 44 of NEMA on 21 December 2001 and were amended on 7 December 2004.

These regulations were replaced in June 2014 by the publication of the new regulations under ICMA. The Regulations provide for general prohibition on the recreational use of vehicles in the coastal zone, provide procedures for approving the use of vehicles in the coastal zone under specific circumstances, provide measures for the enforcement of these regulations, and prescribe penalties in respect of contraventions.

The Regulations prohibit vehicle use in the coastal zone unless it is a permissible use in terms of regulation 3, or authorised under regulation 4 (permit).

2.1.9 NEM:ICMA Management of Public Launch Sites in the Coastal Zone Regulations (GN R 497 of 2014)

The Management of Public Launch Sites in the Coastal Zone Regulations sets out the requirements for the listing and management of public launch sites. It requires that the MEC, within one year of publication of the regulations, circulate a list of public launch sites and their associated management bodies. It details what can be specified in the launch site operational plans and provides a list of criteria that need to be considered when listing public launch sites. It also sets out under what circumstances a public launch site may be temporarily closed to the public.

2.1.10 NEM:ICMA Coastal Protection Zone and Coastal Management Lines (Overberg District; Draft)

Following the coastal management lines determination study that was undertaken in the Overberg district by SSI Engineers & Environmental Consultants (Now Royal Haskoning DHV) on behalf of DEA&DP, the draft Regulations were developed for consideration and publication by the MEC. The Regulations set out, amongst others:

- The demarcation of the limited development line and coastal protection zone
- The demarcation of the coastal management line, and
- The land use plans which must be consistent with the regulations.

However, these regulations are still in draft format and were never finalised or approved by the respective Councils of the Municipalities within the ODM due to challenges on the level of public participation undertaken and the methodology used.

DEA&DP has since developed a standard methodology to be implemented in the determination of coastal management lines in the province (DEADP, 2010). This methodology will be applied and a new management lines study, managed by DEA&DP, which is currently being undertaken in the ODM.

2.1.11 National Environmental Management: Protected Areas Act (Act No 57 of 2003) (NEM:PAA)

The NEM:PAA provides for:

- The declaration and management of nature reserves
- Cooperative governance in the declaration and management of nature reserves
- The development of a national system of protected areas in order to manage and conserve biodiversity
- The promotion of sustainable utilisation of protected areas for the benefit of people in a manner that also preserves the ecological character of the areas, and
- The promotion of participation by local communities in the management of protected areas.

The Act requires local protected areas to be managed by the municipality itself. Alternatively management must be assigned to an appropriately capacitated municipal entity. The municipality is also required to develop a management plan for the protected area, a copy of which must be submitted to the MEC for environmental affairs in the province for approval.

The declaration of special nature reserves, nature reserves or protected environment or the withdrawal of such a declaration by the Minister requires consultation with the municipality within whose jurisdiction the area falls.

2.1.12 National Environmental Management: Biodiversity Act (Act No 10 of 2004) (NEM:BA)

The NEM:BA aims to:

- Manage and conserve biological diversity
- Use biological resources in a sustainable manner
- Equitably share benefits arising from bioprospecting, and
- Promote cooperative governance in biodiversity management and conservation.

The Act requires that the State must manage, conserve and sustain biodiversity and genetic resources within South Africa, and must implement the Act to progressively realise those rights.

A requirement of the Act is the development of a National Biodiversity Strategy and Action Plan (NBSAP) and a National Biodiversity Framework (NBF) by the Minister. This must provide for an integrated, coordinated and uniform approach to biodiversity management across all spheres of government. Norms and Standards for provincial and municipal biodiversity conservation plans may be determined in terms of this framework. The first NBSAP has been developed by the Department of Environmental Affairs (DEA). This forms the basis of the NBF.

The Act also stipulates that bioregional plans, biodiversity management plans and the NBF shall not be in conflict with any of the following:

- Environmental Implementation Plan (EIP) or Environmental Management Plan (EMP) developed in terms of NEMA
- Integrated Development Plan (IDP) adopted by a municipality in terms of the Local Government: Municipal Systems Act (Act No 32 of 2000), and
- Any Strategic Development Framework (SDF) and any other plan prepared in terms of national or provincial legislation that are affected.

2.1.13 National Environmental Management: Waste Act (Act No 59 of 2008) (NEM:WA)

The NEM:WA requires each MEC to implement the National Waste Management Strategy and National Norms and Standards as contemplated in section 6 and 7 of the Act. The MEC may also set provincial norms and standards which must facilitate and advance:

- Planning and provision of waste management services
- Regionalisation of waste management services within the province
- Minimisation, re-use, recycling and recovery of waste, and
- Treatment and disposal of waste, including planning and operation of waste treatment and disposal facilities licenced by provincial authorities.

The Act requires each municipality to develop an integrated waste management plan and to include such a plan in its IDP. The Act also sets out the content requirements of such an integrated waste management plan.

2.1.14 Environmental Conservation Act (Act No 73 of 1989)

The Environmental Conservation Act (ECA) was originally adopted to provide a basis for conservation of the natural environment in South Africa. Since then many of the provisions have been repealed by NEMA, however sections Part V and Part VI (Control of Activities which may have Detrimental Effect on the Environment) remain in force until they are replaced with new regulations promulgated under NEMA.

2.1.15 Seashore Act (Act No 21 of 1935)

Although section 98 of ICMA (read with schedule 1 thereto) provides that the Sea-Shore Act be repealed except to the extent that it has been assigned to provinces, section 98 of ICMA has not yet come into effect, and thus the Sea-Shore Act remains in force throughout the country. However, section 6 of ICMA provides that where there is conflict relating to coastal management between a section of ICMA and any other legislation which was in existence when ICMA took effect, then the section of ICMA prevails. Consequently the Sea-Shore Act currently remains applicable only to the extent that it is not “trumped” by the provisions of ICMA.

2.1.16 Marine Living Resources Act (Act No 18 of 1998)

The Marine Living Resources Act (MLRA) is the primary legal instrument governing the conservation and management of marine living resources. The MRLA aims to:

- Provide for the conservation of marine ecosystems

- Provide for long-term sustainable utilisation of marine living resources
- Provide for the orderly access to exploitation, utilisation and protection of certain marine living resources, and
- Provide for the exercise of control over marine living resources in a fair and equitable manner to the benefit of all citizens of South Africa.

The MRLA provides for national control and coordination of marine living resources and places the responsibility of resource-allocation with the Minister of Agriculture, Forestry and Fisheries. The Act allows the Minister to assign or appoint fishery control officers.

Although the MRLA does not impose any responsibilities on municipalities, some functions may be delegated to municipalities by the Minister. In these instances the municipality would have to observe the principles contained in section 2 of the Act.

A Marine Living Resources Draft Amendment Bill (Notice 434 of 2013) has been circulated for comment. The Bill proposes a number of amendments to the existing Act. These include the provision for, amongst others:

- The implementation of the Small-Scale Fisheries Policy
- Public trusteeship of the nation's marine living resources (section 1A), and
- The assignment of powers and the delegation of duties to provincial MECs (section 78).

2.1.17 National Water Act (Act No 36 of 1998)

The National Water Act (NWA) places the country's water in the trusteeship of the National Government and aims to ensure that the national water resources of South Africa are utilized and managed in a way which:

- Meets the basic needs of the present and future generations
- Promotes equitable access to water
- Redresses the racial and gender discriminations of the past
- Promotes efficient, sustainable and beneficial water use in the interest of the public
- Reduces and prevents degradation of and pollution of water resources
- Meets international obligations
- Promotes dam safety, and
- Manages floods and droughts.

Local Municipalities are usually water services authorities in terms of the Act and responsible for the provision of basic water services, the preparation of water services development plans and the regulation of water service provision and service providers. They are also required to manage sewer systems and ensure safe treatment and disposal of waste.

2.1.18 National Heritage Resources Act (Act No 25 of 1999)

The National Heritage Resources Act (NHRA) governs natural heritage resources and the management thereof. The NHRA provides for the establishment of Heritage Authorities (provincial and local), including the South African Heritage Resources Agency (SAHRA), who is responsible for the protection and management of certain categories of heritage resources.

The Act states that “No person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site”.

Under section 38 of the NHRA, all new developments that change the character of the site and exceed an area of 5 000m², at the very earliest stages must notify the responsible heritage resources authority and furnish it with details regarding location, nature and extent of the proposed development. Should SAHRA believe that heritage resources will be affected by development, the SAHRA will notify the person who intends to undertake the development and request a Phase I Heritage Impact Assessment report (HIA).

The HIA must be carried out by a person or persons approved by the responsible heritage resources authority and can be carried out as part of the EIA. The EIA must fulfil SAHRA’s requirements and any comments and recommendations made by SAHRA must have been taken into account prior to the granting of consent by DEA.

In areas where conservation worthy places have not yet been identified through systematic survey, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources that will be formally protected.

Under the NHRA:

- Permits are required to damage, destroy, alter or disturb archaeological and paleontological sites
- Wrecks in South Africa’s cultural zone are protected, and
- In addition to the protection of culturally significant graves, all graves older than 60 years and not in a cemetery are protected.

2.1.19 Disaster Management Act (Act No 57 of 2002)

The Disaster Management Act provides an enabling policy for:

- Integrated and co-ordinated disaster management that focuses on preventing or reducing the risk of disasters
- Mitigating the severity of disasters
- Emergency preparedness
- Rapid and effective response to disasters, and
- Post-disaster recovery.

The legal mandate for disaster risk management lies with district (Category C) and metropolitan (Category A) municipalities. Each district and metropolitan municipality must establish a Municipal Disaster Risk management Policy Framework, a Municipal Interdepartmental Disaster Risk Management Committee, a Municipal Disaster Risk Management Centre and a Municipal Disaster Risk Management Advisory Forum.

The disaster risk management centres are required to draw up disaster risk management plans, which must be integrated into the IDPs of each municipality. Along with this, the municipalities must also draw up a risk profile that will inform the IDP and the development of the disaster risk management plan. District Municipalities are obliged to consult with local municipalities within their borders regarding the establishment and management of any institutional issues related to disaster risk management and District

Municipal Disaster Risk Management Centres must be established and operated in partnership with the local municipalities.

2.1.20 Conservation of Agricultural Resources Act (Act No 43 of 1983)

Regulations in terms of the Conservation of Agricultural Resources Act (CARA) set out a list of alien invasive plants (categorised as either weeds or invader plants) that need to be controlled or eradicated by the land-owner. Actions taken to control weeds or invader plants must be undertaken with caution and in a manner that will cause the least possible damage to the environment. All landowners have a legal obligation to control such plants to ensure that they are not having an adverse effect on the management of biodiversity or water resources.

2.1.21 Veld and Forest Fire Act (Act No 101 of 1998)

This Act, as amended by the National Forest and Fire Laws Amendment Act (Act No 12 of 2001) and currently undergoing another amendment, was enabled to prevent and combat veld, forest and mountain fires. The Act places an individual duty on every landowner where there is a risk of fire to take certain minimum precautions to prevent and combat veld fires.

2.1.22 Minerals and Petroleum Resources Development Act (Act No 28 of 2002)

The enactment of the Mineral and Petroleum Resources Development Act (MPRDA) resulted in the repeal of the Minerals Act (Act No 50 of 1991), which used to be the primary law governing mineral resources. The MPRDA regulates the exploitation of minerals throughout the Republic, including its territorial waters, economic exclusive zone and continental shelf.

The Act includes mining, prospecting, quarrying, excavating (including sand removal from dunes and beaches) and extraction of offshore gases.

It is important to note that the management of minerals is not included in either schedules 4 or 5 of the Constitution, and therefore only national government is able to legislate in this regard. However, proposed mineral prospecting or excavation/extraction often trigger the need for various other legal approvals which need to be complied with before commencement of site clearing and construction activities.

2.2 Provincial Legislation

2.2.1 Nature Conservation Ordinances

There are a number of Ordinances of the former Province of the Cape of Good Hope which have remained applicable in the Western Cape. The most of important of these from a coastal management point of view is the Nature Conservation Ordinance 19 of 1974 which provides for the establishment of provincial, local and private nature reserves and the protection of indigenous species of fauna and flora. Protected and endangered species are listed in schedules to the Ordinance. It is administered by the Western Cape Nature Conservation Board.

2.2.2 Land Use Planning Ordinance (LUPO; Ord No 15 of 1985)

The Land Use Planning Ordinance (LUPO) is applicable in the Eastern and Western Cape and regulates land use, including the amendment to zoning of land and associated land use rights. The local authorities are the designated authorities in terms of the Act. An application in terms of LUPO is required if the necessary rights to undertaken an activity have not been acquired.

2.2.3 Western Cape Land Use Planning Act (Act No 3 of 2014)

The purpose of the Land Use Planning Act (LUPA) is to establish a system for provincial spatial planning and development management in the Province, to consolidate legislation in the Province pertaining to provincial planning, regional planning and development, urban and rural development, and regulation, support and monitoring of municipal planning, into one law.

2.3 Municipal By-Laws

The following municipal by-laws have bearing on activities in the Overberg coastal zone:

2.3.1 Overberg District Municipality

2.3.1.1 Environmental Health By-Law (2004)

This by-law sets out to provide for procedures, methods and practices to manage and regulate environmental health. It prohibits any person from, amongst others, allowing foul or polluted water or any foul liquid or objectionable material to enter stormwater, rivers or canals or committing any act which may pollute water within the municipality to which people have the right of use or access.

2.3.2 Overstrand Local Municipality

2.3.2.1 Stormwater Management By-Law (2012)

The Stormwater Management By-Law aims to regulate activities which may have a detrimental effect on the development, operation and maintenance of the stormwater system. This includes activities which may pollute stormwater and holds the polluter responsible for reporting the incident to the municipality and taking reasonable measures to minimise the effects of the pollution (including the rehabilitation of the environment).

2.3.2.2 Water Supply and Sanitation Services By-Law (2009)

Section 48 of this by-law puts the onus on home owners to prevent harmful substances that may negatively impact on human health or the environment from entering into a water supply system, stormwater system, sewage disposal system or the environment.

Section 58 prohibits any person from allowing any solid, contaminated liquid or gaseous substance from entering any stormwater drain or river, stream or natural watercourse. Lastly, Section 73 prohibits any person from allowing industrial effluent into the sewage disposal system.

2.3.3 Cape Agulhas Local Municipality

2.3.3.1 Air Quality Management By-Law

The Air Quality Management By-Law aims to ensure air pollution is avoided, and where not avoidable, is mitigated and minimised.

Section 18 prohibits any person from undertaking any activity which may cause an offensive odour that is in contravention of the Atmospheric Emissions Licence conditions or minimum emission standards and requires that control measures be put in place to prevent odorous emissions. The by-law also requires that, as a minimum, air quality be monitored.

Section 21 of the by-law also regulates dust emissions and lists a selection of methods which should be implemented for dust control.

2.4 International Obligations and Agreements

The following international obligations and agreements are applicable to coastal management in South Africa:

2.4.1 Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention; 1971)

The Ramsar Convention is an intergovernmental treaty that provides the framework for the national action and international cooperation for the conservation and wise use of wetlands and their resources. Two Ramsar sites are found within the Overberg District, namely De Hoop Vlei and De Mond State Forest (Heuningnes River Estuary).

2.4.2 Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention; 1972)

The World Heritage Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List. The Convention sets out the duties of the signatories in identifying potential sites and their role in protecting and preserving them. The Overberg District falls entirely within the Cape Floristic Region, a declared World Heritage Site.

2.4.3 International Convention for the Prevention of Pollution from Ships (MARPOL; 1973/1978)

The MARPOL Convention is the main international convention addressing the prevention of pollution of the marine environment by ships from operational and accidental causes. The Convention covers aspects

such as oil pollution, noxious liquid substances, packaged harmful substances, sewage pollution, garbage pollution and air pollution. All ships flagged under countries that are signatories to the MARPOL Convention are subject to its requirements, regardless of where they sail. As a coastal municipality, the Overberg District is occasionally affected by pollution from passing ships.

2.4.4 Convention of Migratory Species of Wild Animals (Bonn Convention; 1979)

The Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range. Appendix I of the Convention speaks to threatened migratory species, requiring parties that fall within the ranges of these species to afford them strict protection. This includes the conservation and restoration of the environments in which these species occur as well as controlling other factors that may endanger them. Appendix II addresses migratory species that would significantly benefit from international cooperation. A number of agreements, memoranda of understanding and special species initiatives have also been signed under the Bonn Convention. Of these, the Agreement on the Conservation of Albatrosses and Petrels (ACAP) and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) are of relevance in the Overberg.

2.4.5 Abidjan Convention (1981)

The Abidjan Convention is a comprehensive and umbrella agreement for the protection and management of marine and coastal areas of the West and Central African Region. It covers the marine environment, coastal zones and related inland waters from Mauritius to Namibia. It lists the sources of pollution that require control and identifies environmental management issues from which cooperative efforts are to be made, including coastal erosion, specially protected areas and environmental impact assessment. As a signatory to the Convention, South Africa, and thus the Overberg District, is obliged to meet the requirements of this Convention.

2.4.6 Nairobi Convention (1985)

The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region provides a mechanism to harness resources and expertise from a wide range of stakeholders and interested parties towards solving interlinked problems relating to the marine and coastal environment.

2.4.7 Southern African Developing Countries (SADC) Protocol on Fisheries (1992)

In recognising the important role of fisheries in the social and economic well-being and livelihood of people of the SADC region, the SADC Protocol on Fisheries emphasizes the responsibility of the Member States to effectively manage this shared resource. This includes the harmonisation of domestic legislation as well as taking adequate measures to optimize fisheries law enforcement resources to protect aquaculture and aquatic environments and safeguard the livelihood of fishing communities. A number of fishing communities are situated within the Overberg District and marine resources are used and harvested along much of its coast.

2.4.8 Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA; 1995)

The GPA aims to provide conceptual and practical guidance for decision-makers dealing with actions to prevent, reduce, control or eliminate marine degradation from land-based activities. The GPA encourages the implementation of comprehensive, continuing and adaptive action plans to protect the marine environment.

2.5 Policies, Strategies and Guidelines

2.5.1 National Strategy for the Facilitation of Coastal Access in South African and A Step-by-Step Guide for the Designation and Management of Coastal Access in South Africa (2014)

As one of South Africa's biggest resources, access to the coast is considered a Constitutional right, and the State have a responsibility to ensure that it is planned and managed in the public interest. The main challenges in the provision of equitable access to the coast include:

- Improving pedestrian access above the high water mark
- Improving infrastructure for access
- Preventing exclusive use of the coast
- Addressing conflicting rights between public interest, private property owners and communal and traditional users, and
- Minimising adverse impacts on the environment.

To address the above the Strategy sets out "*to ensure and protect, in perpetuity, public right of physical access to the sea, and to and along the seashore, on a managed basis*". This has been translated into two objectives:

Objective 1: Opportunities for public access must be provided at appropriate coastal locations in context of the environmental, financial and social opportunities and constraints.

Objective 2: Public access must be maintained, managed and monitored to minimise adverse impacts and to resolve incompatible uses.

The accompanying Guide for the Designation and Management of Coastal Access in South Africa provides guidance to coastal municipalities when designating and managing coastal access and coastal access land (as per Section 18 of the ICMA) within their respective coastal public property. It sets out the process and logic of setting out coastal access and coastal access land and contains a step-by-step guide on how to implement this. It is especially useful for use by local and district municipalities as it outlines the steps that they need to take in order to comply with the provision of equitable access.

2.5.2 National Strategy for Coastal Awareness, Education and Training (2014)

This Strategy sets out to:

- Provide guidance for effective awareness, education and training programmes for all stakeholders for improved coastal governance in South Africa
- Ensure the long term sustainability and efficient operation of CAET initiatives through appropriate resource allocation, information exchange and partnership arrangements
- Facilitate closer communication and co-ordination among all responsible authorities and between government and other stakeholders for coastal awareness, education and training efforts in coastal areas, and
- Ensure the quality and relevance of the CAET initiatives over the long term through efficient administration that includes monitoring, evaluation and adaptation to changing circumstances.

Associated with each of the goals above are a number of objectives and associated programmes that are outlined to guide implementation.

2.5.3 National Guideline for the Discharge of Effluent from Land-based Sources into the Coastal Environment (2014)

The Guideline aims” *to achieve coastal water quality that is fit for use and a healthy aquatic system that is maintained on a sustainable basis while allowing for justifiable social and economic development. This will be achieved in accordance with the hierarchy of decision-making of water quality management, namely:*

- *Prevention of Waste*
- *Minimisation of waste, and*
- *Responsible disposal.”*

The guideline sets out a number of basic principles, derived from a wider international and national legislative context, to provide direction for the development of specific ground-rules for the discharge of land-based effluent to the coastal environment, as well as the management thereof. The ground-rules, on the other hand, provide more specific detail as to the rules that will be applied by DEA when considering permit applications for effluent disposal to the coastal environment. Lastly, the management framework provides a generic and structured approach within which the control and management of effluent discharges should be conducted.

2.5.4 National Aquaculture Policy Framework (2013)

The National Aquaculture Policy Framework is one of the key pillars in achieving the objectives of the National Development Plan 2030 to reduce poverty, unemployment and inequality in 20 years and provides a broad framework for the fulfilment of the Constitutional right that “every citizen has a right to access to sufficient food and water”.

The policy framework aims to:

- Encourage an integrated and holistic approach to aquaculture development, promoting participation, coordination and partnerships
- Promote responsible and sustainable development of globally competitive aquaculture in South Africa

- Facilitate and support optimal growth of the aquaculture sector to enable it to contribute to the economic growth, food security and job creation of the country
- Promote information sharing and research within the industry to increase the economic and social benefits
- Promote private sector participation through access arrangements and the provision of support services
- Cooperate in the promotion of inland and marine ranching and stock management
- Promote research and technological development in the industry
- Monitor and regulate the introduction of exotic and genetically modified species to aquatic ecosystems
- Establish norms and standards and guidelines for environmental impact assessments
- Monitor and control the spread of diseases relevant to aquatic species
- Promote sustainable development of the aquaculture industry (environmental, social and economic)
- Facilitate the integration of previously disadvantaged individuals, communities and demographics entities
- Establish an effective and efficient support service for aquaculture development
- Ensure compliance and establish an aquaculture inspectorate to support enforcement of the legal framework
- Promote adaptive aquaculture management
- Ensure transformation of the sector to broader participation and ensure equitable access to aquaculture resources, and
- Promote good governance for the aquaculture sector to enable the industry to develop to its full potential within a supportive regulatory framework.

2.5.5 National Climate Change Response Strategy White Paper

The White Paper presents South Africa's vision for the long-term transition to climate-resilient and low-carbon economy and society. It sets out to manage climate change impacts through interventions that build resilience and emergency response capacity, and to make a contribution to the timely stabilisation of greenhouse gas concentrations to steer clear of dangerous human interference with the climate system.

It includes a risk-based process in order to identify short- and medium-term adaptation interventions that need to be addressed in sector plans. Sectors that are identified as needing particular attention include water, agriculture and forestry, health, biodiversity and human settlements.

The White Paper also details South Africa's approach to mitigation, which balances the country's contribution to the global effort to reduce emissions with the economic and social opportunities that are presented by the move to a lower-carbon economy, keeping in mind the need to tackle development challenges successfully.

2.5.6 Environmental Management Policy for the Overberg District Municipality (2014)

The Overberg Environmental Management Policy aims to ensure that the ODM's activities are in line with current legislation and promotes good environmental management practices. It aims to:

- Adopt and implement the principles and underlying approaches

- Promote current resource use so maximise benefit to all whilst ensuring protection of resources for future generations
- Protect Constitutional rights to a healthy environment and the responsibility of sustainable development for the benefit of all
- Commit to a holistic approach to environmental management and the protection of the district's biodiversity
- As a minimum, meet the requirements of relevant international, national and provincial environmental legislation
- Apply the precautionary principle
- Commit to the integration of environmental considerations in strategic planning initiatives, and
- Involve and form partnerships with civil society in the decision-making processes regarding environmental management within the Municipal Coastal Committee (MCC), Regional Waste Forum and other relevant structures.

The policy addresses the following sectors: coastal management, biodiversity conservation, solid waste management, GIS database, climate change mitigation and adaptation, environmental education and awareness campaigns and environmental governance.

Pertaining to coastal management, the ODM commits to undertake the following:

- Convene the Municipal Coastal Committee on a bi-monthly and participate in the Provincial Coastal Committee
- Draft the Municipal CMP
- Conduct regular coastal inspections for:
 - Coastal pollution
 - Coastal development (illegal structures)
 - Coastal access monitoring
 - Coastal processes (erosion and sand movement), and
- Support estuarine management through the MCC and attendance of local Estuary Advisory Forums

2.5.7 Disaster Risk Management Plan for the Overberg District Municipality (2014)

The Disaster Risk Management Plan (DRMP) for the ODM was drafted in in order to fulfil the municipality's responsibility in terms of the Disaster Management Act (Act No 57 of 2002). It is a joint initiative by all the role-players in the District and applies specifically to disaster-risk reduction in the ODM.

It sets out the key elements and procedures at a strategic level that is required for preventing and mitigating major incidences or disasters, including natural and man-made disasters, service disruptions and domestic terrorist attacks. The DRMP is coordinated by the Overberg Disaster Risk Management Centre.

2.5.8 Mapping of the Coastal Public Property, the Coastal Protection Zone Boundaries and the Auditing of Structures on Coastal Public Property (in progress)

The Department of Environmental Affairs has appointed a service provider to undertake the mapping of the coastal boundaries as well as illegal structures along the South African coast. This is scheduled to be completed in 2015.

Although the full set of data is not yet available, a GIS online viewer has been developed and can be accessed at the following link: <http://mapservice.environment.gov.za/Coastal%20Viewer/>

Spatial layers include the High Water Mark, coastal access points and discharge infrastructure, amongst others.

2.5.9 Spatial Policies

A broad range of national and provincial strategies and policies inform and shape spatial planning in the Western Cape, while district and local planning policies are the 'on the ground' spatial tools being utilised by the local and district municipalities.

The most significant National and Provincial strategies and policies are the following:

- National Development Plan (November 2011)
- The Western Cape Strategic Provincial Plan (2010)
- Provincial Spatial Development Framework (PSDF) (Approved Section 4(6) Structure Plan i.t.o the Land Use Planning Ordinance, 1985 (Ordinance 15 of 1985) – July 2009)
- Draft PSDF (2013).

The PSDF is specifically relevant and the key spatial planning policy in the Western Cape. The SDF (2009) and the Draft PSDF (2013) identified key policies, strategies and objectives that are considered relevant to the Overberg Coastal Management Programme, as follows:

2.5.10 PSDF (2009)

The Provincial Spatial Development Framework (PSDF, 2009) was prepared by the Department of Environmental Affairs and Development Planning, and approved in terms of Section 4(6) of the Land Use Planning Ordinance 15 of 1985 as a Structure Plan on 24 June 2009.

The purpose of the PSDF is to guide municipal integrated development plans and spatial development frameworks so as to prioritise and align investment and infrastructure in the Western Cape Province through a clear indication of the desired development directions for the Province.

The PSDF identified three areas of intervention as follows:

- Socio-Economic Development
- Urban Restructuring, and
- Environmental Sustainability.

In the context of the proposed WC CMP, the objectives of Environmental Sustainability are deemed specifically relevant, as follows:

Objective 8: Protect biodiversity and agricultural resources.

Objective 9: Minimise the consumption of scarce environmental resources, particularly water, fuel, building materials, mineral resources, electricity and land – in the latter case especially pristine and other rural land, which is the Province’s ‘goldmine-above the-ground’.

In order to achieve its spatial goals/objectives, the PSDF contains a set of spatial principles relating to Socio-economic Development, Urban Restructuring and Environmental Sustainability. The following policies are considered directly relevant to the proposed Overberg CMP:

RC⁴1 All land in the Province must be defined by the following Broad Spatial Planning Categories:

- **Core 1** (Proclaimed National Parks, Provincial Nature Reserves, Mountain Catchment Areas, CBA’s, etc.)
- **Core 2** (River corridors, ecological corridors)
- **Buffer 1** (Endangered areas of biodiversity overlapping with extensive agriculture)
- **Buffer 2** (Vulnerable and least threatened areas of biodiversity overlapping with extensive agriculture)
- **Intensive Agriculture**
- **Urban Development;** and
- **Urban Edges**

in order to manage land use change in the four main physiographic components of the Province, i.e. the coastal zone, the coastal plain, the mountain spine and valleys, and the inland plains.

RC4 All land put under the plough including for orchards, vineyards, forestry plantations, annual crops, pastures, and irrigation lands should be reserved for Intensive Agriculture.

RC5 The approving of applications seeking to convert Intensive Agricultural land to other uses should be a provincial responsibility.

RC6 Land that previously had Intensive Agricultural potential that has been destroyed through sand mining or other activities that failed to preserve the topsoil, must be rehabilitated.

RC12 Only land within an Interim or Medium Term Urban Edge may be used for Urban Development purposes.

RC16 Further ribbon development along the coast and riverbanks must be prohibited.

RC17 Coastal and riverbank development must be set back behind the ecological management lines including flood and storm surge lines (1:50 year floodline: property boundaries; 1:100 years floodline: building platform).

⁴ RC = Resource Conservation

- RC18** Whilst mariculture and aquaculture projects should be encouraged, they should be carefully located with regard to environmental and visual impact criteria, and it should be noted for land use management purposes that living beings so cultivated are either plants or animals for the purpose of zoning definitions; there can by definition not be any living beings referred to in zoning scheme regulations, that are not either animals or plants.
- RC19** No further development may be permitted on open coast lines that are vulnerable to erosion, inlets that are susceptible to increased storm activity and river banks that are liable to flooding, and within coastal buffer zones and ecological management lines in estuaries and below the 1:50 year floodlines (erven) and the 1:100 year floodline (building platforms).
- RC22** All wetland ecosystems must be protected such that their ecological and stormwater purification function is maintained. Water abstraction from and effluent discharge into wetlands should be prohibited.

2.5.11 Draft PSDF (2013)

The Draft PSDF (2013) is a revision of the PSDF (2009) and is currently being developed through iteration by the Department of Environmental Affairs and Development Planning in order to guide spatial planning in the Western Cape over the next 5 years and beyond.

The Draft PSDF (2013) applies the following key spatial objectives:

- Spatial Justice
- Sustainability & Resilience
- Spatial Efficiency
- Accessibility, and
- Quality & Liveability.

The following key challenges were identified, specifically relating to the ocean and the coast:

- Offshore habitats are endangered
- Estuaries are generally in poor health, highly modified and under threat, and
- Marine ecosystems are under threat.

The following key coastal assets/ opportunities were identified:

- Fisheries resources
- Kelp
- Penguin and seal colonies
- Fynbos and indigenous coastal forests
- Shipping
- Nature & heritage based tourism
- Commerce, and
- Manufacturing and agriculture.

The Draft PSDF (2013) identified the following key Policies with sub-policies, specifically relating to the coast:

R2 Manage, repair & optimise provincial water resources

- Delineate and promulgate appropriate coastal development set-back lines to mitigate against impacts and reduce risks.
- For the Western Cape's vulnerable and degraded estuaries, compile and implement management plans as a basis for reconciling ecological, social and economic interests.
- As most productive offshore habitats that support marine biodiversity are not formally protected, extend the current MPA network on the basis of the strategic geographic priority areas that have been identified.
- Development along the coast, lakes and dams should be encouraged adjacent to existing settlements, in a highly contained manner with a limited footprint that ensures the maintenance of ecological integrity, tourism potential and landscape character.
- Public access to the coast must be ensured at all times.
- The necessary buffers and setbacks must be adhered to in all development along the coast and river systems.

R5 Protect & manage all Provincial landscapes & scenic assets

- Undeveloped coastal landscapes under major development pressure are considered priority focus areas proposed for conservation or protection.

2.5.12 Local Municipal Spatial Development Frameworks (SDF's)

The Overberg District includes four local municipalities, as follows:

- Overstrand Municipality (coastal)
- Cape Agulhas Municipality (coastal)
- Swellendam Municipality (coastal), and
- Theewaterskloof Municipality (inland).

Each of these four municipal areas is unique with different spatial assets, challenges and opportunities, which informs and contributes to its space economy and development trends. The four local municipalities as well as the district municipality each have a Spatial Development Framework (SDF), which is a sector plan of the Integrated Development Plan, as required by the Municipal Systems Act (MSA) (Act 32 of 2000).

The status of the local and district SDF's are currently as follows:

- Overberg District Municipality SDF, March 2014
- Swellendam Municipality SDF: SDF, March 2015
- Cape Agulhas Municipality: SDF, June 2014
- Theewaterskloof Municipality: SDF, 2013
- Overstrand Municipality: SDF, October 2006.

Further to the SDF (2006), the Overstrand Municipality also has two additional spatial policy documents that are regarded as most current and applicable, as follows:

- Overstrand Growth Management Strategy, 2010
- Integrated Development Framework (IDF, 2015), which also includes a Strategic Environmental Management Framework (SEMF, 2015).

3 Overview of Existing Coastal Management Practices

3.1 South Africa

The National CMP (NCMP) was finalised in 2014. It provides an overarching, strategic framework for the management of the country's coastal zone and has a strong focus on the value of the coast. It identifies nine priority areas for coastal management within the country. These include:

- Effective planning for coastal vulnerability to global change (including climate change)
- Ensuring equitable public access in the coastal zone
- Integrating the management of estuaries
- Managing pollution in the coastal zone
- Establishing coastal monitoring and reporting systems to inform decision-making
- Establishing mechanisms for effective compliance and enforcement
- Provision of coastal information and research
- Strengthening awareness, education and training to build capacity, and
- Strengthening partnerships for Integrated Coastal Management.

Each priority area has a number of management objectives and actions associated with it along with performance indicators and anticipated completion dates to indicate progress.

The purpose of the NCMP is to provide strategic direction for coastal management within the country. Although priority areas may differ between the national, provincial and municipal coastal management programmes, the priorities and strategies within the municipal and provincial CMPs must assist in achieving the national CMP objectives.

3.1.1 Department of Environmental Affairs

The Department of Environmental Affairs (DEA) Oceans and Coasts Branch is mandated with the responsibility of protecting South Africa's oceans and coastal resources. The national department largely focuses on the development of legislation, policies and guidelines to direct and guide the utilisation and conservation of the coastal and marine environment.

