

**TOWARDS A MANAGEMENT PLAN FOR THE
NELSON MANDELA METROPOLITAN
MUNICIPALITY COASTAL AREA:
A STARTER DOCUMENT**

Report prepared for



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VOLUME I

GUIDELINES AND OBJECTIVES FOR COASTAL MANAGEMENT IN THE NELSON MANDELA METROPOLITAN MUNICIPALITY



I. GUIDELINES AND OBJECTIVES FOR COASTAL MANAGEMENT IN THE NELSON MANDELA METROPOLITAN MUNICIPALITY

1. INTRODUCTION

1.1 BACKGROUND

As part of the environmental process associated with the establishment of the Coega IDZ and Ngqura Port an Algoa Bay Management Plan (ABMP) was produced (CLABBS Consortium 1999). Running in parallel, but independently with the development of the ABMP, was the development of the National White Paper for Sustainable Coastal Development in South Africa (DEAT 2000). Subsequent to the production of these reports, the White Paper has been translated into a provincial document termed the Eastern Cape Coastal Management Plan (ECCMP).

The ABMP was subject to a public review process where it received some criticism for not being comprehensive enough and for lacking substance or buy-in from key stakeholders.

While not being bound by any Records of Decision (RODs) regarding the building of Ngqura Port or the Coega IDZ, the National Ports Authority (NPA) has commissioned a consortium made up of Coastal and Environmental Services, the Institute for Environmental & Coastal Management and Enviro-Fish Africa to produce a starter document for the Nelson Mandela Metropolitan Municipality, which will hopefully provide the impetus for a Coastal Management Plan (NMMM CMP) and lead to integrated coastal management practises.

It should be recognised that the management of the NMMM coastal area and its surrounds is a dynamic process and not a single product or administrative act. While NPA recognises that it is a major stakeholder in the NMMM coastal area, they are not responsible for its overall management. However as part of their corporate responsibility, they decided to initiate a process which will hopefully result in the management of the NMMM coastal area according to the guidelines outlined in the White Paper. Formulated with extensive public, civil and authority participation, the White Paper contains the current vision and management ethos for the South African coastal zone. The White Paper is a national directive with which all provincial and local authorities will need to comply.

The success of this initiative is **directly** linked to the participation and buy-in of all the stakeholders in the NMMM region. The aim of this NPA-sponsored starter document is to establish what is required to start the process and also to provide some initial guidelines and documentation to initiate the holistic management of the coastal zone and its resources.

As only one of the stakeholders in the NMMM coastal region, the NPA **does not** see it as their role or mandate to produce a comprehensive management plan, which by its very nature would include many activities that are outside of NPA's operations. NPA are, however, willing to sponsor the initial steps in formulating a dynamic and co-operative management plan in a coastal area in which they are a significant stakeholder.

1.2 RELATIONSHIP OF THIS PROCESS TO THE PORT OF NGQURA AND THE COEGA IDZ

It is important to note that, while the NPA through their corporate responsibility programme have initiated the NMMM Integrated Coastal Management Plan, the product is not "Coega" orientated. The initiative is to look at the entire metropolitan coastal (from the Sundays river estuary to Van Stadens river estuary) and not just areas affected by the NPA or the Coega IDZ.

In addition, this initiative should not be confused with the Construction and Operational Environmental Management Plans required by DEAT in terms of the Record of Decision issued on the Ngqura Port. The construction and operational Environmental Management Plans are environmental documents designed specifically to manage the construction and operational phases of the Ngqura Port. In contrast, the NMMM Coastal Management Plan is at a higher level than an individual project and looks to manage the entire NMMM coastal area.

1.3 SCOPE OF WORK

Development of a starter document

The vision of the White Paper for sustainable management of our coastal resources is for all sectors of society to be involved in the management of our coastal assets, and thus the role of scientists providing a thick management plan produced with a top down ethos has passed. The objectives and associated budget for this undertaking allowed for a starter document aimed to stimulate co-operative management, rather than a comprehensive management plan for the NMMM coastal area. The success of this document will be achieved if it can provide the impetus for a holistic, people orientated, integrated, co-operative governance type management process in the NMMM coastal area.

The principal objective of the TOR was to:

Provide a working document, which provides the broad guidelines and management objectives for the NMMM coastal area. This document would then be utilised by the stakeholders as a starting point and the mandated stakeholders for the various management issues that arise in the NMMM coastal area would then develop specific Action Plans.

Objective 1 – Translate the White Paper into an NMMM coastal area specific document

The first objective was to translate the White Paper and Eastern Cape Coastal Management Plan into an NMMM coastal area specific document. This entailed brief discussions of the various themes and goals of the White Paper in terms of the NMMM coastal area and its surrounds and the production of state of our coastal assets reports. The brief for the state of the environment reports were to discuss the various coastal assets according to the vision and objectives of the national White Paper with the following sections being covered:

1. Governance and capacity building
2. Our National Asset
3. Coastal Planning and Development
4. Natural Resource Management
5. Pollution control and waste management

Objective 2 – Prioritise the key management issues associated with the Bay

The second objective was to prioritise the management issues in the NMMM coastal area. Input into this process was to be from the Algoa Bay Management Plan, Eastern Cape Coastal Management Plan, White Paper and feedback from the public participation process undertaken by Sandy & Mazizi Consulting (SMC).

Objective 3 – Develop Draft Environmental Action Plans

The third objective was to develop draft action plans.

1.4 DELIVERABLES

Part 1 – Guideline Document

Part 1 was to contain the guidelines and objectives for managing the NMMM CMP. This section was to provide the bulk of the starter document, with input on the way in which the NMMM coastal area could be managed, the possible visions and objectives for the area and the way forward.

Part 2 –Action Plans

Part 2 was to review the state of coastal resources and their management in the Nelson Mandela Metropolitan Municipality and to discuss the major coastal management issues in the Metro.

Part 3 –Action Plans

Part 2 was to provide the templates and requirements for action plans as well as some examples. The number of examples was to be budget dependent.

1.5 PUBLIC CONSULTATION PROCESS

Sandy & Mazizi Consulting cc were appointed by the National Ports Authority (NPA) to facilitate public participation for the following processes:

Marine Mammal Rehabilitation Centre

"2.12 The CDC and NPA, together with all other stakeholders whose operations are likely to impact negatively on the marine life of Algoa Bay, must cooperate with the establishment of the seabird and marine mammal rehabilitation centre before construction commences."

Users of Algoa Bay

"2.16 The CDC and NPA must identify all users of the Algoa Bay nearshore waters and accommodate their needs in the management plan, before construction and dredging commence, to avoid among other things, possible loss of income and occurrences of accidents."

Algoa Bay Management Plan

"2.14 The CDC must ensure that all mitigation measures recommended in the Algoa Bay Management Plan are implemented. To achieve this, both the CDC and NPA must mobilise the participation of relevant authorities and other role players."

The first two items (2.12 and 2.16) are contained in the Final Record of Decision issued by the national Department of Environmental Affairs and Tourism. The third item, the Algoa Bay Management Plan, was omitted from the Final Record of Decision. Despite having no legal obligation to do so, NPA decided to commit itself to the process of reviewing this document in the interests of international best practise and as part of their corporate social responsibility.

This section (1.5) outlines the public consultation process managed by Sandy & Mazizi Consulting cc for the development of the Starter Document of the NMMM Coastal Management Plan and the identification of the users of Algoa Bay and their needs.

1.5.1 Background to the Public Participation Process

The proposed construction and operation of a deep-water port at Coega, Port Elizabeth (the Ngqura Port) has undergone a number of iterations from an Environmental Impact Assessment (EIA) perspective. This has included an extensive and dynamic public consultation process.

The first Algoa Bay Management Plan was produced in December 1999 by CLABBS Consortium and included a limited public consultation process. Subsequently NPA decided that the revision of the Algoa Bay Management Plan should be accompanied by a much broader public consultation process than its first version.

During 2000 the Algoa Bay Management Plan, along with the EIA for the Port of Ngqura and EIA for the Rezoning of the Core Development Area underwent an extensive public consultation process, which included, amongst others, the following:

- Notification of the process and meetings held in local and regional newspapers
- Networking meetings with key organisations, groups and individuals
- Public Meetings and Open Days
- Focus group meetings and a site visit.

A database of interested and affected parties (I&APs) was developed and maintained throughout the process. All I&APs on the database, approximately 1200, were provided the opportunity to comment on the Algoa Bay Management Plan. Through the consultation process it emerged that the Algoa Bay Management Plan (ABMP) lacked buy-in from key stakeholders as it was regarded as not comprehensive enough.

Subsequent to the release of the ABMP, a number of changes took place, the most notable being the establishment of a Metropolitan Authority with a broader jurisdiction and the release of the White Paper on Sustainable Coastal Development in SA. In addition to this, a number of development proposals have emerged along the NMMM coastal area, e.g. the Greater Addo Elephant National Park, including a proposed Marine Protected Area, and Madiba Bay, incorporating a substantial portion of the Metro coastline. All of these developments and proposals, including the Port of Ngqura, have a bearing on the NMMM coast. The concept of sustainable use of coastal resources demands that these changes are taken into account and that there is coordination between the relevant authorities and other

stakeholders with regards to coastal management and monitoring. It is within this context that the National Ports Authority committed to the review of the Algoa Bay Management Plan and appointed Sandy & Mazizi Consulting cc to conduct the public participation process.

1.5.2 Overview and Purpose of the Public Participation Process

The purpose of this process was to proactively identify all the users of Algoa Bay and involve them in a process that will ultimately lead to coordinated management of the metropolitan coastal area. It was therefore recommended that one combined process be implemented for item 2.14 (Users of Algoa Bay) and 2.16 (Algoa Bay Management Plan) in order to achieve the objectives of the project.

The following phased process was implemented:

- Phase One: Identification of users and impacts
- Phase Two: Development of mitigatory measures and review of outline of NMMM Starter Document
- Phase Three: Review and adoption of the NMMM Coastal Management Starter Document
- Phase Four: Establishment of proposed management body.

Phase One: Identification of users and impacts

The objective of the first phase of the process was to identify all key stakeholders to ensure that their issues and concerns were noted and considered in the development of mitigatory measures for management of the Bay and the development of an NMMM Coastal Management Starter Document.

The following outlines the process of identification of users, their issues and impacts on the Bay:

- Identification of stakeholders – The database of 1200 registered I&APs used in 2000 for the review of the ABMP served as the basis for the identification of key stakeholders whose activities were likely to impact on the Bay. In addition to this, Sandy & Mazizi Consulting cc, using their experience and knowledge of the area, proactively identified additional I&APs and stakeholders for inclusion on the database.
- Newspaper Advertisements – Newspaper advertisements were placed in both ‘Die Burger’ and the ‘Eastern Cape Herald’ notifying interested parties of the process and requesting them to register their interest.
- Networking Meetings – Networking meetings are one-on-one meetings between the participation consultant and a specific group, organisation and/or individual. At these meetings additional I&APs were identified for inclusion in the database.
- Focus Group Meeting – All I&APs on the database were invited to attend a Focus Group Meeting on the 4 October 2002. The purpose of this meeting was to provide I&APs with an

overview of the process being implemented and provide an additional platform for the identification of issues and concerns. At this meeting additional I&APs were also identified by participants for inclusion in the database.

To total of 68 I&APs are presently registered on the database comprising local, provincial and national authorities (DWAF, DEAT, DEAE&T, MCM), tourism groups and organisations (PE Tourism, Tourism 2000, Water Sports NMMM), environmental and conservation NGOs (WESSA, TERU), SAPS, SANParks, recreational groups (Diving, Deep Sea and Shore Angling), chokka, hand line and pelagic fishers, Coega Development Corporation, National Ports Authority, landowners, National Sea Rescue Institute, mariculture, councillors. The detailed database is attached as Appendix 3 of this document and indicates the interaction with I&APs and their participation in the process.