From a practical point of view, DEA have developed the national Working for the Coast Programme (WfC), informed by the broader Expanded Public Works Programme (EPWP), which focuses primarily on the development and maintenance of coastal infrastructure along the coast. A large number of projects are funded from the programme and undertaken in the various coastal municipalities in the country, including the ODM. Projects include the following:

- Improvement of access to and along the coast through
 - The clearing and maintenance of existing servitudes
 - Repair of existing structures
 - The construction of new access structures (such as boardwalks)
- Cleaning of the coast, including
 - General cleaning of the coast and Blue Flag beaches
 - Clearing historical dumpsites along the coast
 - Assisting during disasters such as oil spills
- Removal of illegal or abandoned structures and rehabilitation of these sites
- Removal of invasive alien vegetation
- Rehabilitation of degraded areas, including

- Conservation areas and dune belts
- Assistance with the implementation of estuary management plans
- Erosion in catchments
- Monitoring of compliance, including activities such as
 - Driving on the beach
 - Illegal effluent pipes
 - Pollution
 - Existing structures
 - Illegal access to sensitive areas.

DEA also head up the National Coastal Committee, which is responsible for integrating coastal management in South Africa through cooperative governance by coordinating the effective implementation of ICMA and the NCMP. The NCC plays an important part in ensuring proper implementation of ICMA and other relevant legislation. The NCC advises provincial departments and coastal stakeholders in order to better integrate, coordinate, facilitate and implement effective integrated oceans and coastal management in South Africa.

3.1.2 Department of Agriculture, Forestry and Fisheries

The Department of Agriculture, Forestry and Fisheries (DAFF) is responsible for overseeing and supporting the country's agricultural sector, as well as ensuring access to sufficient, safe and nutritious food for the South African population. Of relevance to the CMP is the fisheries section (previous marine and coastal management), which is responsible for the utilisation of marine and coastal resources, maximising the economic potential of the fisheries sector and protecting the integrity and quality of the country's marine and coastal ecosystems. The DAFF fisheries section is primarily mandated through the Marine Living Resources Act (Act No. 18 of 1998).

The DAFF fisheries section is responsible for the following, amongst others:

- Management of fisheries (commercial, recreational and subsistence wild capture fisheries as well as aquaculture), including
 - permitting
 - research
 - capacity development
 - law enforcement
- Establishment of fishing/aquaculture zones, and
- Allocation of fishing rights.

Through the establishment of the Working for Fisheries Programme, DAFF have also increased their capacity in the Western Cape to combat illegal and unregulated fishing and illegal harvesting.

3.1.3 Department of Public Works

The Department of Public Works (DPW) is the custodian of state-owned coastal land. They are responsible for the provision and maintenance of coastal amenities and the management of proclaimed fishing harbours along the coast. DPW also administers the admiralty reserves along the coast, including the lease of this land and removal of illegal structures.

Admiralty reserves are defined in ICMA as "any strip of land joining the inland side of the high-water mark which when this Act took effect was state land reserved or designated on an official plan, Deed of Grant, Title Deed or other document evidencing title or land – use rights as "admiralty reserve", "government reserve", "beach reserve", coastal forest reserve" or other similar reserve".

The Admiralty Reserve, where it is owned by the state, forms part of the coastal public property is under trusteeship of government, the aim being to further the conservation and integrated management of this area. Another major aim of the integrated approach to the management of this area is to facilitate access to the coastal zone.

3.2 Western Cape Province

An Integrated Coastal Management Programme for the Western Cape, based largely on the White Paper for Sustainable Coastal Development, was drafted in 2003. However, this was never gazetted and adopted.

A revised Draft Provincial CMP (PCMP) has since been drafted and will be gazetted for comment in early 2015. The document identifies nine priority areas for coastal management in the province. These are:

- Social, economic development and planning
- Cooperative governance and local government support
- Facilitation of coastal access
- Climate change, dynamic coastal processes and building resilient communities
- Land and marine based sources of pollution and waste
- Natural capital and natural resource management
- Estuaries
- Advocacy, education, monitoring and capacity building
- Compliance and enforcement

Each priority area is associated with a goal and one or more management objectives and implementation actions along with performance indicators and timeframes for implementation. At the time of the drafting of this document priority actions had not yet been identified.

As with the NCMP, the PCMP must be a policy directive for an integrated, coordinated and uniform approach for coastal management within the province, whilst still being aligned with and in support of the NCMP.

The PCMP also provides an outline of the roles and responsibilities of the three spheres of government for coastal management. These are provided in Appendix A.

3.2.1 Department of Environmental Affairs and Development Planning

The Department of Environmental Affairs and Development Planning's (DEA&DP) Coastal Management Unit (CMU) is the designated lead agency for coastal management in the Province, although coastal management functions are split up between a number of different departments and directorates. Amongst others, province is responsible for the following:

- Law enforcement of off-road vehicles

- Administration of public launch site regulations
- Estuarine management of provincial estuaries
- Environmental authorisation of coastal development applications
- Development of coastal management lines
- Education and awareness
- Pollution and waste management planning, and
- Management of the coastal protection zone.

Work within the coastal zone, such as alien vegetation clearing and waste management, is also undertaken through the Western Cape Expanded Public Works Programme (EPWP).

The CMU established and heads up the Provincial Coastal Committee (PCC), which is responsible for the promotion of integrated coastal management in the province and the coordination and effective implementation of ICMA and the PCMP. The PCC represents all spheres of government involved in coastal management as well as all environmental groups within the Province that have an interest in the conservation and management of the coast. Members are appointed by the MEC and must be able to assist in fulfilling the functions of the PCC and must have relevant expertise. Representation from coastal municipalities within the province, community based organisations or scientific/research societies is required. The Overberg District Municipality represents the coastal municipalities of the Overberg on the PCC.

3.2.2 Department of Water and Sanitation

The Department of Water and Sanitation (DWS) is primarily involved with coastal management through the impact of catchment management on downstream water quality and quantity. Within the study area this is undertaken by the Breede-Gouritz Catchment Management Agency (BGCMA). The BGCMA is responsible for the following, amongst others:

- Development of a catchment management strategy
- Attending to pollution complaints by the public
- Inspecting sewage works and industries with regard to discharge and irrigation practices
- Monitoring water resources
- Rehabilitating water resources (such as wetlands and riparian zones), and
- Undertaking disaster management (e.g. flooding).

3.3 Municipal-level Coastal Management

The ICMA requires that all coastal municipalities develop municipal CMPs (MCMPs) for specific parts of the coastal zone within their jurisdictions. The Western Cape is comprised of three district municipalities (West Coast, Overberg and Eden) and the City of Cape Town Metropole that border the coast.

Although the MCMPs are required to focus on the local situations within each municipality, the documents must still be aligned with the NCMP and PCMP (in this case the Western Cape) and assist in achieving the goals and objectives set out in these.

3.3.1 West Coast District

The drafting of the West Coast District Municipal CMP, in line with the requirements of ICMA, was completed in 2013. The CMP has been finalised and was approved by council in August 2013. In March 2014 notifications were sent to the local municipalities within the district to present their CMPs to their councils for approval.

A Municipal Coastal Committee (MCC) was established by the West Coast District Municipality and consists of various governmental bodies and environmental groups involved in the coastal zone within the district. The MCC meets quarterly to implement actions set out in the CMP.

The West Coast CMP grouped strategies and actions according to the following themes:

- Institutional framework
- Natural resource management
- Heritage resource management
- Pollution control and waste management
- Access to the coast
- Safety and security
- Socio-economic development, and
- Institutional, human and financial resource capacity development.

The implementation actions of highest priorities included the following:

- Identification of coastal structures at risk and reduction in use of hard protective structures
- Assessment of potential institutional arrangements for coastal management
- Development of long-term alien clearing plan for properties under state ownership
- Incorporation of coastal management principles in IDPs and SDFs
- Identify, develop and implement potential Local Economic Development (LED) pilot project opportunities
- Declaration of priority areas of the coastal zone under NEM:PA
- Expansion of law enforcement to enforce vehicles in the coastal zone more effectively
- Construction of boardwalks and dune rehabilitation and implementation of ongoing erosion measures
- Establishment of waste recycling facilities
- Appointment of additional land use management staff within the local municipalities
- Provision of training for officials and councillors regarding the PSDF and other guide documents
- Retention of Blue Flag beaches and expansion where possible
- Revision of title deeds of private properties along the coast to determine whether legal servitudes to coastal public property have been closed off, and
- Setting up Service Level Agreements between organs of state specifying roles, responsibilities and funding arrangements.

As the CMP was drafted before the existence of both the national and provincial CMPs, it is not fully in line with these two documents and will need to be aligned during the next revision.

3.3.2 City of Cape Town

The City of Cape Town (CoCT) first developed a Coastal Zone Management Strategy in 2003, which was revised for 2004-2005, and subsequently developed individual management plans for Melkbosstrand, Granger Bay to Bantry Bay, Muizenberg to Wolfgat and Kogel Bay. In 2013 the City released its draft Integrated Coastal Zone Policy for comment which forms the introductory chapter to the City's CMP, the draft of which was released for comment in November 2014.

The City's CMP is management-based and comprises 29 chapters covering the following aspects:

- Coastal Land Policy: Purchase and Leasing
- Coastal Set-Back Delineation: Method And Process
- Coastal By-law
- Economic and Spatial Development Framework for the City's Coast
- City Of Cape Town Zoning Scheme General Coastal Overlay Zone
- Coastal Access Land
- Coastal Development Nodes – Connecting Communities to the Coast
- Coastal Management Roles and Responsibilities
- Coastal and Sea Defence Decision Framework
- Marine and Environmental Law Enforcement Strategy
- Coastal Emergency Plans
- Large Marine Animal Stranding Protocol
- Coastal Risk Register
- Marine Access Points
- Recreational Use Zones and Regulations
- Shark Safety
- Blue Flag
- Trek-net Fishing Protocol
- Dune Management
- Marine Protected Areas
- Coastal Conservancies
- Estuary Management Plans
- Public Health
- Coastal Signage and Information
- Coastal Cleaning Protocol
- Coastal Monitoring Programme
- Education, Awareness, and Training, and
- City of Cape Town Events Policy.

The chapters provide a practical guide for the on-the-ground management of each aspect of coastal management with relevant background and principles to undertake this. As the City of Cape Town borders the Overberg on the west it is important to consider the focus and proposed priorities and resolutions contained therein to ensure some consistency in approach in dealing with coastal matters.

Although the City of Cape Town's CMP was produced following the drafting of the NCMP it is not fully in line with this document and does not follow the format set out in the DEA Guide for the Development and Implementation of Coastal Management Programmes in South Africa (DEA, Draft 2012).

3.3.3 Eden District

The Eden District Municipality (EDM) finalised the development of their CMP in 2013.

The Eden CMP lists the following coastal management objectives:

- Public access
- Infrastructure, spatial planning and development
- Biodiversity protection, conservation and enhancement
- Heritage resources
- Disaster management
- Water quality and quantity
- Institutional arrangements
- Compliance and enforcement
- Education and awareness
- Economic development
- Tourism and recreation
- Sustainable livelihoods
- Research

The document also provides strategies presented as management action plans.

As the Eden DM borders the ODM in the east, it is important to take note of the coastal issues that have been identified as priorities within the area and the proposed management actions and objectives in order to ensure some alignment between the two bordering municipalities in dealing with coastal management issues.

As the CMP was drafted before the MCMP and PCMP were produced, alignment between it and these two documents will only be possible during the next revision.

3.3.4 Overberg District

The ODM are in the process of drafting their CMP and has the advantage that both the National and Provincial CMPs will be completed before the drafting of the Overberg CMP. This will allow the CMP to be more aligned with the National and Provincial objectives .

Whilst the Constitution sets out mandated municipal functions as outlined in Section 2.1.1, ICMA also assigns certain responsibilities to municipalities as detailed in Section 2.1.6. It must be noted, however, that no distinction is made between local and district municipal functions. As outlined in Section 2.1.3, the Municipal Structures Act provides for the delegation of powers and functions between district and local municipalities by agreement, but does not prevent a local municipality from undertaking a function assigned to the district. The Structures Act also promotes cooperation between the local and district municipalities.

Fundamentally, then, the assignment of functions and powers relating to coastal management should be undertaken in consultation and by agreement between the district and local municipalities, and should take into consideration who is best placed (from a capacity, financial and practical point of view) to perform the

function. Generally the district would take on a more coordinating role and assist the local municipalities in the performance of their functions.

As set out in the Overberg Environmental Management Policy (see Section 2.4.6), the ODM are committed to undertaking regular coastal inspections (including coastal pollution, illegal coastal structures, access monitoring and erosion and sand movement) and supporting estuarine management. Current coastal management functions undertaken by the ODM are set out in Table 3.1 below.

The community is involved in environmental management in the district through the IDP Rep Forum. Another structure which contributes to community involvement and awareness in environmental management initiatives within the ODM is the Municipal Coastal Committee (MCC), which is coordinated and administered by the ODM.

Environmental Management within the ODM is housed within the Directorate Community Services. It is responsible for the implementation of sustainable environmental management in all sectors and projects. The section consists of an Environmental Manager, Chief: Coastal and Inland Water Monitoring and one Environmental Management Officer (ODM, 2012) who are responsible for the coordination and implementation of all required environmental management functions within the district. Although the current staff are competent and skilled within their various roles there is an opportunity for further capacity building to undertake coastal management functions within the district. Funding for coastal management is also problematic.

The District, as far as possible, provides support to the local municipalities within its jurisdiction by assisting with the application and coordination of project funding (through Working for the Coast and the Environmental Protection and Infrastructure Programme) and the registration of public slipways. Matters that cannot be resolved are referred to the DEA&DP Coastal Management Unit. Coastal-related functions currently undertaken by the ODM are indicated in Table 3.1 below. The ODM looks to provincial and national government to assist in dealing with funding for coastal management, unlawful structures in the coastal zone, compliance issues and pollution incidents.

3.3.4.1 Overberg Municipal Coastal Committee

The Municipal Coastal Committee (MCC) for the district is comprised of representatives from both governmental and non-governmental organisations. The MCC is also represented on the PCC and functions in terms of Section 42 of ICMA. The MCC forms the link between the Estuarine Advisory Forums (EAFs), Estuary Management Authorities (EMAs) and other “on the ground” organisations and the higher tiers of government.

The MCC provide the necessary platform for sharing information regarding all aspects of coastal management. This includes the reporting on progress made on the National, Provincial and Overberg Coastal Management Programmes as required by the Integrated Coastal Management Act. Furthermore discussions include issues such as coastal access management, estuary management, coastal pollution, legislation and regulations pertaining to the coastal zone and law enforcement matters.

The MCC also serve as a platform to gather information to report on at the PCC, on which the ODM serves.

3.3.4.2 CapeNature

CapeNature is DEA&DP's implementing agent mandated to promote and ensure biodiversity conservation within the Western Cape. CapeNature is responsible for coastal management functions in all coastal areas under the management of CapeNature. This includes De Hoop Nature Reserve (NR), De Mond NR, Walker Bay NR and Kogelberg NR within the ODM. CapeNature are also responsible for the management of the Dyer Island Nature Reserve Complex. CapeNature have a strategic alliance with DEA for the management of MPAs and islands. Unless linked to an MPA, CapeNature's jurisdiction ends at the high water mark (HWM) of nature reserves, from which point DAFF take over the management of marine resources. CapeNature also serve on Estuary Advisory Forums where reserves border on estuaries and are the management authority for the Heuningnes estuary.

There are ten dedicated staff currently employed, with an additional nine that are used part-time. Approximately ten contractors and EPWP staff are also used to man the gates. A number of Working for the Coast teams also work on the reserves undertaking alien eradication and infrastructure management.

Although appointed staff have the necessary education and training to undertake their jobs, staff training is undertaken on a fairly regular basis. Most staff are trained nature conservators, field rangers and managers.

Although approximately 25% of current budget goes to line functions relating to coastal management, there is a need for more operational staff with dedicated coastal functions. Coastal management functions currently undertaken by CapeNature within their reserves are indicated in Table 3.1 below.

Supplementary funding is received from DEA for the management of Betty's Bay and De Hoop MPAs and Dyer Island, but no funds or staff are available to properly patrol coastal areas (beaches) not proclaimed as MPAs, but adjacent to CapeNature reserves (e.g. Walker Bay, Uilkraalsmond, Pearly Beach and Quoin Point).

3.3.4.3 SANParks

SANParks is responsible for coastal management within all national parks (NPs) that border the coast. Within the ODM this includes the Agulhas NP. Coastal management undertaken by SANParks within their coastal parks are indicated in Table 3.1 below. A Coast Care programme assists in cleaning up the coast and the ANP have a fish monitoring programme in place. As with CapeNature, SANPark's jurisdiction ends at the HWM. This poses a significant problem with the management of illegal harvesting of marine resources (most notably abalone).

There are currently six park rangers (with one vacancy), which have all been appointed as Fishery Control Officers to deal with some aspects of the illegal coastal activities (such as driving on the beach and illegal harvesting of marine resources). However, the staff still need to undergo formal training in this capacity.

The ANP does not form a consolidated, protected area, but instead consists of a number of privately owned land parcels within a matrix of state-owned protected area. Due to the open nature of the park (with access roads and no gates and fences) poachers are easily able to enter and exit the area and there are

not sufficient rangers to keep this at bay. Park rangers are also reluctant to confront poachers as they are often outnumbered and fear for their own and their family's safety.

SANParks liaise with SAPS and Marine Coastal & Surveillance to assist in the management of illegal harvesting of marine resources and driving on the beach.

3.3.4.4 Other Interest and Support Groups

A number of conservation bodies (forums, groups, associations and trusts) exist within the ODM which are involved in coastal management to varying degrees within the various municipalities. These include:

- Agulhas Biodiversity Initiative
- Breede-Gouritz Catchment Management Agency (BGCMA)
- Kogelberg Biosphere Reserve
- Lower Breede River Conservancy Trust (LBRCT)
- Overberg Lowland Conservation Trust
- Whale Coast Conservation
- Gansbaai Shark Conservancy

Estuary Advisory Forums

Estuary Advisory Forums (EAFs) are in place for those estuaries that have an Estuarine Management Plan in place. The EAFs are comprised of individuals who represent both governmental and conservation groups, as well as user groups in and around the estuaries and serve to facilitate and discuss the management of the relevant estuaries and escalate problems to the MCC.

3.3.5 Overstrand Local Municipality

The Overstrand Local Municipality is the only local municipality within the district that has an environmental management section which forms part of the Infrastructure and Planning Department. There is currently no specific staff member dedicated to coastal management functions. A number of EPWP teams assist with coastal work within the municipality.

3.3.6 Cape Agulhas Local Municipality

The Cape Agulhas Local Municipality currently largely relies on their planning and engineering departments to undertake any environmental functions required within the municipality. Although these functions are undertaken to some extent, adequate skill, competency and capacity does not exist in the municipality to undertake coastal management functions. A number of the coastal management functions are undertaken through the Expanded Public Works Programme (EPWP). Functions currently undertaken within the CAM are reflected in Table 3.1 below. It must be noted that quite a large section of the CAM coastline falls within protected areas (CapeNature, SANParks and DENEL), which is not managed by the municipality. Although it is not foreseen that a new department or unit will be formed to undertake the required coastal management functions, additional staffing and budget will be required in the Operating Departments.

3.3.6.1 DENEL

The DENEL Overberg Test Range, an integrated multipurpose testing facility, predominantly for the in-flight testing of advanced guided aviation and aviation systems for the local and international guided aerospace industries, occupies a significant portion of coastal land within the ODM.

Although the facility is not specifically involved in coastal management they undertake a number of coastal management functions within their property. This includes law enforcement, control of access and permitting of boats. For more detail refer to Table 3.1 below.

3.3.7 Swellendam Local Municipality

As with the Cape Agulhas Local Municipality, the Swellendam Local Municipality also relies on its planning and engineering departments to fulfil any environmental function that is required and adequate skills, competency and capacity does not exist for coastal management. The Department of Infrastructure Services maintains the three slipways and coastal access points. Coastal management functions currently undertaken within the Swellendam Local Municipality are reflected in Table 3.1 below.

Maintenance of the slipways and access points forms part of the operational maintenance budget in the Department of Infrastructure Services, but funding for the capital costs and operational costs of manning the slipways and jetties, employment of law enforcement officers to ensure compliance with by-laws and maintenance costs for access points, slipways and associated facilities is not available internally. Funding requests are made to the provincial and national departments to undertake this.

The most prominent feature of the Swellendam coastline is the Breede River and associated estuary. The Breede River Estuary falls on the boundary of the Swellendam and Hessequa Local Municipalities, and as such is a provincial management responsibility as per the Estuarine Management Protocol (see section 2.1.7). The Lower Breede River Conservancy Trust (LBRCT) is the officially appointed managing authority of both the west and east bank of the Lower Breede River and Estuary and undertake all associated environmental management duties.

3.3.7.1 Lower Breede River Conservancy Trust

The Lower Breede River Conservation Trust is the appointed Management Authority of the Lower Breede River (and estuary). The LBRCT undertake the following activities in and around the river and estuary:

- Pollution monitoring
- Law enforcement of marine and non-marine resources
- Law enforcement of ORVs
- Management of the estuary and river
- Vegetation and terrestrial species management
- Permitting of boats, and
- Education and awareness.

Table 3.1: Coastal management functions undertaken by key roleplayers.

Function	National	Provincial	DPW	Overberg Municipality	District	Overstrand Municipality	Local	Cape Agulhas Municipality	Local	Swellendam Municipality	Local	CapeNature	SANParks	DENEL
Coastal Infrastructure			X	X (Resort)		X (Enviro & Area Mngt)		X (Public Works Manager)		X (Infrastructure services)		X	X	
Coastal Amenities				X (Resort)		X (Area Mngt)		X (Public Works Manager)		X (Infrastructure services)		X	X	
Local Economic Development				X		X (LED)		X (LED Dept)		X (LED)		X (through EPWP)	X	
Waste Management	X	X		X (Coordination)		X (Infrastr & Planning)		X (Waste Management)		X (Waste Management)		X (only incident reporting)	X	X
Pollution Monitoring/Prevention	X	X		X		X (Enviro & Area Mngt)		X		X (LBRCT)		X (only incident reporting)	X	X
Law Enforcement - Marine Resources	X									X (LBRCT – requires renewal of compliance agreement with DAFF)		X	X	
Law Enforcement - Non-Marine Resources		X				X (Estuary By-laws)				X (LBRCT)		X	X	X
Law Enforcement – ORVs		X								X (LBRCT)		X	X	
Estuary Management ⁵	X	X		X (Coordination of MCC)		X (Enviro)		X (Within protected areas)		X (LBRCT)		X	X	
River Management		X		X (Incident reporting)				X (Public Works Manager)		X (LBRCT)		X	X	
Vegetation/Terrestrial Species Management						X (Enviro)				X (LBRCT)		X	X	X
Heritage Resources	X	X		X (Incident reporting)						X (LBRCT)		X (only incident reporting)	X	X
Access to the Coast	X (if local lacks capacity)	X (if local lacks capacity)		X (By-laws)		X (Operation Mngt & Town Planning)				X (Infrastructure Services)		X	X	X
Oversight of Coastal Leases	X		X							X (Corporate Services)		X	X	
Quotas for Harvesting ⁶	X													
Development Applications	X	X		X (Commetering)		X (Town Planning & Enviro)		X (Town Planning)		X (Town Planning)		X (Comment on applications)		
Permitting of Boats		X				X (Law enforcement of bylaws on estuaries)				X (LBRCT)		X		X
Management of Jetties/Slipways						X (Area Mngt)		X		X		X	X	
Disaster Management	X	X		X				X (Traffic Dept)		X		X	X	
Management Lines	X	X				X (Town Planning & Enviro)		X (Planning Dept)		X (Planning)				X
Education and Awareness	X	X		X		X (Tourism)		X (Social Development)		X (LBRCT)		X	X	X

X = Mandated

X = Assumed (awaiting confirmation)

X = Information supplied

⁵ As per the Estuary Management Protocol

⁶ Marine Resources

4 Biophysical and Socio-Economic Status Quo

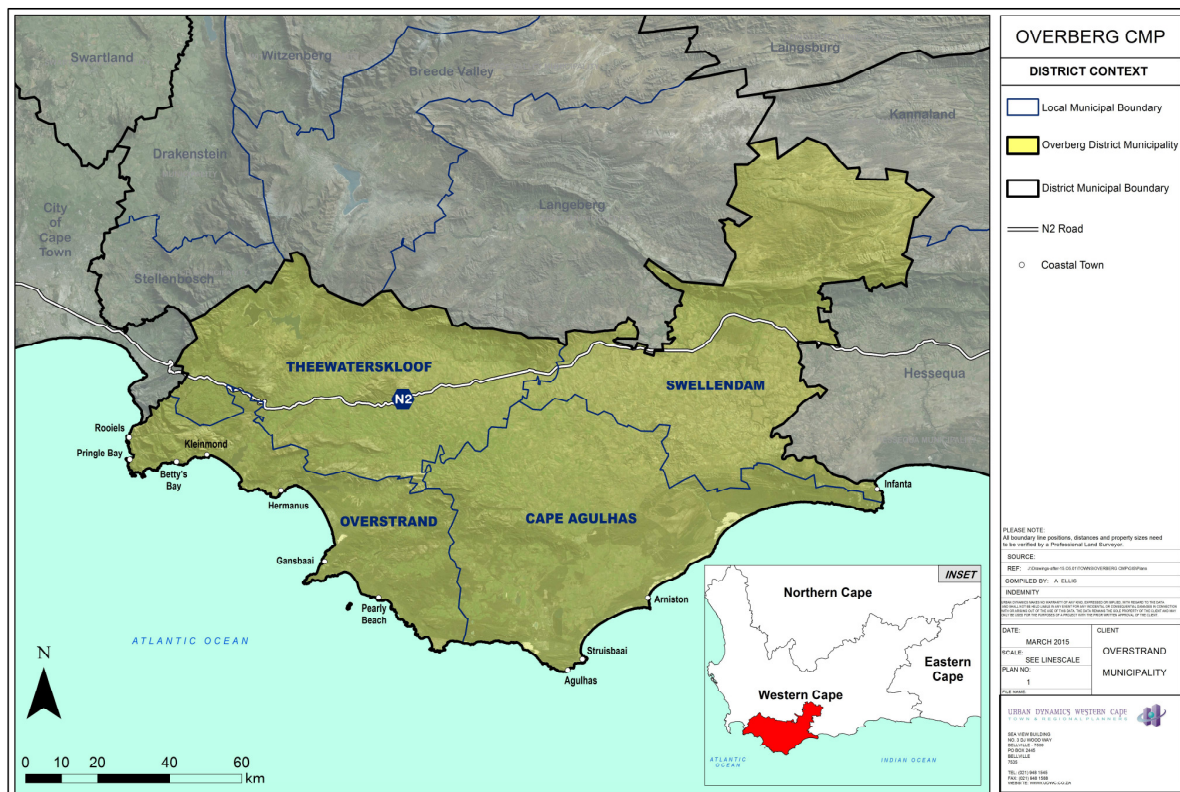
This chapter presents an outline of the current biophysical and socio-economic environment of the ODM to illustrate the opportunities and pressures experienced within the district.

4.1 Overview

The ODM area is located in the Western Cape Province of South Africa. It covers 12,241 km² and is bordered by the Cape Winelands District (Boland District) to the north, Eden District to the east and City of Cape Town to the west. It stretches from the Hottentots-Holland mountain range in the west to the Breede River mouth in the east, and up towards the Riviersonderend Mountains and Barrydale region in the north. It includes the southernmost point in Africa –Cape Agulhas – and as a result has coastline on both the Atlantic Ocean and the Indian Ocean (SALGA, 2011). The coastline extends from the Rooiels River in the west to the Breede River in the east. Primary access to the area is via the N2 highway along either the R43 or R44.

The ODM area is defined and characterised by attractive and biodiverse landscapes and many tourist attractions. It comprises of four local municipalities (i.e. Swellendam, Theewaterskloof, Overstrand and Cape Agulhas), of which three local municipalities (Swellendam, Overstrand and Cape Agulhas) are bounded by coastline (see Figure 4.1 below). Some of the coastal towns include Kleinmond, Gansbaai, Waenhuiskrans/Arniston and Infanta.

Figure 4.1: Local Municipalities within the Overberg District.



4.1.1 Overstrand Local Municipality

The Overstrand Local Municipality (LM) borders the City of Cape Town Metropole on the east and covers a total area of 1 708 km². It is divided into 13 wards and includes the towns of Betty's Bay, De Kelders, Fishershaven, Franskraal, Gansbaai, Hawston, Hermanus, Kleinmond, Onrus, Pearly Beach, Pringle Bay, Rooiels, Sand Bay, Stanford and Vermont (Draft IDP, 2015). Its coastline is the longest in the district (180.4 km) and stretches from Rooiels in the west to Quoin Point in the east.

4.1.2 Cape Agulhas Local Municipality

Cape Agulhas Local Municipality is situated between the Overstrand and Swellendam Local Municipalities and covers a total area of 3 467 km², with a coastline which stretches from Die Dam to the coastal point south-east of Infanta (142.1 km). Its main coastal towns include Agulhas, Arniston and Struisbaai (IDP, 2014).

4.1.3 Swellendam Local Municipality

Swellendam Local Municipality borders the Hessequa LM (which falls within the Eden District) and Langeberg LM (which falls within the Cape Winelands District) and covers a total area of 3,835 km². Its main towns include Barrydale, Buffeljagsrivier, Infanta, Malagas, Suurbraak and Swellendam (SA LED Network, 2010). The majority of the LM lies inland from the coast, and it only has a small stretch of coastline of 7.2 km in length. However, the Breede River experiences a tidal effect up to 62 km upstream of the mouth.

4.1.4 Theewaterskloof Local Municipality

Theewaterskloof Local Municipality is the only land-locked municipality within the ODM. However, it is included in this study due to the Bot River catchment which falls within its borders and feeds the Bot River estuary within the Overstrand Local Municipality. It covers a total area of 3,232 km². Its main towns are Bot River, Caledon, Genadendal, Grabouw, Greyton, Riviersonderend and Villiersdorp (IDP, 2014).

4.2 Climate and Weather

Average rainfall in the district ranges from approximately 200 mm per annum in the north-east to well over 1,000 mm per annum in the more mountainous areas. The Cape Agulhas municipal area generally has the highest rainfall in the area and the inland municipality of Theewaterskloof the lowest (Eisenburg, 2014). Approximately 60 – 75% of precipitation occurs between May and October.

Winds in Overberg emanate predominantly from both the eastern and western directions depending on seasonality. Westerly winds are associated with storms crossing from the Atlantic to the Indian Oceans and prevail only in the wetter winter months. During the spring and summer, the drier south easterly winds are dominant (SSI, 2012).

4.2.1 Overstrand Local Municipality

The Overstrand Municipality has a cool, maritime climate, and there is adequate rainfall throughout the year (Overstrand IDP Review, 2013/2014). Rainfall in the municipality ranges from approximately 300 mm per annum to 600 mm per annum, with most of the area receiving between 300 – 400 mm per annum (Elsenburg, 2014). The wind is predominantly easterly to south-easterly for the majority of the year, changing to westerly in the winter months (Windfinder, 2014). The average annual temperature is 18°C.

4.2.2 Cape Agulhas Local Municipality

The climate of Cape Agulhas is mild and Mediterranean, with few temperature and rainfall extremes. Rainfall in the municipality varies between 400 – 600 mm per annum (SANParks, 2015). Wind along the coast is predominantly south easterly, changing to westerly in the winter months (Windfinder, 2014). The average midday temperatures for Agulhas range from 17.2°C in winter to 25°C in summer (Cape Agulhas IDP, 2012/2016).

4.2.3 Swellendam Local Municipality

The Swellendam Municipality has a predominantly Mediterranean climate. Infanta, situated on the coast, receives approximately 283 mm of rain per annum with average midday temperatures ranging from 17.8°C in winter to 25.6°C in summer. Swellendam, situated inland, receives approximately 462 mm of rain per year with midday averages ranging from 17.1°C in winter to 27.5°C in summer (SA Explorer, 2014).

4.2.4 Theewaterskloof Local Municipality

Theewaterskloof also experiences a moderate, Mediterranean climate (SA Explorer, 2014). The wind in the region is predominantly westerly for the duration of the year (Windfinder, 2014). Rainfall in the area averages approximately 200 – 400 mm per annum (Elsenburg, 2014). Botriver receives approximately 524 mm of rain per annum, predominantly during the winter months. Average midday temperatures range from 16°C in winter to 26.1°C in summer. Riviersonderend, situated on the eastern border of the municipality, receives 307 mm of rain per annum with average midday temperatures ranging from 16.7°C in winter to 27.8°C in summer (SA Explorer, 2014).

4.3 Local Oceanography

The Overberg coastal area's exceptional location at the point where the Indian oceanic system (Agulhas bioregion) and Atlantic oceanic system (South Western Cape bioregion) meet means that it is an ecotone which supports a highly diverse fauna and flora, including numerous endemic species. The oceanography of the area is dominated by the broad and relatively shallow Agulhas bank, which constitutes the southern extreme of the African continental shelf. The Agulhas bank has ideal temperatures to sustain life and adequate food supply to ensure prolific spawning, as well as rapid development of eggs and larvae. Furthermore, the Agulhas bank has an east-west orientation and thus offshore advection is minimised (SAN Parks, 2012).

4.3.1 Sea Temperatures

Sea temperatures in the Overberg coastal region average 21°C in summer and 10°C in winter. Cold water upwelling may occur in summer, causing marked declines in sea surface temperatures (MLH, 1994). However, warmer water temperatures are typically observed at the numerous estuaries which punctuate the coastline (ODM, 2012).

4.3.2 Coastal Morphology

The shoreline area of the Overberg is rugged and has a high diversity of habitats including rocky headlands, boulder beaches, wave-cut platforms, sandy beaches, subtidal soft sediment habitats, pocket beaches, kelp forests, estuaries, sub-tidal reefs and a pelagic habitat.

The above could be broadly categorized into the following four types of shoreline:

- Small sandy embayment's where urban development has taken place
- Large open sandy stretches of coastline
- Steep rocky shorelines, and
- Rocky promontories (SSI, 2012).

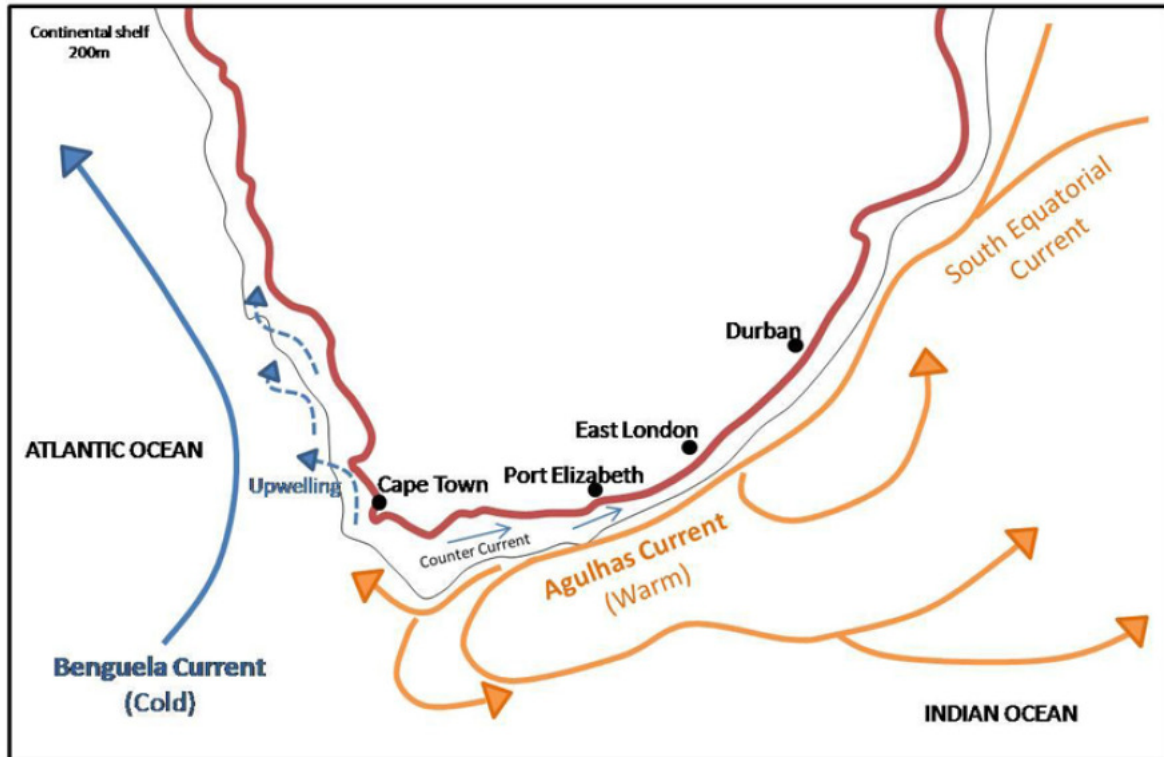
Major Coastal Processes

In terms of major coastal processes, the study area is influenced by both the strong-flowing Agulhas current that moves down the east coast of South Africa and the cold Benguela upwelling system of the west coast, which reaches as far as Cape Agulhas. The presence of the two currents is the principal reason for the diverse range of coastal and marine flora and fauna for which South Africa is famous. The Overberg coast is influenced by the differences in the chemical and biological compositions of both currents.

The Agulhas current forms part of the enormous Indian Ocean Gyre, which brings warm water from the tropics to the east coast of South Africa and moves at a speed of approximately 2.6 m per second. The Agulhas current hugs the African continental shelf, moving close to the shore edge when the shelf is narrow and being deflected away from the coast as the shelf widens (i.e. from Port Elizabeth westwards). The continental shelf becomes progressively wider from Port St Johns in the Eastern Cape down to the Agulhas bank in the southern Cape area. The water carried by the Agulhas current cools as it moves southwards and thus supports a changing array of species.

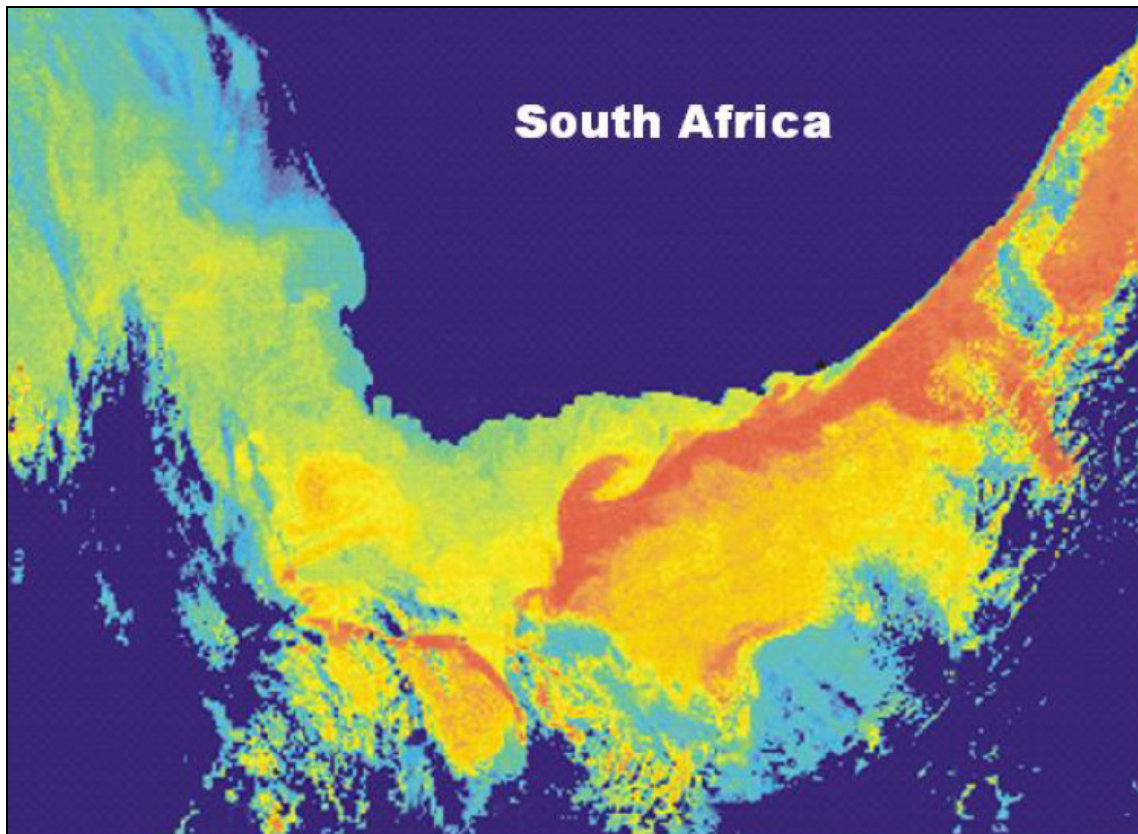
Cool counter-currents (Figure 4.2 below) also flow inshore of the Agulhas current in an easterly direction, providing important opportunities for northward and eastward migration of certain species such as the sardine *Sardinops ocellata*.

Figure 4.2: Macro currents and counter currents of southern Africa (WWF, 2009).



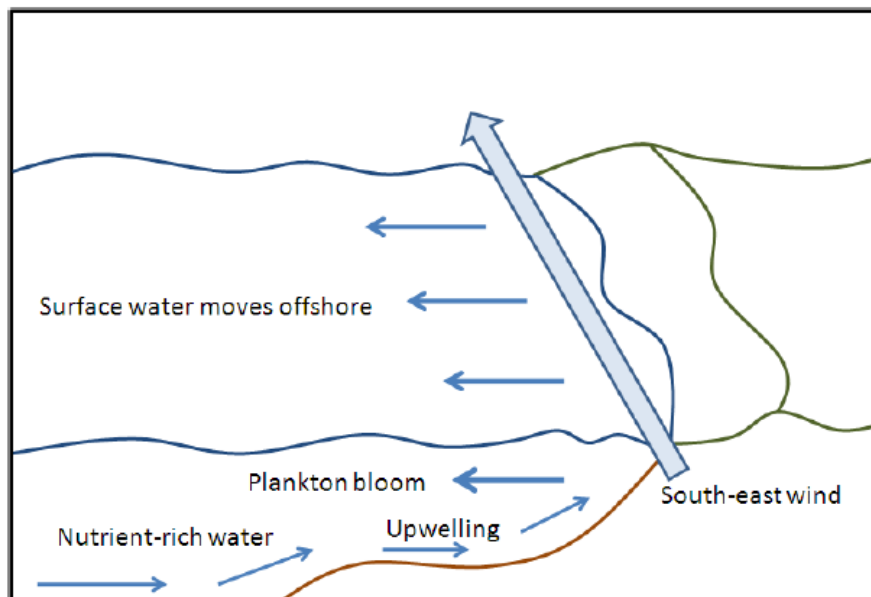
South of the southern African subcontinent, the Agulhas current turns back on itself and begins flowing eastwards and once again joins the Indian Ocean Gyre as the Return Agulhas Current. This is evident in satellite imagery showing sea surface temperatures off southern Africa. Figure 4.3 below shows this process.

Figure 4.3: Satellite image showing sea surface temperatures surrounding southern Africa. The warm Agulhas current (orange) flows down the east coast, and the cold upwelling plumes (light blue) can be observed along the west coast (WWF, 2009).



The Benguela Current originates from the South Atlantic Circulation, which circles just north of the Arctic Circumpolar Current. The Benguela is naturally cold (average temperature 10 -14 °C), but the cool water is supplemented by the upwelling of nutrient-rich deep water. As the Benguela moves north it is deflected left from the coast due to the Coriolis forces (rotational force of the earth, which causes objects in the southern hemisphere to spin anticlockwise). Strong south-easterly winds driving the Benguela parallel to the coast further enhance this upwelling process. Cold bottom water thus rises up to replace the deflected Benguela water, and this bottom water is the nutrient rich life force of the west coast (Figure 4.4). Plant life blooms when the nutrients reach the surface waters where plenty of light is available, and the phytoplankton is then preyed upon by zooplankton, which is in turn eaten by filter feeding fish such as anchovy or sardine. This makes the west coast one of the richest fishing grounds in the world and it is also the reason it attracts large colonies of birds and seals.

Figure 4.4: Schematic diagram showing wind-driven upwelling processes that occur on the south-west coast of South Africa (in this case in the presence of a south easterly wind).



The Agulhas bank, with a depth of less than 200 m, is a broad triangle shaped extension of the continental shelf of southern Africa (Figure 7). It is approximately 8,000 km long and 250 km wide at its apex. The western portion of the bank, from Cape Point to Cape Agulhas, is considered to be an extension of the wind-driven-coastal upwelling regime of the Benguela Current. Because of its orientation, the south-western Cape coast experiences a net offshore transport of water under south and southeast winds.

Tides, Wave Action and Sediment Transport

The Overberg coastline experiences semi-diurnal tides, with each successive high (and low) tide separated by 12 hours. Each high tide occurs approximately 25 minutes later every day, which is due to the 28-day rotational cycle of the moon around the earth. Spring tides occur once a fortnight during full and new moons. Tidal activity greatly influences the biological cycles (feeding, breeding and movement) of intertidal marine organisms and influences when people visit the coastline to partake in recreational activities such as fishing or bathing (WWF, 2009).

The dominant incoming waves are those emanating from the south-westerly offshore quarter. These waves are reduced through processes of diffraction and refraction with the result that inshore wave height and direction is significantly unlike offshore conditions (SSI, 2012).

Wave energy greatly influences marine ecology and human activities along the coastline. Wave size is determined by wind strength and fetch (or distance over which it blows) and determines the degree to which breaking waves at the shore will shift sand and erode rock. The Overberg coast is an extremely high energy coast. On coastlines with high wave energy, beaches are typically steep and composed of coarse sands. However, hard rock formations (such as Table Mountain Sandstone), which project from the coast, resist erosion and deflect waves and currents. This results in the formation of 'half-heart' bays typical of the

western and southern cape coastline (e.g. Walker Bay). As waves enter these sheltered bays they spread out and their energy is thus dissipated. The ways in which waves spread out in the bay (and thus changes in wave energy) are largely influenced by the shape of the bay.

Local Coastal Management Lines

The Western Cape Government recently demarcated coastal management lines for the Overberg coast in partnership with the ODM, Overstrand, Cape Agulhas and Swellendam municipalities, as well as CapeNature and SANParks. The demarcation of the lines was informed by an analysis of coastal zone processes such as wave action, dune migration, erosion or accretion trends and the location of existing development/ settlement patterns. The process recognized that the application of the various development restrictions needed to take due cognisance of existing development (and proposed development planning) that extend into the coastal hazard zone (SRK, 2013; SSI, 2012). It was also recognised that any development regulation would significantly affect existing or assumed property rights as well as development precedents. As such, it was consequently recommended that implementation should differentiate between the modelled long-term erosion hazard and the assertion of more pragmatic development controls. It was also recommended that further emphasis be placed on local knowledge, planning considerations, existing development and structural alternations to the shoreline as well as local regulatory capacity (SSI, 2012).

Subsequently, the DEA&DP revised their methodology and developed a standard methodology to be implemented in the determination of management lines in the province (DEADP, 2010). This methodology is being applied in a new management lines study undertaken by Royal HaskoningDHV.

The existing lines (from the original study) were developed through the use of detailed survey information and inputs from stakeholder engagements, which informed a model that determined the coastal risk for a 100 year horizon based on the analysis of coastal zone processes. The proposed current revision intends on adding additional timelines of 20 and 50 years to the risk projections and placing greater emphasis on recognising existing development rights in the delineation of a single coastal management line.

These risk projections will then be used to inform overlay zones that demarcate areas that may potentially be prone to coastal risk for use in spatial and development planning.

It is anticipated that this project will be completed in 2015.

4.3.3 Overstrand Local Municipality

Like all of the local municipalities in Overberg with coastal-frontage, warm temperate south coast waters interface with cold upwelling in the Overstrand municipal coastal region. The coastline is characterized by a rugged, rocky shore which is interspersed by sandy beaches. Seventy percent of the Kogelberg Biosphere Reserve (KBR), an area of renowned coastal biodiversity, lies along its coastline. Here, a ribbon of narrow coastal plain lies between the ocean and enormous sandstone mountains. This hotspot area is largely undeveloped besides the three towns of Rooiels, Pringle Bay and Bettys Bay. A more intensely urban section exists from Kleinmond through to Pearly Beach. This is particularly the case in Hermanus where the nearby villages from Fisherhaven to Eastcliff have merged into one continuous conurbation – except for the break around Hoek van die Berg (located between Hawston and Onrus) (ODM, 2012).

The Kogelberg coast is a high-energy environment with rough seas. The coastline is predominantly exposed, rocky and rugged, interspersed with a series of sheltered bays where beaches have formed. West of Kleinmond the coastline is largely eroding, whilst to the east it tends to accumulate sand which is blown into dunes (Turpie *et al.*, 2009).

4.3.4 Cape Agulhas Local Municipality

The coastal area of this municipality is also typified by warm temperate south coast waters, which interface with cold upwelling. The coastal area is famous for being the point of the southernmost tip of Africa which straddles the Atlantic Ocean to the west and Indian Ocean to the east meeting at this point – a point also known to have wild seas (SANParks, 2012). The shoreline of the Agulhas coast has both rocky (60%) and sandy (40%) beaches, followed by sand dunes, including rare hummock blowout and playa-lunette dunes between Brandfontein and Cape Agulhas. north of these dunes is a sandy, flat coastal plain with numerous marshes, vleis and pans (SANParks, 2012). The wilderness coast commences again eastwards after Pearly Beach through to the Infanta area. This coastline is only broken briefly by settlement areas such as Suiderstrand, L'Agulhas and Struisbaai (the latter two having also merged into one) and Arniston. From there lies a long unbroken stretch of coast along the De Hoop nature reserve (ODM, 2012).

4.3.5 Swellendam Local Municipality

The municipality has a small and largely natural section of wilderness coastline from the Cape Infanta area to the mouth of the Breede River. The prevalent cold upwelling waters again interface with warm temperate south coast waters along the coastline. The large Breede River estuary has a tidal influence of approximately 62 km, meaning that the salt (marine) water can be pushed up very far on a spring high tide. This also means that slightly warmer waters are often prevalent at the mouth.

4.4 Marine Living Resources

The use of marine and coastal resources forms an important part of the South African economy. The fishing industry alone contributed approximately R4.5 billion to the country's GDP in 2007- approximately 2% of the total GDP. Although this has since dropped to 0.5% nationally, the fishing industry still contributes 2% to the Western Cape's GDP (DAFF, 2013). Fish are thought to be the most exploited and threatened South African marine species. More than 630 marine species are caught by commercial, subsistence and recreational fisheries in the country, and over-exploitation of stocks is currently the greatest threat at species level (Sink *et al.*, 2011). Eleven line-fish species have less than 20% of their breeding stock remaining and are considered to have collapsed stock levels and more than 23 marine species are considered threatened along the coast (Sink *et al.*, 2011).

The Western Cape is the leading province in aquaculture, producing about 61% of the tonnage and 83% of the value of South Africa's aquaculture output and comprising 66% of the country's aquaculture farms. This amounted to approximately R272 million in 2009 with exports comprising R243 million (Turpie & Wilson, 2011).

There are four proclaimed fishing harbours in the ODM - Arniston, Gansbaai, Hermanus and Struisbaai. The fishing and mariculture activities associated, with each of these are discussed in more detail under the relevant local municipal sections below.

According to the Marine and Coastal chapter of the State of the Environment Report (Royal Haskoning DHV, 2013), a large number of marine ecosystems along the Overberg coast are considered endangered with a pocket being critically endangered just off the Cape Agulhas coast.

4.4.1 Overstrand Local Municipality

The predominant commercial fisheries along the Kogelberg coast are abalone, kelp, line-fishing and west coast rock lobster. Fishing effort in the area is varied, reflective of the lack of a permanent fishing harbour in the area, as well as the nomadic nature of the target fish species (Snoek and Geelbek). Reported yields in the area have declined quite substantially over the last century, especially for reef species such as Red Roman, Red Steenbras and Seventy-Four, which are rarely present in current-day catches (Turpie *et al.*, 2009). Sardine and Cape Anchovy is predominantly caught around the Dyer Island area (Birss *et al.*, 2012).

Commercial West Coast Rock Lobster harvesting was established in 2003 following the invasion of the area over the last 20 years by the species, with annual catches in the region of 60 – 80 tonnes. At present no commercial abalone fishing is undertaken in the area due to the national closure of the fishery in an attempt to stop the excessive illegal harvesting of the species. Historically the area between Cape Hangklip and Quoin Point has proved to be the most productive fishing area, yielding over 100 tonnes per annum (Turpie *et al.*, 2009).

Kelp harvesting is undertaken in allocated concession areas, one of which is located along the Kogelberg coast, with a total annual catch limit of 1 000 tonnes. Kelp is predominantly harvested to supply the abalone farms in the area with fresh kelp (Turpie *et al.*, 2009).

The Betty's Bay Marine Protected Area (MPA) is situated directly adjacent to the town of Betty's Bay and covers the inshore environment between two beacons along a 3 km stretch of coastline. Although it offers protection to all marine organisms, it was proclaimed predominantly to protect abalone resources along the coast. It was originally proclaimed as a no-fishing zone with only shore-angling allowed within the MPA between Stony Point and to the east of Jock-se-Baai (Johns *et al.*, 2012). However, an application for rezoning of the MPA to a full no-take MPA is underway. The Stony Point penguin colony is also situated in Betty's Bay and supports one of only three land-based breeding populations of the endangered African Penguin.

Recreational fishing in the area includes shore anglers, boat anglers and spear fishers. The area has public launch sites at Rooiels, Stony Point, Maasbaai and Kleinmond. Target species are thought to be similar to commercial fisheries, but with a greater focus on reef species such as Red Roman and Hottentot. Shore angling is very prevalent in the area, with angling effort estimated at 142 angler-days/km⁷. Rock lobster fishing is also a favourite recreational activity, with approximately 58 tonnes per year removed in the area from 2000 – 2008 (Turpie *et al.*, 2009). Boat-based angling for Snoek, Geelbek and a variety of reef fish is very popular around the Dyer Island complex (Birss *et al.*, 2012).

The Hermanus proclaimed fishing harbour hosts three abalone farms, which make up the harbour's primary activity. In addition to this, three abalone processing plants and an abalone feed factory are also

⁷This is a measure of angling effort, expressed as the number of days on which angling took place within a given km of shoreline over the course of a year.

based in the harbour. Fishing activities within the harbour have decreased substantially over time, and the main activities are now whale watching charters and recreational ski-boating (Kaiser EDP, 2012). Within this area, the Walker Bay Whale Sanctuary MPA provides a safe harbour for Southern Right Whales and other marine mammals from July to November yearly.

The Gansbaai proclaimed fishing harbour is host to a large fishmeal/canning factory (Gansbaai Marine) and a large abalone farm borders the harbour fence. Gansbaai is a major pelagic landing point (mainly Pilchards), but a small amount of lobster and line-fish is also landed here. Three additional abalone farms are also situated adjacent to the town (Kaiser EDP, 2012).

The Dyer Island Nature Reserve Complex, consisting of Dyer Island, Geyser Island and Quoin Rock, is situated southwest of Pearly Beach and Quoin Point. Dyer Island's inshore marine environment consists of intertidal zones, kelp forests and semi-exposed reefs, each of which support their own species diversity. Geyser Island supports one of the four largest breeding populations of Cape Fur Seal in South Africa. A number of dolphins and whales occur in the waters around the island, including the Hump-backed Dolphin, Bottlenose Dolphin, Indo-pacific Bottlenose Dolphin, Long-beaked Common Dolphin, Southern Right Whale, Humpback Whale, Bryde's Whale and occasionally Killer Whales (Birss *et al.*, 2012).

The area around Dyer and Geyser Islands is world-renowned for its population of Great White Sharks that feed off the Cape Fur Seals that breed on the Island. Sardine and Cape Anchovy are the most significant commercial fish species found within the waters surrounding the Islands. These Islands are important for the South African Sardine fishery. The area also has large kelp forests which support a myriad of marine invertebrates, including Abalone, Alikreukel and West Coast Rock Lobster. Abalone continues to be illegally harvested and exploited in the area despite the prohibition of diving in the area (Birss *et al.*, 2012).

4.4.2 Cape Agulhas Local Municipality

The Agulhas National Park straddles the southernmost tip of Africa, with the Atlantic Ocean to the west and the Indian Ocean to the east. It covers an area of 21,149 ha and is situated approximately 37 km south-west of Bredasdorp. It extends about 45 km along the coast in line with Pearly Beach in the west to Struisbaai in the east and between 1 and 25 km inland from the coast. The park supports a large number of marine species which are harvested both commercially and recreationally in other areas. These include shellfish, seaweed, rock lobster and line fish (Kraaij *et al.*, 2008).

Overexploitation is a major threat to the area's marine environment. Struisbaai is one of the southwest pelagic- and line-fishing industry hotspots. Although the majority of the pelagic seine netting is undertaken west of Quoin Point, some substantial seasonal fishing occurs within 5.5 km of the shore. Commercial line-fishing occurs near Danger Point and Cape Agulhas, A large portion of the line-fish caught consists of migratory species such as Yellowtail, Cob, Geelbek and Snoek (Kraaij *et al.*, 2009).

The proclaimed fishing harbour at Arniston/Waenhuiskrans is used exclusively for traditional line-fishing and is closely associated with the Kassiesbaai fishing community. Struisbaai is also an important line-fishing harbour, with almost four times the volume of fish landed at Arniston. The harbour hosts a resident colony of stingrays, which are attracted by the fish the fishermen bring in (Kaiser EDP, 2012).

The De Hoop Marine Protected Area, which extends 5 km out to sea, is one of the largest marine protected areas within South Africa and one of only two no-take protected areas in the Western Cape. The reserve extends 46 km along the coast from Stilbaai Point in the east to a point between Ryspunt and Skipskop in the west. Due to the mixing of waters from the South Indian, South Atlantic and Southern oceans both species associated with the more sub-tropical Agulhas Current of the east coast and the more temperate waters occur here (Scott & Scott, 2001). The Waenhuiskrans/Cape Infanta area is also situated next to the broadest part of the continental shelf known as the Agulhas Bank. The Agulhas Bank also functions as an important fish spawning and nursery ground for pelagic fish (Strydom & King, 2009). This significantly contributes to the high biodiversity found within the area. As harvesting of marine species is not allowed, it provides protection to a number of marine organisms. The MPA has been shown to be successful in actively protecting populations of popular reef fish and recruiting migrants of over-fished species to other areas (Scott & Scott, 2001).

4.4.3 Swellendam Local Municipality

Marine living resources within Swellendam Local Municipality are limited due to the limited extent of its coastline. As highlighted in the section above, the Cape Infanta area is situated adjacent to the Agulhas Bank, which supports a vast number of marine species. Resource use occurs within the Breede River estuary, predominantly through recreational fishing and bait collection (SSI, 2011).

4.5 Terrestrial Coastal Living Resources

The ODM falls entirely within the fynbos biome in the Cape Floristic Region (CFR). The CFR is recognised as a global biodiversity hotspot with high levels of endemism and diversity for plants and animals. The area supports more than 9,000 plant species of which 69% are endemic. The majority of this diversity is associated with the fynbos biome (Vromans *et al.*, 2010). Approximately 30,000 ha of land is under formal conservation in the district, and several conservation areas are found within the district. The most important of these include the Agulhas National Park, the Kogelberg Biosphere Reserve and the De Hoop Nature Reserve. In addition to this, the district has also seen a significant growth in the number of private reserves (UDWC, 2012).

The district supports a number of vegetation types. Most notably, the Eastern, Central and Western Ruens Shale Renosterveld covers large sections in the interior of the municipality, whilst the coast supports patches of interspersed Overberg Dune Strandveld, Overberg Sandstone Fynbos, Agulhas Limestone Fynbos, Elim Ferricrete Fynbos and De Hoop Limestone Fynbos. The vegetation types are discussed in more detail in the relevant sections below.

Six Important Bird and Biodiversity Areas (IBAs) have been declared within the ODM, five of which fall within the coastal strip - Boland Mountains (Overstrand), Cape Whale Coast (Overstrand), Dyer Island Nature Reserve (Overstrand), De Hoop Nature Reserve (Cape Agulhas) and Agulhas Plain – Heuningnes Estuary (Cape Agulhas). The IBA programme is an important conservation initiative started by Birdlife International to identify and protect a network of sites at a biogeographical scale, which are essential for the long-term viability of naturally occurring bird populations. Each of the IBAs is discussed in more detail in the relevant sections below.

4.5.1 Overstrand Local Municipality

The Overstrand Local Municipality is dominated by fynbos, which accounts for approximately 99.7% of the existing natural vegetation (SANBI, 2014b). The area comprises 18 vegetation types, six of which are classified as Critically Endangered, three as Endangered (see Table 4.1 below).

Table 4.1: Threatened vegetation types of the Overstrand municipality (SANBI, 2014b).

Vegetation type and Threat Status	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Overstrand
Elgin Shale Fynbos (CR)	A1 Remaining natural habitat ≤ than National Biodiversity Target	24%	6% of original extent	30% (more than remaining natural area. As such, all remaining patches must be conserved)	±13.6 ha (0.01% of municipality)
Elim Ferricrete Fynbos (CR)	A1 Remaining natural habitat ≤ than National Biodiversity Target	29%	5% of original extent	30% (more than remaining natural area. As such, all remaining patches must be conserved)	±4247.3 ha (2.49% of municipality)
Kogelberg Sandstone Fynbos (CR)	D1 ≥ 80% threatened Red Data List plant species	88%	58% of original extent	30%	±25952.9 ha (15.2% of municipality)
Overberg Sandstone Fynbos (CR)	D1 ≥ 80% threatened Red Data List plant species	86%	6% of original extent	30%	±44714.1 ha (26.19% of municipality)
Ruens Silcrete Renosterveld (CR)	A1 Remaining natural habitat ≤ than National Biodiversity Target	14%	<1% of original extent	27% (more than remaining natural area. As such, all remaining patches must be conserved)	±41.5 ha (0.02% of municipality)
Western Ruens Shale Renosterveld (CR)	A1 Remaining natural habitat ≤ than National Biodiversity Target	13%	0% of original extent	27% (more than remaining natural area. As such, all remaining patches must be conserved)	±29.8 ha (0.02% of municipality)
Agulhas Sand Fynbos (E)	A1 Remaining natural habitat ≤ than (National Biodiversity Target + 15%)	35%	7% of original extent	32%	±812.5 ha (0.48% of municipality)
Hangklip Sand Fynbos (E)	A1 Remaining natural habitat ≤ than (National	45%	20% of original extent	30%	±2403.8 ha (1.41% of municipality)

Vegetation type and Threat Status	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Overstrand
Biodiversity Target + 15%)					
Western Cape Milkwood Forest (E)	Ecosystem extent ≤ 3 000 ha, and Imminent Threat	2 000 ha	2% or remaining extent	All remaining milkwood forests must be protected	±725.1 ha (0.42% of municipality)
Agulhas Limestone Fynbos (V)	D1 ≥ 40% threatened Red Data List plant species	64%	8% of original extent	32%	10994.4 ha (6.44% of municipality)
Cape Winelands Shale Fynbos (V)	A1 Remaining natural habitat ≤ 60% of original extent of ecosystem	54%	25% of original extent is formally protected in Nature Reserves. An additional 25% is protected in Mountain Catchment Areas	30%	141.8 ha (0.08% of municipality)

* CR = Critically Endangered
E = Endangered
V = Vulnerable

There are 23 protected areas within the municipality covering 24% of the municipal area. These are listed in the table below. The most important conservation area within the municipality is the Kogelberg Biosphere Reserve which stretches from the Steenbras River estuary in the west to the Bot River estuary in the east (79 km of coast) and includes the villages of Rooiels, Pringle Bay, Betty's Bay and Kleinmond. It extends 3 nautical miles into the sea and approximately 70% of the reserve is situated in the Overstrand Local Municipality, the remainder being inland in the Theewaterskloof Local Municipality (Turpie *et al.*, 2009). The Kogelberg Nature Reserve (which forms the core conservation area of the larger Kogelberg Biosphere Reserve), along with four other conservation areas (as indicated in the table below) together form the Kogelberg Nature Reserve Complex.

Table 4.2: Formal protected areas within the Overstrand Local Municipality (SANBI, 2014b).

Name	Category	Size
Agulhas National Park	National Park	6,031.5 ha (3.53% of municipality)
Babilonstoring Nature Reserve	State Forest Nature Reserve	771.4 ha (0.45% of municipality)
Brodie Link Nature Reserve (part of the Kogelberg Nature Reserve Complex)	Provincial Nature Reserve	114.6 ha (0.07% of municipality)
Dyer Island Reserve Complex (this falls outside of the municipal boundary)	Island Reserve	15.67 ha (0.01% of municipality)
Fernkloof Nature Reserve	Local Authority Nature Reserve	1,800 ha (1.31% of municipality)
Hottentots-Holland Mountain Catchment Area	Mountain Catchment Area	2529.5 ha (1.48% of municipality)

Name	Category	Size
Houwhoek Nature Reserve (part of the Kogelberg Nature Reserve Complex)	State Forest Nature Reserve	2285.6 ha (1.34% of municipality)
Kleinmond Coast and Mountain Nature Reserve	Local Authority Nature Reserve	651.2 ha (0.38% of municipality)
Kogelberg Nature Reserve (part of the Kogelberg Nature Reserve Complex)	State Forest Nature Reserve	18242.7 ha (10.68% of municipality)
Kogelberg Sonchem link Nature Reserve	State Forest Nature Reserve	394 ha (0.23% of municipality)
Maanschynkop Nature Reserve	Provincial Nature Reserve	415.6 ha (0.24% of municipality)
Mt Hebron Nature Reserve (part of the Kogelberg Nature Reserve Complex)	State Forest Nature Reserve	742.9 ha (0.44% of municipality)
Pearly Beach Nature Reserve	State Forest Nature Reserve	627.4 ha (0.37% of municipality)
Stony Point Penguin Colony (forms part of the Betty's Bay MPA)	Management Agreement between Overstrand and CapeNature	As part of MPA
Quoin Point Nature Reserve	State Forest Nature Reserve	1149.7 ha (0.67% of municipality)
Rooiels Local Authority Nature Reserve	Local Authority Nature Reserve	4.7 ha (0% of municipality)
Rooisand (Botrivier) Nature Reserve (part of the Kogelberg Nature Reserve Complex)	Provincial Nature Reserve	273.3 ha (0.16% of municipality)
Salmonsdam Nature Reserve	Provincial Nature Reserve	801.5 ha (0.47% of municipality)
Soetfontein Nature Reserve	State Forest Nature Reserve	54.3 ha (0.03% of municipality)
Uilkraalsmond Nature Reserve	State Forest Nature Reserve	802.9 ha (0.47% of municipality)
Vogelgat Private Nature Reserve	Private Nature Reserve	600 ha (0.33% of municipality)
Walker Bay Nature Reserve	State Forest Nature Reserve	3586.6 ha (2.1% of municipality)

Three IBAs are situated within the Overstrand Local Municipality-the Boland Mountains IBA, the Cape Whale Coast IBA and the Dyer Island IBA. The Boland IBA runs from the Kogelberg Biosphere Reserve for 120 km to the Kuiltjieskraal State Forest southwest of Tulbagh and supports a number of threatened and range-restricted bird species, including breeding pairs of blue Cranes, Black Harriers, Ground Woodpecker, Cape Rockjumper and Cape Siskin. The greatest threat to the IBA is that of alien invasive plants, fire regimes and habitat transformation (BirdLife, 2014).

The Cape Whale Coast IBA, which extends from the Klein River Estuary in the east to Stony Point Penguin Colony in the west, supports over 163 bird species, of which at least 62 are waterbirds. Large numbers of birds (in excess of 25,000) are a regular occurrence, with numbers of up to 40,000 occasionally recorded. The IBA is a great breeding ground for a number of birds, including six threatened species (Lesser Flamingo, African Black Oystercatcher, African Marsh Harrier, Caspian Tern, Great White Pelican, Greater Flamingo and Black Stork; BirdLife, 2014). The Dyer Island IBA supports 12 breeding species of seabird and five breeding species of terrestrial bird. This includes the African Penguin, Bank Cormorant, Crowned Cormorant, African Black Oystercatcher and Cape Cormorant (BirdLife, 2014).

4.5.2 Cape Agulhas Local Municipality

The terrestrial area of the Cape Agulhas Local Municipality consists largely of the Agulhas Plain (AP). This is the coastal lowland, which covers an area of approximately 270,000 ha, stretching from the Klein River mouth to the Breede River. It forms the southernmost section of the CFR and contains a myriad of fynbos, wetlands and coastal renosterveld vegetation.