Phase Two: Development of mitigatory measures and review of the outline of the Starter Document

Once the database was developed, issues and impacts were identified through the consultation process as outlined in Phase One above. Identified issues were summarised in tabular format in an Issues Trail document that is contained in this Starter Document as Appendix 3.

The next stage in the process was to consider whether the raised issues would be addressed through the review of the ABMP or in some other way by NPA. The purpose of this process was two fold, one, to ensure that identified impacts have been or will be addressed by the National Ports Authority and, secondly, to consider issues raised for inclusion in the review of the ABMP.

A workshop with I&APs was held on the 29 November 2002 at the Port Elizabeth City Hall to create the opportunity for additional issues to be identified. All I&APs were provided with a copy of the Issues and Response Trail for their comment. At the workshop participants were presented with the outline of the NMMM Coastal Management Starter Document for their input and comment. The outline was adopted by the meeting as presented.

Phase Three: Review and adoption of the NMMM Coastal Management Starter Document

The last phase on the process entailed the review and adoption of the NMMM Coastal Management Starter Document. To facilitate this process all I&APs on the database were mailed a copy of the Executive Summary and Volume I of the Starter Document together with an invitation to attend a workshop on the 23 June 2003 for discussion and comment of its contents. Appendix 7 of this report provides the minutes of this meeting and the feedback that was received.

The implemented process has played an important role in assuring stakeholders that the issues they have raised will be addressed in a management plan for the NMMM coastal area. On this basis, the vision, principles and objectives as laid out in the Starter Document were adopted by the workshop participants.

Phase Four: Establishment of management body

At the workshop on 23 June 2003, various management options as outlined in the Starter Document were presented for consideration. The meeting determined the need for the establishment of a NMMM Coastal Management Unit as per Alternative 1 presented in the Starter Document.

One of the key challenges in this process has been the poor participation of various levels of government, most notably by the Eastern Cape Department of Economic Affairs, Environment & Tourism (DEAE&T) and by Marine and Coastal Management (MCM). National Ports Authority was tasked by the workshop to meet with the NMMM and DEAE&T to facilitate the process for the establishment of a Coastal Management Unit.

1.5.3 Recommendations and conclusion

It is recommended that NPA meet with the Chief Executive Officer of the NMMM to present and discuss the proposed establishment of an NMMM Coastal Management Unit. In addition, meetings should be held with MCM and DEAE&T to update them on the process.

The public participation process has been a comprehensive and inclusive process for the development of a management plan for the NMMM coastal area. The need to implement a plan that will result in the sustainable management of the NMMM Coastal Resources cannot be emphasised enough. Strategic planning and sustainable development of the NMMM coastal area in a co-ordinated manner could result in potential economic, social and environmental benefits for the Metropolitan area.

The Comprehensive Urban Plan for Port Elizabeth and its surrounds, which takes into account the future growth of the area, provides a framework in which developers and planners can operate, plan and harness various opportunities. Key developments are presently taking place along the NMMM coastal area, Port of Ngqura, establishment of a Marine Protected Areas by SANParks, Madiba Bay and the potential for development of the Port of Port Elizabeth. A comprehensive framework needs to be developed, one, which takes into account the future growth of the City and impacts on the coast. A key example of this is the loss of bathing and recreational area because of the development of the Port of Ngqura and the impact on other recreational areas within the Metro.

2. STRUCTURE AND FUNCTIONING OF THE NMMM CMP

2.1 GEOGRAPHICAL EXTENT

The original Algoa Bay Management Plan (ABMP) focused solely on Algoa Bay, which is not a defined DEAE&T management unit. The Eastern Cape Coastal Management Plan (ECCMP) clearly defines the four DEAE&T management units in the Eastern Cape as being the Western, Central, Eastern and East Griqualand/Kei regions (Figure 1). The Nelson Mandela Metropole is one of the 5 coastal municipalities within the Western Region and thus forms a discrete management unit.

2.2 BASIC STRUCTURE

The NMMM CMP should be structured into two discrete volumes:

1. *Volume 1 - The Coastal Management Plan Volume*, which comprises all the necessary background information pertinent to the management of the NMMM coastal area. The volume should contain the following sections from this starter document:
 - a. Structure and functioning of the NMMM CMP.
 - b. Structure and functioning of the Environmental Management System and Action Plans.
 - c. Vision and objectives for the NMMM coastal area.
 - d. Way forward.
 - e. State of the NMMM coastal assets reports.

This volume should be reviewed at least every 5 years to see if the vision and objectives set for the NMMM CMP are being met.

2. *Volume 2 – Action Plans*, which comprises the specific action plans that detail the precise manner in which the on-the-ground activities are going to be implemented and monitored. This section is covered by Volume Two of this starter document.

2.3 REQUIREMENTS FROM STAKEHOLDERS

This starter document was designed to be as un-prescriptive as possible. The consortium recognises that there is extensive ongoing management in the NMMM coastal area, by a wide range of agencies, often under the trying circumstances of poor financing and capacity. These agencies, e.g. NMMM, DEAE&T, SAHRA and DWAF, have set mandates according to legislation to manage and act as custodians of our coastal resources. This starter document commissioned by the NPA is an attempt to stimulate a higher degree of co-operative governance and a holistic management approach to the coastal area.

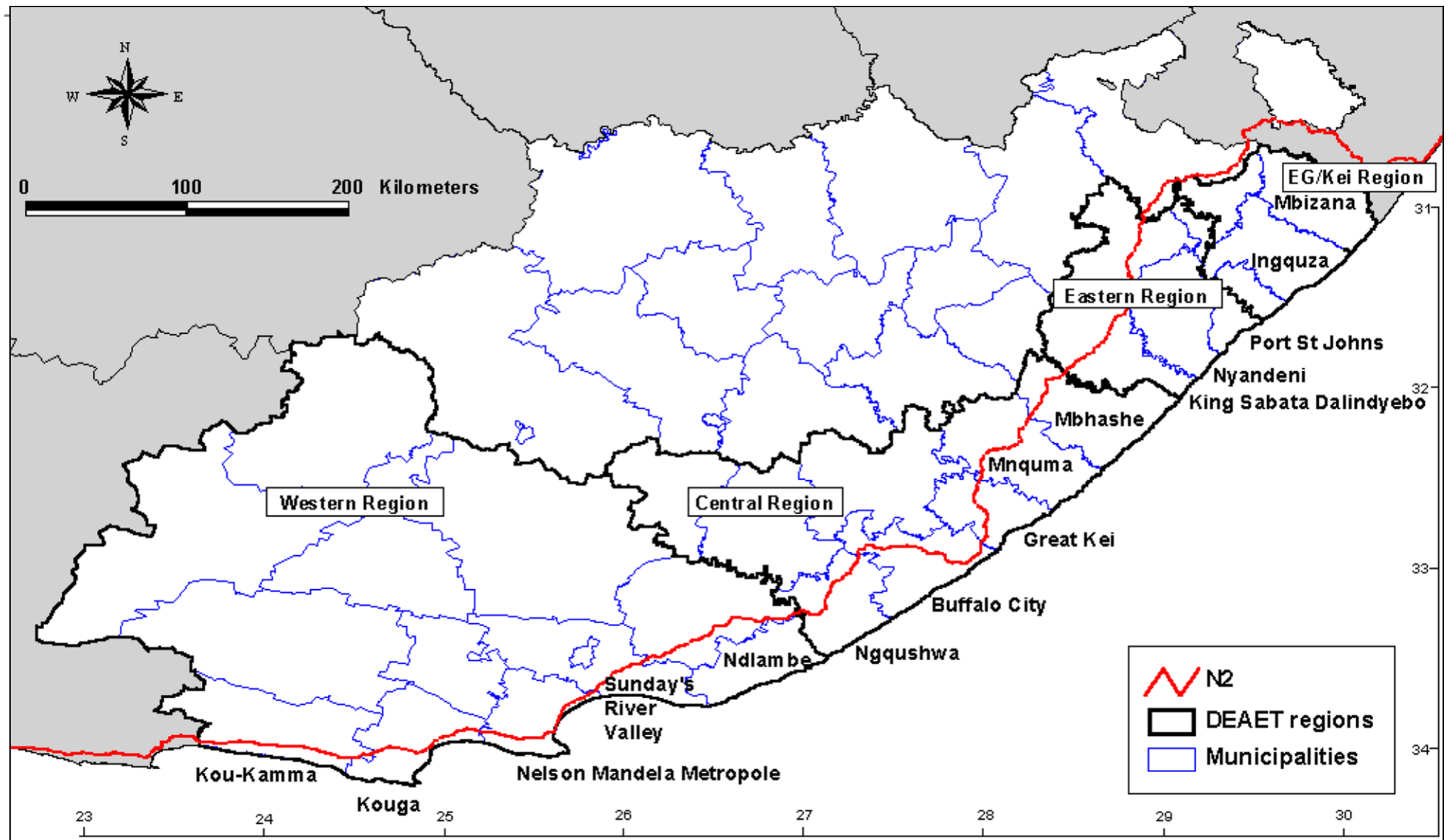


Figure 1 Map of the Eastern Cape Province showing the DEAE&T management area and the municipal regions.

This process will only work if the various agencies accept from the outset the new management ethos and approach presented in the White Paper. If there is not significant buy-in, then this process will fail. It must be recognised that it is not the NPA's responsibility to drive this process forward, but rather a collective responsibility of all stakeholders in the NMMM coastal area. One of the key components of the White Paper is that civil society also becomes actively involved in management, so the previous top down approach to coastal management becomes more people orientated.

The starter document is meant to initiate the process of the development of an integrated plan by the stakeholders; it does not pretend to offer all the answers. The starter document provides examples and recommendations regarding management structures as well as goals and visions for the region, but these need to be modified according to the outlook of all the stakeholders in the area. This process is outlined below in the section Way Forward.

2.4 CONSULTATION

Sandy & Mazizi Consulting (SMC) facilitated the public participation process for this project by completing the following tasks in the second half of 2002:

3. Production of a briefing paper that outlined the aims and objectives of this project (Appendix 1 & 2).
4. One-on-one meetings (Appendix 3) were held with the major stakeholders in the region in which the various NPA initiatives were discussed.
5. Two workshops were held to which all the stakeholders were invited (Appendix 4 & 5) where the approach and work programme for this starter document were presented and approved.

2.5 WAY FORWARD

As its title implies this starter document is seen as the first step towards a more integrated approach to coastal management in the NMMM. The next steps in the process are outlined in Figure 2. There are three possible scenarios in which there is significant danger of the process failing. The first is if the stakeholders do not agree with what is proposed in the starter document (See ① in Figure 2). If the public participation process was effective then this should not occur as the stakeholders were consulted regarding the chosen approach of the Starter Document. The second (See ② in Figure 2) is if the stakeholders do not embrace the new approach to co-operative coastal management. In this case the NPA have attempted a process, which the other stakeholders have no interest in being a part of. The third (See ③ in Figure 2) is if the stakeholders are interested, but a level of consensus cannot be reached which will allow for the process to proceed in a meaningful way.