Vegetation in the Cape Agulhas Local Municipality consists predominantly of Central Ruens Shale Renosterveld (39% of the municipal area) more inland and centrally, whilst the west is covered largely by Elim Ferricrete Fynbos (12.41% of the municipal area) and the east by De Hoop Limestone Fynbos (7.81% of the municipal area). Six Critically Endangered, two Endangered and one Vulnerable vegetation types occur within the municipal area (see Table 4.3 below).

Table 4.3: Threatened vegetation types of the Cape Agulhas municipality (Mucina & Rutherford, 2006).

Vegetation Threat Status	type	and	Chief classification criterion	Remaining natural extent	% Formally conserved		National conservation target	Extent in Cape Agulhas
Central Ruens Renosterveld (CR)	Ruens	Shale	A1 Remaining natural habitat \leq than National Biodiversity Target	13%	<1% original extent	of	27% (more than the remaining natural extent. As such all remaining patches must be conserved)	\pm 8328.1 ha (2.93% of municipality)
Eastern Ruens Renosterveld (CR)	Ruens	Shale	A1 Remaining natural habitat \leq than National Biodiversity Target	14%	<1% original extent	of	27%	\pm 3373.4 ha (1.19% of municipality)
Elim (CR)	Ferricrete	Fynbos	A1 Remaining natural habitat \leq than National Biodiversity Target	29%	5% original extent	of	30% (more than remaining natural area. As such, all remaining patches must be conserved)	\pm 9915.7 ha (3.49% of municipality)
Overberg Fynbos (CR)		Sandstone	D1 \geq 80% threatened Red Data List plant species	86%	6% original extent	of	30%	\pm 24558.7 ha (8.64% of municipality)
Ruens Renosterveld (CR)		Silcrete	A1 Remaining natural habitat \leq than National Biodiversity Target	14%	<1% original extent	of	27% (more than remaining natural area. As such, all remaining patches must be conserved)	\pm 10.9 ha (0% of municipality)
Western Ruens Renosterveld (CR)	Ruens	Shale	A1 Remaining natural habitat \leq than National Biodiversity Target	13%	0% original extent	of	27% (more than remaining natural area. As	\pm 2007.9 ha (0.71% of municipality)

Vegetation type and Threat Status	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Cape Agulhas
	Target			such, all remaining patches must be conserved)	
Agulhas Sand Fynbos (E)	A1 Remaining natural habitat ≤ than (National Biodiversity Target + 15%)	35%	7% of original extent	32%	±6966.9 ha (2.45% of municipality)
Western Cape Milkwood Forest (E)	Ecosystem extent ≤ 3 000 ha, and Imminent Threat	2 000 ha	2% remaining extent	or All remaining milkwood forests must be protected	±39.5 ha (0.01% of municipality)
Agulhas Limestone Fynbos (V)	D1 ≥ 40% threatened Red Data List plant species	64%	8% of original extent	32%	±6690.4 ha (2.35% of municipality)
* CR = Critically Endangered E = Endangered V = Vulnerable					

Six formal conservation areas are located in the municipality, the largest of which are the Agulhas National Park (NP) and the De Hoop Nature Reserve (see table below).

Table 4.4: Formal protected areas within the Cape Agulhas Local Municipality (SANBI, 2014c).

Name	Category	Size
Agulhas National Park	National Park	14 893 ha (5.24% of municipality)
De Hoop Nature Reserve	Provincial Nature Reserve	34 000 ha (12% of municipality)
De Mond Nature Reserve	State Forest Nature Reserve	927.9ha (0.33% of municipality)
Heuningberg Local Nature Reserve	Local Authority Nature Reserve	904.8ha (0.32% of municipality)
Soetendalsvlei Nature Reserve	State Forest Nature Reserve	414.8ha (0.15% of municipality)
Waenhuiskrans Nature Reserve	State Forest Nature Reserve	263.8ha (0.09% of municipality)

The Agulhas NP, situated on the AP, supports sensitive and endangered terrestrial vegetation, the protection of which is vital for the conservation of fynbos in South Africa. Four vegetation units with high conservation value occur in the park, including Central Ruens Shale Renosterveld (Critically Endangered), Elim Ferricrete Fynbos (Endangered), Agulhas Sand Fynbos (Vulnerable) and Cape Inland Salt Pans (Vulnerable). Species richness on the AP equal those of rainforests and the area hosts some 2,500 species of indigenous plants, including 112 of which are endemic and 110 which are listed as Red Data species (Kraaij *et al.*, 2008). Although less well-known, limited studies on invertebrates, amphibians, reptiles and fish have identified a number of Red Data species in the area. Birds in the region are diverse, with 230 species having been recorded in the park, 11 of which are Red Data species (including the blue crane and Stanley's bustard).

Fynbos wildflowers are harvested extensively on the AP, an industry that amounted to R8.6 million in 1997, and as such poses a serious threat to the area’s biodiversity if not properly managed. The Agulhas Biodiversity Initiative (ABI) has thus set, as one of its four main objectives, to promote sustainable harvesting of wild fynbos as an economically viable land use on the AP. Honey production from wildflowers is another important income on the AP during winter months (Kraaij *et al.*, 2008).

The municipality is home to about 49 endemic plant species of which at least 36 are found in the De Hoop Nature Reserve (NR). The De Hoop NR is also a centre of endemism for flora associated with Limestone Fynbos, supporting 66% of the 110 taxa confined to the limestone outcrops between Gansbaai and Gouritz River. The reserve supports a population of Cape mountain zebra, representing approximately 5% of the total population, and the bat cave on the reserve supports the largest and most important bat nursery in the country. It is a declared IBA, with the vlei supporting 8,000 birds on average at any given time. It supports 21 threatened species, including the southernmost breeding population of Cape vulture, breeding pairs of Stanley’s bustard and blue cranes (Scott & Scott, 2001).

Two Ramsar sites are found in the municipality - the De Hoop vlei Ramsar site and the De Mond State Forest Ramsar site. As a coastal lake with no outlet to the sea, the De Hoop vlei is unique in the south-western Cape. Seventy percent of the bird species known in the south-western Cape have been recorded at De Hoop vlei. It supports a large number (75) of wetland-dependent bird species, seven of which are considered threatened (South African Wetlands Conservation Programme, 2014a). The De Mond State Forest was declared a Ramsar site primarily due to the breeding site of the Damara tern in the Heuningnes estuary, situated within the State Forest. The Damara tern is endemic to South Africa and is possibly the rarest resident seabird in South Africa. It is estimated that 15% of the national population is found in the De Mond area (South African Wetlands Conservation Programme, 2014b).

The Agulhas Plain – Heuningnes Estuary IBA, which extends from the De Mond NR to beyond the confluence of the Nuwejaars River and Soetendalsvlei north-west to the junction of the R43 and R319 approximately 5 km from Bredasdorp, and includes the Nuwejaars Wetland Special Management Area and the ANP, is also situated within the municipality. It supports twelve globally threatened species and nine regionally threatened species, and is a stronghold for Blue Cranes.

4.5.3 Swellendam Local Municipality

Eastern Ruens Shale Renosterveld is the dominant vegetation type, making up 39.97% of the municipal area. Along the coast De Hoop Limestone Fynbos gives way to Potberg Sandstone Fynbos and Potberg Ferricrete Fynbos as you head away from the coast, which in turn gives way to Eastern Ruens Shale Renosterveld as you head in a northerly direction. The northern most sections of the municipality support Swellendam Silicrete Fynbos, South and North Langeberg Sandstone Fynbos, Montagu Shale Fynbos and Montagu Shale Renosterveld (Mucina & Rutherford, 2006).The municipality supports four Critically Endangered, two Endangered and three Vulnerable vegetation types (see table below).

Table 4.5: Threatened vegetation types of the Swellendam municipality (Mucina & Rutherford, 2006).

Vegetation Threat Status	type	and	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Swellendam
Cape Lowland Vegetation (CR)	Lowland	Alluvial	A1 Remaining natural	28%	<1% of original	31% (more than the	2943.1 ha (0.98% of

Vegetation Threat Status	type	and	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Swellendam municipality)
			habitat ≤ than National Biodiversity Target		extent	remaining natural extent. As such all remaining patches must be conserved)	
Central Ruens Renosterveld (CR)	Shale		A1 Remaining natural habitat ≤ than National Biodiversity Target	13%	<1% of original extent	27% (more than the remaining natural extent. As such all remaining patches must be conserved)	3059.4 ha (1.02% of municipality)
Eastern Ruens Renosterveld (CR)	Shale		A1 Remaining natural habitat ≤ than National Biodiversity Target	14%	<1% of original extent	27%	13142.4 ha (4.38% of municipality)
Ruens Renosterveld (CR)	Silcrete		A1 Remaining natural habitat ≤ than National Biodiversity Target	22%	<1% of original extent	27% (more than the remaining natural extent. As such all remaining patches must be conserved)	1092.6 ha (0.36% of municipality)
Greyton Shale Fynbos (E)			A1 Remaining natural habitat ≤ than (National Biodiversity Target + 15%)	70%	<1% of original extent	30%	57.8 ha (0.02% of municipality)
Potberg Ferricrete Fynbos (E)			A1 Remaining natural habitat ≤ than (National Biodiversity Target + 15%)	60%	6% of original extent	30%	1545.2 ha (0.52% of municipality)
Albertinia Sand Fynbos (V)			A1 Remaining natural habitat ≤ 60% of original extent of ecosystem	57%	5% of original extent	30%	353.5 ha (0.12% of municipality)
Montagu Renosterveld (V)	Shale		A1 Remaining natural habitat ≤ 60% of original extent of ecosystem	85%	6% of original extent	27%	29619.1 ha (9.88% of municipality)
Swellendam Fynbos (V)	Silcrete		A1 Remaining natural habitat ≤ 60% of original extent of ecosystem	57%	4% of original extent	30%	8188.7 ha (2.73% of municipality)

The municipality is home to ten formal conservation areas (see table below). The majority of these are situated within the northern extent of the municipal area. The most significant of these are the Bontebok National Park and the West Mountain Catchment Area. The Haeskraal Private Nature Reserve, a fairly large private reserve, is also situated in the northern section of the municipality.

Table 4.6: Formal protected areas within the Swellendam Local Municipality (SANBI, 2014d).

Name	Category	Size
Bontebok National Park	National Park	3,378.8 ha (1.13% of municipality)
Boosmansbos Wilderness Area	Wilderness Area	3.1 ha (0% of municipality)
Langeberg East Mountain Catchment Area	Mountain Catchment Area	3,952.1 ha (1.32% of municipality)
Langeberg Wes Mountain Catchment Area	Mountain Catchment Area	10,792.8 ha (3.6% of municipality)
Marloth Nature Reserve	State Forest Nature Reserve	8,987.6 ha (3% of municipality)
Riviersonderend Mountain Catchment Area	Mountain Catchment Area	1,820.2 ha (0.61% of municipality)
Riviersonderend Nature Reserve	State Forest Nature Reserve	0.2 ha (0% of municipality)
Warmwaterberg Nature Reserve	State Forest Nature Reserve	2,687.3 ha (0.9% of municipality)
Zuurberg Nature Reserve	State Forest Nature Reserve	1,232.2 ha (0.41% of municipality)

4.5.4 Theewaterskloof Local Municipality

The Theewaterskloof Local Municipality supports 17 vegetation types, of which eight are Critically Endangered, one Endangered and two Vulnerable (see table below) (SANBI, 2014e). The predominant vegetation type is that of Western Ruens Shale Renosterveld (31.85% of the municipal area) and Central Ruens Shale Renosterveld (14.8% of the municipal areas) centrally. The northern border of the municipality supports South Sonderend Sandstone Fynbos (along the Riviersonderend River) and Greyton Shale Fynbos, whilst the west largely consists of Kogelberg Sandstone Fynbos.

Table 4.7: Threatened vegetation types of the Theewaterskloof municipality (Mucina & Rutherford, 2006).

Vegetation Threat Status	type	and	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Theewaterskloof
Cape Lowland Vegetation (CR)	Lowland	Alluvial	A1 Remaining natural habitat ≤ than National Biodiversity Target	28%	<1% of original extent	31% (more than the remaining natural extent. As such all remaining patches must be conserved)	212.6 ha (0.07% of municipality)
Central Ruens Renosterveld (CR)	Ruens	Shale	A1 Remaining natural habitat ≤ than National Biodiversity Target	13%	<1% of original extent	27% (more than the remaining natural extent. As such all remaining patches must be conserved)	3071.7 ha (0.95% of municipality)
Elgin Shale Fynbos (CR)			A1 Remaining natural habitat ≤ than National Biodiversity	24%	6% of original extent	30% (more than remaining natural area. As	2942.8 ha (0.91% of municipality)

Vegetation Threat Status	type	and	Chief classification criterion	Remaining natural extent	% Formally conserved	National conservation target	Extent in Theewaterskloof
			Target			such, all remaining patches must be conserved)	
Elim (CR)	Ferricrete	Fynbos	A1 Remaining natural habitat \leq than National Biodiversity Target	29%	5% of original extent	30% (more than remaining natural area. As such, all remaining patches must be conserved)	369 ha (0.11% of municipality)
Kogelberg Fynbos (CR)	Sandstone		D1 \geq 80% threatened Red Data List plant species	88%	58% of original extent	30%	24089 ha (7.42% of municipality)
Overberg Fynbos (CR)	Sandstone		D1 \geq 80% threatened Red Data List plant species	86%	6% of original extent	30%	24951.4 ha (7.68% of municipality)
Ruens Renosterveld (CR)	Silcrete		A1 Remaining natural habitat \leq than National Biodiversity Target	22%	<1% of original extent	27% (more than the remaining natural extent. As such all remaining patches must be conserved)	13.7 ha (0% of municipality)
Western Ruens Renosterveld (CR)	Shale		C	13%	0% of original extent	27% (more than remaining natural area. As such, all remaining patches must be conserved)	8643.2 ha (2.66% of municipality)
Greyton Shale Fynbos (E)			A1 Remaining natural habitat \leq than (National Biodiversity Target + 15%)	70%	<1% of original extent	30%	10339.4 ha (3.18% of municipality)
Boland Granite Fynbos (V)			D1 \geq 40% threatened Red Data List plant species	62%	14% or original extent	30%	168.5 ha (0.05% of municipality)
Hawequas Fynbos (V)	Sandstone		D1 \geq 40% threatened Red Data List plant species	97%	50% of original extent	30%	8791.4 ha (2.71% of municipality)

Twenty one percent of the municipal areas is formally protected in a network of 17 reserves (see table below). The largest of these is the Riviersonderend Nature Reserve.

Table 4.8: Formal protected areas within the Theewaterskloof Municipality (SANBI, 2014e).

Name	Category	Size
Babilonstoring Nature Reserve	State Forest Nature Reserve	6.8 ha (0% of municipality)
Caledon	Local Authority Nature Reserve	261.5 ha (0.08% of municipality)
Fernkloof	Local Authority Nature Reserve	0.7 ha (0% of municipality)
Greyton Local Nature Reserve	Local Authority Nature Reserve	2,069.3 ha (0.64% of municipality)
Groenlandberg Nature Reserve	State Forest Nature Reserve	5,122.2 ha (1.58% of municipality)
Hawequas Mountain Catchment Area	Mountain Catchment Area	3,159.4 ha (0.97% of municipality)
Haweqwa Nature Reserve	State Forest Nature Reserve	1.9 ha (0% of municipality)
Hottentots-Holland Mountain Catchment Area	Mountain Catchment Area	6,727.8 ha (2.07% of municipality)
Hottentots-Holland Nature Reserve	State Forest Nature Reserve	9,607.3 ha (2.96% of municipality)
Houwhoek Nature Reserve	State Forest Nature Reserve	970.8 ha (0.3% of municipality)
Kogelberg Nature Reserve	State Forest Nature Reserve	1,151.2 ha (0.35% of municipality)
Maanschynkop Nature Reserve	Provincial Nature Reserve	369.2 ha (0.11% of municipality)
Riviersonderend Mountain Catchment Area	Mountain Catchment Area	11,344.5 ha (3.49% of municipality)
Riviersonderend Nature Reserve	State Forest Nature Reserve	16,632 ha (5.12% of municipality)
Salmonsdam Nature Reserve	Provincial Nature Reserve	37.6 ha (0.01% of municipality)
Theewaters Nature Reserve	State Forest Nature Reserve	10,594.1 ha (3.26% of municipality)
Villiersdorp	Local Authority Nature Reserve	530.2 ha (0.16% of municipality)

4.6 Estuarine and Freshwater Resources

The ODM falls within the Breede Water Management Area and is host to 11 estuaries, contributing 5% to the total area for estuaries in South Africa. The district contains eight nationally important estuaries which are listed in the table below (Van Niekerk & Turpie, 2012).

The majority of the estuaries in the district are considered to be in fair health⁸. Nine of the estuaries within the ODM are classified as having an ecosystem threat status⁹ of Critically Endangered, with the remaining two being Least Threatened (Klipdriftfontein and Breede). Pressure on the ecology of the estuaries is mainly due to flow reduction from upstream abstraction and dam development, increased nutrient loading, artificial breaching, poor land use practices and over exploitation of fish resources (Van Niekerk, 2010).

⁸ The health condition (also known as Present Ecological State - PES) of an estuary is an assessment of its current condition with reference to how much it differs from its reference or natural condition. Using this assessment, estuaries are described using six PES categories ranging from Natural (A) to Critically Modified (F). The health status is calculated using a assessing the status of a number of biotic and abiotic variables and weighting and aggregating the scores to reach a final value.

⁹ Ecosystem threat status is one of the two headline indicators reported on in the National Biodiversity Assessment (2011) and provides information on the degree to which ecosystems have been altered in terms of their structure and functioning. Categories include Critically Endangered (CR), Endangered (E), Vulnerable (V) and Least Threatened (LR), with CR, E and V categories collectively referred to as "threatened".

Table 4.9: Nationally important estuaries situated within the ODM (Turpie & Van Niekerk, 2012).

Estuary	Recommended extent of protection	Recommended extent of undeveloped margin
Palmiet	Full	50%
Bot	Partial	50%
Klein	Partial	50%
Uilkraals	Partial	75%
Ratel	Full	75%
Heuningnes	Partial	75%
Klipdriftsfontein	Full	75%
Breede	Partial	50%

The shales underlying the area and the agricultural practices contribute to high levels of salinity in many of the freshwater systems in the district, with water quality deteriorating from the headwaters downstream. Nutrient enrichment and microbial contamination due to poor quality wastewater treatment works discharges, pesticide residues from agrochemical use and high chemical oxygen demand (COD) effluent discharges from wineries are also problematic in the area (DEADP, 2011).

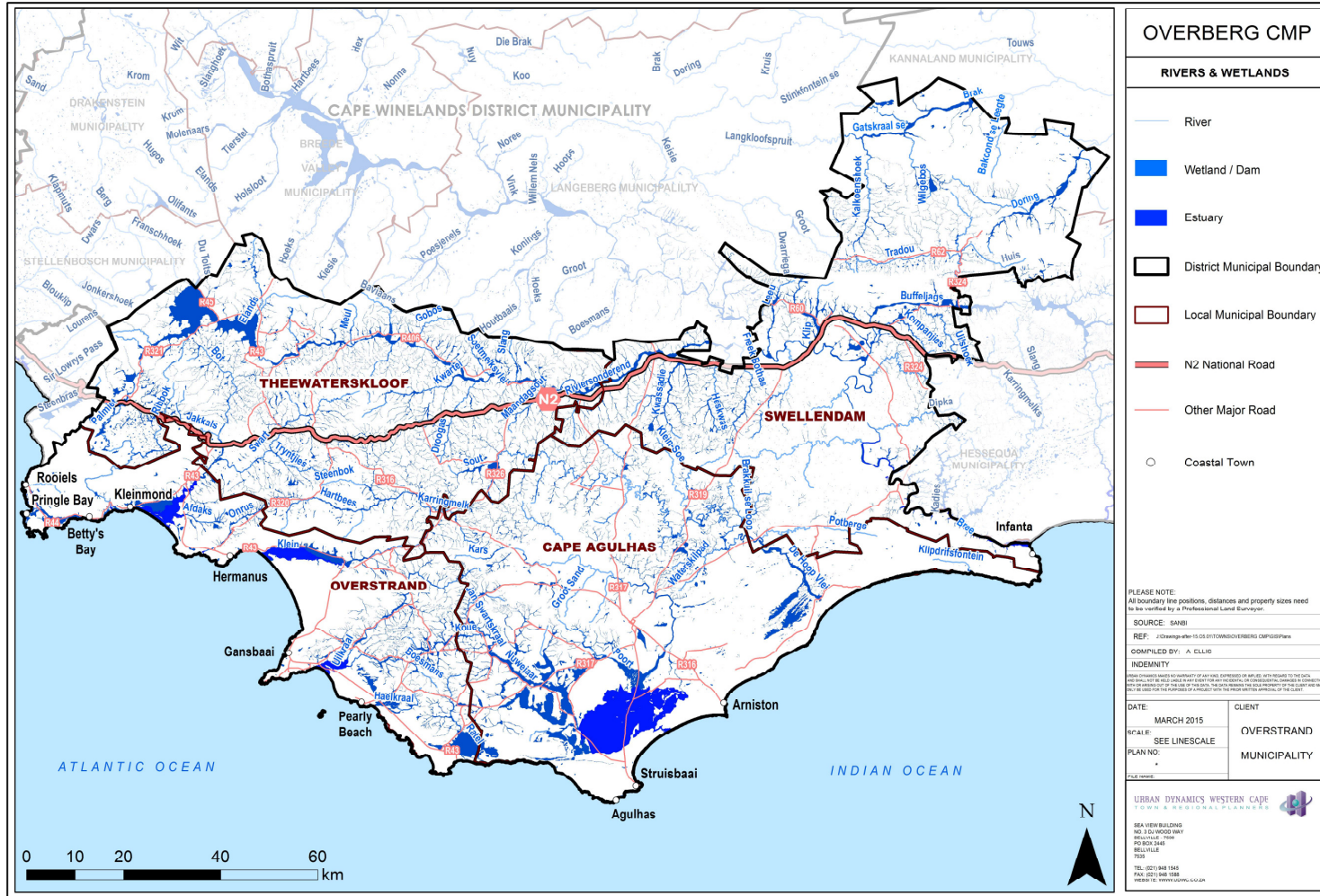
Groundwater quality is best in the western and southern coastal areas of the district, with the central area experiencing high salinity due to low recharge rates and shale-rich geology. Groundwater use within the region is estimated to be around 4 million m³/annum, predominantly for stock-watering and domestic use. Groundwater abstraction is highest in the G40L quaternary catchment immediately east of Hermanus, predominantly due to the vineyards in the area. Fractured aquifers dominate the district with high-potential fractured aquifers restricted to the western portion of the district. Medium-potential intergranular aquifers are located along the coast between Hermanus and Cape Agulhas (DEADP, 2011).

The Agulhas Plain hosts 12 drainage basins, which include the entire catchments of six wetland systems, including the Ratel, Groot Hagelkraal, Melkbospan and Vispan, Waskraalvlei, Voëlvlei and Soutpan (Kraaij *et al.*, 2009). The plain also supports a number of ephemeral, seasonal and permanent wetlands, including six lacustrine wetlands, all of which are coastal lakes. These include Soetendalsvlei, Voëlvlei, De Hoop Vlei and De Mond estuary (Kraaij *et al.*, 2009). The Nuwejaars Wetland system (which, along with Soetendalsvlei and Voëlvlei, forms the Nuwejaars Wetland Special Management Area) is also situated on the Agulhas Plain where it borders the Agulhas National Park.

The rivers in the Breede Water Management Area and Gouritz Catchment represent 21 different river ecosystem types. Approximately 50% of the river lengths contain critically endangered ecosystems (Nel & Driver, 2012).

The freshwater ecosystems (rivers, wetlands and estuaries) of the ODM are illustrated in Figure 4.5 below.

Figure 4.5: Rivers and wetlands of the Overberg District (please see maps below in each section for more detail).



4.6.1 Overstrand Local Municipality

The majority of the Overstrand Local Municipality falls within the Overberg West sub-catchment, with a small portion also forming part of the Overberg East sub-catchment. Main rivers in the municipality include the Bot, Palmiet, Onrus, Uilkraals, and Klein. Rivers are generally relatively short and fast-flowing and in fair ecological health. Water abstraction in the upper and middle reaches of the rivers has reduced flood and flow conditions, which, together with effluent from wastewater treatment works, has negatively affected the downstream water quality in many of these rivers (DWA, 2011). A total of 1 602 wetlands covering 9.1% of the municipal area has been recorded (SANBI, 2014b).

Seven of the 11 estuaries found within the ODM are located within the Overstrand Local Municipality, namely the Rooiels, Buffels, Palmiet, Bot, Onrus, Klein and Uilkraals. These are depicted in Figure 4.6 and Figure 4.7 and briefly outlined below.

Figure 4.6: Estuaries of the Overstrand Local Municipality.

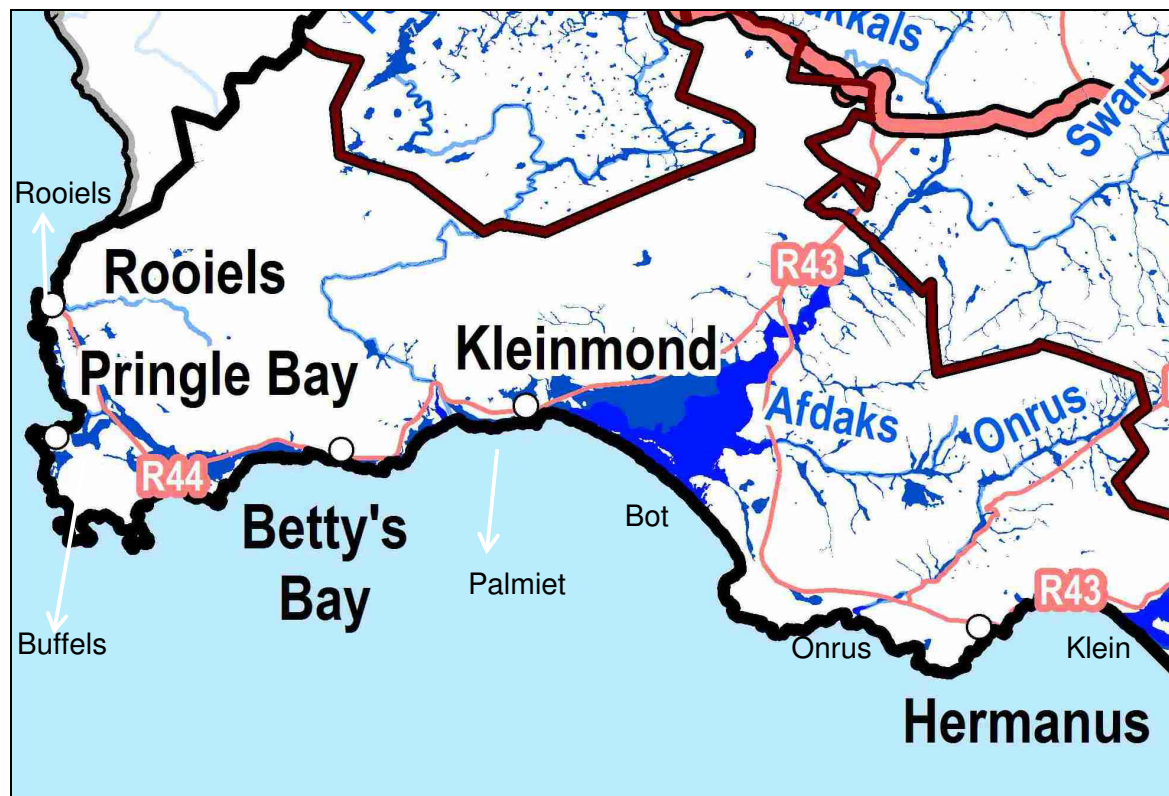
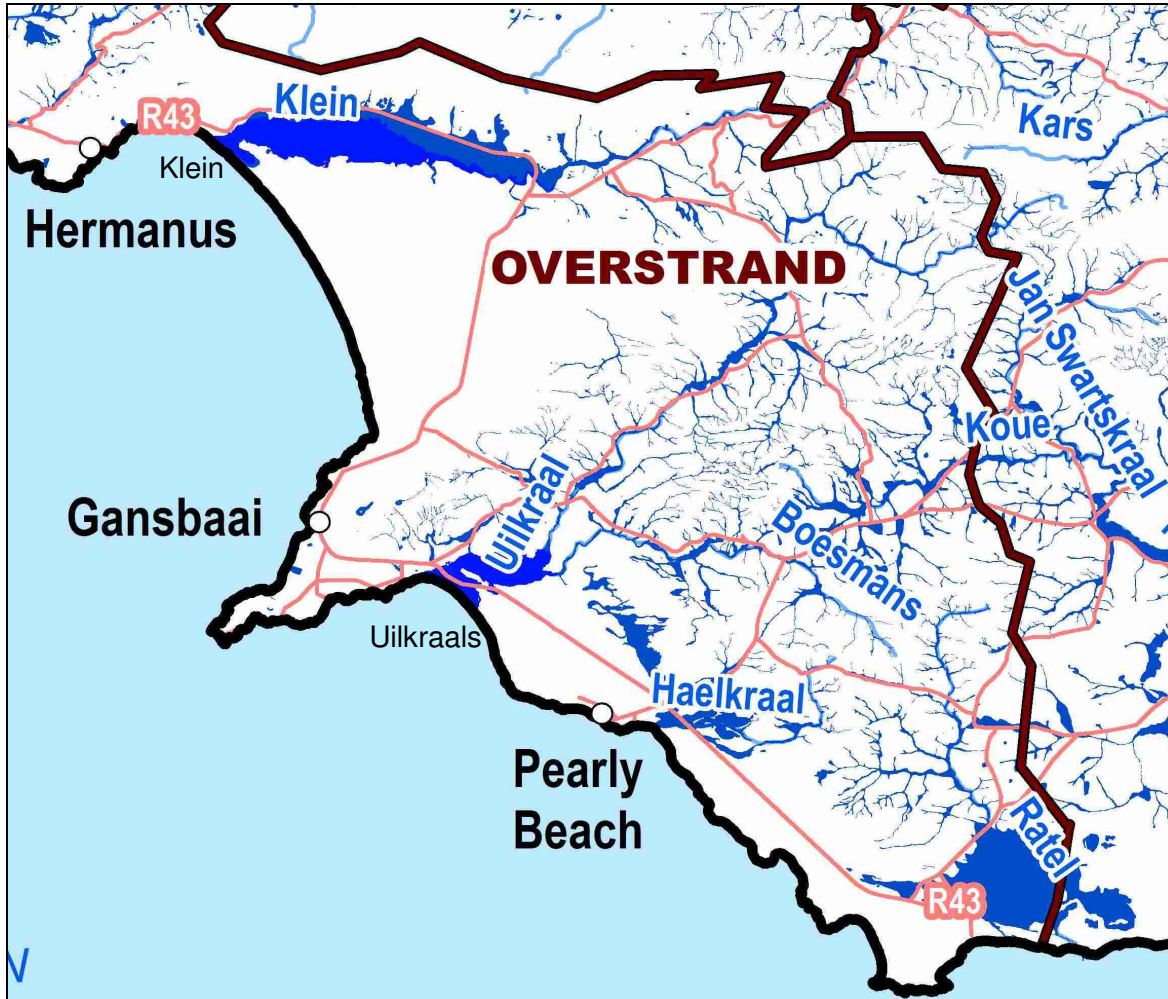


Figure 4.7: Estuaries of the Overstrand Local Municipality.



Bot River Estuary

The Bot River estuary is a cool temperate estuarine lake and is considered one of the top ten most important estuaries in the country due to the wealth of fish, botanical and bird biodiversity it supports. It is also listed as an IBA (Van Niekerk & Turpie, 2012) and is worthy of Ramsar Convention status as a wetland of international importance, especially as a waterfowl habitat (Cilliers & Withers, 2013). It has a catchment of 907 km², approximately 40% of which is used for agricultural cultivation (iRAP, 2009) and is connected to the adjoining Kleinmond estuary via Rooisand, forming a combined estuary. The estuary is estimated to contribute 40-50% of the estuarine nursery habitats for marine fish species between Cape Point and the Breede River, but is experiencing high fishing pressure (iRAP, 2009). Although water quality in the Bot is considered good, some nutrient enrichment does occur and the Kleinmond lagoon regularly experiences contamination from polluted stormwater, which affects its recreational usability (Overstrand Estuaries, 2014). It is rated as being in fair ecological health (Category C). A draft Estuarine Management Plan (EMP) has been developed in accordance with ICMA and is in the process of being implemented for

the estuary. The estuary has an Estuary Advisory Forum (EAF) in place. The Management Authority for the estuary is Overstrand Local Municipality.

Klein River Estuary

The Klein River estuary, situated east of Hermanus, is the highest ranked estuary in the ODM. Three quaternary catchments totalling 980 km² feed the estuary. It is classified as an estuarine lake and is considered valuable due to its botanical, fish and bird biodiversity, but it is plagued by flow reduction, nutrient loading, illegal gill-net fishing and sedimentation (Whale Coast Conservation, 2014). It is a priority estuary for biodiversity conservation, the provision of ecological services and, most importantly, its nursery area linked to the recovery of fish species (iRAP, 2007). Although the physical habitat is considered to be in good condition, the estuary is rated as overall only being in fair ecological health (Van Niekerk & Turpie, 2012). A draft EMP has been developed in terms of ICMA and is in the process of being reviewed. An EAF is in place for the estuary. The Management Authority for the estuary is Overstrand Local Municipality.

Rooiels River Estuary

The Rooiels River estuary is a temporarily closed estuary, which drains a catchment of approximately 20 km² in the core area of the Kogelberg Biosphere Reserve. Almost the entire catchment of the estuary falls within the Hottentots Holland Mountain Catchment Area (Turpie *et al.*, 2009). The estuary is temporarily closed and generally opens with winter floods. It is considered to be a fairly unproductive system, but supports several species of invertebrates and fish species. Habitat loss and pollution in the estuary is considered the most significant threat, but the estuary is rated as having a good ecological health status (Van Niekerk & Turpie, 2012). The Management Authority for the estuary is the Overstrand Local Municipality. An EMP has not yet been drafted.