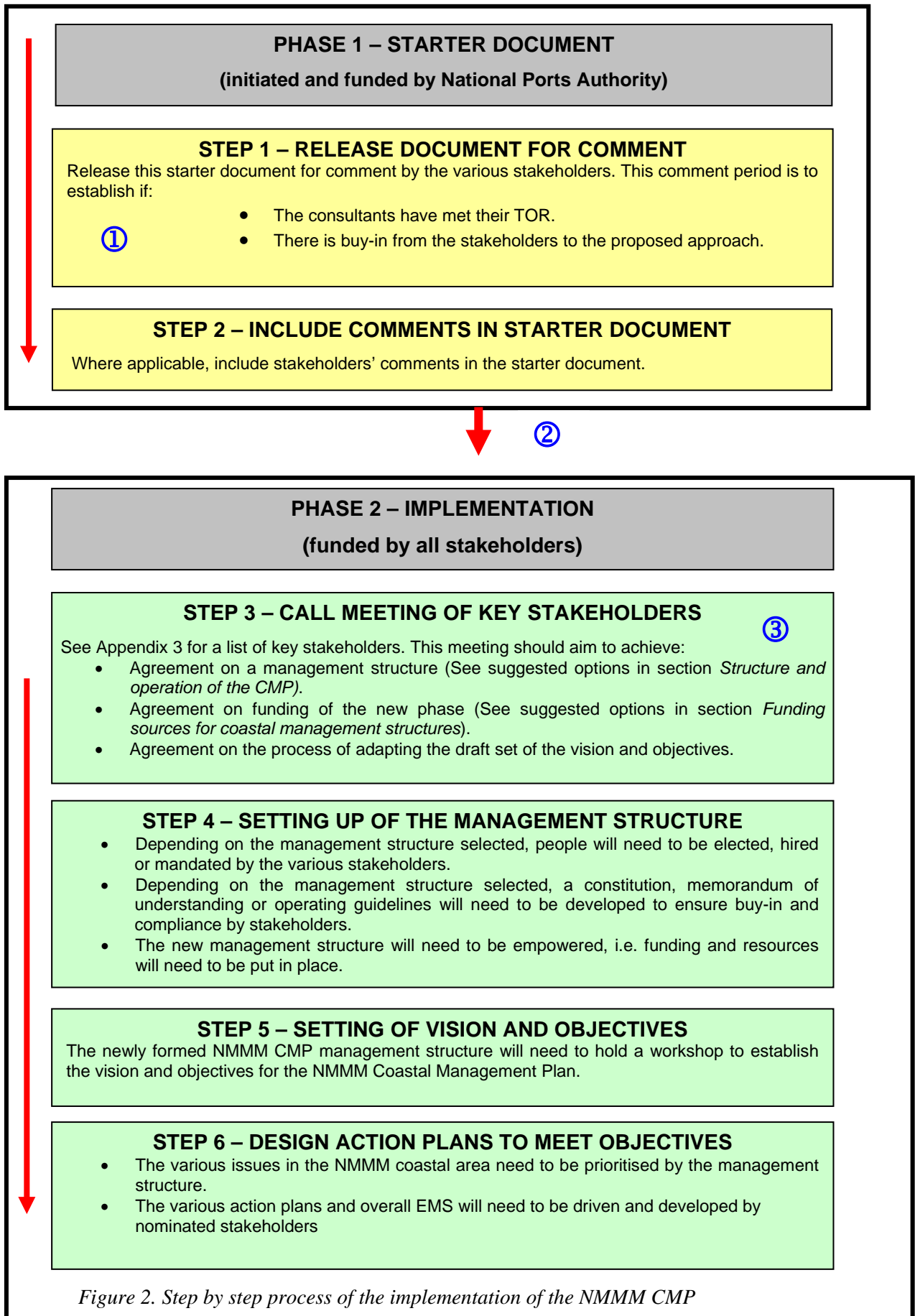
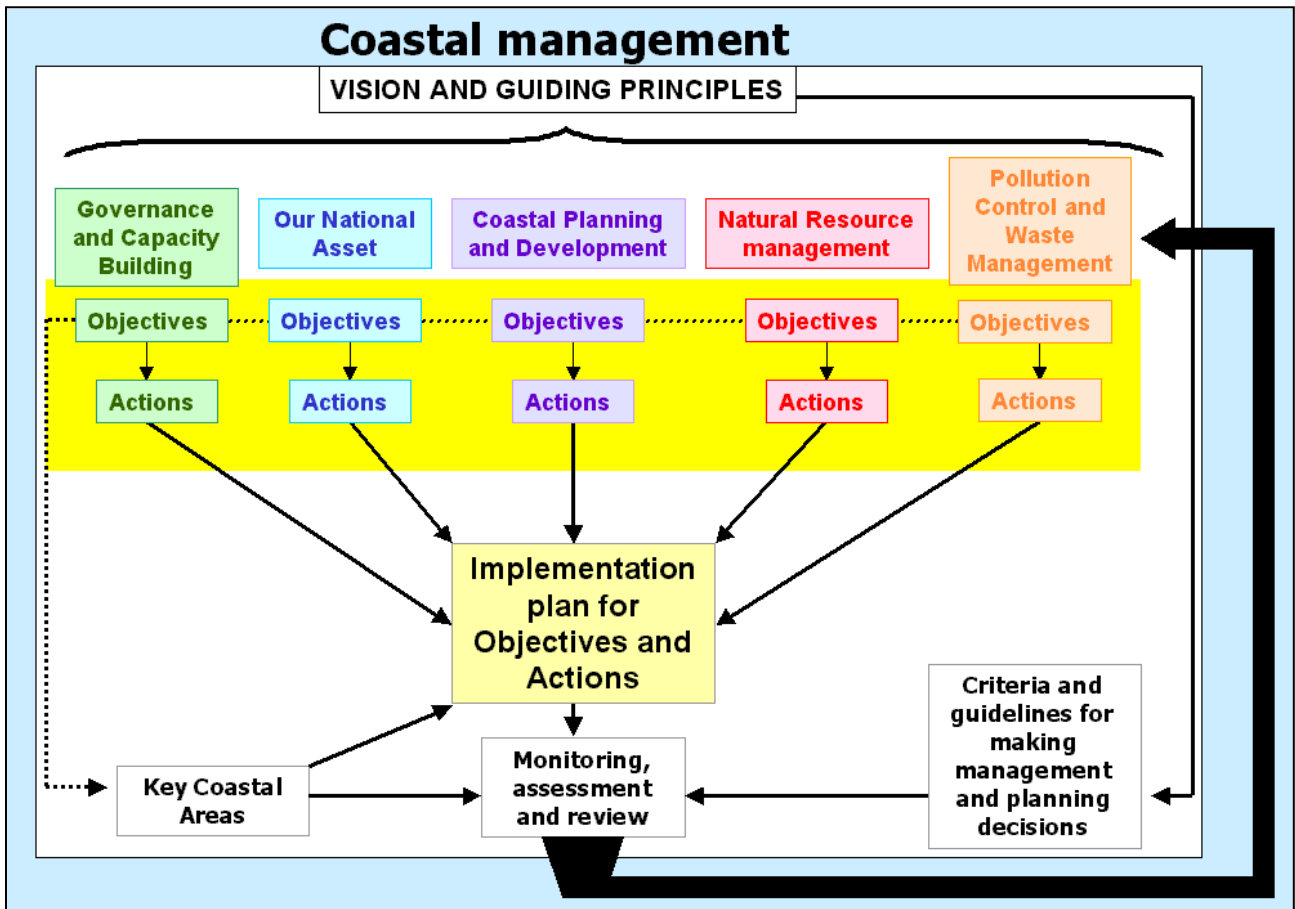


Figure 2. Step by step process of the implementation of the NMMM CMP

3. VISION, PRINCIPLES AND OBJECTIVES



3.1 RELATIONSHIP TO THE WHITE PAPER AND THE PROVINCIAL COASTAL MANAGEMENT PLAN

The White Paper on Sustainable Coastal Development aims to achieve equitable and sustainable coastal development through a dedicated and integrated coastal management approach. This new approach to coastal management takes cognisance of the inherent value of our coastal zone, and its potential for enhancing the socio-economic environment. The sustainable utilization of coastal resources has been identified as a key factor in achieving social and economic development. A coordinated and integrated management approach is promoted in which co-operation, shared responsibility and ecological integrity are the driving principles. It stresses the importance of establishing and maintaining partnerships between government, civil society, the private sector and the research community. Further stated is the necessity to decentralize management functions to the lowest spheres of government. In so doing, coastal managers, stakeholders and the general public will

require training and education – particularly with respect to the roles that coastal resources can play as vehicles for economic and social upliftment. This new approach to coastal management provides the vision within which provincial and local management plans should operate.

The Nelson Mandela Metropolitan Municipality (NMMM) has a number of governmental departments and other key stakeholders that are involved in the planning, management and utilization of coastal resources. As such, elements specific to the White Paper are relevant to a localized coastal management plan. Furthermore, the long-term vision of the devolution of management functions to the lowest capable sphere of government - in this case the NMMM - requires continuity in vision, principles and objectives.

In response to the White Paper, each province is required to develop a Provincial Coastal Management Plan (PCMP) in which the principles, goals and objectives of the former are the guiding factors. Various themes taken from the White Paper identify the central issues that need to be addressed. These are as follows:

Theme one identifies ‘Governance and Capacity Building’. It highlights the need for improved capacity - both in quantity and quality. Specifically, it identifies a need to manage resources effectively, and to enhance co-management structures through the creation of network linkages between all stakeholders involved in management, research and the utilization of marine and coastal resources. Furthermore, the need to increase financial support to undertake these activities is noted. Theme two, ‘Our National Asset’, relates to the issues of equitable access to coastal resources wherein a sense of ownership should be established in the minds of all users, and the value of heritage resources recognized. ‘Coastal Planning and Development’ represents theme three in which issues pertaining to integrated and sustainable planning, management, development and utilization of the environment are discussed. Theme four, ‘Natural Resource Management’, provides the basis for long-term ecological integrity, and theme five, ‘Pollution and Waste Management’ puts particular emphasis on the control of environmentally degrading substances.

The Eastern Cape Coastal Management Plan (ECCMP) identified the Coega Industrial Development Zone (IDZ) as a potential key coastal area requiring special management. In light of the fact that the Coega IDZ falls within the NMMM, an Integrated Management Plan focusing on the municipal area is considered a priority. In order to successfully implement the ECCMP, it has been proposed that the structure of the Directorate of the Environment needs to be changed. Thus, a Coastal Management Unit (CMU) of three to five competent individuals will be given the mandate to implement and facilitate the ECCMP. In order to establish an efficient and effective network of co-management, a

linkage with the proposed structures for the implementation of the NMMM Integrated Coastal Management Initiative and the CMU would have to be established. This would establish lines of responsibility between the national and local levels, and enhance communication and information flow. As such, an atmosphere of shared responsibility would be created.

Both the White Paper on Sustainable Coastal Development and the Eastern Cape Coastal Management Plan provide frameworks from which more specific issues, objectives and principles can be identified. These issues can be used to compile an Integrated Coastal Management Initiative. The White Paper recognizes the diversity of the South African coastline, and takes cognisance of the different priorities and implementation methods that are required for the different locations - in this case the NMMM. The fact that it is sensitive to local, regional and provincial realities highlights the need for integrated management plans that are tailor made for specific geographical locations.

3.2 VISION FOR THE COAST

The White Paper on Sustainable Coastal Development and the Eastern Cape Coastal Management Plan have created a framework for coastal development. The vision statement that has been developed should be seen in terms of a long-term vision that guides management principles, objectives, implementation and decision-making. It is designed to uphold the integrity of each aspect of the coast, namely the natural, social, economic and cultural environments.

THE VISION

To approach management with an ethic that promotes holistic, integrative and co-operative governance in which social, economic, cultural and environmental integrity is protected, enhanced and maintained.

To encourage a sense of ownership and value of coastal resources amongst the public through environmental education and awareness thereby allowing enhanced community participation in maintaining the diversity of coastal ecosystems.

To allow equitable access to and sustainable utilization of natural coastal resources by all members of the community, and in so doing enhance their quality of life.

To promote development within the coastal zone in a sustainable manner in which stakeholder

participation and scientific integrity are the basis for responsible decision-making.

To promote the rehabilitation of currently spoilt and degraded coastal environments.

To ensure coastal zone integrity and biodiversity is sustained for the enjoyment of current and future generations through the protection of coastal ecosystems and resources.

To realize coastal management as a dynamic and continuous process that requires an interdisciplinary approach.

3.3 PRINCIPLES FOR COASTAL MANAGEMENT

1. National Asset

The coast should be retained as a national asset for the benefit all people living and visiting the Nelson Mandela Metropolitan Municipality.