Buffels River Estuary

The Buffels is a temporarily closed estuary, tidal in winter and closing in summer when the flow subsides. It has a total catchment area of 23 km² and a river length of 8 km (Turpie *et al.*, 2009). The river is impounded upstream (by the Buffels River dam), but pollution and habitat loss in the estuary is low, and it has been given an ecological health rating of "B" (good) (Van Niekerk & Turpie, 2012). Other impacts on the estuary include erosion and trampling of vegetation caused by people walking to the lagoon from the properties above. The lagoon is used extensively for recreational purposes (swimming) and contributes significantly to the aesthetic appeal of Pringle Bay (Turpie *et al.*, 2009). An EMP is not yet in place for the estuary, and the estuary is managed by the Overstrand Local Municipality.

Palmiet River Estuary

The Palmiet River estuary is a medium-sized estuary situated just west of Kleinmond, and due to upstream abstraction and impoundment of water, has changed from a historically permanently open system to a temporarily closed system. The river extends 72.5 km upstream, and the estuary itself is a narrow channel, the mouth fixed by a rocky bank on the west (Turpie *et al.*, 2009). The system is sensitive to nutrient loading, which causes aquatic weed blooms. Most of the Palmiet River catchment has been identified as river and floodplain wetland Freshwater Ecosystem Priority Areas (FEPAs) and the estuary is thought to provide an important nursery habitat for both resident and migratory estuary-dependent marine species

(Turpie *et al.*, 2009). The estuary has a Category C health status and requires full protection, with an undeveloped estuary margin of 50% (Van Niekerk & Turpie, 2012). An EMP has not been developed yet. The estuary is managed by the Overstrand Local Municipality.

Onrus River Estuary

The Onrus River flows through the Hemel and Aarde valley, a well-known wine producing area within the municipality, before discharging into the estuary. It is medium-sized, temporarily closed estuary with a floodplain of approximately 15 hectares. The estuary is highly affected by poor water quality, habitat loss, sedimentation and reed encroachment and is the estuary with the worst health status within the municipality (Category E; Van Niekerk, 2010). An EMP is in the process of being drawn up for the estuary, and the establishment of an EAF will follow. This is being funded by the Onrus Preservation Trust. The Management Authority for the estuary is the Overstrand Local Municipality.

Uilkraals River Estuary

The Uilkraals River estuary is situated east of Franskraal and supports extensive areas of sandflats and saltmarshes. It covers an area of 105 ha and is the country's 34th most important estuary from a conservation value point of view. It is unique due its large sections of salt marsh areas and high macrophyte diversity and has been identified as an IBA (Van Niekerk & Turpie, 2012). Although previously one of the few permanently open estuaries in the Overberg, it has since changed to temporarily closed. It is suspected that this is due to the construction of the Kraaibosch Dam upstream, the development of a road bridge and/or sediment redistribution following flooding in 2008 (Overstrand Estuaries, 2014). The estuary is currently considered to be in poor ecological health (Category D), largely due to the impacts on the hydrodynamics and macrophyte community as well as pollution (Van Niekerk & Turpie, 2012). A draft EMP has been developed for the Uilkraals estuary and is in the process of being reviewed. The Management Authority for the estuary is Overstrand Local Municipality.

4.6.2 Cape Agulhas Local Municipality

The Cape Agulhas Local Municipality falls within the Overberg East sub-catchment of the Breede Gouritz Management Area. The Agulhas Plain produces slower flowing, more turbid and saline rivers that are associated with several inland water bodies and wetlands (DWA, 2011). A total of 2 883 wetlands covering 8.2% of the municipal area has been recorded (SANBI, 2014c). The larger of these include the Soetendalsvlei, De Hoop Vlei (on the Sout River) and De Mond estuary (situated on the Heuningnes River). The municipality is also home to the Nuwejaars Wetland System (DWA, 2011). The wetland systems and inland lakes of the Nuwejaars Wetland System and ANP are connected by the Nuwejaars River and act as a storage area for excess freshwater flow.

The Soetendalsvlei, one of the largest freshwater lakes in South Africa, forms part of the De Mond Nature Reserve Complex. It is approximately 7.5 km long and 3 km wide and supports a large number of fish and bird species and is an important nursery area for many marine fish species (Cleaver-Christie *et al.*, 2013). It is fed by the Nuwejaars River and drained by the Heuningnes River to form the Heuningnes estuary. The Kars River forms a floodplain north-east of Soetendals and also flows into the Heuningnes River (Kraaij *et al.*, 2009).

The municipality also hosts the De Hoop Vlei, situated in the De Hoop Nature Reserve on the coastal plain approximately 65 km from Bredasdorp. The vlei covers an area of 6.2 km² when full. The Sout River, a tributary of the Potteberg River, is the most important river feeding the vlei. The vlei supports an incredible diversity of bird species (256 species have been recorded here) (Ewisa, 2014).

The Nuwejaars Wetland System, which drains the Southern Agulhas Plain, consists of fynbos and wetlands interlinked by streams of the Nuwejaars River System. It forms a number of seasonal and permanent vleis (including the Soetendalsvlei and Voëlvlei), which support a large number of avian and aquatic species.

Rivers in the sub-catchment are in fair to good condition and primarily impacted by channel modification through agricultural activities and alien invasive plants (mainly *Acacia* sp., eucalyptus and poplar trees) in the riparian zone. The river biota has also been affected by the introduction of alien invasive fish species (such as Smallmouth, Spotted Bass, Tilapia and Bluegill Sunfish) (DWA, 2011). Rivers in the area include the Heuningnes, Kars, Sout, Nuwejaars, Ratel, Uilkraal and De Hoop Vlei (SANBI, 2014c).

Three estuaries occur within the municipal borders, namely the Ratel River estuary, the Heuningnes estuary and the Klipdriftfontein River estuary. These are depicted and discussed in more detail below.

Figure 4.8: Estuaries of the Cape Agulhas Local Municipality.

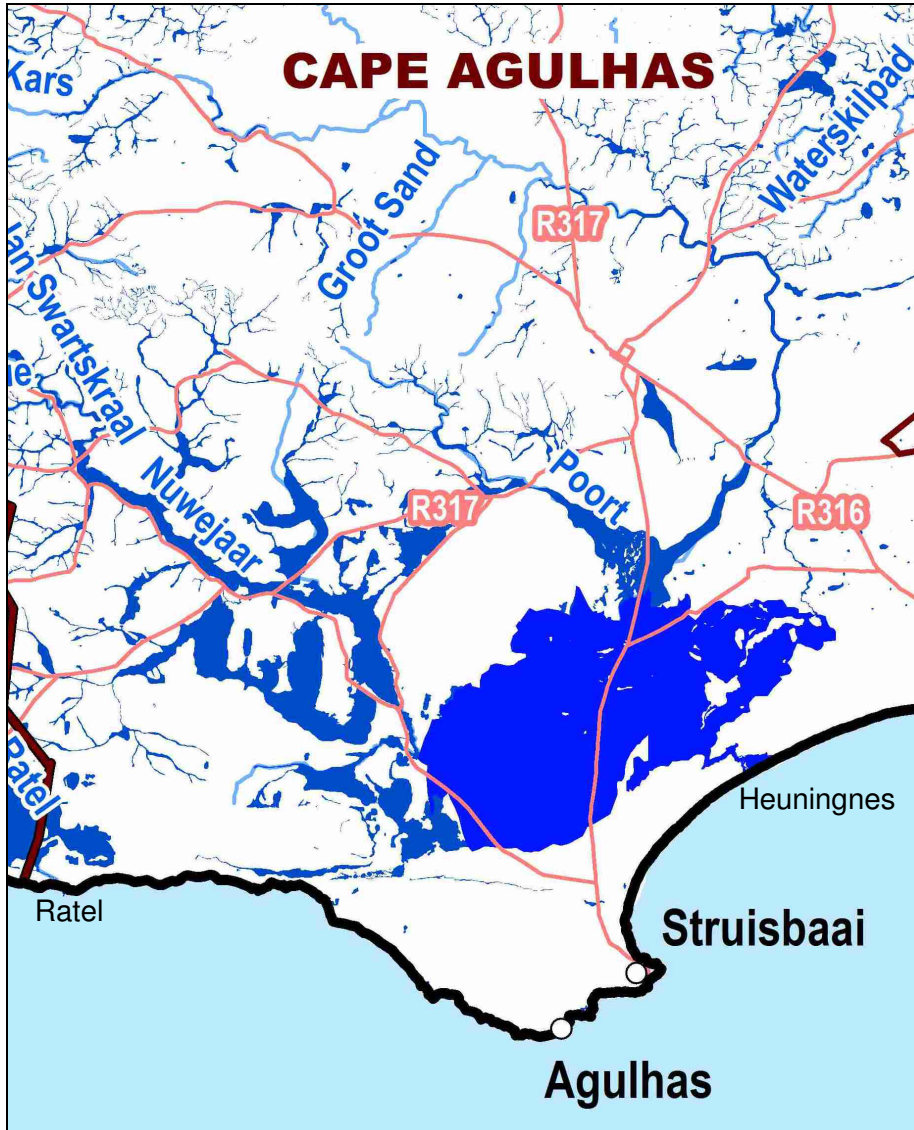
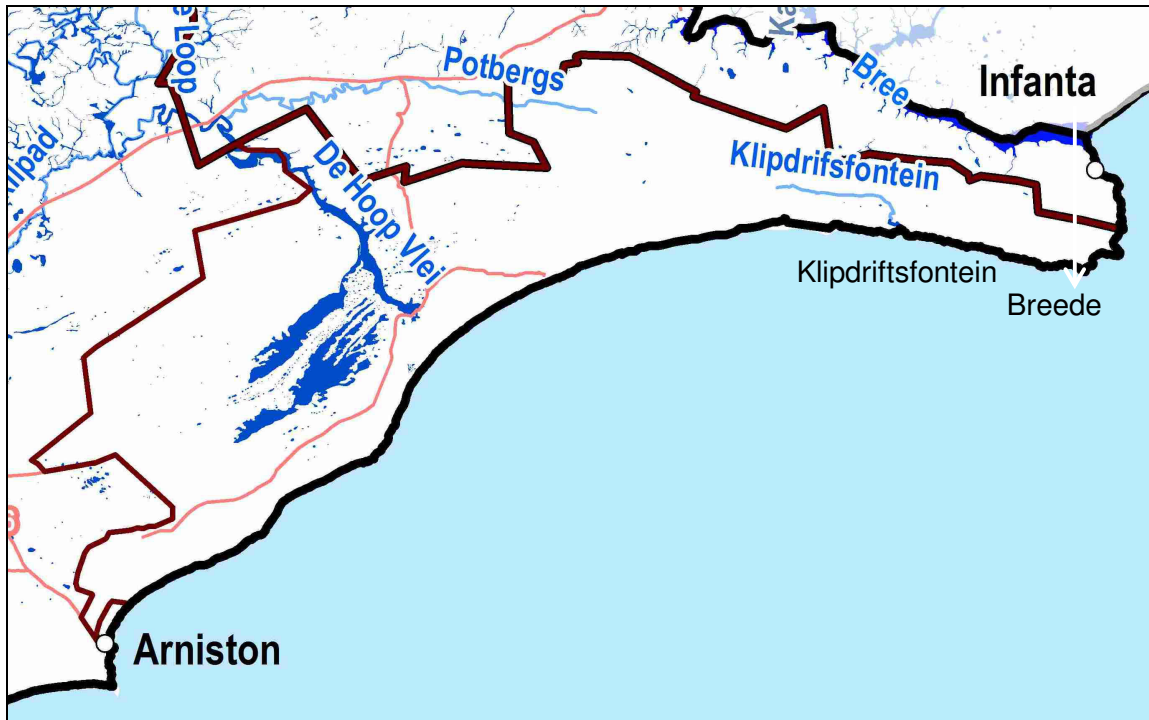


Figure 4.9: Estuaries of the Cape Agulhas and Swellendam Local Municipalities.



Ratel River Estuary

The Ratel River estuary is a temporarily closed estuary with a floodplain of approximately 9 ha (DWA, 2011), forming South Africa's southernmost estuary. It experiences medium levels of pollution and low levels of habitat loss and is classified as being in fair ecological condition (Class C) (Van Niekerk & Turpie, 2012). An EMP has not yet been developed for the estuary. The estuary is managed by SANParks.

Heuningnes River Estuary

The Heuningnes River estuary is a warm temperate, permanently open estuary which forms part of an IBA and is also listed as a Ramsar site (De Mond State Forest Ramsar site) under the Ramsar convention (Van Niekerk & Turpie, 2012). It falls within the De Mond Nature Reserve Complex and extends for approximately 12 km across the coastal plain of the Zoetendals Valley, fed by the Nuwejaars and Kars Rivers. The catchment for the estuary is recorded to be 1,938 km² (HillLand Associates, 2010). The estuary experiences pressures from habitat loss, changes in hydrology and pollution and has been rated as being in poor ecological health (Category D). A draft EMP is in place for the estuary, and an EAF has been established. As the estuary is situated within a nature reserve it is managed by CapeNature.

Klipdriftfontein River Estuary

The Klipdriftfontein River estuary is a small, black-water estuary. Very little information is available on the estuary. The National Biodiversity Assessment indicates that it is in excellent ecological health (Category

A) and experiences only minor impacts on water flow and quality (Van Niekerk & Turpie, 2012). An EMP has not been developed for the estuary. The Management Authority is CapeNature.

4.6.3 Swellendam Local Municipality

Although the Breede River is possibly the most well-known in the municipality, a number of other rivers are also present in the northern section of the municipality. The most significant of these are the Buffeljags, Tradouw and Riviersonderend Rivers. These fall predominantly within the Lower Breede and Riviersonderend sub-catchments (DWA, 2011).

The tributaries of the Breede River in its lower reaches are generally in fair ecological health, with some removal of indigenous riparian vegetation and the subsequent establishment of alien invasive vegetation. Flow in the Riviersonderend River has been altered by the establishment of the Theewaterskloof Dam in its upper reaches, resulting in the river being in fair ecological health. The conservation of tributaries contributing to the flow of the lower Riviersonderend River is thus crucial. The riparian vegetation and river channel has also been impacted upon by agricultural activities (DWA, 2011).

The Breede River is situated on the border of the Swellendam Local Municipality and Hessequa LM (situated in the Overberg and Eden Districts, respectively). The river extends some 322 km upstream to its source near Ceres and has a catchment of approximately 12,600 km². The estuary stretches for 62 km and has a total surface area of 455 ha. The construction of several dams within the catchment has caused a 42% reduction in the mean annual runoff and is the single largest factor contributing to a change in the ecological state. Despite this reduction in water quantity, the estuary remains a permanently open system. Its present ecological condition is classified as good (Category B) (SSI, 2011). A Draft EMP has been developed for the estuary and is currently being revised. The Management Authority is the Lower Breede River Conservancy Trust (as appointed by the Swellendam Local Municipality).

Recorded wetlands in the municipality total 3 987 covering a total of 5.7% of the municipal area (SANBI, 2014d).

4.6.4 Theewaterskloof Local Municipality

As a landlocked municipality, no estuaries are located within the Theewaterskloof Local Municipality. However, a large number of rivers are situated within its borders, and many of these ultimately feed the estuaries along the coast. The Houwhoek, Groenland, Swart, Shaw's and Babilonstoring mountains, forming part of the 1,000 km² Bot River catchment, is drained by the 42 km long Bot River and its main tributary, the 48 km long Swart River to form the Bot River lagoon - one of the largest coastal open-water lagoons in the Western Cape.

The municipality has 5 254 wetlands covering a total of 9.3% of the municipal area (SANBI, 2014e). The Theewaterskloof dam, the largest freshwater body in the municipality, which can span an area of 51 km² at full capacity, is also found within the municipal area.

4.7 Socio-economic Setting¹⁰

The ODM is home to more than 258,176 people, approximately 4.4% of the population of the Western Cape, and had a population growth rate of 26.9% between 2001 and 2011 (Provincial Treasury, 2012). The ratio of males to females is almost equal, with 49.9% of the population female and 50.1% male. The Coloured population group with 54.7% of the population is the most represented in the district, followed by the African population group at 25.9%. Although the Indian/Asian population only constitutes 0.3% of the district's population, this group has experienced the highest growth rate in the district over the period 2001 - 2011 with an average annual growth rate of 11.4% (Provincial Treasury, 2012).

The level of education in the district has increased over the period 2001 – 2011 in all categories (i.e. primary schooling, secondary schooling, tertiary schooling), whilst the proportion of the population with no education decreased from 7.8% to 4.3% (Provincial Treasury, 2012).

There are 49 health care facilities situated in the ODM. Nineteen of these are located in Theewaterskloof Local Municipality, 13 in Overstrand Local Municipality, nine in Swellendam Local Municipality and eight in Cape Agulhas Local Municipality. The district has 17 anti-retroviral treatment sites; the number of patients receiving treatment increased by 30.5% from 2011 to 2012. Immunisation in infants has decreased from 80.5% to 74.4% (the lowest in the province) and the number of severely malnourished children under five increased from 0.8 to 2.8/100 000 from 2010/11 to 2011/12 (Provincial Treasury, 2012).

The number of people living in poverty in the ODM increased sharply between 1996 and 2008, but has since tapered off. However, the relative percentages have actually decreased from 31% in 2001 to 29.6% in 2010. Access to formal housing has increased from 2001 to 2011 from 87.9% to 91.3% (Provincial Treasury, 2012).

The labour force in the ODM contributed 3.9% to the Province's labour force in 2007, with an unemployment rate of 17.7%. The Coloured population group had the largest share of unemployment in the district (52.7%), followed by the Black population group (43.8%). Unemployment is higher in the younger age groups, who have lower education levels and less experience and skills (Provincial Treasury, 2012).

The district contributes 11% to the total Western Cape economy, the second lowest contributor in the province and a significant portion of the labour force is skilled or highly skilled (60.9%). The agriculture, hunting, forestry and fishing sectors employ the greatest percentage of people in the district (21.3%) followed by the community, social and personal services sectors (12.4%) and construction (11.8%). The finance, insurance, real estate and business services and construction sectors experienced by far the biggest growth in GDP-R from 2000 to 2010.

4.7.1 Overstrand Local Municipality

The Overstrand Local Municipality is the second most populous municipality in the district and has experienced the highest percentage growth of the local municipalities within the district over the last ten

¹⁰ It is important to note that socio-economic statistics change over time and that the statistics referred to in this section are as per the latest statistics available at the time of report compilation. Unless otherwise stated, the information refers to the year 2011.

years (Provincial Treasury, 2012). Its population of 80,432 is growing at a rate of about 3.8% per annum. The municipality has an almost equal split between the Coloured, Black and White population groups (31.4%, 36.7% and 31.6%), with the Indian/Asian population only constituting 0.1% of the population (Provincial Treasury, 2012).

Unemployment in the municipality is estimated around 23.3% - the highest in the district (Withers, 2013), but the municipality also has the largest percentage of highly skilled labour (29.5%). The largest percentage of the labour force is employed in the construction sector (15.8%), followed by wholesale and retail trade (14.7%) and community, social and personal services (12.6%). The Overstrand economy's contribution to the district's cumulative growth for the period 2000 – 2010 was 43.4%, almost double the second largest contributor. This is, in part, linked to its growing tourism industry. The finance, insurance, real estate and business services sector experienced the largest growth in GDP-R from 2000 – 2010; this was followed by transport, storage and communication and construction (Provincial Treasury, 2012). The largest contributors to the GDP-R of the municipality (2005 – 2010, as a percentage share) were the finance, insurance, real estate and business services sectors (26%), followed by wholesale and retail trade, catering and accommodation (18.6%) and manufacturing (17%; Overstrand Municipality, 2013).

4.7.2 Cape Agulhas Local Municipality

The Cape Agulhas Local Municipality has the smallest population in the district with 33,038 in 2011 and an annual growth rate of 1.96%. The Coloured population at 66.2% is by far the most represented group in the municipality. This is followed by the White population group at 21.8% and the Black population group at 11.6% (Provincial Treasury, 2012).

The municipality has the lowest number of people with no schooling and also the lowest rate of enrolment in the district, but it also has the highest matric pass rate (95.1%; Provincial Treasury, 2012). It had the lowest poverty rate in 2010 at 19.1%, a decline from its 2001 value of 25.1%. Their current unemployment rate is approximately 13.8%.

The community, social and personal services are the largest employer (17.2%), followed by the construction sector (14.8%) and the agricultural, hunting, forestry and fisheries industries (13.6%). Of the workforce, 62.6% is skilled or highly skilled. The municipality was the second lowest relative contributor to the district's cumulative growth for the period 2000 – 2010 at 18.9%. The construction sector experienced the highest growth in GDP-R from 2000 – 2010, followed by the finance, insurance, real estate and business sectors.

The main economic sectors of the Cape Agulhas Local Municipality are agriculture, fishing, tourism, eco-tourism and service centres. The economy is well diversified with activities ranging from agriculture and agro-processing (including exports of wine products, olives and cut flowers), fishing and aquaculture, wholesale and retail trade and financial and business services making major contributions to the local economy.

Tourism and eco-tourism is taking a strong lead, however, with the preservation of the natural resources and conservation of sensitive areas such as De Hoop Nature Reserve, the coastline, Agulhas Plains and various nature conservancies (SA LED Network, 2010).

4.7.3 Swellendam Local Municipality

Swellendam Local Municipality had a relatively small population of 35,916 in 2011, which is growing by 2.39% per annum. The Coloured population is by far the most represented group in the municipality at 69.6%, followed by the White population at 17.6% and the Black population at 12.5% (Provincial Treasury, 2012).

A fairly large percentage of the population in the municipality does not have any formal schooling, and higher education is also low. The municipality has the second lowest school enrolment in the district, but it also has the lowest percentage of pupils dropping out from school (34.7%; Provincial Treasury, 2012).

The municipality had the second highest poverty rate in the district in 2010 at 30.7%. It also has the second highest income inequality level in the district. Unemployment levels are approximately 11.4%.

The Swellendam Local Municipality has the lowest share of unemployment in the district at 3.9%. The wholesale and retail trade industry is the largest employer (15.2%), followed by the agricultural, hunting, forestry and fishing sectors (14.7%) and the community, social and personal service sector (12.4%). The municipality has the highest percentage of skilled labour in the district (44.5%), but it is the lowest relative contributor to the cumulative growth of the district (Provincial Treasury, 2012). The local economy is dominated primarily by agriculture (23.6%) and by the agro-processing of products such as deciduous fruits and grapes for exporting and wine-making, grains such as wheat and barley, and livestock. However, growth in the agricultural industry is slowing down and there is increasing emphasis on ecotourism and cultural heritage tourist activities within the LM. According to SALGA (2011), however, a potential area for higher economic growth in the area is the wholesale and packaging industries.

4.7.4 Theewaterskloof Local Municipality

Theewaterskloof Local Municipality is the most populous municipality in the district. The 2011 population census tallied the total population at 108,790, with an annual growth rate of 1.54%. The Coloured population group is the most represented in the municipality at 63.5%, followed by the Black population group at 26.7% and the White population group at 9.4% (Provincial Treasury, 2012).

Although the municipality has the highest school enrolment rate (46.1%), it also has the highest number of uneducated people in the district. It also has a high drop-out rate (40.8%), the second highest in the district (Provincial Treasury, 2012).

The municipality had the highest poverty rate in the district at 35% in 2010, as well as the highest level of income inequality in the district. The percentage of unemployed people is approximately 14.9%. By far the biggest employment sectors are the agricultural, hunting, forestry and fisheries sectors (36.1%), followed by community, social and personal services (10.5%) and financial, insurance, real estate and business services (8.9%). The municipality has the highest percentage of unskilled labour in the district - this is reflective of the seasonality of employment in the area (Provincial Treasury, 2012).

Theewaterskloof Local Municipality's main economic sectors are: agriculture, tourism, manufacturing (agro-processing) and construction. The area has a wealth of natural resources and therefore excellent agri-tourism related offerings. It is currently dominated by agriculture, although development of the tourism

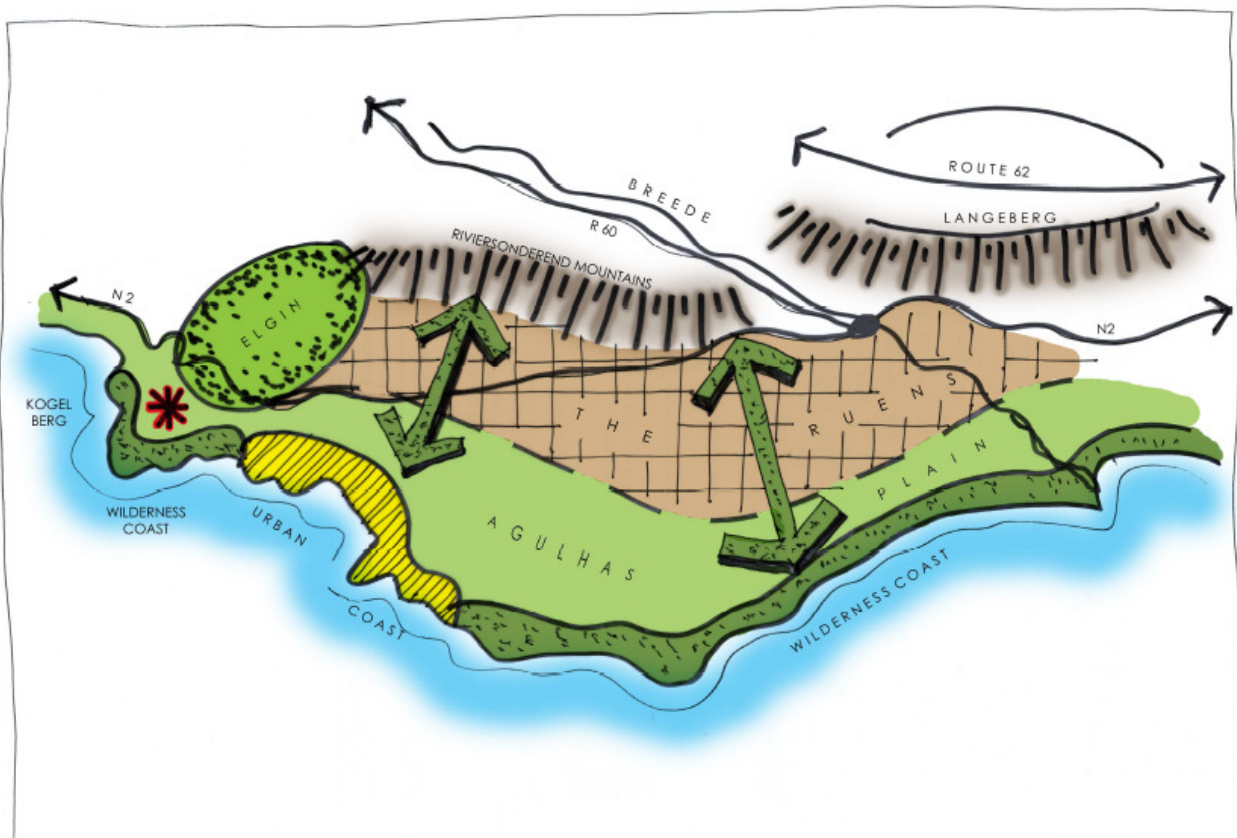
sector is offering a viable secondary income base for farmers. Investment in restaurants, retail and services sectors is improving the attractiveness of the area as a residential destination for people seeking quieter living (SA LED Network, 2010).

4.8 Land Use

The majority of the Overberg DM is comprised of undulating inland plateau and rolling hills of the mixed farming area of the Ruens. This stretches from Bot River in the west and continues into Hessequa LM abutting the district's eastern boundary and overlaps with Renosterveld, a Critically Endangered vegetation type. In contrast to the singular dominance of intensive mixed farming of the Ruens, the Agulhas coastal plain is a complex mosaic of intensive agriculture, wetland systems and Critically Endangered Renosterveld remnants. The bio-physical importance of this sub-region has seen the formation of the Agulhas National Park in an effort to conserve this remarkable area (UDWC, 2012).

The coastal strip can be divided into three sections - a wilderness coastline around the Kogelberg Biosphere Reserve which is largely undeveloped, followed by a more intensely urbanized section from Kleinmond through to Pearly Beach, followed again by a large stretch of wilderness coastline east of Pearly Beach through to Infanta, of which the De Hoop Nature Reserve forms part.

Figure 4.10: An overview of the Overberg District as depicted in the draft municipal SDF (UDWC, 2012).



The Elgin-Grabouw-Vyeboom-Villiersdorp area supports large expanses of vineyards and orchards and is one of the most intensely farmed areas in South Africa. To the north, the Riviersonderend mountains form the backdrop to the ODM (UDWC, 2012).

Intensive agriculture constitutes 43% of the district's land use, much of which is under irrigation. Formally protected areas and core biodiversity areas comprise 17% of the municipality, whilst an additional 26% has been identified as Critical Biodiversity Areas (see Figure 4.11) (UDWC, 2012). A total of 51.25% of the municipality has been transformed (see Figure 4.12 below).

Figure 4.11: Critical Biodiversity Areas, Ecological Support Areas and Protected Areas within the ODM.

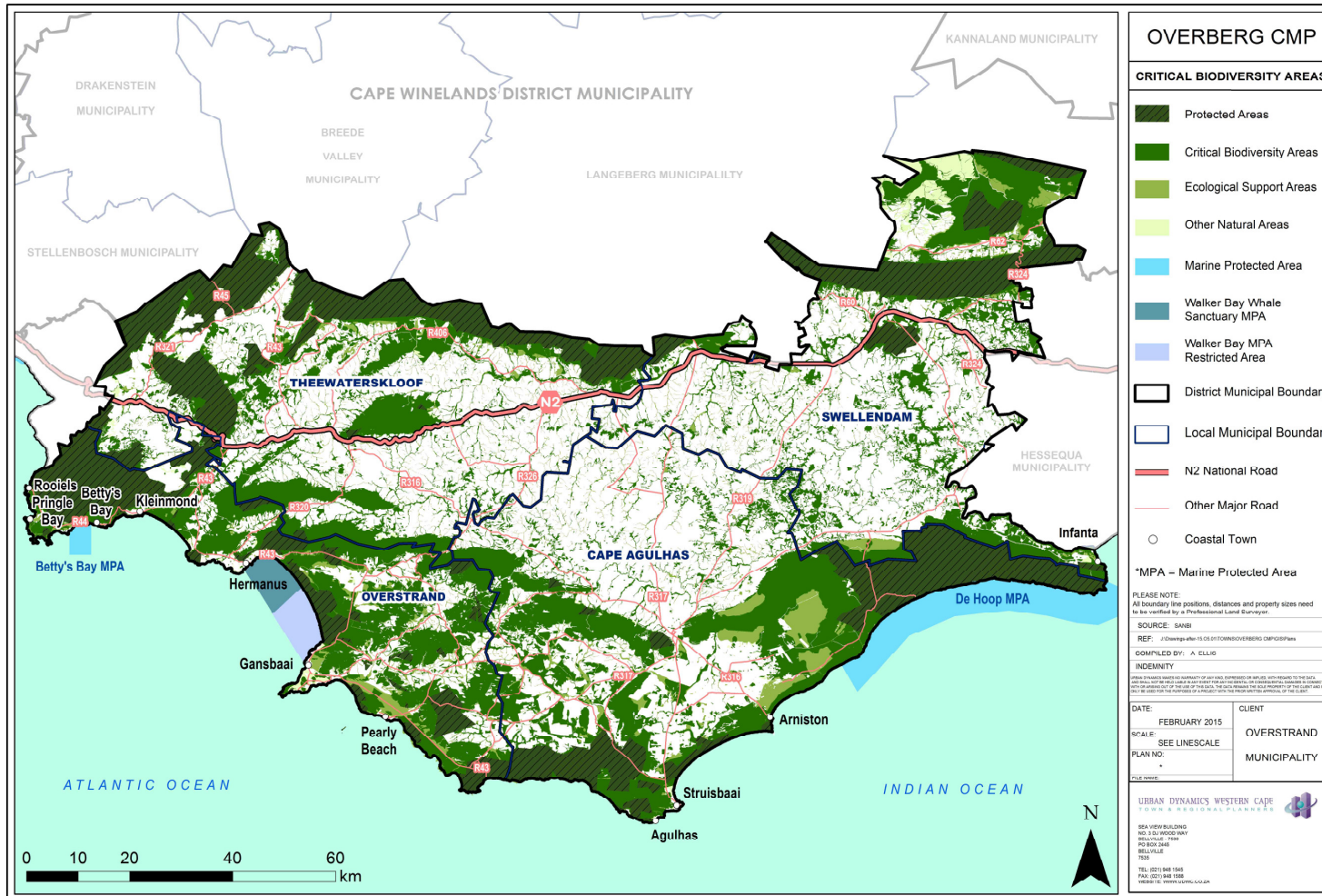
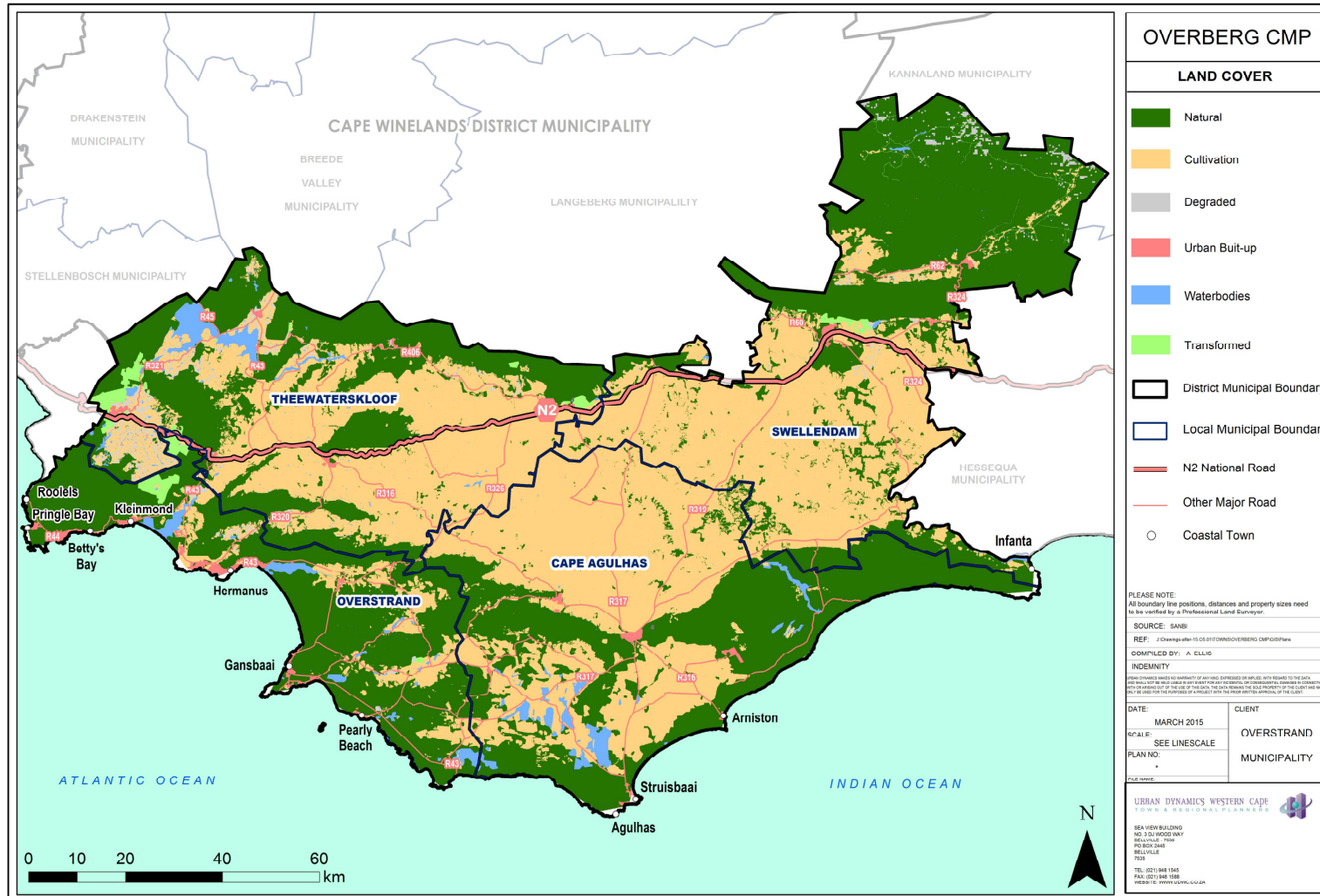


Figure 4.12: Land cover in the Overberg District Municipality.



4.9 Cultural and Heritage Resources

The most significant heritage resource of the ODM is the Cape Floristic Region, a declared UNESCO World Heritage Site, representing outstanding universal value for biological and ecological processes and one of the world's 18 biodiversity hotspots.

The area also supported old tribes, including the San (hunter-gatherers) and KhoiKhoi (herders), and evidence of these early residents can be found in a number of caves, numerous shell middens and old kraal structures within the district. The Overberg was also home to the Chainouqua tribe (around Danger Point and hinterland) and the Hessequa tribe (found in the Central Overberg around Bredasdorp and surrounds; Cape Whale Coast, 2014).

The district has 201 shipwrecks dating as far back as 1673. A large number of these are concentrated around Danger Point, Dyer Island, Quoin Point, Cape Agulhas and Struisbaai (SAHRA).

4.9.1 Overstrand Local Municipality

The Overstrand Local Municipality as a whole is considered to have a high heritage significance in terms of its scenic, botanical, cultural, historic, archaeological and social value. Heritage resources reflecting human occupation dating from the Stone Age (shell middens and artefacts in caves), historic fishing activities (fish traps, historic harbours) and historic farming activities (kraals) can be found in many places within the Overstrand (Withers, 2013).

A recent survey identified 11 sites of regional/provincial significance and 68 sites of significant local importance. Sites of regional/provincial significance included the Old Harbour Museum, Stonehage-Swinger House, the Cypress Tearoom, The homestead and the Magnetic Observatory in Hermanus, De Mond and La Gratitude in Voelklip, the Leper Institute in the Hemel and Aarde Valley, Stanford Church, the De Kelders/Klipgat Cave and Danger Point Lighthouse (OHLG, 2009).

4.9.2 Cape Agulhas Local Municipality

A number of heritage sites are located within the Cape Agulhas Local Municipality. These include historic buildings within the Bredasdorp and Napier historic town centres, the historic fisherman's cottages precinct in Kassiesbaai (a national heritage site), the entire Elim mission station, the Dutch Reformed church in Napier and the Hotagtersklip area in Struisbaai.

The intertidal zone along the rocky Agulhas shoreline contains many shell middens, indicative of the exploitation of shellfish species by Later Stone Age hunter-gatherers. Cape Agulhas, Rasperpunt and Suiderstrand also host well-preserved examples of "visvywers" (ancient fish traps constructed by the Khoi-Khoi pastoralists), and rare limestone shelters are situated high up in the cliffs overlooking Rasperpunt. The Cape Agulhas Lighthouse, a Provincial Heritage Site and the second-oldest lighthouse in the country, is also situated in the Cape Agulhas NP (Kraaij *et al.*, 2009).

The Waenhuiskrans Cave is known world-wide and is the focal point of Waenhuiskrans/Arniston. A navigational beacon, erected in 1871 to prevent ships from running into Saxon reef, is situated just off Struis Point (Cleaver-Christie *et al.*, 2013).

The De Hoop Nature Reserve contains some of the best-preserved examples of coastal Late - and Middle Stone Age archaeology and extensive cave systems are also found within the reserve. A total of 19 archaeologically important sites have been identified, but a full survey by an archaeologist is yet to be undertaken. A number of more recent structures of historic interest, including ruins, old stone walls, grave sites and memorials can also be found on the reserve. The De Hoop homestead is a national monument (Scott & Scott, 2001).

4.9.3 Swellendam Local Municipality

The Swellendam Local Municipality is rich in heritage resources, though most of these are situated more inland and are thus not relevant to the CMP.

Infanta dates back to the 1820s, with Malagas established slightly later. The settlements boast a number of historical buildings/structures dating back to between 1820 and 1860. These include the Pont, the Dutch Reformed Church (a proclaimed heritage resource) and Barry Store and shop and the school. The Barry & Nephew Shop and outbuilding, Melhoutrivier, and Kruithuis in Malagas are also examples of early colonial period stone built houses.

Thirteen shipwrecks and associated artefacts dating from 1824 to 1883 are situated in and around the Breede River. These include seven sailing vessels and an iron screw steamship the *SS Kadie*.

4.9.4 Theewaterskloof Local Municipality

Theewaterskloof Local Municipality is home to a number of old settlements. As such, the area has a rich heritage history with a large number of heritage sites. However, none of these are relevant to the CMP.

4.10 Built Environment and Infrastructure

4.10.1 Overstrand Local Municipality

There are many towns and villages situated along the Overstrand Local Municipality coast, including Rooiels, Pringle Bay, Betty's Bay, Kleinmond, Hawston and Fisherhaven, Hermanus, Stanford, Gansbaai, Pearly Beach, De Kelders, Kleinbaai, and Buffeljachtsbaai. The main coastal towns are those of Hermanus, Kleinmond and Gansbaai. Primary access to the area is via the N2 highway along either the R43 or R44.

The growing demand for housing within the municipality continues to exceed supply, with a projected 11,000 additional households likely needing housing by 2031 (Withers, 2013). The majority of households (89.3%) receive piped water in their yard or house, with a further 9.3% receiving piped water within 200 m of their dwellings. A total of 96.5% of households have access to waterborne sewerage, with 1.6% not having access to any sanitation facilities. Ninety two percent of households receive weekly refuse collection, and 94.8%% of the households also have access to electricity (Provincial Treasury, 2012). All

solid waste within the municipality is currently disposed of at the Gansbaai landfill site. Road infrastructure is in a good to very good condition (Overstrand, 2013).

4.10.1.1 Hermanus

Hermanus is situated on the northern edge of Walker Bay next to the Klein River mouth. It is the business, administrative and tourism centre of the Overstrand Local Municipality and hosts the municipality's headquarters. It is well known for its natural environment and has become a very popular retirement, holiday and tourism destination. It boasts a large number of speciality shops, shopping centres and restaurants, but also has a well-developed industrial area, which hosts light industry. The building sector has experienced stable growth over the last ten years as the number of security villages, private homes, holiday resorts and commercial properties increase yearly (UDWC, 2006). The town has two harbours - the Old Harbour and New Harbour. The Old Harbour is located in the centre of Hermanus and functions as a museum and shark research institute. The New Harbour is a proclaimed fishing harbour (Kaiser EDP *et al.*, 2012).

Although infrastructure in the town is sufficient to meet current demands, there are plans to upgrade the bulk water supply to a 10 Ml plant to ensure future supply. Due to the drought experienced in the area, alternative water sources are being investigated, including reclaimed water (from waste water) and desalination.

To keep up with electricity demand due to the increase in growth, a new 11Kv substation has been built at Zwelihle/Mt Pleasant. Road infrastructure upgrades on the R43 are also planned to alleviate traffic congestion.

4.10.1.2 Gansbaai

Gansbaai, situated east of Hermanus, is a fishing village and popular residential, holiday and retirement town. It is increasingly being known in the international tourist market, especially for its great white shark eco-tourism (UDWC, 2006). The greater Gansbaai area includes the residential settlements of De Kelders, Perlemoenbaai, Blompark and Masakhane on the north-facing shore of the peninsula, Franskraal, Van Dyksbaai, Kleinbaai, Duikersfontein, small holding at Birkenhead and the Uilkraalsmond caravan park/resort on the south-facing shore of the peninsula. The property development sector in the area is expanding yearly (Overstrand, 2013).

There is a great need for expansion and upgrade of infrastructure services in the Greater Gansbaai area (Overstrand, 2013). A number of upgrades and extensions of bulk infrastructure, most notably water and sewerage infrastructure are planned for the area (Withers, 2013).

4.10.1.3 Kleinmond

Kleinmond is situated west of Hermanus along the coast. It is predominantly a retirement, residential and holiday destination and functions as the service centre to the expanding settlements of Rooiels, Pringle Bay and Betty's Bay. The expansion of Kleinmond is limited by the surrounding natural features - the two estuaries (Bot and Palmiet) situated on its eastern and western sides, the Kogelberg Biosphere Reserve, the Palmiet Mountains to the and the coast to the south (UDWC, 2006).

The town largely consists of residential erven with single medium to high income housing developments. The main business centre is situated on the R44 through road, which fulfils a “high street” function (UDWC, 2010). Kleinmond has an active harbour that is used by both commercial and recreational fishermen. The development of various businesses within the harbour area has changed the character of this once-industrial service centre of the town (UDWC, 2006). Industrial development in the area is limited to low intensity clean services industry due to the proximity to residential uses.

Only certain areas within Kleinmond have sewer reticulation, the balance using septic tanks with soakaways or conservancy tanks with a regular pumping service (UDWC, 2006).

4.10.1.4 Rooi Els, Pringle Bay and Betty’s Bay

Rooi Els, Pringle Bay and Betty’s Bay are all small villages that function as holiday spots and local residential dormitory nodes to Kleinmond. They are situated along the coast to the west of Kleinmond. Rooi Els is located within the Kogelberg Biosphere Reserve. The villages function predominantly as dormitory residential and holiday settlements, with permanent occupancy being low. To maintain the village character of these locations, no industrial development is permitted and the restriction of development to within the current urban edge promoted.

The villages lack water-borne sewerage; however, sewerage reticulation for Betty’s Bay is being investigated. Solid waste is taken to the Kleinmond refuse transfer station (RTS) and waste disposed of at the Gansbaai landfill site. The villages have electricity and water reticulation, with water supplied from the Buffels River (Overstrand, 2013).

4.10.1.5 Fisherhaven and Hawston

Fisherhaven and Hawston form part of the “Greater Hermanus” area and are situated on the coast between Kleinmond and Hermanus. Whilst Hawston is largely a dormitory town, Fisherhaven functions as a retirement, residential and holiday town, with an approximate permanent residency rate of 30%. They are viewed as having the potential to become a significant growth area within the context of the Greater Hermanus. Fisherhaven currently does not have any water-borne reticulation, whilst that of Hawston is in need of upgrade (Overstrand, 2013). Solid waste is taken from the Hawston RTS to the Karwyderskraal disposal site.

4.10.1.6 Pearly Beach and Buffeljachts Baai

Pearly Beach is a small, isolated, retirement and holiday town situated east of Hermanus. It is situated between fynbos covered sand dunes and the shoreline. The town does not have water-borne sewerage, although a waste water treatment works (WWTW) is being planned. Water supply to the town is currently sufficient, but investigations to find additional sources of water must be undertaken. Solid waste is collected weekly and disposed of at the Gansbaai landfill site (Overstrand, 2013).

Buffeljachts Baai is a small residential settlement approximately 30 km east of Pearly Beach. It functions as a low order settlement within the municipal context, consisting of 31 residential units and provides accommodation to the local fishing community that use its boat-launching site. Sewerage is currently

handled via on-site septic tank and soakaway systems. As with Pearly Beach, solid waste is transported to the Gansbaai landfill site (Overstrand, 2013).

4.10.2 Cape Agulhas Local Municipality

The built environment of the Cape Agulhas Local Municipality is characterised by one large formal town, Bredasdorp, situated slightly inland, and a number of smaller formally-planned coastal villages (Waenhuiskrans/Arniston, L'Agulhas-Struisbaai, Elim and Suiderstrand) (CNdV, 2012).

All solid waste of towns and villages is disposed of at the Bredasdorp waste disposal site. The whole area is serviced by Eskom for electricity. At present the maximum electricity supply is being exceeded at Waenhuiskrans and Agulhas (CNdV, 2012). Electricity distribution is undertaken by both Eskom and the municipality. The Cape Agulhas Local Municipality is an accredited Water Service Provider (WSP) and provides water to all the major towns and settlements. Overberg Water provides water to rural areas. With the exception of Struisbaai, all settlements have sufficient water supply. Bredasdorp has full waterborne sewerage, whilst Napier and the coastal towns are partially serviced by septic tanks. The existing tanker service is under pressure during peak holiday season. Roads are generally in good condition in the municipality (Cape Agulhas Municipality IDP).

Cape Agulhas Local Municipality has the second highest percentage of households in formal housing in the district (85%). Just over ninety seven percent of the households in the municipality have access to piped water, and 99.1% have access to electricity. Of the households, 73.2% have access to waterborne sanitation, and 80% receive weekly refuse collection (Provincial Treasury, 2012).

4.10.2.1 Waenhuiskrans/Arniston

Arniston/Waenhuiskrans is situated approximately 20 km from Bredasdorp and is a well-known holiday town. It is the only town in the country with two official names. It was originally a small fishing harbour, which has since evolved into a town. The proclaimed fishing harbour and associated old houses still form an important part of the character of the town. In addition to its tourism attraction, the town mainly serves as a retirement and fisherman's' village (CNdV, 2012).

The area is reliant on interim and verbal agreements for additional water supply during peak summer months. This has been resolved by the construction of a pipeline from Bredasdorp for water supply (CNdV, 2012).

4.10.2.2 Struisbaai and Agulhas

Struisbaai is situated approximately 30 km from Bredasdorp on the R319. The town is mainly a holiday and retirement village and hosts a proclaimed fishing harbour. The town is developed in a linear fashion along the coastline. An apartheid-based dormitory suburb, Struisbaai Noord, is situated approximately 4 km from the main town centre and harbour. The town supports some industrial activities in the western section and has a well-defined business district (CNdV, 2012).

Agulhas is situated approximately 2 km south of Struisbaai's centre and, due to their proximity, these two are considered as one town. The town is situated on the southernmost point of Africa and is known as the

graveyard of ships due to the large number of ships that have run aground there. The lighthouse is the dominant feature of the town. The town functions mainly as a holiday and retirement village (CNdV, 2012).

4.10.2.3 Suiderstrand

Suiderstrand is situated approximately 10 km west of Agulhas along a gravel road. It consists of a number of holiday houses and functionally forms part of Struisbaai and Agulhas, as it depends heavily on these settlements for basic services. The area is abutted by the Agulhas National Park. Approximately 77% of the residential plots are undeveloped, and densification and mixed use development are highlighted as a need for the area (CNdV, 2012).

4.10.3 Swellendam Local Municipality

Urban nodes and rural settlements within the Swellendam Local Municipality include Swellendam, Barrydale, Suurbraak, Buffeljagsrivier, Malagas and Infanta. The urban settlements of the area are mainly linked through the N2 National Road. The area is also served by the main railway line, which connects the Garden Route to Cape Town. Barrydale and Swellendam are linked via the R324 through the Tradouw Pass. The well-known Route 62 links Barrydale with Montague and Oudtshoorn, whilst the R60 connects Swellendam to Ashton, Montague and Robertson (UDWC, 2013).

The municipality has the highest percentage of households residing in formal dwellings in the district, but has the lowest percentage of households in the district with access to piped water (at 96.3%). Ninety nine percent of households also have access to electricity. The municipality has also shown the greatest reduction in the percentage of households without any access to sanitation from 9% in 2001 to 3% in 2011 (Provincial Treasury, 2012).

4.10.3.1 Infanta and Malagas

Infanta is the only coastal town within the Swellendam Municipality. It is considered a holiday town and is situated immediately south of the Breede River estuary. Development of the town has occurred in three compact, separate clusters - Infanta, Kontiki and Infanta Park. It is remote and has very limited infrastructure capacity. Electricity is supplied by Eskom. Sewerage is dealt with by means of in-situ conservancy and septic tanks, with waste disposed of at the Swellendam WWTW. Solid waste is collected by private operators and taken to refuse holding areas where the municipality collects the waste for disposal. There is no water reticulation, and all residents provide their own storage on site (UDWC, 2013).

Malagas is a historic settlement situated adjacent to the Breede River. Historically it was a river crossing point. It functions as a low-order services centre to the local farming community. Service infrastructure is much the same as in Infanta, although some properties have access to water supplied by the water authority (UDWC, 2013).

4.10.4 Theewaterskloof Local Municipality

The Theewaterskloof Local Municipality can be characterised as a rural area with open spaces and farming activities. The main urban areas are that of Caledon, Grabouw, Riviersonderend, Villiersdorp, Botrivier, Genadendal and Greyton. Due to the agricultural nature of the municipality the majority of the

towns function as agricultural service centres. Roads in the municipality are in average to good condition (Theewaterskloof Municipality IDP).

The municipality has shown the biggest increase in percentage households in formal dwellings from 74% 2001 to 80.3% in 2011. Almost 97% of households receive piped water, 92.8% have access to electricity and 88.4% of households have access to waterborne sanitation in the municipality (Provincial Treasury, 2012).

4.11 Coastal Recreation

4.11.1 Overstrand Local Municipality

A large number of shore-based, non-consumptive activities are undertaken along the coast, including sun-bathing, walking, swimming, exercise, nature appreciation (including bird watching), spear-fishing and whale-watching. The majority of these activities are associated with the beaches in the area (Rooiels, Pringle Bay, Betty's Bay, Palmiet, Kleinmond, Grotto Beach, Pearly Beach, Sandbaai Beach, Onrus Beach and Voëlklip Beach), all of which are associated with coastal towns/villages and highly accessible. Three of these beaches, Grotto, Kleinmond and Hawston Beaches are world-renowned Blue Flag beaches. The estuaries associated with these beaches are also highly utilised for recreational activities, and the penguin colony at Betty's Bay is a big attraction in the area (Turpie *et al.*, 2009).

Water sports consist predominantly of wave sports and kayaking, and a number of popular diving sites are situated along the Kogelberg coast, mostly along Rooi Els. Walker Bay is world-renowned for its sightings of Southern Right Whales, both from the shore as well as boats operating out of Hermanus harbour, which is estimated to generate approximately R45 million in tourism expenditure per year (Turpie *et al.*, 2009). Shark-cage diving occurs further east with a number of tour operators situated in Hermanus and Gansbaai. Great white shark activity and sightings around Dyer Island is an international tourist attraction (Birss *et al.*, 2012).

4.11.2 Cape Agulhas Local Municipality

Coastal recreation activities within the municipality are largely centred around the conservation areas and beaches found within in the area. The De Hoop NR and Agulhas NP are major tourist attractions and provide opportunity for whale-watching, hiking, mountain biking, bird watching, horse riding, rock climbing, picnicking and simple appreciation of the natural beauty of the area.

The main recreational attractions along the coast include fishing, diving, ski-boating, hiking and swimming with recreation being largely summer-oriented and associated with holiday-makers. The municipality is in the process of applying for Blue Flag status for Struisbaai beach.

4.11.3 Swellendam Local Municipality

Cape Infanta is a whale nursery for southern right whales and is considered one of the best whale-watching areas in the country. A number of reefs are found in the area, which lends itself to spear-fishing, diving and surfing. The area hosts four surfing spots, namely Dangles, Rondeklip, Kamakazi and Johnny's Corner. The Breede River is also one of South Africa's best kite surfing spots (Showme, 2014).

4.12 Coastal Access

Access to resources is embedded in the Bill of Rights of the Constitution. As one of South Africa's richest resources, all South Africans thus have the right to fair and reasonable access to the coast. The ICMA has a strong focus on and is committed to providing equitable access to and utilisation of the coastline and coastal resources by all South Africans. The goal for coastal access is thus *"to ensure and protect, in perpetuity, public right of physical access to the sea, and to and along the sea shore, on a managed basis"* (DEA, 2013).

Section 18 of ICMA obliges each coastal municipality to develop bylaws that designate strips of land as coastal access land in order to secure public access to these coastal public properties and also allows for the establishment of public access servitudes. Section 19 sets out the process for designating and withdrawing designation of coastal access land.

Section 20 of ICMA also sets out the requirements for access provision, stipulating that each municipality in whose area coastal access falls must

- Signpost entrances to coastal access land
- Control of use of activities on that land
- Protect and enforce the rights of the public to use such access
- Maintain the land to ensure continued public access
- Promote access via the provision of appropriate amenities such as parking, toilets, boardwalks, etc
- Remove inappropriate access that is causing adverse environmental effects that cannot be prevented or mitigated
- Ensure that coastal access land does not cause adverse environmental effects
- Describe coastal access land in municipal coastal management programmes and in any spatial development framework
- Report progress, to the MEC, on the measures to implement this section within two years of the ICMA coming into force, and
- Perform any other actions that may be prescribed.

When determining or adjusting the boundary of coastal access land, the municipality must take into account the kind of access required (pedestrian, vehicle, vessel), potential adverse effects that may be caused, infrastructure requirements, existing rights of way, public servitudes or customary means of access, the need to protect coastal protected areas and the importance of not restricting the rights of land owners (Section 29 of ICMA).

The National Coastal Access Guide for the Designation and Management of Coastal Access in South Africa (DEA, 2014) also provides guidance to coastal municipalities when designating and managing coastal access and coastal access land (as per Section 18 of the ICMA) within their respective coastal public property and outlines the steps that need to be taken in order to comply with the provision of equitable access.

4.12.1 Overstrand Local Municipality

Access along the Overstrand coast is largely associated with public amenities and recreation such as beaches and hiking trails. Public access points within the Kogelberg Nature Reserve Complex include pedestrian access at Hangklip, Rooisand, Perdeberg, Houwhoek and Oudebosch and vehicle access at Buffelstal, Oudebosch and Rockview. Boat access is provided at Stony Point (Johns *et al.*, 2012).

There are 17 slipways within the municipality as well as a six boat launching sites and thousands of pathways. The slipways are generally administered/managed by the relevant boat clubs, except for Hermanus new harbour and Gansbaai harbour, which are managed by DAFF (Tunley *et al.*, 2010).

Public launch sites include:

- Gansbaai Harbour (DAFF) – used frequently for commercial and recreational purposes
- Hangklip/Maasbaai (Hangklip Boat Club) – used often for both commercial and recreational purposes
- Hawston Harbour – (DPW) commercial and recreational use in summer
- Hermanus New Harbour MCM (DAFF) – used for recreational and commercial purposes
- I&J Danger Point (I&J) - used once a month to collect red tide samples
- Kleinbaai Slipway (Overstrand Local Municipality) – used throughout the year for both commercial and recreational activities, such as shark-cage diving, whale watching and for the launch of marine research vessels
- Kleinmond Slipway (Overstrand Local Municipality) - commercial and recreational use
- Onrus (Harderbaai) (Harderbaai Boat Association) – used for recreation
- Rooiels (Rooiels Boat Club)- used infrequently by boat club members
- Stony Point, Betty's Bay (Betty's Bay boat club) – two slipways regularly used for recreation
- Blousloep, Franskraal - used throughout the year for recreation
- Danger Point, Kruismansbaai – very rarely used
- Franskraal – used mostly during summer for recreation, and
- Pearly beach (Dyer boat club) – recreational users from boat club

Access to Dyer Island: strictly controlled, although the marine section of reserve is regularly accessed for boat based tourism and kelp harvesters. Two areas (one existing and another proposed) have been identified for boat access and aerial access. There is no planned access to Geyser Island and Quoin Rock (Birss *et al.*, 2012).

4.12.2 Cape Agulhas Local Municipality

Access in the municipality is limited in places due to the large sections of coastline within the municipality that are under formal protection (i.e. Agulhas NP, De Mond NR, and De Hoop NR).

The following proclaimed fishing harbours with public slipways are situated within the municipality:

- Waenhuiskrans (Arniston), and
- Struisbaai.

The slipway at Struisbaai Nostra is no longer operational due to the coastline being eroded.

There are also two public boat launching sites within the municipality:

- Rietfontein; and
- Suiderstrand.

4.12.3 Swellendam Local Municipality

Three access points exist at Infanta, two of which require access over private land, although this has been the status quo for at least 50 years.

There are three public launch sites within the Swellendam Local Municipality. These include:

- Moddergat
- Infanta, and
- Malagas

A total of 191 private launch sites and 45 estuary bank launch sites are also found on the Breede River (up to the limit of the tidal influence, 63 km upstream). The majority of these are situated on the western bank due to the high number of private property owners along the western bank (Tunley *et al.*, 2010).

4.13 Key Coastal Areas

Key coastal areas (also known as special management areas) are considered those areas, which have significant scenic, economic, archaeological, paleontological and/or ecological value, or areas which experience more severe threats than others. These coastal areas require special management to protect their value. The initial identification of key coastal areas was undertaken through literature review and consultation with key stakeholders and is outlined below.

Please note that this section will only be finalised following public participation and discussions with key stakeholders.

4.13.1 Overstrand Local Municipality

The Overstrand Environmental Management Framework (Cilliers & Withers, 2013) identifies Environmental Management Focus Areas based on environmental sensitivity and impending or current development pressures, which require special management (see Table 4.10 below). Some of these are linked to the coast and thus listed here as key coastal areas. In addition to these, shell middens, wrecks and the penguin colony are also considered to be key coastal areas.

Table 4.10: Potential key coastal areas identified in the Overstrand Local Municipality (from Cilliers & Withers, 2013 and meeting with Overstrand Local Municipality).

Site	Importance/Function	Threat/Constraint
Cape Hangklip Ecological Corridor	Catchment to coast corridor & supports Endangered and Critically Endangered Vegetation	Development
Coastal Dune System	Coastal ecological processes	Dune stabilisation and development
Palmiet Catchment and Coastal Plain	Pristine river and estuarine system	Development
Botriver Estuary an Coastal Plain	Nursery area for marine fish &	Sedimentation and decreased flows,

Site	Importance/Function	Threat/Constraint
	maintenance of ecological functioning of Lamloch swamps	urban development and invasive alien plants
Onrus/Vermont Greenbelt System	Wetland and Flood attenuation and biodiversity value	Development, water flow
Klein River Ecological Corridor	Connectivity between nature reserves	Water flows
Danger Point Ecological Corridor	Largest intact system of Overberg Dune Strandveld	Subdivision of agricultural land
Franskraal Ecological Corridor	Coastal plain system, aesthetics and ecosystem services	Development
Hagelkraal Ecological Corridor	Aesthetic value and ecosystem services	Water quality and quantity
Urban Coastal Corridors		Uncontrolled access to the coast
Shell Middens	Heritage resource	Development, artefact collectors
Wrecks	Heritage resource	Artefact collectors
Stony Point Penguin Colony	Shore-based breeding colony for African penguin	Overfishing
Buffeljags camp	Public amenity/Tourism	Mobile dune

4.13.2 Cape Agulhas Local Municipality

Key coastal areas within the Cape Agulhas Local Municipality as identified during an interview with the municipality are outlined in Table 4.11 below:

Table 4.11: Potential key coastal areas identified during a meeting with CAM.

Site	Importance/Function	Threat/Constraint
Nuwejaars Special Management Area	Biodiversity	Water quality and quantity
Waenhuiskrans Beach	Public amenity/Tourism	Erosion
Heuningnes estuary	Biodiversity, fish breeding ground	Water quality and quantity
Southern Most Tip of Africa (ANP)	Tourism	International Importance
SMA's within CapeNature and SANParks areas (to be identified during consultation with these stakeholders)	TBD	TBD
Various shipwrecks, fishtraps and shell middens	Heritage	Human disturbance/vandalism

4.13.3 Swellendam Local Municipality

Due to the limited nature of the Swellendam coast, the identification of key coastal areas is limited. The need to construct beacons near the mouth to delineate the estuary as well as points from which night fishing are no longer allowed has been identified as a priority.

5 Consultative Process Followed

As part of the situation analysis the local municipalities were engaged to discuss challenges and identify gaps and needs for successful coastal management within their various municipalities. Staff dealing with environmental and coastal management issues were involved in a questionnaire-based meeting. These were held as follows:

Overstrand Local Municipality (4 February 2014)

Participants:

- Peter Silbernagl (Mott MacDonald PDNA)
- Hanre Blignaut (Overstrand Local Municipality)
- John Simson (Overstrand Local Municipality)
- Liezl Bezuidenhout (Overstrand Local Municipality)
- Neville Green (Overstrand Local Municipality)
- Patrick Robinson (Overstrand Local Municipality)

Cape Agulhas Local Municipality (7 February 2014)

Participants:

- Peter Silbernagl (Mott MacDonald PDNA)
- Myburgh Briers (Cape Agulhas Local Municipality)
- Deon Wasserman (Cape Agulhas Local Municipality)
- Bertus Hayward (Cape Agulhas Local Municipality)

Swellendam Local Municipality (7 February 2014)

Participants:

- Peter Silbernagl (Mott MacDonald PDNA)
- BG Badenhorst (Swellendam Local Municipality)
- Bartho Burger (Swellendam Local Municipality)
- Willie Hattingh (Swellendam Local Municipality)

Theewaterskloof Local Municipality (19 February 2014)

Participants:

- Peter Silbernagl (Mott MacDonald PDNA)
- David Wright (Theewaterskloof Local Municipality)
- Johan Viljoen (Theewaterskloof Local Municipality)

It was also endeavoured to meet with other various key stakeholders to obtain their input into the Situation Analysis. The following stakeholders were contacted to meet:

- CapeNature
- SANParks
- WESSA
- BirdLife
- Whale Coast Conservation
- DENEL

- Gansbaai Shark Conservancy
- DEA Oceans and Coasts
- DEA&DP Coastal Management Unit
- DWS
- DAFF
- DPW

Of these, BirdLife, CapeNature, SANParks, Whale Coast Conservation, Gansbaai Shark Conservancy and DEA&DP responded to meeting invites and attended meetings. Email and telephonic correspondence was also undertaken with DEA Oceans and Coasts and DENEL.

In addition to the interactions outlined above, a number of key stakeholders also responded to email questionnaires. This included representatives of ODM (most notably Francois Kotze of the Environmental Management Department and Riaan du Toit of Municipal Health).

A detailed public participation summary report with minutes from all meetings and inputs obtained will be developed following the last round of public engagement for this project.

Section B: Situation Assessment

6 Situation Assessment

Following from the status quo analysis, a SWOT (strengths, weaknesses, opportunities and threats) analysis was undertaken to enable the identification of needs and gaps within the district.

6.1 Strengths

- High number protected areas (incl. Marine Protected Areas, Biosphere Reserve, National Parks, Provincial Nature Reserves and private reserves)
- Falls within the Cape Floristic Region (UNESCO World Heritage Site)
- Five (5) Important Bird Areas
- Two Ramsar sites
- Close proximity of urban nodes to protected areas
- Various boat launch sites as well as slipways available for public use across the District
- Abalone Farms
- Whale watching charter and recreational ski-boating
- Marine-based tourism
- Agriculture: wild flower collection (Agulhas Biodiversity Initiative aimed at making economically viable land use of the Agulhas Plain)
- Draft Estuary Management Plans (EMPs) for Bot, Klein, Uilkraals, Heuningnes and Breede river estuaries and Estuary Advisory Forums largely in place
- Shark Research Institute (Hermanus)
- Kleinmond is an example of low intensity clean services industries (promote low emission industry along the coast)
- Stringent building controls (e.g. Rooi Els, Pringle Bay and Betty's Bay allows no industry)
- 4 proclaimed fishing harbours, and
- High number of coastal heritage sites (eco-tourism potential).

6.2 Weaknesses

- Nine (9) estuaries with an ecosystem threat status of critically endangered
- Impaired ecological integrity of estuarine systems due to:
 - Flow reduction resulting from upstream abstraction and dam development
 - Sedimentation
 - Artificial breaching
 - Poor land use practices, resulting in increased nutrient loading
 - Poor water quality (faecal bacteria)
 - Reed encroachment (Onrus River Estuary – worst estuary)
- Fishing pressure at the Bot River Estuary (which is a nursery habitat)
- Polluted storm water (impacts on recreational use)
- Gansbaai Landfill
- Existing tanker service unable to cater for emptying of septic tanks during peak holiday season
- Lack of adequate access for disabled persons
- Lack of institutional resources, and
- Lack of funding for implementation.

6.3 Opportunities

- Aquaculture, including abalone with kelp readily available
- Marine Living Resources: West Coast Rock Lobster
- Marine Living Resources: Kelp harvesting

- Tourism
- Real estate (construction)
- Desalination
- Reclaimed water
- N2 and main towns situated away from coast, allowing development pressure to be focused away from the coastal areas
- Smallholder Aquaculture Producer Associations (implementation of National Aquaculture Policy Framework)
- Fisheries as an important vehicle to achieve the vision for an integrated rural economy especially for coastal communities (as per the Small-Scale Fisheries Policy)
- Food Security Strategy (fisheries sector)
- Marine Living Resources Fund (for research, monitoring and surveillance)
- Working for Fisheries Programme
- Working for the Coast Programme
- High number of coastal heritage sites (eco-tourism potential)
- Enforce programmes to curb illegal harvesting, and
- Infrastructure development and investment into fishing harbours (increase socio-economic and tourism opportunities).

6.4 Threats

- Declining fish stocks, particularly reef species within the Overstrand Local Municipality
- Over-fishing and illegal harvesting
- Climate change and coastal erosion
- Mobile dunes
- Alien invasive plants
- Fire regimes
- Habitat transformation
- Impact and pressure on coastal resources during peak holiday periods
- Poorly managed wild flower harvesting (fynbos)
- Close proximity of urban nodes to protected areas
- Decreasing rights to holders of licences to reduce pressure on fishing stocks (loss of income and jobs), and
- Pollution from sewer systems, treatment plants and polluted stormwater.