2. Equity

Access to and benefits from coastal resources should be made available to the public in an equitable manner.

3. Economic Development

Coastal economic development opportunities should be optimised in a sustainable manner, meet the community's immediate and long term needs, and promote the long term well being of the local coastal communities. When allocating access to coastal resources, preference should be given to local communities and individuals that are dependent on the use of coastal resources for their livelihood - particularly those that are poor, marginalized or previously disadvantaged.

4. Social Equity

Coastal management efforts should ensure that all community members and visitors enjoy the rights of human dignity, equality and freedom.

5. Ecological Integrity

The diversity, health and productivity of coastal ecosystems should be protected, sustained and, where appropriate, rehabilitated.

6. Holism

The coast should be treated as a distinctive and indivisible system, and cognisance should be taken of the interrelationships between coastal users, the ecosystems, and between the land, sea and air.

7. Risk Aversion and Precaution

Under conditions of uncertainty, coastal management should adopt a risk-averse and precautionary approach.

8. Accountability and Responsibility

Coastal management is a shared responsibility. All individuals should be held responsible for the consequence of their actions, including financial responsibility for negative impacts.

9. Duty of Care

All individuals / organisations should act with due care and avoid negative impacts to the coastal environment and resources.

10. Integration and Participation

A dedicated, coordinated and integrated coastal management approach should be developed and conducted in a participatory, inclusive and transparent manner.

11. Co-operative Governance

Partnerships between government, the private sector and civil society should be designed to promote co-responsibility for coastal management, and to empower stakeholders to participate effectively.

3.4 OBJECTIVES

In the interests of clarity and continuity, the objectives presented in this plan complement those themes presented in the White Paper on Sustainable Coastal Development. Where appropriate, suitable actions designed to realize the objectives have been formulated.

It is important that the management of the NMMM is not seen in isolation, and it is for this reason that the objectives are interpreted within international, national, provincial, regional and local contexts. The following objectives were derived from national and provincial perspectives, and hence are

applicable to the local level. The long-term vision of the White Paper proposes the devolution of selected powers and functions from the national / provincial levels, to the local municipal level – in those cases where there is sufficient capacity.

In order to establish which issues require immediate attention, the various objectives and actions have been rated and assigned priorities and time frames (Table 1).

Table 1. Time frames and priority ratings applied to the different objectives and actions.

Time Frame		Priority	
Short term	Up to 2 years	Low priority	Time frames are a broad guideline, but if budgets do not allow they can be extended
Medium term	Between 2 and 4 years	Medium priority	Time frames should be adhered to
Long term	Within 6 years	High priority	Should be completed within the stipulated time frame, if not sooner
Ongoing	To be carried out on a continual basis		

➤ **THEME A: GOVERNANCE AND CAPACITY BUILDING**

There are a number of goals represented in this theme. These include the development of an integrated, co-operative and coordinated management approach to the coastal zone in which public and stakeholder participation, education and awareness is promoted; and where management processes encourage a cyclical process of research, monitoring, review and policy adaptation.

Objective 1: Improve government capacity within the NMMM

In order to promote effective coastal management within the NMMM, the management capacity within governmental structures should be increased. For example, over-extended institutional capacity has been identified as a management constraint in the Western Regional Office of the Department of Economic Affairs, Environment and Tourism (DEAE&T - located in Port Elizabeth). At present, there are 12 officials responsible for integrated environmental management between the Bloukrans and Great Fish River (extending beyond the boundary of the NMMM). It has been estimated that staffing levels in the region are approximately 50% below requirements. Clearly, improvements in staffing levels will promote enhanced coastal management.

Not only is enhanced personnel and skills capacity required, but increases in logistics and financial support are also needed. In addition, the appropriate training of all coastal managers is a necessity, most notably with respect legislative issues. For example, while municipalities have the option of introducing by-laws to control the recreational use of resources, these should be enforced. At present,

the regional DEAE&T office has no official dedicated to coastal management, although there are plans to appoint an environmental planner in the near future. It should be noted that the provincial management plan indicates that there is a lack of capacity within the NMMM town planning department.

Time Frame: Short

Priority: High

Responsibility: DEAT (MCM), DWAF, DEAE&T, NMMM, National Ports Authority (NPA), SAN Parks, Portnet

Note: The National Ports Authority and the Coega Development Corporation have established a joint Environmental Monitoring Committee which has appointed an Environmental Control Officer.

Objective 2: Improve coordination between the government departments concerned with coastal management within the NMMM

In order to ensure the success of all legislative objectives, a high level of inter-departmental coordination is required. Specific mention has been made for the need for coordination between the Department of Economic Affairs, Environment and Tourism (DEAE&T) and local municipalities - in this case the NMMM. Inter- and intra-departmental coordination within the NMMM is currently poor and needs to be developed. Improved management may be promoted through joint responsibility, such as currently exists between DEAT and NMMM with respect to the management of the Sundays and Swartkops Estuaries.

The establishment of regional forums and the Provincial Coastal Committee (PCC) could be used to drive institutional coordination. On the proposed PCC, it is essential that there is the mandatory representation of both the provincial and local departments that represent the NMMM coastline. Ongoing liaison with development agencies and departments operating within the NMMM coastal zone should be maintained. This could be achieved through the proposed NMMM coastal management structures.

The ECCMP has proposed that provincial planning be aligned with national initiatives, such as DEAT's Poverty Relief Programme. For the purposes of continuity, it is proposed that the NMMM IDPs be strictly aligned with these. In doing so, this will enhance the principle of integrative development.

Time Frame: Short

Priority: High

Responsibility: Proposed NMMM Coastal Management Structure (CMS), DEAT, PCC, DEAE&T, NMMM

Objective 3: Improve and strengthen the interaction of non-governmental agencies and institutions associated with the NMMM

The lines of communication and information flow between coastal management bodies within the NMMM and NGOs need to be improved. Specifically, lines of communication between the management bodies and the universities, research institutions, co-management bodies, industry and recreational clubs should be developed. In addition, improved levels of interaction with the public (particularly with respect to decision-making processes) should be enhanced. This will foster a sense of ownership, and ultimately improve management efficiency. The coordination of these interactions is essential for improving management capacity and efficiency.

An extensive list of key coastal stakeholders compiled during the formulation of the ECCMP will aid in the identification those role players specific to the NMMM. An inventory of institutions and organizations and their associated research topics should be compiled and circulated. In order to maintain effective, an ongoing review process will be necessary. The proposed NMMM coastal management structure should be assigned these tasks.

Time Frame: Short

Priority: High

Responsibility: Proposed NMMM Coastal Management Structure

Objective 4: Ensure adequate information exchange between scientists, coastal managers, stakeholders and the public

It is important that research information is disseminated to the key coastal stakeholders. Not only will this aid the coordination of research priorities, but will in addition minimize the duplication of research efforts. At present, there is a substantial amount of scientific information that could be applied to the management decision-making process; however, due to poor communication networks between managers and the scientific community, much of this information lies dormant. Coastal management is a cyclical process in which role players should learn from practical experience. As

such, an adaptive management approach that fosters continuous research, monitoring and review should be adopted.

A directory of coastal researchers and managers within the NMMM should be compiled. An online coastal documents database has been proposed by the ECCMP, and if adopted, will be developed by the PCC, DEAE&T and CMU (proposed Coastal Management Unit for the Eastern Province). The NMMM should be made aware of this and, where applicable, provide input.

Time Frame: Short

Priority: High

Responsibility: Proposed NMMM Coastal Management Unit

Objective 5: Improve compliance

At present, the ecological integrity of the NMMM coastal zone is being severely impacted by the over-utilization of some resources, most notably the nearshore living marine resources. A prime example of this would be the Abalone poaching that is currently rife at Cape Recife and elsewhere along the rocky shore. Other forms of illegal activities include bait harvesting and the out-of-season harvesting of resources. Over-exploitation limits the economic potential of resources and represents a loss of valuable revenue. Public education programmes that focus on the sustainable utilization of resources are required to limit illegal activities, and in addition, to encourage a sense of community resource ownership.

Central to the success of any compliance framework is the development of effective deterrence protocols. This may include harsher penalties and improved prosecution rates. Compliance legislation should be reviewed, and where appropriate amended. Increased funding should be sourced so that the capacity to enforce the legislation can be enhanced. MCM has approved a programme for the accreditation of honorary officers. The Marine Enforcement Group has provided a statistical report on the Abalone poaching indicating the monetary value lost to illegal trade. This document should be used to provide the economic incentive to improve compliance.

Time Frame: Short

Priority: High

Responsibility: DEAT (MCM), DEAE&T, NMMM

Note: Enforcement is a national mandate, however, increased numbers of honorary officers within governmental departments other than MCM can provide opportunities for shared responsibility.

Objective 6: The provision of financial resources from the delegating agent - to ensure effective management by the implementing agent

Local government has become increasingly involved in the management of coastal resources. Adoption of these responsibilities has often occurred in the absence of sufficient financial support. For example, much of the implementation of the MLRA - officially a national responsibility - has been devolved to provincial and local municipalities.

There is a need to identify those coastal management departments that lack sufficient funding, appoint additional coastal managers or staff, and to assist them in generating funds. It should be noted that municipal grants might prove suitable vehicles for the provision of financial assistance.

Time Frame: Short

Priority: Medium

Responsibility: DEAT, NMMM, Proposed NMMM Coastal Management Structure

Objective 7: Improve co-management

Central to the White Paper is the inalienable responsibility that the South Africa population has to help manage coastal resources. Co-management initiatives should therefore be encouraged and used to promote a sense of ownership. It should be noted that, with the possible exception of the conservation areas, public participation initiatives in the NMMM are either absent or poorly implemented.

Local management structures need to be strengthened and the concepts of co-management instilled at both institutional and community levels. The development of co-management institutions such as coastal trusts (at a local government level) should be encouraged. This will ensure job creation, improved law enforcement and opportunities for coastal environmental awareness (education / training). Various non-governmental organizations exist within the NMMM - such as the Zwartkops Trust and the Sundays River joint river committee – and provide excellent opportunities for improved co-management initiatives. Although legislation does not provide enforcement authority to local communities and authorities, monitoring of coastal resources by these bodies should be supported. MCM has approved a programme for the accreditation of honorary compliance officers. Such programmes should be investigated in terms of potential co-management structures. Opportunities for formal co-management initiatives should be investigated and established. Examples of such

arrangements could be the establishment of community links with local angler associations or whale watching charters. The latter groups may be given the responsibility to monitor compliance.

Time Frame: Ongoing

Priority: Medium

Responsibility: DEAT, DEAE&T, NMMM, Proposed NMMM Coastal Management Structure

Objective 8: Clarify roles and responsibilities within government departments

Since 1998 and the adoption of the MLRA, the roles of many government departments have changed. Alas, in some spheres of government there appears to be considerable confusion concerning the new lines of responsibility. This has caused ill-equipped departments to take on responsibilities that are not legislatively theirs. For example, estuarine officers have been incorrectly empowered and therefore unable to enforce the MLRA. A number of existing policies and laws are outdated, confusing or contradictory. Thus, as a matter of urgency, policy reviews are required to clarify roles and responsibilities. For example, with respect to provincial reserve boundaries, the current confusion between MCM and DEAE&T reduces the effectiveness of their management activities. Those delegated with specific roles and responsibilities should be held accountable. At present, municipal roles are not clearly defined. Clearly, this creates difficulties with respect to the integration of environmental policy and development planning and further highlights the need for capacity building within municipalities.

The clarification and the identification of management bodies that are mandated to manage specific resources needs to be undertaken, as are their roles with respect to shared or overlapping management issues. The fact that the White Paper requires devolution of management functions to the lowest capable level indicates there is a need for increased municipal responsibility.

Time Frame: Short

Priority: High

Responsibility: DEAT, DEAE&T, NMMM, Proposed NMMM Coastal Management Structure

Objective 9: Ensure effective coastal planning and management through public awareness programmes, and train and educate coastal managers and key stakeholders about the coast

Although a cross-cutting criteria for the implementation of several objectives outlined in the White Paper, a separate objective is allocated to awareness, education and training. It is essential for the

NMMM to support the national attempts that are designed to enhance awareness, for example Coastcare. At present, there is no evidence to suggest that there are dedicated training programmes for coastal managers in the NMMM. Likewise, there is an absence of public awareness campaigns that are designed to address coastal issues.

Programmes should be designed to encourage local awareness, training and education. A good example would be the 'The YES Programme' established and lead by the Cape Metropolitan Council (CMC). The vision of YES (Youth Environmental School) is that through environmental education, partnerships will be formed that ensure the protection, conservation and caring for the natural environment, and in so doing promote environmentally sustainable lifestyles, behaviour and actions.

It is imperative that managers, resource users and the public are educated with respect to the economic, aesthetic, social and environmental values of the coast and its resources. Knowledge of these issues will provide public support for the protection and management of the resources and, in effect, improve compliance. Subsistence resource users are going to have to be provided with economic and social incentives that are designed to promote voluntary compliance, for example improved access and the legalisation of resource utilisation.

Workshops are to be organised by the Coastal Educators Forum, whose function it is to educate people on coastal resource management. This represents an opportunity for developing an understanding within municipal departments. Although attempts are being made at the municipal level to educate the public, strengthening in this regard has been highlighted, most notably by the possibility of the employment of full-time extension officers. There needs to be an increase in proactive education programmes with respect to the public, and in particular the youth. Simple cost-effective methods can be applied, for example, road shows and 'open air' classrooms. Capacity in terms of human and financial resources should be made available to these programmes.

Time Frame: Ongoing

Priority: High

Responsibility: DEAT, DEAE&T, Proposed NMMM Coastal Management Structure

➤ **THEME B: OUR NATIONAL ASSET**

The theme 'Our National Asset' addresses public access issues. Equitable access can only be ensured through effective coastal management and planning. The state is the declared legal custodian of our

coastal assets and as such is obliged to ensure that the resources are managed for the good of all and are not inappropriately alienated for private or exclusive use.

Objective 10: Ensure equitable access to resources

Equitable access to resources is a central theme in the White Paper and is designed to address some of the inequalities of the past. Since 1994, there has been substantial progress made in the NMMM, however, the issue of fishing quotas has yet to be adequately addressed. It is essential that proposed access reforms are supported.

The Subsistence Fisheries Unit (MCM) is currently facilitating the provision of subsistence licenses to improve access to those communities that rely on coastal resources. An example would be the bait harvesting in the Zwartkops Estuary. This program requires support. A review of the current licensing framework by DEAT and DEAE&T should be carried out to ensure that equitable access is ensured.

Time Frame: Short to Medium

Priority: Medium to High

Responsibility: DEAT (MCM), DEAE&T, SAN Parks

Objective 11: Improve physical access to the coastline

The coastline is a communal resource belonging to the state and as such public access rights must be maintained. Of specific importance are those communities whose livelihoods rely upon access to coastal resources. In all instances, both legal and infrastructural issues (i.e. physical access) should be considered.

Physical access within the NMMM is good and the current infrastructure facilitates access. Nevertheless, the coastline is becoming increasingly compressed - particularly around the CBD - which is in turn restricting access from the city. In terms of public access, problems have been reported between Cape Recife and the Zwartkops Estuary (this is mainly a recreational area). While it is noted that recreational infrastructure is expensive to maintain, appropriate funding should be sought.

Time Frame: Medium to Long

Priority: Low to Medium

Responsibility: DEAE&T, NMMM

Objective 12: Inclusion of heritage resource management within environmental management procedures along the NMMM coast

The new Heritage Resources Act (Act 25 of 1999) requires that a heritage resource assessment be undertaken during the planning phase of all new developments. Unfortunately, staff shortages within the NMMM means that often these assessments are not made.

The ECCMP proposes that the South African Heritage Resources Agency (SAHRA) and DEAE&T compile an inventory of all the natural resources that form a part of the cultural practices of coastal communities within the Eastern Cape. Once available, the proposed NMMM Coastal Management Structure should become well acquainted with this document, and use it during decision-making processes. A useful management tool would be a site-specific inventory dedicated to the NMMM coastline. No such formal inventory exists and guidelines for the management of historical sites within the NMMM have yet to be developed.

Time Frame: Medium

Priority: High

Responsibility: SAHRA, Proposed NMMM Coastal Management Structure

➤ **THEME C: COASTAL PLANNING AND DEVELOPMENT**

The ‘Coastal Planning and Development’ theme comprises objectives that are designed to maximise resource utilization in an ecologically sustainable, socio-economic manner. Emphasis is placed on the need for pro-active planning and management that is socially, economically and ecologically sustainable. A suitable balance between urban, rural and natural coastal areas should be maintained. Furthermore, during the design, planning and management phases of coastal settlements, cognizance should be taken of natural hazards, aesthetic integrity, amenity, and the biophysical and cultural opportunities and constraints.

Objective 13: Coordinate ‘Integrated Development Plans’ with combined planning databases (GIS) and protocols for all departments (an ECCMP proposal)

The development of Municipal IDPs outside the norms, principles and context of the Provincial Spatial Development Plans will not ensure coordinated and controlled developments. The ECCMP proposes the compilation of ‘zoning documents’ (database, maps and protocol tools) as spatial tools

for making informed development decisions. For a given area, an integrated spatial planning system will provide various alternatives, and delineate trade-offs between environmental, social and economic issues / systems. It would be advantageous if the relevant departments from NMMM provided input into the 'zoning documents' and used them when developing their IDPs.

Time Frame: Long

Priority: High

Responsibility: DEAE&T, DLGH, NMMM, Proposed NMMM Coastal Management Structure

Objective 14: Facilitate and expedite appropriate administrative procedures for coastal development

Investors are often discouraged by lengthy application and processing procedures. Resolution of these issues requires the relevant government departments authorizing new developments to expedite these processes. The NMMM should take an active role in streamlined development planning.

Time Frame: Medium

Priority: High

Responsibility: DEAE&T, NMMM

Objective 15: Consideration of cumulative impacts prior to authorization of new developments

Major developmental decisions that are made at a municipal level should take into consideration the wider regional and provincial implications, particularly with respect to existing and planned developments within the Eastern Cape. Ideally, the NMMM should provide input into the creation of a database that records developments along the coastline. This database has been proposed by the ECCP, and is designed to record of the types of environmental impacts and pollution that accrue to the various developments that have occurred along the Eastern Cape coastal zone.

Time Frame: Medium

Priority: Medium

Responsibility: DEAE&T, DWAF, NMMM, Proposed NMMM Coastal Management Structure

Objective 16: Ensure representative protection of all ecosystems

At present, the existing dozen or so coastal reserves within the NMMM provide a fairly good

representation of the coastal ecosystems within the NMMM.

The promulgation of the Greater Addo Elephant National Park (GAENP) represents another significant step towards achieving this objective. Once gazetted in its entirety, the new park will incorporate diverse ecosystem types. These will include terrestrial habitats, marine habitats and offshore islands.

Time Frame: Medium

Priority: Medium

Responsibility: DEAE&T, SAN Parks, NMMM, Proposed NMMM Coastal Management Structure

Objective 17: Facilitate the efficient and sustainable utilization of current physical resources

The ECCMP identified the need for a provincial resource economics study. It would be advisable for the NMMM to facilitate such a study within its boundaries. The results of the study should be included in the Integrated Spatial Planning System that has been outlined previously in Objective 13.

In order to ensure the long-term sustainability of the coast, a number of trade-offs will need to be considered. For example, a number of current and potential projects for mineral resource extraction exist within the NMMM coastal area. These projects are relatively short-term and may incur considerable environmental cost. A cost-benefit analysis should be used to reveal whether they should be viewed as appropriate developments.

Time Frame: Long

Priority: Medium

Responsibility: DEAE&T, NMMM, DME

Objective 18: Encourage new, sustainable, coast-related industries that contribute to the NMMM's economic growth

The development of coast-related industries / commerce that promote sustainable economic growth within the NMMM should be made a priority. In order to be successful, there needs to be an increase in the support for rural agricultural economies and tourism-led activities. For example, the NMMM is home to eight municipal reserves. These areas provide opportunities for growth within the tourism industry. The NMMM IDPs should make specific reference to developing new opportunities that have

been identified through the cooperation with other management structures, stakeholders and institutions.

Time Frame: Ongoing

Priority: Ongoing

Responsibility: DEAE&T, NMMM

Objective 19: Encourage local economic development initiatives

Local Economic Development (LED) is a municipal mandate. Nevertheless, in the past DEAE&T has often played a pivotal role in the identification of LED initiatives. The ECCMP proposes the compilation of an inventory of coastal resources that can be utilized as drivers for LED. This inventory should be used to full advantage by the NMMM.

As a matter of urgency, development opportunities that are designed to alleviate coastal poverty should be identified. The NMMM affords considerable scope for the alleviation of poverty along its 90 km stretch of coast. At present, the NMMM has no poverty relief programmes aimed specifically at the coast, and little has been done to promote job creation within coastal conservation areas.

Time Frame: Ongoing

Priority: Medium

Responsibility: DEAE&T, NMMM

Objective 20: Encourage harmony between biophysical and cultural aspects when designing and managing coastal settlements

The NMMM IDPs should provide development and operational strategies that promote the harmonization of the biophysical and cultural environments. Unfortunately, staffing problems in the NMMM planning department (after taking over the workload that was formerly undertaken by the Western District's planning office) suggest that there is currently a lack of planning capacity. In order to address these planning issues additional personnel will have to be recruited.

The NMMM has distinct biophysical and cultural characteristics that should not be compromised by insensitive development. An example would be the need to address the excessive building developments along the NMMM's estuaries.

Time Frame: Long

Priority: High

Responsibility: DEAE&T, NMMM

Objective 21: Avoid people, property and economic activities from being exposed to dynamic coastal processes when planning and managing coastal developments

People, property and economic activities are reasonably protected from adverse dynamic coastal processes in the NMMM. However many activities and structures have lead to the physical disturbance of the environment (for instance, changes in drainage patterns, near-shore sediment transport, water quality) that would be prohibitively expensive to change. Nevertheless, biophysical features (such as beach and dune areas) that act as buffers against coastal processes and hazards need to be protected and retained. Many of these features are already under threat from anthropogenic activities. High-risk areas prone to dynamic coastal processes need to be managed appropriately, and the development, extension or restoration of structures in hazardous areas discouraged. Those areas categorized as 'high-risk' include by-pass systems, coastal dunes, river mouths and estuaries.

Time Frame: Long

Priority: High

Responsibility: DEAE&T, NMMM

➤ **THEME D: NATURAL RESOURCE MANAGEMENT**

The long-term sustainable management of ecosystems is an essential component of natural resource management. In order to maintain ecosystem function, renewable resource use must be sustainable. Ecological integrity is best achieved through the establishment of a representative network of protected areas managed in a sustainable manner. In order to promote a healthy and diverse environment, those ecosystems or habitats that have previously been spoilt, damaged or degraded should be rehabilitated and restored to their original conditions.

Objective 22: Establish management plans for high priority resources

The development of management plans for high priority resources that are either under threat, or venerable to overexploitation, is an essential component of sustainable utilization.

Time Frame: Short

Priority: Medium

Responsibility: DEAT, DEAE&T, NMMM

Objective 23: Ensure the maintenance of ecological integrity

The biological diversity, natural functioning and the health and productivity of coastal ecosystems should be maintained. Habitat destruction and invasion by alien species reduces ecological integrity and may compromise ecosystem resilience. The current problems associated with over-fishing and poaching, coastal pollution and the degradation of estuarine habitats suggests that the ecological integrity of the NMMM is under serious threat.