6.5 Desired States

- Compliance with ICMA:
 - Reasonable and equitable access (in line with National Access Management Plan and Strategy)
 - Coastal management lines delineated and contained in municipal zoning schemes
 - Determination and adjustment of coastal boundaries of coastal access land and delineation on zoning scheme maps
 - Adopted Municipal CMP in place (in line with the Guide for the Development of Coastal Management Programmes in South Africa; National CMP, Provincial CMP and National Estuarine Management Protocol)
 - Alignment of CMP and other coastal plans, policies and programmes
 - Adopted by-law for administration of Municipal CMP
- Sustainable utilization of marine living resources

- Healthy populations of reef fish
- Well-developed, sustainable aquaculture industry
- No reported incidents of illegal harvesting within MPAs and reduction in illegal harvesting incidents in other areas
- Protection of all threatened ecosystems
- Maintenance of development margins for the nationally important estuaries
- Adopted Estuary Management Plans for all estuaries and functional and well-represented Estuary Advisory Forums
- Tourism centred around eco-tourism opportunities
- Maintenance or increase in number of Blue Flag beaches
- Maintained and adequate provision of stormwater management system
- Sustainable livelihoods for local communities
- Regular monitoring and reporting on water quality
- Maintained sewage infrastructure network to minimize spills and pollution risks
- Sufficient capacity (human resource) and budget to undertake coastal management functions
- Clearly defined mandates and agreements in place between organisations and governmental bodies for coastal management and estuarine management, and
- Disaster management plan which includes coastal risks (such as storm surges).

Section C: Gap Analysis and Needs Assessment

7 Gap Analysis and Needs Assessment

As part of the situation analysis the local and district municipalities were engaged to discuss their performance and capability to execute the various coastal management functions, and to identify issues of concern regarding coastal management within their borders. These discussions are summarised in Appendix B.

In addition to the engagement with the municipalities, other stakeholders and the general public were also engaged in a series of workshops to identify the most pressing issues within the Overberg coastal zone (please see Appendix B for all the issues raised during stakeholder engagement). The comments received were then used to identify the various gaps and needs that should be addressed. Where possible, similar issues were grouped to facilitate the process.

Issues and subsequent needs and gaps were grouped into provisional priority areas to provide some structure and facilitate the identification of priority options in the next step. These priority areas were guided by the issues identified and the priority areas identified by the National CMP, Draft Western Cape Provincial CMP and Kogelberg Integrated CMP. Please see the table below for a summary of all the issues, needs and gaps identified during the public participation process.

The provisional priority areas identified were as follows:

- Facilitation of Coastal Access
- Infrastructure and Services
- Cooperative Governance
- Natural Resource Management
- Compliance, Enforcement and Management
- Awareness, Education and Training
- Land and Marine-based Sources of Pollution
- Climate Change and Coastal Processes
- Coastal Planning and Development
- Social and Economic Development
- Culture and Heritage Management

Table 7.1: Issues, needs and gaps identified during stakeholder engagement

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
Facilitation of Coastal Access					
Access over private land	Various places where access over private land is needed	Provision of access over private land where access is limited/restricted	Evaluation of coastal access within the municipality using the DEA Coastal Access Strategy and Guide	Provision of access should be fair and equitable	Public Participation
Provision of coastal access	Numerous places where access is restricted/inadequate, historic access lost	Provision of sufficient, fair, equitable access to the coast along the entire Overberg coast	Evaluation of coastal access within the municipality using the DEA Coastal Access Strategy and Guide	Provision of access should be fair and equitable	Public Participation
Maintenance of access infrastructure	1. Insufficient infrastructure provision with access 2. Uncertainty in terms of responsible persons for maintaining access infrastructure	Inventory/register of access infrastructure needed	Evaluation of access infrastructure to identify areas where upgrade/maintenance is needed Facilitated discussion/investigation i.t.o legality to establish responsible authority(ies) for maintenance and funding opportunities		Public Participation
Control of access	General lack of access control along the coast	Provision of controlled access/management of access points along the coast	Evaluation of coastal access within the municipality using the DEA Coastal Access Strategy and Guide		Public Participation
Management of slipways/jetties/boat launching sites	Lack of clarity regarding the registration/licensing process and requirements for public and private sites	Guidance from province regarding slipway/jetties/launch site registration and use	Provincial guidelines/communication for registration and licensing of slipways/launch sites/jetties that address monitoring and control at these sites		Public Participation
	Inadequate control at launch sites				Public Participation
	Lack of monitoring and management of launch sites and permits				Public Participation

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
		Structured approach to the management of slipways, jetties and harbours with clearly defined mandates	<p>1. Draw up a service level agreement for the management of slipways</p> <p>2. Establish a forum for discussion and management of the various harbours</p> <p>3. Obtain clarity in terms of the roles and responsibilities of the various roleplayers with respect to harbours</p>		Overstrand Local Municipality
	<p>1. There are three small harbours on the Witsand side of the estuary plus the old wooden jetty and at least one slipway</p> <p>2. On the south/west side of the estuary there are also a few private slipways and jetties in addition to the access points previously mentioned</p> <p>3. Some of the slipways and jetties are illegal</p> <p>4. With regard to the slipway to Infanta correspondence exists regarding a lease and registration of the slipway with the Provincial government</p> <p>5. Swellendam Municipality would prefer not to undertake the management and maintenance of these public launch sites</p> <p>6. Likewise for the</p>	Clarity is needed in terms of the registration process for jetties and slipways and the requirements for public vs private jetties/slipways	Discuss the registration and management of jetties (public launch sites) in the municipality & decide on management authorities		Swellendam Local Municipality

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	harbours on the Witsand side of the river, which falls under Hessequa Municipality				
Coastal access	<p>1. Access is generally adequate</p> <hr/> <p>2. Examples of lack of access over private land (Meer-en-See) and requests for expropriation</p> <hr/> <p>3. Security is an issue for private landowners if there is uncontrolled access</p> <hr/> <p>4. Liability associated with access provision</p> <hr/> <p>5. Service delivery obligations associated with access provision</p> <hr/> <p>6. Access along the coast often leads to trampling above the HWM</p>	The provision of equitable access along the Overberg coast.	<p>1. Evaluation of coastal access within the municipality using the DEA Guideline</p> <hr/> <p>2. Obtaining clarity around liability and service provision obligations with access provision</p> <hr/> <p>3. Capacitation of municipalities for the monitoring and enforcement of access points</p>		Overstrand Local Municipality
	Is access adequate and equitable?	The provision of equitable access along the Overberg coast	Evaluation of coastal access within the municipality using the DEA Guideline		Swellendam Local Municipality
		<p>1. Provision of access for locals along long stretches of protected coastal areas.</p> <hr/> <p>2. Increased staffing requirement for monitoring and enforcement of access</p>	<p>1. Evaluation of coastal access with reference to DEA National Access Strategy Guideline</p> <hr/> <p>2. Engagement with SANParks and CapeNature to discuss provision of access for locals</p>		CAM

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
			3. Investigate budgeting and staffing requirements to ensure adequate management of coastal access		
Facilities and Infrastructure					
Provision and upgrade of various coastal facilities (ablution facilities, rubbish bins, swimming facilities)		Need for inventory of required facilities and infrastructure that requires maintenance and upgrading along with projected timelines and costs	Develop inventory of facilities and infrastructure that is required/requires upgrade within the municipality along with projected costs		Public Participation
Programme of predicted expenditure and investment in coastal management infrastructure or for implementation of MCMP		Breakdown of predicted expenditure and investment needed for the implementation of coastal management and the provision of coastal management structures.	1. Undertake assessment to determine additional expenditure requirements for the implementation of the MCMP 2. Ensure allocation for coastal management within Community Services budget	It is foreseen that separate budget will not be produced but that most of the operations budget for the MCMP will sit within Community Services	Overstrand Local Municipality
		Determination of additional expenditure for coastal management	Undertake assessment to determine additional expenditure requirements for the implementation of the MCMP	It is too early to know what additional expenditure will be required but even the compilation of a municipal CMP is not foreseen to be undertaken within the next three years	Swellendam Local Municipality
	1. There is currently a programme for conducting water quality tests on the effluent where this leaves WWTW. The water quality is not measured by TWK in the rivers, except at those locations where raw water is extracted for	Clear prediction of required funding and investment needed to address water quality monitoring and reporting	1. Following the identification of potential sources of pollution in the municipality, determine the need for additional water quality monitoring and management		TWK

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	treatment to potable water standards				
	2. It is perceived that BGCMA monitors water quality in the rivers in general		2. Allocate funding (if required) for additional water quality monitoring and reporting		
	3. If increased monitoring of water quality e.g. due to stormwater and agriculture run-off needs to take place, this will require additional budget				
	There is a small budget for the maintenance of beaches. CapeNature and SANParks have their own budgets and expenditures for coastal maintenance, infrastructure and management	The development of a programme of expenditure for coastal management	Development of a predicted programme of expenditure for coastal infrastructure in the municipality and for the implementation of the MCMP		CAM
Jetties, piers and harbours (excluding proclaimed fishing harbours)	There are a number of small fishing harbours and slipways that require infrastructure upgrades.	An inventory of harbours and slipways which require infrastructure upgrades in order to facilitate economic and tourist activities	Develop an inventory of all small fishing harbours and slipways which require infrastructure upgrades along with predicted costs and ranked priorities		Public Participation
Beaches and amusement facilities	1. Three Blue Flag beaches (Kleinmond, Hawston, Grotto)	1. Maintenance of facilities and services associated with non-Blue Flag Beaches	1. Ensure maintenance of facilities and services for non-Blue Flag beaches are included in the municipal budget		Overstrand Local Municipality
	2. No shark spotters, but liaison with Shark Research Institute	2. Provision of lifeguards at Blue Flag beaches during off-peak times.	2. Investigate funding for lifeguards during off-peak times		
	1. Cape Agulhas is busy with preparations for the application for a Blue Flag beach (Struisbaai)	Attainment of Blue Flag status for Struisbaai	1. Finalise Blue Flag Beach application 2. Application and maintenance of beach for Blue Flag status		CAM
	2. The application is on the budget as it costs				

Issue	Status of Existing	Gap	Need/Work Undertaken	to be	Comment	Source
	money. The lifesavers are appointed for the summer school holidays by Cape Agulhas municipality					
Cooperative Governance						
Lack of clarity in terms of roles and responsibilities of coastal management		Need for clarity in terms of the involvement, jurisdiction and responsibilities of the various coastal role players	Facilitated discussion around the DEA guidelines (once published) to ensure role players understand their mandates		Guideline being developed by DEA to clarify roles and responsibilities in terms of ICMA for the various spheres of government. However, there remains some confusion between B and C municipal functions which need to be sorted out, as well as the functions as set out in other legislation, particularly planning legislation. There is mandated paralysis	Public Participation
Roles and responsibilities between B & C municipalities		Clarity in terms of coastal management mandates between B and C Municipalities	1. Ensure clarity of mandated coastal functions between B & C municipalities 2. Investigate options for agreements between B & C municipalities for the implementation of the MCMP (and associated funds)		A special case exists at Hangklip where a slipway and toilet is managed in a servitude by the DM	Overstrand Local Municipality
General lack of integrated coastal management/management structures		There is a need for cooperation between the various stakeholders (government, NGOs, public) to undertake coastal management in an integrated manner and where there is adequate	Facilitate discussions between the various role players and establish, where necessary, MoUs and SLAs to undertake integrated coastal management		This should include all roles players with involvement in coastal management, including CapeNature, SANParks, municipalities, DPW, DAFF, DEA, DEA&DP	Public Participation

Issue	Status of Existing	Gap	Need/Work Undertaken	to be	Comment	Source
		communication and flow of information between the various sectors to promote functional coastal management				
Linkages with other CMPs and guidance from National and Provincial			The Overberg CMP must take cognisance of the Kogelberg Coast ICMP, as well as the Eden and City of Cape Town CMP and must be in line with the Provincial and National CMP objectives.			Public Participation
Lack of funding	Coastal management is an "unfunded mandate"	There is a need to secure funding to fulfil coastal management functions	Engage with Province to identify potential sources of funding		This is something that needs to be addressed at the provincial level	Public Participation
Alignment with other plans, policies or programmes		Adequate communication between various role players to ensure integration and alignment	Consideration of existing plans, policies and programmes in the development of the Overberg CMP		<p>1. An issue previously mentioned is that control over Living Marine resources can't be exercised i.e. slipways can't be managed without appropriate funding. This includes decisions on tariff structures which should be determined by the Minister</p> <p>2. Liaison is on-going with the Kogelberg Biosphere reserve. These discussions include the management of high impact zones such as places where fishing competitions are held</p>	Overstrand Local Municipality
		The key missing aspect is the EMP for the Breede River which	Engage with Province to determine the timelines for the finalisation and			Swellendam Local Municipality

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
		must be put in place by Province	implementation of the Breede River estuary EMP		
Identification of areas requiring special management and development of management strategies for these	1. Shell middens, Stony Point penguin colony, wrecks	Identification of areas requiring special management and development of management strategies for these	1. Undertake a full inventory of special management areas within the coastal zone	1. The IDF and EAF speak to these special management areas 2. Provisions for protected areas such as Fernkloof and Walker Bay areas have a "higher standing" than that of the CMP	Overstrand Local Municipality
	2. Some of these occur below the HWM and on private land		2. Develop management strategies for all identified special management areas		
	Cape Nature is compiling a plan for the management of areas that require special attention. The majority of these areas fall within SANParks or CapeNature areas If there are special areas within the Cape Agulhas jurisdiction, the municipality does not have the expertise to identify these areas until they have presented themselves as a problem		The identification of coastal areas requiring special management		
Disaster management	Disaster Management Plan in place, but not linked to the ODM's one	DMP does not address coastal issues	1. Ensure DMP is aligned with that of ODM 2. Ensure coastal disasters are provided for within the DMP		
	The themes here include beached whales, oil and wrecks		Inclusion of coastal issues in the DMP	1. Determine status of disaster management plan in municipality 2. Ensure alignment with DM plan and inclusion of local issues in DM plan	Swellendam Local Municipality

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	<p>1.TWK has an Incident Management Plan (Contingency plan) in place; accepted by council</p> <p>2. This document was compiled in collaboration with DWS and DEA&DP</p> <p>3. Disaster management in handled in conjunction with ODM</p>	Alignment of the DMP with that of the ODM	Ensure DMP is aligned with that of ODM		TWK
	This function is managed in an overarching capacity by the district. Cape Agulhas does not have any in place with respect to the Coastal Zone	Ensure coastal risks are included in the District's Disaster Management Plan	Ensure coastal risks are included in the District's Disaster Management Plan		CAM
Compliance, Enforcement and Monitoring					
Illegal harvesting	Illegal harvesting has been reported as a problem along the majority of the Overberg Coast	<p>1. Adequate law enforcement and coordination between law enforcement bodies to control illegal harvesting</p> <p>2. Prosecution of apprehended poachers</p>	<p>1. Facilitated discussion with SAPS, DEA O&C, CapeNature and SANParks to identify areas of responsibility and enable coordination, including investigation of methods in which local communities can be involved in monitoring and law enforcement</p> <p>2. Reinstatement of the poaching hotline (it is currently ineffective) and possibly green court/green scorpions</p> <p>3. Identification of areas where capacitation is required in order to operate effectively</p> <p>4. Identification of poaching hot-spot areas</p>		Public Participation
General lack of law enforcement	This is tied in with the inadequate number of law	lack of law enforcement staff and ineffective use	1. Ensure law enforcement staff are		

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	enforcement officials and jurisdictional uncertainty pertaining to law enforcement. Incidences such as illegal hunting of otters by dogs, encroachment and illegal driving on the beach as a result.	of existing staff	strategically deployed to areas of highest concern and prosecution of offenders 2. Capacitate law enforcement bodies with additional staff and budget		
Insufficient law enforcement officials	There is a perceived lack of law enforcement officials to undertake patrols and law enforcement along the coast	lack of law enforcement staff	1. Capacitation of various law enforcement bodies 2. Discussion to identify how and where to best utilise existing resources for effective law enforcement	It is understood that there are budget constraints. This needs to be looked at/discussed as appropriate.	Public Participation
Implementation of fishing restrictions	There is a lack of enforcement of fishing restrictions at De Hoop and the night-time fishing restriction on the Breede river	lack of law enforcement staff	1. Capacitation of various law enforcement bodies 2. Discussion to identify how and where to best utilise existing resources for effective law enforcement	It is understood that there are budget constraints. This needs to be looked at/discussed as appropriate	
Jurisdictional uncertainty pertaining to law enforcement	The various law enforcement bodies are not clear on where their jurisdictions start/end and this creates difficulty with integration of law enforcement and often leads to non-prosecution	A clear understanding of the areas in which each law enforcement agency has jurisdiction and an integration of these areas to ensure there are no "gaps"	A facilitated discussion between the various law enforcement agencies to address this		
Development and implementation of CMP - Human and financial resources - Organisational structures - Competencies and skills	The current perception is that the responsibility for the development and implementation of the MCMP lies with the District Municipality	Adequate human and resource (funding) availability within the various municipalities to fulfil the coastal management function.	1. Ensure alignment of the MCPM with IDP and ward committee processes Evaluate coastal management obligations in terms of mandates 2. Investigate options for agreements between B & C municipalities for the implementation of the	1. Unless the local municipalities are mandated under the legislation the MCMP can't get into the IDP process 2. It is foreseen that the MCMP will be managed through existing departments with	Overstrand Local Municipality

Issue	Status of Existing	Gap	Need/Work Undertaken to be	Comment	Source
			MCMP (and associated funds)	additional budget and staffing	
			3. Assess the additional budget and staffing requirements for the implementation of the MCMP		
	This is being undertaken by the DM	Adequate human and resource (funding) availability within the various municipalities to fulfil the coastal management function.	1. Investigate options for agreements between B & C municipalities for the implementation of the MCMP (and associated funds) 2. Assess the additional budget and staffing requirements for the implementation of the MCMP		Swellendam Local Municipality
		Adequate human and resource (funding) availability within the various municipalities to fulfil the coastal management function.	1. Assess the additional budget and staffing requirements for the implementation of the MCMP (water quality, emergency spillage, catchment management) 2. Investigate partnership with BGCMA		TWK
		1. Adequate human and financial resources, organisational structures, competencies and skills to execute coastal management at the municipal level	1. Appointment of an Environmental Manager for the municipality	1. It is not foreseen that a separate department or unit will be formed for managing the Coastal Management Programme, but is anticipated that separate budgeting and staffing will be required in the Operating Departments	CAM

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
		2. Clarity in terms of who is responsible for coastal monitoring in non-urban and non-protected coastal areas.	2. Provision of budgeting and staffing within the operating departments to facilitate coastal management functions	2. The appointment of an Environmental person such as in Overstrand will become imperative	
			3. Undertake a facilitated discussion between the local municipality, district municipality, SANParks and CapeNature regarding coastal compliance responsibilities.	3. There is a lack of clarity of who patrols the coast. CapeNature and SANParks only look after their own area. Cape Agulhas Municipality only looks after the coastal zone within the urban areas i.e. – the towns. Beyond that there is no supervision except in crises e.g. – beaching of a whale	
Development of by-law for administration of MCMP	None currently in place – forms part of current project	Local by-law for the administration of the MCMP is required	Development of a by-law for the administration of the MCMP to be undertaken by DM as part of current process		Swellendam Local Municipality
		Coastal management by-law.	Develop a by-law for the implementation of the CMP		Overstrand Local Municipality
Natural Resource Management					
Management of alien invasive species	There are currently large sections of alien invasion along the coast and no clear direction or policy/plan for the management of this.	There is the need for a policy on alien infestation/management within the municipality and an implementation plan to undertake this.	Workshop an alien invasive management policy for the Overberg and include clearing of alien invested areas on the projects list for Working for Water (or similar) and on the municipal budgets		Public Participation
Management of kelp harvesters	The existing kelp harvesters are not monitored and managed adequately, resulting in	Excluding or limiting kelp removal from certain areas (such as Pringle Bay) and ensuring kelp	1. Evaluation of the coast in consultation with stakeholders to identify areas where kelp		Public Participation

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	various impacts along the coast from their activities	harvesting activities are adequately monitored to ensure they are complying with permit conditions and are not causing impact on the coast	harvesting should not occur or should be limited. 2. Reviewing kelp harvesting permit conditions to ensure they are adequate 3. Increasing monitoring of kelp harvesters to ensure compliance with permit conditions		
Monitoring and control of recreational use of natural resources		There is the need for more regulated control of recreational use of natural resources (both on rivers and along the coast), including the catching of undersized fish	Investigate methods to improve resource use monitoring and control along the coast and on rivers		
Protection of coastal and marine species, including bird breeding areas	There are several coastal and marine reserves along the Overberg coast, however it is felt that increased protection measures are required in certain areas	The extension of the protection in the Walker Bay Whale Sanctuary and more focused protection of great white sharks for conservation and tourism. The protection of IBAs and bird breeding areas.	Evaluate and discuss the possibility of extending the protection of the Walker Bay Whale Sanctuary to all year round and providing additional protection measures for great white sharks and whales. The identification of smaller bird breeding areas in need of protection and a discussion around what protection measures could be put in place.		Public Participation
Need for additional marine protected areas			The need and desirability of expanding the marine protected areas (including Betty's Bay, Dyer Island NR and Stony Point Penguin Colony) or identifying additional MPAs should		Public Participation

Issue	Status of Existing	Gap	Need/Work Undertaken to be evaluated.	Comment	Source
Consideration and of ecological processes	(Large scale) Ecological cycles and processes are not considered in coastal planning	Coastal development and planning should be closely linked to a holistic understanding of the ecological processes that drive and shape the coast	Integrating biological monitoring and data into coastal planning and development		Public Participation
Conservation of biodiversity	Bush encroachment, loss of fynbos and rocky shore biodiversity, lack of fire management, urbanisation	Adequate consideration of biodiversity in development applications	Ensuring CBAs and other high level biodiversity information is used to inform coastal development and planning applications		Public Participation
Estuarine management	Reduced freshwater inputs, ineffective management, lack of adequate catchment management, water quality impacts, control and regulation of estuarine use	Estuarine management which addresses all existing impacts and complies with the requirements as set out in the National Estuarine Management Protocol and Provincial Estuarine Management Programme (in progress)	Alignment of EMPs and EMFs with the Provincial Estuarine Management Protocol (in prep) and signing off of all EMPs		Public Participation
	1. There are seven estuaries within the municipality	Formally signed-off EMPs for all estuaries and functional management structures in place	1. Development of EMPs for remaining estuaries, including establishment of EMFs and alignment with the provincial estuarine guide		Overstrand Local Municipality
	2. Draft EMPs in place for the Bot, Klein and Uilkraal		2. Get all EMPs signed off and formally recognized		
	3. Mouth management plans in place for Klein and Bot		3. Draw up service level agreement for the management of estuaries (including funding)		
	4. Monitoring of physical and bacteriological parameters is regularly		4. Appoint a coastal coordinator at the district level		

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	undertaken				
	5. Reserve determination for Klein River being undertaken by CapeNature. Bot River reserve determination already been completed				
	There is an EMP in place for the Breede River, but this needs to be reviewed	An adopted and finalised EMP for the Breede River estuary	Engage with Province regarding timelines for the review and implementation of the Breede River EMP		Swellendam Local Municipality
	1. However, in the Cape Agulhas area all of the estuaries fall within areas managed by CapeNature	EMP for the Klipdriftsfontein estuary	Discussion with CapeNature regarding estuarine management in the municipality and the status of the existing Heuningnes EMP as well as the development of the Klipdriftsfontein EMP		CAM
	2. Two estuaries within the municipality-Heuningnes and Klipdriftsfontein. Estuarine Management Plan in place for Heuningnes but not the Klipdriftsfontein				
Biophysical monitoring of the coast	If any water quality tests are done this will be by Marais Swart from ODM Health	Up to date biophysical coastal data to inform decision making	1. Determine status of water quality testing and other biophysical monitoring of the coast in municipality 2. Develop a biophysical monitoring programme (if required)		Swellendam Local Municipality
	This forms part of the application for Blue Flag status and will then commence	Up to date biophysical coastal data to inform decision making	Implement biophysical coastal monitoring (as part of Blue Flag Beach initiative)		CAM
Scientific input into decision-making		Scientific research needs to inform decision-making in the coastal zone	1. Determine areas where research is needed/where there is a lack of data 2. Investigate the option of partnering with local		

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
			tertiary institutions for post-graduate research within the District		
Awareness, Education and Training					
Environmental/coastal education		Sufficient education and sensitisation of locals and visitors to ensure coastal appreciation and protection	Alignment with the National Strategy for Coastal Awareness, Education and Training		Public Participation
Signage		There is a lack of signage in certain areas, especially those indicating access and restricted/closed areas and protected areas/conservation areas	1. Undertake an inventory of coastal access points/areas that require signage, including where signage needs to be updated 2. Signage should conform to the National Norms and Standards for Coastal Signage (in progress)		Public Participation
Public participation		Public participation/stakeholder engagement with holiday home owners	Align public participation periods with holiday periods.	Utilise ward committee system and Overstrand Advisory Committee for public participation	Overstrand Local Municipality
Awareness, education and training		Standardisation and upgrading of coastal signage	1. Ensure new signage is in line with DEA guideline (once published). 2. Identify locations in need of additional/upgraded signage		Overstrand Local Municipality
	None other than the signage and pamphlets by Cape Nature	Standardisation and upgrading of coastal signage	Identify coastal signage in need of upgrade/replacement and ensure alignment with DEA guideline (in progress)		Swellendam Local Municipality
		Standardisation and upgrading of coastal signage	Undertake an inventory of all access points and identify places where coastal signage is		CAM

Issue	Status of Existing	Gap	Need/Work Undertaken to be lacking	Comment	Source
Land and Marine-based Sources of Pollution					
Other sources of pollution	This includes dust pollution, light pollution, plastic pollution in the sea, effluent management from fish and abalone farms and waste management	Management and monitoring of pollution sources	<ol style="list-style-type: none"> 1. Engage local communities to identify the need for awareness, education and training needs to address pollution 2. Undertake compliance monitoring of all construction related activities to minimize dust pollution 3. Undertake compliance monitoring at fish and abalone farms to ensure permit conditions are being met for effluent discharges 4. Implement integrated waste management in the municipality to reduce, reuse, recycle and ensure proper disposal of waste 	The majority of these pollution issues are location-specific and can be addressed and managed by engaging with the local stakeholders to develop solutions.	Public Participation
Cleaning disposal)	(waste One landfill at Gansbaai. RTS at Kleinmond and Hermanus. Regional site at Karwyderskraal operated by ODM	Ensure integrated waste management plan is updated regularly	Revision of the IWMP as required	The municipality has an integrated waste management plan which needs to be adhered to and updated	Overstrand Local Municipality
	Waste transported to the site at Bredasdorp	There are litter bins on the beaches but more are required Revision of the Integrated Waste Management Plan (IWMP)	<ol style="list-style-type: none"> 1. Place additional litter bins in required areas 2. Ensure revision of IWMP at required intervals 		CAM
Sanitation	Kleinmond – outlet into the sea Hawston – outlet into the wetlands Hermanus – outlet into the	Inventory and monitoring of potential sources of coastal pollution and compliance with the National Guideline for	1. Undertake an inventory of all the potential sources of pollution within the river catchments, estuaries		Overstrand Local Municipality

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	sea Stanford – outlet into the Klein River Brine discharge from RO plant at De Kelders Perlemoen farms near Buffeljags, Gansbaai and Hermanus	the Discharge of Effluent from Land-Based Sources into the Coastal Environment	and coast 2. Undertake regular monitoring of potential pollution sources and maintain database 3. Plan upgrades and maintenance of infrastructure as needed and include these in the municipal budgets		
	The effluent from at least the following WWTW flow into the Breede River: <ul style="list-style-type: none"> · Worcester · Robertson · Bonnievale · Ashton <hr/> <ul style="list-style-type: none"> · Montague · Swellendam · Buffeljags · Suurbraak · Ceres · Macgregor · Barrydale · Riviersonderend 	Inventory and monitoring of potential sources of pollution and compliance with the National Guideline for the Discharge of Effluent from Land-Based Sources into the Coastal Environment	1. Undertake an inventory of all the potential sources of pollution 2. Undertake regular monitoring of potential pollution sources and maintain database 3. Plan upgrades and maintenance of infrastructure as needed and include these in the municipal budgets		Swellendam Local Municipality
	There is a Breede River catchment in place managed by BGCMA				
	1. At Struisbaai there is a sewage pump in the caravan park. The Struisbaai Sewage works uses an activated sludge process and discharges the treated effluent into the dunes	Identification of all potential pollution sources within the municipality	1. Identify potential sources of pollution and develop a monitoring programme		CAM
	2. The effluent from the Arniston wastewater treatment works also infiltrates the ground.		2. Investigate alternative methods of disposal for long-term planning		

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	Suiderstrand and Cape Agulhas are on septic tanks and soakaways				
	There are a number of places where sewage pollution is a problem	Regular upgrade and maintenance of sewer systems Completed inventory of sewer discharges to estuaries and the coast and compliance with the National Guideline for the Discharge of Effluent from Land-Based Sources into the Coastal Environment	Compile an inventory of all the pollution sources along the estuaries and coastline of the Overberg, including GPS locations so that these can be adequately managed		Public Participation
Stormwater management	There are two known stormwater outlets at Infanta. The rest of the stormwater is from surface run off	Records of stormwater outlet structures in the coastal zone for monitoring purposes	1. Capture stormwater outlet structures below the HWM on GIS database 2. Undertake pollution monitoring at outlet structures		Swellendam Local Municipality
	1. It is stated that once water from the towns flows via the rivers through the farming areas it is no longer under the control of the municipality 2. Water quality in rivers is not checked by the municipality but it could be checked by BGCMA 3. TWK does however respond to specific problems or when complaints about pollution are received E.g. oil spillages, car wash, etc. The response is largely re-active	Determining the status of water quality monitoring in the catchment	Undertake inventory of water quality monitoring points, frequency and data collection and identify areas where additional monitoring is required		TWK
	1. There are a few windfalls and stormwater	Need a comprehensive GIS dataset of existing	1. Compile a database of all structures below the		CAM

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	pipes that are on the beach	structures below the HWM.	HWM including GPS points (for georeferencing)		
	2. No water samples of stormwater are taken. Tests are undertaken by DM of the water near the bathing area at Struisbaai		2. Identify potential sources of pollution and develop a monitoring programme		
		Records of stormwater outlet structures in the coastal zone for monitoring purposes	Determine status of stormwater outlet structure GIS data in the coastal zone		Overstrand Local Municipality
Climate Change and Coastal Processes					
Erosion	There are various areas along the coast that are experiencing erosion, which is eroding away beaches and also causing risk to coastal users and infrastructure	Management approach/guideline to address coastal erosion	1. Undertake inventory of all areas experiencing coastal erosion and determine risk 2. Align approach to management of coastal erosion with Province		Public Participation
Climate Change	Climate change is and may result in changes in both weather and the coastal environment (through sealevel rise)	1. There is a need for coastal management lines to protect the coastal environment and users by providing for sealevel rise in future planning 2. The impacts of changes in weather should also be considered in terms of its potential impact on industries such as agriculture, which constitutes a large section of the Overberg's economy	1. Coastal management lines for the Overberg (to be commenced as part of a separate study shortly) 2. Incorporation of the management lines into the municipal planning schemes 3. Consideration of the Western Cape Climate Change Strategy and Action Plan		Public Participation
Reduced wind speeds due to coastal developments	Wind drives a number of coastal processes and the effect of a reduction in wind speeds in certain	Understanding of coastal development on wind patterns and subsequent impacts on ecology	Long-term study to understand the changes in wind speed and direction along the coast		Public Participation

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	areas due to coastal developments are not known		as a result of coastal development and how this should be taken into consideration in future planning and approvals.		
Mobile dune management	Although mobile dunes are a naturally occurring process, they are causing problems with engulfing infrastructure and houses in areas such as Pringle Bay, Betty's Bay, Rooiels, Buffeljags, Arniston and Hangklip	There is a need to have a holistic understanding and approach to the management of mobile dunes, both to inform the current situation as well as to inform future planning	1. Undertake a broad-scale study do understand sand movement along the coast and identify areas of deposition/accretion and areas of scouring. 2. Develop a management plan to address mobile dunes		Public Participation
Oceanographic consideration in coastal management		Understanding of how changes in oceanographic conditions affect coastal processes	Undertake research into the effects of oceanographic conditions on coastal processes		Public Participation
Coastal Planning and Development					
Sustainable development	This includes control of development adjacent to rivers, densification and management of urban sprawl and maintenance of 'sense of place' of villages	Considering sustainability of developments prior to approval and densification of coastal settlements	1. Ensure the need and desirability of development applications are evaluated before being approved 2. Prioritise densification of existing settlements in the SDF and zoning schemes		Public Participation
Infrastructures and services		Determination of adequate existing services before approving developments	1. Create an inventory of infrastructure problems and prioritise for remediation 2. Ensure confirmation of adequate services infrastructure before approving development applications		Public Participation
Removal of infrastructure	There are a couple of places where mobile	A standard approach/management	Develop a management approach to address		Public Participation

Issue	Status of Existing	Gap	Need/Work Undertaken	to be	Comment	Source
	dunes have engulfed infrastructure/developments along the coast. These should either be salvaged and maintained or removed	action to deal with this sort of infrastructure/structures is needed	infrastructure/structures that need to be removed/managed			
Illegal developments	There are illegal houses/developments at Quoin Point	Adequate control and verification process	Building inspectors must be deployed to check the legality of developments/structures and illegal structures/developments dealt with accordingly			Public Participation
Coastal lines	Management	<p>1. Determination of coastal management lines</p> <p>2. Aligning spatial planning policies and legislation with environmental legislation</p> <p>3. Inclusion of coastal zone and hazard/management lines in municipal spatial planning</p>	<p>1. New coastal management lines study for the Overberg coast to determine the coastal management lines</p> <p>2. Create an environmental overlay which focuses on estuary and coastal issues which is read in conjunction with the EAF</p> <p>3. Undertake more extensive LiDAR for estuaries to determine the appropriate management lines, as use of 5 m contour is not practical</p>		May require ad-hoc management lines for dunes, coastal wetlands, etc. and that specific regulations and management plans for these areas should be put in place	Overstrand Local Municipality
		<p>1. Determination of coastal management lines</p> <p>2. Aligning spatial planning policies and legislation with</p>	<p>1. Undertake more extensive LiDAR for estuaries to determine the appropriate management lines, as use of 5 m contour is not practical</p> <p>2. Investigate the need for local (ad-hoc) coastal management line</p>		Awaiting management line resolution from Province	Swellendam Local Municipality

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
		environmental legislation	determinations in some areas		
		3. Inclusion of coastal zone and hazard/management lines in municipal spatial planning			
		1. Linking/aligning spatial planning policies and legislation with environmental legislation (ICMA/ NEMA)	Province to determine management lines. Once this has been done these are to be included in the zoning schemes.		CAM
		2. Inclusion of coastal zone and hazard/management lines in municipal spatial planning			
Determination and adjustment of coastal boundaries		Confirmed and updated floodlines for estuaries	Determine the 1:50 and 1:100 year floodlines in estuaries and along the coast		Overstrand Local Municipality
Social and Economic Development					
Development of tourism facilities	There is a lack of hiking trails and facilities such as hotels to support tourism in certain areas	Sufficient tourism attractions and facilities to attract and grow the tourism industry, especially in the less developed towns and areas	Liaise with the local stakeholders and business owners to identify where tourism development is required and identify actions in order to implement this		Public Participation
Lifesaving		Lack of lifesaving equipment (for public use/access) at Kleinmond and Betty's Bay and need for lifesavers during non-Blue Flag periods	Investigate the possibility of reinstating lifesaving equipment at Betty's Bay and Kleinmond Identify beaches where there is a need for lifesavers at non-Blue Flag times and allocate funding		Public Participation
Fishing quotas	Local fisherman have lost fishing licences due to the implementation of the new	The methodology employed in allocation of fishing rights should be	Engage with national DEA to negotiate the way in which fishing		Public Participation

Issue	Status of Existing	Gap	Need/Work to be Undertaken	Comment	Source
	allocation system	revised	allocations are granted		
Aquaculture		Sustainable aquaculture should be promoted to improve employment and food security	Develop aquaculture in line with the National Aquaculture Policy Framework		Public Participation
Culture and Heritage					
Archaeological, cultural and heritage sites	The Overberg has a rich cultural, archaeological and historic background	A complete inventory of archaeological, historic and cultural sites within the district and inclusion of such information into planning and tourism	Undertake an inventory of all the archaeological, historic and cultural sites within the district to inform planning and tourism development and conservation of resources		Public Participation

7.1 Identification of Priority Options

Coastal management issues identified and grouped above were then structured and filtered to identify priority options for the development of the CMP.