Freshwater flows and good river catchment management maintain estuarine ecological function. Co-operation between the Department of Water Affairs and Forestry (catchment management), the Department of Agriculture (land use practices) and the Department of Economic Affairs, Environment and Tourism (estuarine management and reserve determination) is thus pivotal to the maintenance of estuarine function. It is important that key coastal stakeholders become involved in the development of catchment and water management plans.

Linkages with the Eastern Cape Estuaries Management Programme established by the Institute for Natural Resources (INR) should be encouraged in the NMMM. Public participation in estuarine management and the notions of shared responsibility should be encouraged. In order to improve the situation, public awareness and education needs to be conducted to improve the situation (see Objective 9).

Time Frame: Short to Medium

Priority: Medium to High

Responsibility: DEAT, DWAF, DA, DEAE&T, NMMM

Objective 24: Utilize conservation areas in a manner that increases the value of the coastal zone

Conservation areas are designed to maintain and conserve ecological integrity. Their inherent value lies not only in their role in conserving natural resources and processes, but in addition, in their ability to act as areas for recreation and eco-tourism. A number of protected areas have been established along the coast. Unfortunately, understaffing and a lack of resources suggest that they are not

optimally managed. In addition, there appears to be little evidence that these areas are managed as a coherent system.

The potential for promoting sustainable livelihood programs for people living adjacent to conservation areas should be investigated (e.g. eco-tourism employing local people).

Time Frame: Short to Medium

Priority: Medium

Responsibility: DEAE&T, SAN Parks, NMMM

Objective 25: Rehabilitation

The rehabilitation of degraded or damaged coastal ecosystems should be undertaken. To date, rehabilitation attempts in the NMMM have had limited success. In those cases in which degraded habitats have recovered it has generally been due to the habitat's inherent ability to repair itself.

Those responsible for damage and degradation should be held accountable for the rehabilitation costs, and in addition, the restoration of the livelihoods of those affected (See Objective 29).

Time Frame: Medium

Priority: Medium

Responsibility: DEAE&T, NMMM

➤ **THEME E: POLLUTION AND WASTE MANAGEMENT**

Pollution control and waste management are critical issues that need to be addressed. Failure to do so can cause major environmental damage and adversely impact the health of coastal communities.

Objective 26: Improve pollution monitoring for all resources (river, land, sea and air)

In general, the pollution monitoring systems that are currently in use in the NMMM are largely reactive in nature. There is very little overlap or integration between monitoring systems. Amongst others, point source and baseline pollutant monitoring are carried out by:

- The Department of Water Affairs and Forestry (catchment and riverine health)

- The Department of Environmental Affairs and Tourism (sedimentation)
- The National Ports Authority (harbour water quality, harbour dredge spoils)
- Local municipalities (point source pollution)
- Marine and Coastal Management (coast watch pollution checks by means of aerial surveys)

The Institute of Natural Resources in Pietermaritzburg has established management bodies for Eastern Cape Estuaries. These provide an integrative monitoring approach in which the appropriate NMMM managing bodies are encouraged to participate

An integrated pollution monitoring system has been proposed by the ECCMP. The planned system is based upon the existing monitoring structures and takes cognizance of the integrated estuarine monitoring programme. The proposed NMMM Coastal Management Structure should take the responsibility for the coordination of the relevant pollution data. Information should be presented in an accessible format and thus be readily available to all coastal stakeholders. Roles and responsibilities regarding the monitoring system should be clearly defined. In addition, all new developments should address their potential for producing pollutants and include mitigation measures in their designs.

Time Frame: Ongoing to Medium to Long

Priority: Medium to High

Responsibility: All of the above should liaise through the proposed NMMM Coastal Management Structure

Objective 27: Establish a review mechanism for disaster management plans, and ensure that their efficacy is improved

At present, there is no established framework for the review and evaluation of disaster management plans. Such a framework needs to be established. Disaster management plans should be efficiently communicated, understood and implemented by all responsible personnel. It is imperative that the available capacity - both logistical and technical - can effectively react to disaster events.

Time Frame: Short to Medium

Priority: Medium to High

Responsibility: Ports Authority, DEAT, DEAE&T, NMMM

Objective 28: Implement a polluter pays mechanism for the rehabilitation of degraded areas, and for the loss of livelihoods (coastal resource users).

The costs associated with the rehabilitation of polluted environments, and the compensation that is due to those communities that have lost their source of livelihood, should be borne by the polluter. Current legislation should be reviewed and recommendations should be made with respect to those that can be held responsible for a pollution event. All management and planning structures in the NMMM should be made aware of the relevant role players and their responsibilities.

Time Frame: Medium

Priority: Medium

Responsibility: DEAE&T, NMMM, Proposed NMMM CMS

Objective 29: Improve the provision of waste reception facilities

While it is generally accepted that conservation areas are fairly well protected from hazardous wastes, this is not the case within the city limits where there are serious issues with respect to the disposal of hazardous wastes. In the urban areas, beach litter is a common concern. In the rural areas, this issue is often compounded by inadequate removal services.

Improved inter-departmental coordination can advance this situation, most notably through the upgrading / extension of waste reception facilities. The NMMM IDP should formulate a Coastal Waste Management Plan specific to the NMMM and provide input to the Integrated Waste Management Plan process of DEAT. In addition, the clean-up operations undertaken by Coastcare should be encouraged and integrated into the management plan. All coastal users need to be made aware of the serious damage that pollutants can have on coastal ecosystems.

Time Frame: Short

Priority: Medium to High

Responsibility: DEAT, DEAE&T, NMMM

Objective 30: Encourage the development of recycling facilities

Although waste management systems are costly to implement, the economic opportunities that they afford need to be investigated. Economic incentives need to be designed and used to encourage waste reduction, re-use and recycling. Recycling and re-use projects should be assigned high priorities - they encourage waste minimization. In addition, cooperation between governmental and non-governmental organizations should be encouraged.

Time Frame: Medium

Priority: Medium

Responsibility: DEAT, DEAE&T, NMMM

Objective 31: The mitigation of ship and fisheries pollutants

The coastal environment is continuously at risk of degradation from shipping and fisheries activities. Examples would be large-scale oil spills, reef damage through trawling and ecological disruption through alien invasion by ship ballast waters. Existing monitoring and contingency plans (such as aerial coastal patrols, disaster contingency plans), preventative mechanisms and enforcement activities should be supported and where possible improved.

Time Frame: Short

Priority: Medium

Responsibility: DEAT, NPA

(The National Ports Authority and the Coega Development Corporation have jointly established an Environmental Monitoring Committee which has appointed an Environmental Control Officer).

4. NMMM: KEY COASTAL AREAS

Coastal Areas Surrounding Port Elizabeth

The extensive poaching of Abalone stocks along the rocky shores of the NMMM (particularly Cape Recife and Sardinia Bay), highlights the current lack of management / compliance capacity. Interventions that are designed to improve compliance are required as a matter of urgency. While the Abalone resources are the responsibility of Marine and Coastal Management (MCM), local municipal managers should be encouraged to take a role in reducing the poaching (for example employing additional nature conservation staff, public awareness programmes etc.). They could be supported by national government funding. Co-operation between MCM, the Scorpions, the South African National Defence Force, the South African Police Services and Endangered Species Unit should be encouraged.

The Algoa Bay Islands

These islands represent unique and sensitive habitats that require protection. In recent years, and with the exception of an increase in Abalone poaching, these areas have not been significantly impacted by anthropogenic activities, primarily this is due to their inaccessibility. However, due to the sensitive nature of these habitats, and particularly the bird communities on these islands, they are easily impacted. Nevertheless, the introductions of invasive pests (e.g. rats) threaten to destabilize ecosystem function. While SAN Parks have taken over DEAE&T's mandate for the protection of the islands, there is at present some confusion as to who is currently responsible for managing the Bird Island Group. Ultimately SAN Parks will be mandated to manage the group (as a component of the GAENP). Once SAN Parks takes full control of the islands, they will be responsible for their upkeep.

Estuaries

Estuarine habitats are of significant economic, social and natural value. At present some of the estuarine systems within the NMMM are not afforded the degree of protection that they deserve, and the management of these areas should therefore become a priority. It is imperative that managers understand and appreciate the services that estuaries provide to the coastal zone, and start to manage them effectively.

Coega 'Industrial Development Zone'

Special management attention is considered appropriate for the Coega IDZ and the Port of Ngqura. The National Ports Authority and the Coega Development Corporation have established a joint Environmental Management Committee and have appointed an Environmental Control Officer who will largely be responsible for the port area. They should be seen as an integral part of the NMMM management process.

5. STRUCTURE AND OPERATION OF THE COASTAL MANAGEMENT PLAN

The White Paper promotes a hierarchical style of coastal management. Essentially, this comprises a national lead agent, and the devolution of responsibility to provincial and local governments. Central to the approach is the development of co-management partnerships between government, the private sector and civil society.

A recent United Nations report (GESAMP, [GESAMP is the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection.], 1996) defines coastal management as:

“... a continuous and dynamic process that unites government and the community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the protection and development of coastal ecosystems and resources.”

It states that the goal of coastal management is:

“... to improve the quality of life of human communities which depend on coastal resources, while maintaining the biological diversity and productivity of coastal ecosystems.”

With respect to the development of the coastal zone, it is essential that all structures, stakeholders and institutions involved in coastal management, planning, research and resource utilization are included in the management decision-making process. In the absence of a coherent coastal management structure within the NMMM, a series of alternative management structures have been developed. Clearly, these structures have not been put through a public / stakeholder participation process. Thus, prior to the adoption of any management structures, stakeholder “buy-in” will be required.

5.1 ALTERNATIVE 1: THE NMMM COASTAL MANAGEMENT UNIT

The NMMM Coastal Management Unit will comprise a chairperson selected from the NMMM Environmental Services Unit and 2 staff members. Such a structure will ensure the direct devolution of responsibility to the local municipal level.

Various responsibilities will be devolved to coastal management structures, stakeholders and user

groups. This will ensure clarity with respect to roles and responsibilities. The development of 'Action Plans' will be tendered out, and thus ensure input from external agents of competency. An integrated management approach that continuously reviews those issues that affect the NMMM coastal zone will be developed.

The following responsibilities should be mandated to the NMMM Coastal Management Unit:

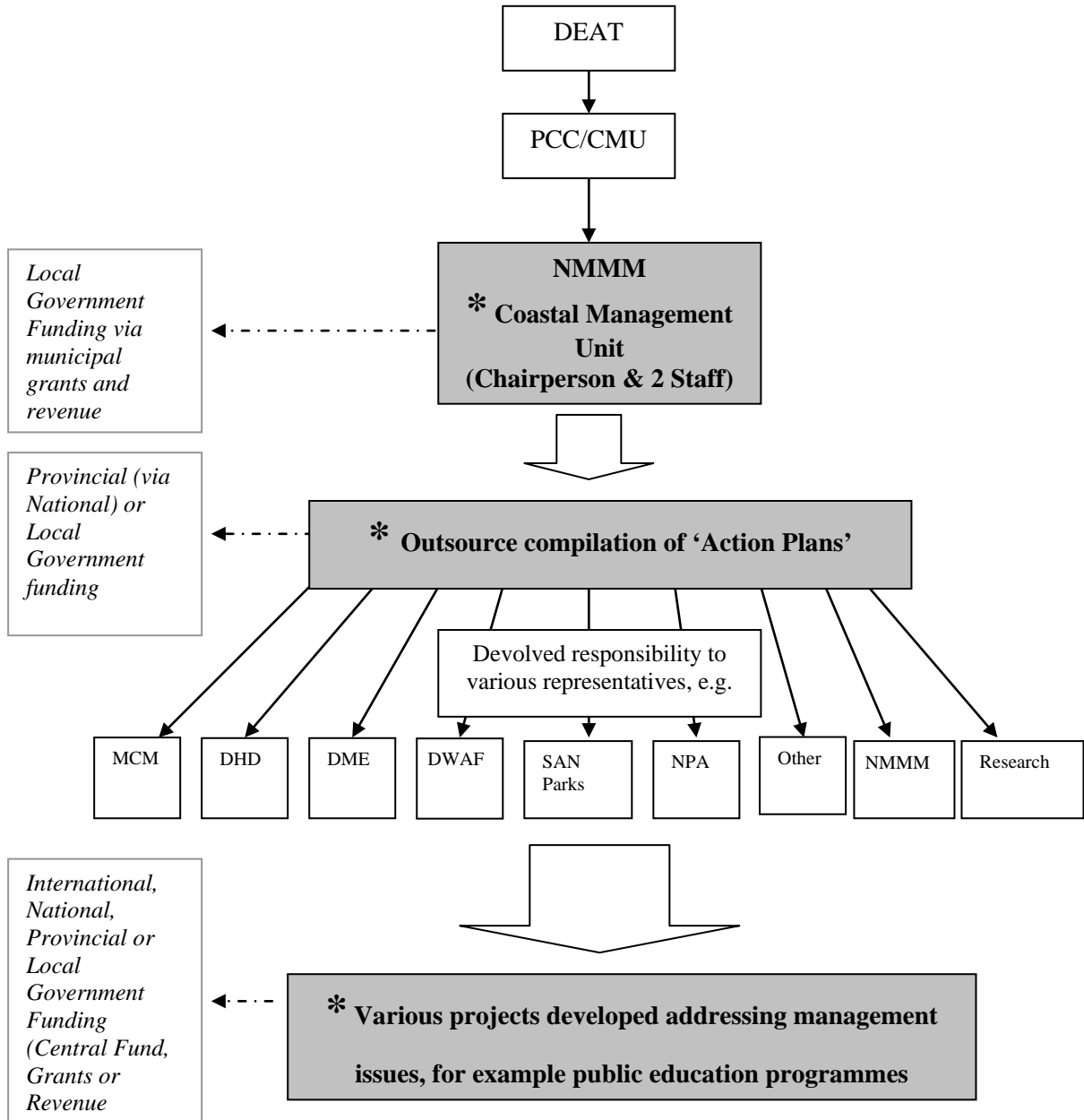
- To be responsible for the timeous implementation, monitoring and review of the coastal management plan
- Arrange regular meetings involving relevant governmental bodies, non-governmental institutes, stakeholders and local organizations, e.g.: Zwartkops Trust, Tourism Board (with regards the latter, one representative body should be formed)
- Clarify roles and responsibilities
- To identify coastal management issues through consultation with the various management bodies, stakeholders and user groups (through the arranged meetings stipulated above)
- Outsourcing the development of 'Action Plans' relating to coastal management issues to independent environmental consultancies and the like
- To ensure that the objectives of the NMMM Coastal Management Plan are being adhered to, and thereby delegating responsibilities to the relevant parties
- Identify opportunities, weaknesses, threats and solutions through stakeholder meetings, and where necessary recommend additional discussions with the relevant structures
- Coordinate communication between different management structures
- Ensure that the responsibilities assigned to the different bodies are being fulfilled
- Identify capacity needs
- Attend meetings arranged by the Provincial Coastal Committee (PCC) and the Coastal Management Unit (CMU, the structure proposed by the ECCMP)
- Review Catchment and Water Management Plans, Disaster Management Plans and EIAs within the NMMM area
- Review research priorities
- Identify funding requirements
- Monitor the performance of the NMMM teams responsible for coastal management issues
- Establish regular meetings with other municipalities, such as the Sundays River Valley Municipality, Ndlambe and Kouga and identify trans-boundary issues

Diagrammatic representation of the management structure of Alternative 1

'Other' refers to community trusts, recreational user groups, tourism organisations etc, 'DHD' refers to the Department of Housing and Development, Asterisk (*) and grey shading indicates those areas that require funding.

Funding Source:

Structural Arrangement / Lines of Responsibility:



5.2 ALTERNATIVE 2: CHIEF EXECUTIVE OFFICER WITH BOARD OF REPRESENTATIVES

A chief executive officer (CEO) will be employed to manage the coastal zone. The CEO will head a board of representatives that will comprise individuals from each of the coastal management structures, stakeholders and user groups (namely: research institutes, non-governmental organizations and community groups).

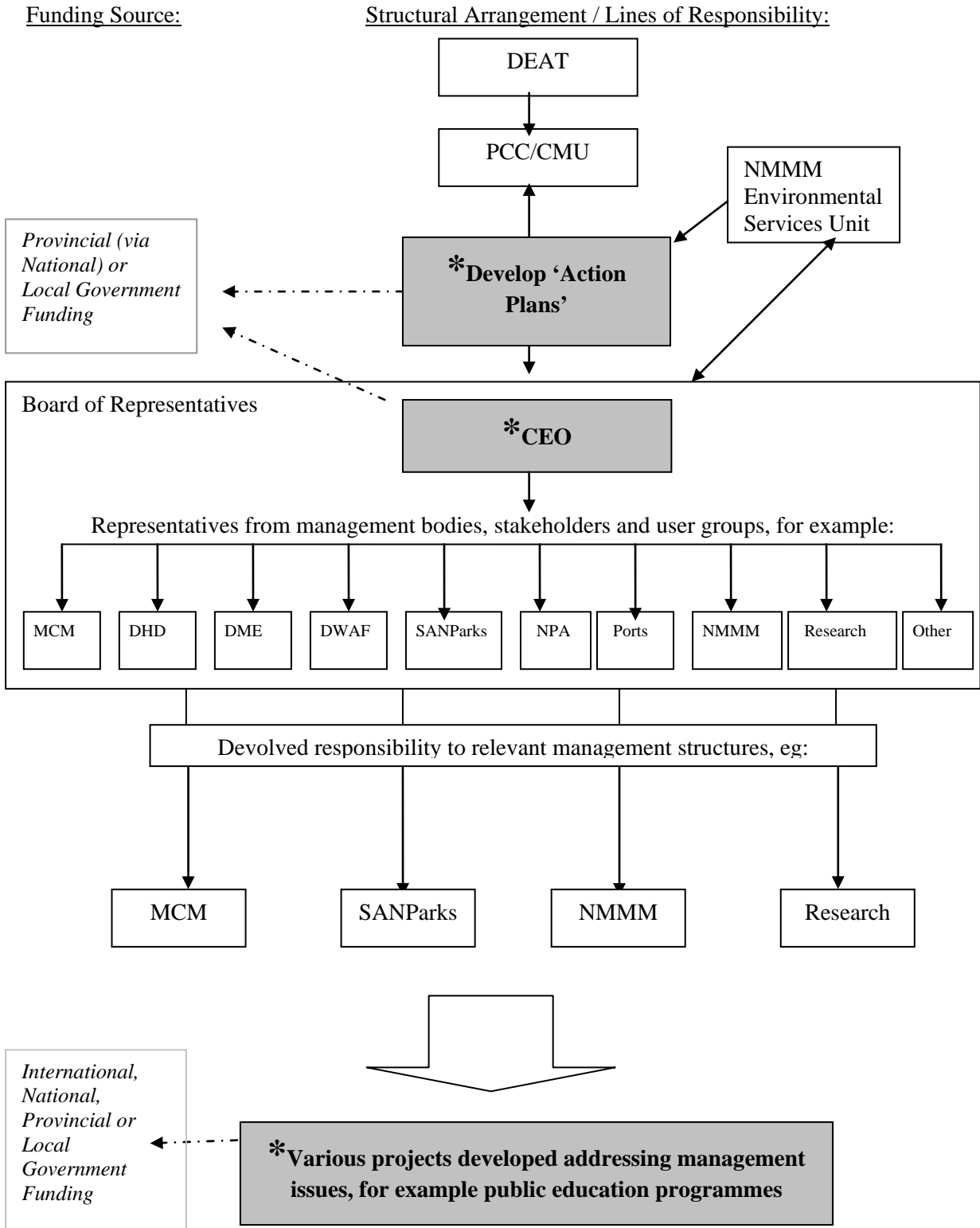
The coastal management structures that will be represented on the board will be from DEAT (MCM), DEAE&T, DWAF, DME, DHL, NMMM, Portnet, NPA and SAN Parks. Research institutes (e.g.: TERU, UPE, Bayworld, ECRAM), non-governmental and community organizations (e.g.: Zwartkops Trust, Blue Horizon Bay) should form one representative body of their own. A member from this body will be selected to the board of representatives. It may be necessary to have more than one type of representative body representing community organizations - this is due to the diverse nature of coastal resources and their utilization.

The following responsibilities should be mandated to the Chief Executive Officer:

- Oversee the timeous implementation, monitoring and review of the Coastal Management Plan.
- Hold regular meetings with the relevant governmental bodies, non-governmental institutes, stakeholders and local community organizations.
- Identify coastal management issues through consultation with the board of representatives.
- Clarify roles and responsibilities; identify capacity, research and funding requirements.
- Delegate the development of 'Action Plans' relating to coastal management issues to the NMMM Environmental Services Unit.
- To ensure that the objectives of the NMMM Coastal Management Plan are being adhered to, and delegate responsibilities to the relevant parties.
- Identify opportunities, weaknesses, threats and solutions through stakeholder meetings. Coordinate communication between the different management structures.
- Ensure that the responsibilities assigned to the different bodies are being fulfilled.
- Attend meetings arranged by the Provincial Coastal Committee (PCC) and the Coastal Management Unit (CMU, the structure proposed by the ECCMP).
- Review pertinent environmental management plans and EIAs within the NMMM area.
- Monitor the performance of the various coastal management structures and projects
- Establish regular meetings with other municipalities, such as the Sundays River Valley Municipality, Ndlambe, Kouga and Kou-Kamma, and identify trans-boundary issues.

Diagrammatic representation of the management structure of Alternative 2

'Other' refers to community trusts, recreational user groups, tourism organisations etc, 'DHD' refers to the Department of Housing and Development, Asterisk (*) and grey shading indicates those areas that require funding.



5.3 ALTERNATIVE 3: CHIEF EXECUTIVE OFFICER, BOARD OF REPRESENTATIVES AND WORKING GROUPS

A chief executive officer (CEO) will be employed to manage the coastal zone. A board of representatives will be appointed and report to the CEO. The principle purpose of the CEO and board of representatives will be to identify coastal management issues. Those issues that are identified will be addressed by coastal working groups. These working groups will comprise individuals that have been selected from relevant governmental, non-governmental, research and community structures.