The identification of priority options for implementation was undertaken for two reasons – firstly, as there is a legal requirement for municipalities to undertake certain functions as set out in the legislation, it is important to identify these as high priority in order to ensure compliance with law.

Secondly, funding for coastal management functions is incredibly limited, and it is thus essential that the municipalities first prioritise the implementation of coastal management functions which form part of their core mandate before allocating their limited resources to coastal management functions outside of their mandate.

As such, although a number of other coastal management issues were identified during the stakeholder engagement process and given very high priority, they were not identified as priority options for the implementation phase. An example of this would be the illegal harvesting of marine resources, Law enforcement of marine resources is not a municipal responsibility (in this instance it is undertaken by SAPS, DEA Oceans & Coasts, DAFF, with assistance from CapeNature and SANParks in protected areas) and as such cannot be identified as a municipal priority.

7.1.1 Methodology Employed

The identification of priority options was, as a first step, informed by the legal mandates and requirements of the local and district municipalities as set out in the Constitution, ICMA and the Municipal Structures Act, with a high initial priority assigned to issues required by law and a medium priority assigned to those that are suggested in the legislation. These are outlined in more detail in sections 2.1.1, 2.1.3, and 2.1.6 with some further discussion in section 3.3.4.

A second level of prioritisation was then undertaken on the coastal management functions that fall within the municipal mandate. Higher priority was assigned to issues rated as such by the workshop participants (indicated in issues summary table in Appendix B) as well as issues that were raised on several occasions and in several locations. Lastly, issues that have existing biophysical or socio-economic impacts along the coast were also given a higher priority rating.

The issues identified above were then balanced against the degree to which they are already being addressed within current structures (i.e. if an issue is initially considered to be a High priority but is already being managed or undertaken, then the final priority may be Low to Medium).

Issues raised during the previous round of stakeholder engagement that did not form part of the municipal mandate were listed separately and prioritised in the same way as the mandated areas in order to identify issues which could be prioritised and addressed in future, or which could be highlighted for action to the relevant responsible entities. These are provided in Appendix C.

This process is outlined in Table 7.2 below.

Table 7.2: Prioritisation of mandated issues

Issue		Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
Facilitation of Coastal Access						
Access over private land (designation of coastal access servitudes)	Yes (as part of access provision)	High	High	Medium	Low	High
Provision of coastal access	Yes (as part of access provision)	High	Medium	Medium	Low	High
Maintenance of access infrastructure	Yes (as part of access provision)	High	Medium	Low	Low	High
Management and control of access	Yes (as part of access provision)	High	Medium	High	Low	High
Management of slipways/jetties/boat launching sites/harbours	Yes	High	Medium	Medium	Medium DEA&DP has initiated process to licence public sites	Medium
Infrastructure and Services						
Provision and upgrade of various coastal facilities (ablution facilities, waste management, swimming facilities, lifesaving)	Yes (as part of access provision)	High	Medium	Low	Low	High
Programme of predicted expenditure and investment in coastal management infrastructure or for implementation of MCMP	Suggested	Medium	n/a	n/a	Low	Medium
Jetties, piers and harbours (and public launch sites) (excluding proclaimed fishing harbours and ports)	Yes	High	Medium	Medium	Low	Medium
Beaches	Yes	High	Low	Low	Medium	Medium
Cooperative Governance						
Roles and responsibilities between B & C municipalities	Yes, responsible for local cooperative governance	High	n/a	n/a	Low	High
General lack of integrated coastal management/management structures	Yes, should integrate coastal management at a local level	High	High	n/a	Low	High (at a local level)

Issue		Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
Linkages with other CMPs and guidance from National and Provincial	Yes	High	High	n/a	High Provincial, National and Kogelberg CMPs taken into consideration in the development of the Overberg CMP	Low (currently being addressed)
Lack of funding	Yes, responsible for funding requests	High	High	n/a	Low	High
Alignment with other plans, policies or programmes	Yes	High	Low	n/a	Medium Existing plans being considered in the development of the Overberg CMP	Medium
Identification of areas requiring special management and development of management strategies for these	Suggested	Medium	Low	High (potentially)	High This will be addressed as far as possible in the Overberg CMP	Low
Disaster management	Yes	High	Low	High (potentially)	Medium The ODM disaster management plan address this, but coastal issues should be given more attention and the LMs need to be aligned with the district plan.	Medium
Compliance, Enforcement and Monitoring						
Development of by-law for administration of MCMP	Suggested	Medium	n/a	High (potentially)	High This forms part of the current process.	Low
Natural Resource Management						
Management of alien invasive species	Yes, on municipal property	High	High	High	Low	High
Protection of coastal and marine species,	Yes, as part of	High	Medium	Medium	High	Medium

Issue		Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
including bird breeding areas	agreements and general duty of care and protection of the environment				Several protected areas and IBAs within the ODM.	
Conservation of biodiversity	Yes, as part of general duty of care and protection of the environment as well as municipal protected areas	High	Low	High (potentially)	Medium CBAs are considered in development applications through environmental impact assessments and indicated in the municipal SDFs.	Medium
Estuarine management	Yes	High	High	High	Medium EMPs have been developed for many of the estuaries, but there are still a few outstanding. EMPs also need to be updated and approved and signed off by the MEC. Estuarine management issues also not yet addressed.	High
Scientific input into decision-making	All spheres of government to utilise scientific backing for decision-making	Medium	Low	High (potentially)	Low	Medium
Awareness, Education and Capacity Building						
Signage	Yes – access points	High	High	Low	Low There are plans for DEA to develop National Norms and Standards for Coastal Signage.	High
Public participation	Yes	High	Low	Medium (potentially)	High Public participation	Low

Issue	Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
				aligned with holiday periods and ward committees included in distributions.	
Land and Marine-based Sources of Pollution					
Pollution from sewer systems	Yes	High	High	Low	High
Other sources of pollution	Yes	High	Medium - High	Low	High
Stormwater management	Yes	High	Low	Low	High
Cleaning (waste disposal)	Yes	High	Low	High (potentially) Medium IWMP for ODM in place.	Medium
Climate Change and Dynamic Coastal Processes					
Erosion	Yes	High	High	Low	High
Climate Change	Yes, to be taken into consideration in disaster management, pollution, stormwater management and spatial planning	High	Medium	Medium Although the Province has a Climate Change Response Strategy, this needs to be rolled out at a municipal level to ensure practical implementation. However, climate change considerations incorporated into management lines.	Medium
Mobile dune management	Yes	High	High	Low	High
Sustainable development	Yes	High	Medium	High The environmental approval process should consider this; the municipal SDFs also provide guidance.	Low

Issue		Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
Infrastructures and services	Yes	High	Medium	Low	Low	Medium
Illegal developments	Yes, as part of building control	High	Low	Medium	Low	Medium
Coastal management lines	Yes, implementation at local level	High	n/a	Medium	Medium A revised management line process is underway the ODM. Implementation to follow	Low
Social and Economic Development						
Development of tourism facilities	Yes, local tourism	High	Medium	Medium	Low	Medium
Lifesaving	Yes	High	Medium	Medium	Low	Medium
Aquaculture	Yes, forms part of sustainable economic development	High	High	High	Medium The National Aquaculture Policy Framework has been finalised which is aimed at developing aquaculture, but needs to be implemented and driven at the local level	High
Culture and Heritage						
Archaeological, cultural and heritage sites	Yes, protection of cultural and heritage resources a common responsibility	High	Medium	High (potentially)	Low	Medium

7.1.2 Prioritisation Summary

The above can be summarised as follows:

High Priorities

- Provision of coastal access
- Control and monitoring of access
- Provision and maintenance of access infrastructure
- Clarity on roles and responsibilities between district and local municipalities
- Integrated coastal management
- Funding
- Management of alien invasive species
- Estuarine management
- Coastal access signage
- Pollution from sewer systems and other sources of pollution (e.g. litter)
- Stormwater management
- Erosion
- Mobile dune management
- Aquaculture (local economic development and sustainable job creation)

Medium Priorities

- Management of slipways, jetties, public launch sites, harbours
- Programme of predicted expenditure and investment in coastal management
- Upgrade and maintenance of infrastructure for jetties, piers, harbours
- Beaches
- Alignment with other plans, policies and programmes
- Disaster management
- Protection of coastal and marine species
- Consideration and maintenance of ecological processes
- Conservation of biodiversity
- Scientific input into decision-making
- Waste disposal
- Climate change
- Infrastructure and services
- Illegal developments
- Development of tourist facilities
- Lifesaving
- Archaeological cultural and heritage sites

7.1.3 Cost-Benefit Analysis

Once the priority options have been agreed upon for the development of the CMP, a Cost-Benefit analysis will be undertaken (as part of the next phase). This will be done by means of a Cost Effectiveness Analysis to inform the timing and implementation of the priority options to ensure the greatest benefit from the limited funding available for coastal management.

8 Way Forward

The revised draft Situation Analysis Report (SAR) was circulated for key stakeholder comment and was amended accordingly before being distributed for general stakeholder review and comment. A number of stakeholder workshops were also held to discuss the SAR as follows:

- Malagas 2 April 2015
- Infanta 2 April 2015
- Hermanus 7 April 2015
- Hawston 7 April 2015
- Kleinmond 8 April 2015
- Gansbaai 8 April 2015
- Struisbaai 9 April 2015
- Pearly Beach 9 April 2015
- Arniston 10 April 2015

Comments received on the revised draft SAR were then used to produce the final SAR (this document).

The draft CMP will now be developed, along with the Coastal Management by-law, which will again be circulated for public review and comment, and accompanied by a number of stakeholder workshops in December 2015.

8.1 Anticipated Timelines

The draft CMP will be compiled in July/August 2015, with the draft Coastal Management by-law to follow in October 2015. Public participation will be undertaken in November and December 2015 to discuss the drafts. The project will be concluded in May 2016.

8.2 Deliverables

The outstanding deliverables are as follows:

- Draft CMP
- Final CMP
- Full Public Participation Report
- Draft Coastal Management By-law
- Final Coastal Management By-law.

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Appendix A. Mandated Functions in Terms of ICMA

Table A.1: Mandated functions in terms of ICMA

Aspect	Description	
NATIONAL GOVERNMENT ROLES AND RESPONSIBILITIES		
1	The management of coastal public property	Ensuring the state as a public trustee, provides for the protection, management and enhancement of coastal public property as an inalienable area within the coastal zone that belongs to the citizens of South Africa. This achieved by developing regulations to control the use of coastal public property, determine and adjust the boundaries of coastal public property as deemed appropriate, as well as designation and inclusion of certain portions of state-owned land as coastal public property, to achieve the objectives of the ICM Act.
2	The National Estuarine Management Protocol	Ensure that the National Estuarine Management Protocol is developed and that Estuarine Management Plans for each estuary along the SA coast is place in collaboration with responsible bodies appointed for Estuary Management Plan development and implementation.
3	The National Coastal Committee	Establishment of the National Coastal Committee, determination of its powers and appointing representatives for the Committee.
4	Monitor the appointment of provincial lead agencies	Ensure that Provincial lead agencies for ICM are established and functioning on a continual basis.
5	Development and Implementation of the National Coastal Management Programme	Develop a National CMP aligned with the contents of the ICM Act.
6	Consistency and alignment between the National CMP and other statutory plans	Ensure that any plan, policy or programme adopted by an organ of state that may affect coastal management is consistent and aligned with the national coastal management programme.
7	Consultation and public participation	Ensure meaningful consultation with government and other coastal stakeholders.
8	Environmental authorizations for coastal activities	Ensure that the competent authority refers, in terms of S63 (4) applications that are inconsistent with S63 (2), but are in the public interest, to the Minister for consideration. Ensure that where an environmental authorization is not required for coastal activities, the Minister considers listing activities that will be requiring a permit or license in terms of S63 (6).
9	Discharge of effluent into coastal waters	Ensure that point source discharges of effluent are effectively assessed, controlled and monitored.
10	Dumping of waste into coastal waters	Prohibit incineration at sea and ensure that the overall intent of S70 and S71 is understood by stakeholders.
11	Emergency dumping at sea	Ensure that consideration is given to emergency situations relating to the dumping of waste at sea.
12	The National Action List	The selection of and prioritisation of certain substances by the MEC that will allow for the effective screening of waste proposed for marine disposal according to its potential effect on human health and the marine environment.
13	Determination of national appeals powers	Establish powers of Minister and MEC's and procedures to be followed in determining appeals.
14	Prescribing regulations and fees	Develop regulations for the management of activities within coastal public property and consult the Minister of Finance before making any regulations which will entail expenditure of funds in future years, application fees, or regulations imposing fees, costs or any other charges.
15	General provisions applicable to regulations	Specify general procedures relating to regulations, including penalties for contraventions.

Aspect	Description
PROVINCIAL GOVERNMENT ROLES AND RESPONSIBILITIES	
1	Management of the coastal protection zone Ensuring the protection, management and enhancement of the coastal protection zone. This achieved by developing regulations to control the use, determine and adjust the boundaries of the coastal protection zone as deemed appropriate, as well as designation and inclusion of certain portions of provincially controlled state-owned land as coastal public property to achieve the objectives of the ICM Act. This may also include the appointment of voluntary coastal officers.
2	Imposition of fees within coastal public property Obtain the approval of the Minister before charging any fee for access to coastal public property.
3	Establishment of coastal management lines Establish coastal management lines in regulations to restrict or prohibit certain activities that may have an adverse effect on the coastal environment.
4	Marking coastal boundaries on zoning maps Inform municipality of any coastal boundaries determined or adjusted in terms of S26
5	Designation of provincial lead agencies In collaboration with the Premier, ensure that provincial lead agencies for coastal management are designated and function effectively to promote and coordinate coastal management within a coastal province.
6	Establishment and functioning of Provincial Coastal Committees Establishment of the Provincial Coastal Committee, determination of its powers and appointing representatives for the Committee.
7	Development and Implementation of Provincial CMPs Develop Provincial CMPs aligned with the contents of the ICM Act.
8	Consistency and alignment between Provincial CMPs and other statutory plans Ensure that any plan, policy or programme adopted by an organ of state that may affect coastal management is consistent and aligned with provincial CMPs, which in turn is aligned with the national CMP.
9	Consultation and public participation Adequate consultation and public participation precede the exercising of a power by the MEC, which this Act requires to be exercised in accordance with this section.
10	Environmental authorisations for coastal activities Coastal management issues considered in terms of Section 63 and requirements of this section complied with before an environmental authorisation is issued in terms of Chapter 5 of the NEMA.
11	Implementation of national Regulations Implement national Regulations, for example, list public boat launch sites that may be used by the public to access the coastal zone.
12	Regulations by MECs Develop regulations for the management of activities within the coastal protection zone and specify general procedures relating to regulations, including penalties for contraventions.
13	Information and Reporting on Coastal Matters Prepare a report on the state of the coastal environment in the province which must contain any information prescribed by the Minister.
14	Co-ordination of actions between provinces and municipalities Liaise with coastal municipalities in the province to co-ordinate actions taken in terms of this Act by provincial organs of state in the province with actions taken by municipalities.
LOCAL GOVERNMENT / MUNICIPAL ROLES AND RESPONSIBILITIES	
1	Access to coastal public property Ensuring that the public has equitable access to coastal public property by designating coastal access land, designate in by-laws strips of coastal access land to promote access to CPP along the coast, withdraw inappropriate coastal access land and Follow an environmentally sensitive and socially responsible process in designating coastal access land.
2	Coastal management line demarcation on zoning maps Delineate set-back lines in municipal zoning schemes maps (should participate in any provincial set-back line determinations, but this is discretionary; alternatively can work with province to determine set-back lines.

Aspect	Description
	Province will have to Gazette).
3	Determining and adjusting coastal boundaries of coastal access land Ensure specified considerations are taken into account when determining or adjusting a coastal boundary of coastal access land.
4	Marking coastal boundaries on zoning maps Delineate coastal boundaries determined or adjusted in terms of S26 on zoning scheme maps.
5	Municipal CMPs Prepare and adopt a municipal CMP for managing the coastal zone or specific parts of the coastal zone in the municipality.
6	Consistency and alignment between Municipal CMPs and other statutory plans Ensure that any plan, policy or programme adopted by an organ of state that may affect coastal management is consistent and aligned with municipal coastal management programmes, which in turn is aligned with provincial coastal management programmes and the national coastal management programme and ensure that IDPs (including its spatial development framework) is consistent with other statutory plans [See S52 (1) (a-f)] adopted by either a national or a provincial organ of state.
7	Consultation and public participation Adequate consultation and public participation precede the exercising of a power by a municipality, which this Act requires to be exercised in accordance with this section.
8	Implementation of land use legislation in coastal protection zone In implementing any legislation that regulates the planning or development of land, in a manner that conforms to the principles of co-operative governance contained in Chapter 3 of the Constitution, apply that legislation in relation to land in the coastal protection zone in a way that gives effect to the purposes for which the protection zone is established as set out in section 17.

Appendix B. Issues identified during Public Participation

Table B.1: Summary of the issues identified during the public participation process. Issues are highlighted in red, orange and yellow to indicate High, Medium and Low priorities as per stakeholder feedback

Facilitation of Coastal Access	Facilities & Infrastructure	Cooperative Governance	Natural Resource Management	Compliance, Enforcement & Management	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Access over private land at Lamloch, Meerensee and Kleinmond estuary	Maintenance of facilities such as toilets	Establishment of local municipal committee to address coastal issues	Ineffective estuarine management and implementation of EMPs	Lack of law enforcement at non-Blue Flag beaches - Palmiet and Pringle Bay	Environmental education	Effluent management from fish farms and abalone farms	Erosion due to access across dunes	Better control of developments adjacent to the river	Aquaculture development	Protection of archaeological sites in dunes
Insufficient access along the Overstrand coast	Need for rubbish bins	Ineffective management of Quoin Point, Pearly Beach Reserve and Uilkraal by CapeNature	Management of kelp harvesting (e.g. request for no kelp removal at Pringle Bay)	Illegal harvesting	Coastal awareness education	Air pollution monitoring	Beach erosion	Need for sustainable development	Empowerment of local fisherman	Need for stronger focus on cultural and heritage resources and protection - cultural/heritage sites at Waenhuiskrans and Struisbaai
Lack of control/management of access points - Seafarm	Need for upgrade of harbour (Arniston)	General lack of coastal management and management structures	Urbanisation and pressures on natural resources	Illegal hunting of otters with dogs - west bank of the Palmiet	Public awareness of coastal work initiatives	Effluent discharge into the river	Coastal erosion at Struisbaai	Infrastructure and services availability for new developments	Need for local government assistance in the development of economic opportunities such as aquaculture farm	Archaeological/heritage sites/shell middens require protection
Insufficient infrastructure provision and maintenance of access points	Deepening of harbour and improvement of slipway at Kleinbaai	Inclusive management approach	Alien invasive management	Insufficient law enforcement and control by CapeNature	Lack of signage indicating protected bird areas	Need for pollution/groundwater monitoring	Lack of oceanographic considerations in coastal management	Densification of Struisbaai and management of urban sprawl	Reduction in fishing quotas	Shipwrecks
Loss of historic public access points - Romansbaai and between Rooiels and Pringle Bay	Lack of swimming facilities and forward planning for Blompark	Lack of clarity in terms of roles and responsibilities for coastal and estuarine management	Conservation of local fynbos	Illegal harvesting	Appropriate use and positioning of signage	Plastic pollution	Climate change impacts on weather and coastal environment	Inadequate road infrastructure and development planning in Pringle Bay causing drainage problems	Fishing permit allocations	
Provision of free access for residents to Galjoengat and the Beacon	Development of Kleinbaai harbour	Link with other CMPs to effect integrated coastal management	Alien invasive plants	Increased security along coastal route from caravan park to Klipgat	Lack of signage	Pollution of Kleinmond estuary	Reduction in wind speeds due to coastal developments	Localised flooding	Training and use of local guides for trails	
Provision of vehicular access to eastern side of Arniston	Inadequate infrastructure maintenance and management	Vision and forward planning for the coastal zone	Alien infestation and clearing	Better policing/law enforcement at tidal pool	Inadequate signage of protected/restricted areas	Sewage pollution from Substation 2 and in Walker Bay	Restriction of dune movement at Ryspunt	Removal of campsite at Buffeljachtsbaai which is under sand from mobile dune	Development of walking trails in the area	

Facilitation of Coastal Access	Facilities & Infrastructure	Cooperative Governance	Natural Resource Management	Compliance, Enforcement & Management	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Clarification in terms of access (vehicular or pedestrian) and associated monitoring and management on private land	Lack of maintenance of coastal facilities at Maanskynbaai and Schulphoek	Cooperative governance and guidance from national and provincial government	Inadequate monitoring and management of kelp harvesters	Illegal harvesting	Use of signage for education	Light pollution from Witsand and local residents	Mobile dune management in Betty's Bay	Inadequate stormwater drainage	Need for socio-economic development programme	
Maintenance of access to Stanford	Upgrade, maintenance and facilities of Moddergat slipway	Lack of clarity i.t.o roles and responsibilities of spheres of government, governmental departments, NGOs and other parties in coastal management	Amendment of kelp harvester permit conditions	Lack of law enforcement - police come from Hermanus		Need for recycling	Mobile dunes at Rooiels and Buffeljags	Maintenance of sense of place of "villages"	Availability of viswywers on DENEL grounds/marine reserve for use by local community	
Lack of access to Meerensee	Need for ablution facilities at the river mouth	Mandate jurisdictional paralysis	Inadequate monitoring of fish stocks and fishing processes at Gansbaai fish factory	Illegal harvesting		Dust pollution at Infanta park	Erosion from access points/slipways	Land availability at Buffeljachtsbaai	Shark watching permits in Kleinbaai	
Lack of wheelchair access in Hawston	Provision of adequate facilities such as ablution	Inadequate interface between various governmental bodies	"Legalisation" of abalone poaching by DEA	Encroachment at Vermont		Sewer system problematic at De Damme Campsite	Long-term erosion of beach	Renewal of leases at Uilkraalsmond	Maintenance of open river mouth at Uilkraals to support tourism	
Lack of access via the camping ground	Lack of facilities at cut up/process fish in the harbour	Need for better coastal management	Need for additional protected areas in the Betty's Bay MPA	Illegal harvesting		Sewer discharges into Uilkraals estuary	Undermining of coastal road	Illegal holiday houses - Quoin Point	Lack of tourism facilities - hotels	
Restricted access to Piet se Klip in front of Bientang's Cave Restaurant	Need for harbour development	Lack of funding to manage the river and estuary	Reduced freshwater inputs into Kleinmond estuary	Inadequate use of existing law enforcement resources		Waste management & associated problematic bird impacts on endangered/breeding birds and abalone farms at Gansbaai	Climate change considerations in future development applications	The use of the 5 m contour currently used for the Breede river is seen as rather arbitrary and makes town planning and building control difficult.	Need for hiking routes in the area to promote tourism	

Facilitation of Coastal Access	Facilities Infrastructure &	Cooperative Governance	Natural Resource Management	Compliance, Enforcement & Management	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Access over private land - mouth of Bot River	Currently Roman beach is not safe	Lack of integrated coastal management	Management of kelp harvesting in the area and closing off of access points by harvesters	Need for field rangers in coastal nature reserves		Additional litter bins along the coast in Cape Agulhas are required	Mobile Dunes - Pringle Bay, Betty's Bay, Rooiels, Hangklip and Arniston	There is a need to construct beacons near the mouth of the Breede river to delineate where the estuary starts and also to delineate the points as per the government gazette from where night fishing is no longer permitted.	Need to upgrade Paddavlei	
Maintenance of access road to Klein river lagoon at Maanskynbaai		Lack of funding	Bush encroachment	Lack of control and implementation of fishing restrictions off De Hoop		There are a number of WWTW that discharge their effluent into the Breede river. This needs to be monitored and controlled		Likewise was the need expressed for the determination of one-in-50 and one-in-100 year flood line in estuaries and along the coast.	Promotion of sustainable and responsible aquaculture	
Lack of public access surrounding Infanta		lack of clarity i.t.o roles and responsibilities	Extension of Walker Bay whale sanctuary year round for motorized boats	Illegal harvesting		Numerous WWTW outlets into the sea and wetlands in the Overstrand Local Municipality		Inventory of landing strips	Fishing quota allocations	
Lack of public access upstream from the Breede river mouth		The question was raised who patrols the coast. Cape Nature and SANParks only look after their own area. Cape Agulhas Municipality only looks after the coastal zone within the urban areas i.e. – the towns. Beyond that there is no supervision except in crises e.g. – beaching of a whale.	Loss of biodiversity along rocky shores at Bientang's Cave	Implementation of night time fishing restrictions and policing on the Breede river		WWTW outlets into the Breede River		Eskom pumped storage scheme for power generation sties	Development of tourist facilities	
Access over private land		Clarity in terms of the future roles of the LBRC and BREF	Establishment of temporary MPAs to protect fish stocks	Lack of governmental involvement in law enforcement		Integration of water quality monitoring and management and identification of responsible authorities				

Facilitation of Coastal Access	Facilities Infrastructure &	Cooperative Governance	Natural Resource Management	Compliance, Enforcement & Management	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Lack of access in De Hoop			Lack of approach/policy on alien invasion and clearing	Jurisdictional uncertainty pertaining to law enforcement		Lack of water quality monitoring			Reinstatement of lifesaving equipment on Kleinmond and Betty's Bay beaches	
Lack of access point signage, including Walker Bay and Pearly Beach Nature Reserve			Rooikrans and Port Jackson invasion along the coastline and along roads (and associated impacts on biodiversity)	Dangerous/reckless driving of law enforcement officials on beaches		Extensive use of soakaways and septic tanks within the CAM			Ineffective lifesavers at Kleinmond	
Need for additional access points, including at Agulhas NP			Lack of fire management	Use of technology in poaching control					Need for lifesavers during non-Blue Flag periods	
Access restriction to Danger Point due to abalone farm			Reduced freshwater flows in the river	General lack of law enforcement					Memorial stones along the coast	
Need for additional buried boardwalks like those at Pearly Beach			Undersized fish catches	Illegal driving on beaches					Walking trail development	
Access management			Need for more MPAs	Ineffective law enforcement to manage illegal harvesting					allocation of fishing permits	
Access provision around the SANParks area			Promotion of catchment management by municipalities	Lack of police presence/law enforcement					The question was raised on why the density of households making use of the coastal zone should be increased as seems to be indicated by the ICMA. - What if you are in a water scarce area or you just can't sustainably develop high densities?	
No dive zone (Quoin Point to Ratel River)			Consideration of ecological cycles in planning process	Illegal harvesting - Pearly Beach to Buffeljags					Health and safety of bathers using Infanta slipway and surrounds	
Provision of access at the harbour and associated parking			Improper management of kelp harvesting	Illegal harvesting in estuaries						
Lack of adequate access along CapeNature coastal area			Alignment of Estuarine Management Plans with CMP	Monitoring and management of light aircraft						

Facilitation of Coastal Access	Facilities Infrastructure &	Cooperative Governance	Natural Resource Management	Compliance, Enforcement Management &	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Access to DENEL for coastal recreation			Regulation of use zones within estuaries							
Adequate control and policing of access points			Need for monitoring and control of recreational and resource use on the river							
Need to limit public access on the Breede river/strategic placement of launch sites on the river			Protection of breeding whales							
Need for boardwalks across dunes, e.g. in Kleinmond to go view wild horses			Coastal Bird Breeding Area							
Breede EMP does not speak to slipways and public access			Coastal Bird Breeding Area							
Restricted diving area without measurable reduction in illegal harvesting - impacts on tourism, local residents, economy			Protection of great white sharks for conservation and tourism							
Collapsing walkway on erf 134			Protection of marine mammals in Walker Bay							
No dive zone - negative impact on tourists and local residents			Water quantity issues in Uilkraals estuary due to Kaaibos dam							
Provision of facilities along with access			Management of estuaries is seen as a district municipal function							
Connecting tar road at Die Dam to newly tarred road			The EMP for the Breede needs to be put in place by the Province							
Continuation of the Whale Route through to Agulhas NP			At Kabeljoubank there is a risk that the timber stairs can be washed away due to erosion of the sandy beach							

Facilitation of Coastal Access	Facilities Infrastructure &	Cooperative Governance	Natural Resource Management	Compliance, Enforcement Management &	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Access is generally adequate.			Thorough scientific investigation prior to the establishment of MPAs or closure of coastal areas							
Examples of lack of access over private land (Meer-en-See) and requests for expropriation			Need for scientific research in the Klein river estuary							
Security is an issue for private landowners if there is uncontrolled access										
Liability associated with access provision										
Service delivery obligations associated with access provision										
Access along the coast often leads to trampling above the HWM										
Swellendam Municipality would prefer not to undertake the management and maintenance of public launch sites										
Some of the slipways and jetties (within the Swellendam Local Municipality) are illegal										
If increased monitoring of water quality e.g. due to stormwater and agriculture run-off needs to take place, this will require additional budget										
Registration and management of boat launching sites and harbours										
Inadequate control at Bloustoep launch site										

Facilitation of Coastal Access	Facilities Infrastructure &	Cooperative Governance	Natural Resource Management	Compliance, Enforcement & Management	Awareness, Education & Capacity Building	Land and Marine-based Sources of Pollution	Climate Change & Dynamic Coastal Processes	Coastal Planning & Development	Social & Economic Development	Culture and Heritage
Clarity around registration and management of public and private slipways and jetties										
Management and accessibility of public slipways										
Lack of legal boat launching site at Buffeljachtsbaai										
Inadequate management and monitoring of boat launching permits										
Uncertainty around licensing of boat launching sites										

** Black = public input
 ** Blue = Key stakeholder input
 ** Purple = municipal input

Appendix C. Prioritisation of non-mandated issues

Table C.1: Prioritisation of non-mandated coastal management issues for future consideration

Issue	Municipal Function	Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
Cooperative Governance						
Lack of clarity in terms or roles and responsibilities of coastal management	No	Low	High	n/a	Low	Low (National and Provincial to take the lead)
Compliance, Enforcement and Monitoring						
Illegal harvesting	No	Low	High	High	Low	High
Insufficient law enforcement officials	No	Low	High	High	Low	High
General lack of law enforcement	No	Low	High	High	Low	High
Implementation of fishing restrictions	No	Low	Medium	Medium - High	Low	Medium
Jurisdictional uncertainty pertaining to law enforcement	No	Low	High	Low	Low	Medium
Natural Resource Management						
Management of kelp harvesters	No, but could be a municipal led LED project	Medium	Medium	Medium	High This is being followed up by members of the MCC	Medium
Monitoring and control of recreational use of natural resources	No	Low	Medium	Low	Low	Low
Need for additional marine protected areas	No	Low	Medium	Medium	Medium Application for the rezoning of the Betty's Bay MPA.	Low
Consideration and maintenance of ecological processes	No, but should be considered in spatial	Medium	Medium	High (potentially)	Low	Medium

Issue	Municipal Function	Initial Priority	Stakeholder Priority	Existing Impact / Multiple Locations	Level to which this is being addressed	Final Priority
	planning and building approval plans					
Biophysical monitoring of the coast	No, but addressing erosion and accretion a municipal responsibility	Medium	Low	Low	Medium Some biophysical monitoring already taking place as part of Blue Flag Beach initiatives.	Low
Awareness, Education and Capacity Building						
Environmental/coastal education	No	Low	Medium	High (potentially)	Medium National Strategy for Coastal Awareness, Education and Training has been developed by DEA.	Medium
Climate Change and Dynamic Coastal Processes						
Reduced wind speeds due to coastal developments	No	Low	Medium	Unknown	Low	Low
Oceanographic consideration in coastal management	No	Low	Medium	Unknown	Low	Low
Removal of infrastructure	No	Low	Low	Low	Low	Low
Determination and adjustment of coastal boundaries	No	Low	n/a	Low	High Undertaken as part of the revised management line study for the ODM.	Low
Social and Economic Development						
Fishing quotas	No	Low	Medium	High	Low	Medium