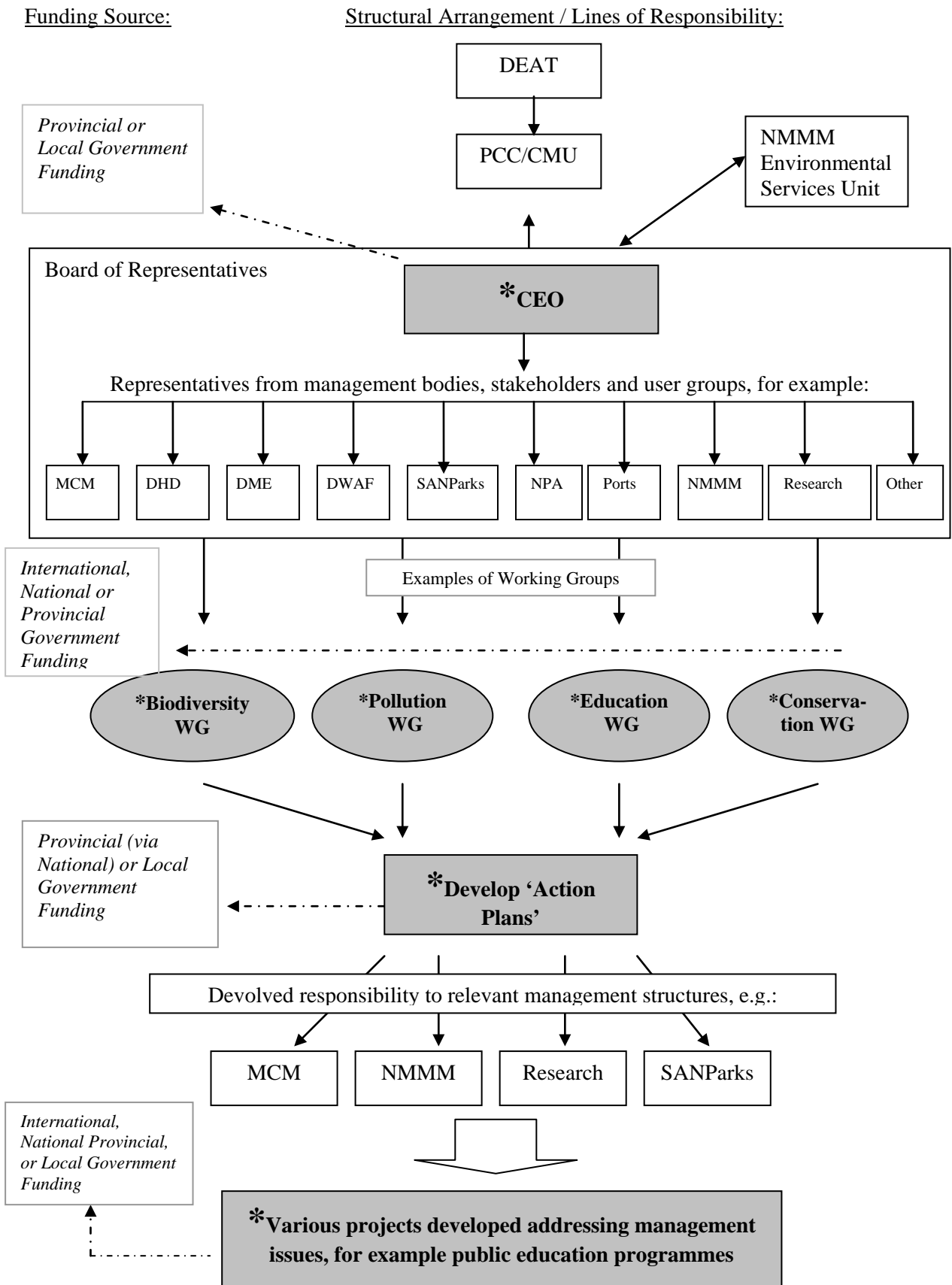
In essence, the coastal working groups will be selected according to those issues of local concern - such as the illegal harvesting of resources. In such a case, MCM staff and non-governmental representatives would make up the coastal working group. Established working groups (WG) will be given the responsibility of developing 'Action Plans'. Where appropriate, the working groups should provide representation of user groups and stakeholders, and in doing so, foster the ideals of co-management and shared responsibility.

The following responsibilities should be mandated to the Chief Executive Officer:

- Oversee the timeous implementation, monitoring and review of the Coastal Management Plan.
- Hold regular meetings with the relevant governmental bodies, non-governmental institutes, stakeholders and local community organizations.
- Clarify roles and responsibilities; identify capacity, research and funding requirements.
- Identify coastal management issues - through consultation with the board of representatives.
- Establish NMMM Coastal Working Groups - through consultation with the board of representatives. Delegate to the working groups the development of 'Action Plans'.
- Ensure that the objectives of the NMMM Coastal Management Plan are being adhered to and delegated responsibilities are being fulfilled by the relevant parties.
- Identify opportunities, weaknesses, threats and solutions through stakeholder meetings, and where necessary recommending further discussions with the relevant structures.
- Coordinate communication between different management structures.
- Attend meetings arranged by the Provincial Coastal Committee (PCC) and the Coastal Management Unit (CMU, the structure proposed by the ECCMP).
- Review pertinent environmental management plans and EIAs within the NMMM area.
- Monitor the performance of the various coastal management structures and their projects
- Establish regular meetings with other municipalities and identify trans-boundary issues.

Diagrammatic representation of the management structure of Alternative 3

'Other' refers to community trusts, recreational user groups, tourism organisations etc, 'DHD' refers to the Department of Housing and Development, Asterisk (*) and grey shading indicates those areas that require funding.



5.4 COMMON ELEMENTS OF THE THREE ALTERNATIVE MANAGEMENT STRUCTURES

The three alternatives presented above provide structures in which the lines of responsibility can flow in both directions. Such structures will foster an atmosphere of co-responsibility and accountability, and issues and opportunities that are identified at all levels of management can therefore be viewed within in a cooperative framework.



Figure 3. Cape Recife Lighthouse

6. FUNDING SOURCES

A variety of potential funding sources have been identified. These sources should be investigated and, where appropriate, should be used to establish one of the proposed management structures.

6.1 FUNDING SOURCES FOR COASTAL MANAGEMENT STRUCTURES

- **Local Government Revenue**

At present, over 60% of local government revenue is derived from utility services (water, sanitation, power). These utilities generate their own revenues and are self-funding. On average, municipalities have sufficient revenue raising powers to fund the bulk of their expenditure, and thus finance over 90% of their recurrent expenditure (Department of Finance, 2000). Over the long-term, and in the absence of other financial resources, the NMMM should investigate the possibility of financing the management structure (or part thereof).

Source: *Local (via own revenue)*

- **National Revenue Funds**

According to the Appropriation Act (Act 29 of 2002), certain designated fiscal responsibilities belong to the state. In such cases, monetary transfers are made to the various government departments (e.g. DEAT). Associated with this act are the various municipal grants that are allocated to the provincial and local governments. Funds from these institutions should be investigated.

- (a) **Department of Environmental Affairs and Tourism (DEAT)**

The Appropriation Act (2002) allocates funds from the state to DEAT. Financial support is allocated to the following departmental organs: 'Administration', 'Environmental Planning and Coordination', 'Marine and Coastal Management', 'Tourism', 'Environmental Quality and Protection', 'Biodiversity and Heritage' and 'Auxiliary and Associated Services' (Appropriation Act, 2002).

Source: *National (DEAT)*

- (b) **Department of Provincial and Local Government**

The Appropriation Act (2002) allocates funds from the state to the Department of Provincial and Local Government. The purpose of such allocations is to develop and promote a national system of

cooperative governance, and to support the development of provincial and local government. Of relevance here are the transfers made to local government / municipalities. Allocations are also made to the national treasury - from which provincial and local government transfers are made.

- **Local Government Municipal Grants**

Local government is funded from nationally raised revenue. This revenue comprises an equitable share of nationally raised revenue, conditional grants and agency payments.

The Department of Provincial and Local Government administer the “equitable share of the nationally raised revenue”. The “conditional grants” are available to those municipalities that apply for, or are selected to, receive these funds. The “agency payments” are available to those municipalities that perform certain services on behalf of national or provincial government. Conditional grants are operated and disbursed by departments. They are designed to address specific policy objectives and are usually dispersed with conditions. Allocations are based on a three-year cycle.

The following are examples of conditional grants that may provide appropriate funding for this project:

(a) Local Government Support Grants that provide assistance to municipalities experiencing financial difficulties, namely:

‘Management Support Programme’ – R60 million

‘Institutional Re-organization Fund’ – R60 million

‘Municipal Financial Assistance Grant’ – R30 million

(b) Local Government Restructuring Grant

This is a new grant intended to assist large municipalities to undertake extensive financial restructuring exercises that will have beneficial impacts on national economic stability and development. Eligibility for the grant is restricted to those municipalities whose total annual budget exceeds R300 million.

(c) Land Development Objectives Grant

This grant is intended to assist municipalities to improve their strategic capacity to manage land use development - through the adoption of the land development objectives set out in the Development Facilitation Act (1995).

(d) Local Government Transition Fund

Recently, the municipalities have been required to amalgamate and restructure administration and service delivery arrangements. In order to undertake these operations, the municipalities have been provided with financial support for approximately two years. This will be a once-off grant available for 2003/2004.

Source: *Local (via National)*

- **Provincial Funding**

Funding at a provincial level is received via the National Revenue Fund - through the equitable share of revenue or through conditional grants. The Eastern Cape Provincial Government falls under the Department of Provincial and Local Government, and therefore ultimately receives funds from the National Treasury. The Eastern Cape Provincial Government is divided into various departments - one of which is the Department of Economic Affairs, Environment and Tourism (DEAE&T). DEAE&T, being a significant management body within the NMMM, could investigate the possibility of receiving additional funds via the National Treasury. In addition to the national revenue, its own revenue may be available for use (this would be revenue derived from the province). This revenue is collected by the Eastern Cape Provincial Treasury.

Source: *Provincial (via National and own revenue)*

6.2 ONGOING AND ADDITIONAL FUNDING SOURCES FOR MANAGEMENT ACTIVITIES

Within the coastal zone of the NMMM, the penalties and fees listed below could be made available for financing management activities - such as co-management initiative programmes, training and education. These funds could be centralized, and in essence create a local fund for the management of local issues.

- **Compliance Penalties**

Any penalties incurred within the NMMM boundaries related to the MLRA may be used to create a fund specifically for the purposes of coastal management.

The White Paper on Sustainable Coastal Development suggests that management should be devolved to the lowest capable level of local government. At present the monies collected from compliance penalties, local permit fees etc. are collected at national level and are distributed as such. The Eastern

Cape Coastal Management Plan follows the White Paper in the devolution of management responsibility. Thus, eventually it envisages that these penalties will be collected at a local level and remain within the local area.

- **Polluter Pays Penalties**

The adoption and implementation of the “polluter pays principle” could realize significant funds. Any payments accruing to such activities could go into a coastal management fund.

- **Local Permit Fees**

Local permit fees incurred within the NMMM could contribute to the fund established for coastal management purposes.

- **Entrance Fees**

Entrance fees into NMMM reserves may be another source for the above-mentioned fund.

- **International Aid**

International development agencies could be approached and asked to provide support - such as the United Kingdom’s Department for International Development (DFID). DFID has given financial support to the compilation of the Provincial Coastal Management Plans, and intends to contribute approximately R50 million to improvements in the livelihoods of poor coastal communities. Building institutional capacity that is designed to ensure that cross cutting issues are integrated into the relevant programmes / planning strategies is one of the policies that DFID is currently focusing on.

7. TIMING

The implementation of an integrated coastal management plans is a prerequisite to the future sustainability of South Africa’s coastal economy. It is therefore an issue of high priority that should be addressed as a matter of urgency, preferably within the next two years.

VOLUME II

THE STATE OF COASTAL RESOURCES AND THEIR MANAGEMENT IN THE NELSON MANDELA METROPOLITAN MUNICIPALITY



II. THE STATE OF COASTAL RESOURCES AND THEIR MANAGEMENT IN THE NELSON MANDELA METROPOLITAN MUNICIPALITY

1. INTRODUCTION

1.1 PURPOSE, STRUCTURE AND CONTENTS OF THIS REPORT

The purpose of this report is to introduce the reader to the coast of the Nelson Mandela Metropolitan Municipality of the Eastern Cape and to provide an overview over the current status of its coastal resources and their management. The report is not intended as a comprehensive review of every coastal resource. Rather it is a snapshot in time of the current status and issues surrounding these resources.

The effective management of the coastal zone of the Nelson Mandela Metropolitan Municipality will rely on an in-depth knowledge of the state of its coastal resources and the socio-economic and natural processes that affect its sustainability. Accordingly, the document starts with descriptions of the natural environment, introducing place names, coastal features and key processes. A brief description of the demographic characteristics of its inhabitants is also provided.

In an effort to carry through national and provincial policy to the municipal (local) level, both content and structure of this report has many affinities with the White Paper for Sustainable Coastal Development (DEAT 2000) and the recently completed Eastern Cape Coastal Management Plan (DEAE&T in prep.). Eight coastal management units are presented in turn:

1. Living Marine Resources
2. Estuarine Resources
3. Terrestrial Coastal Resources
4. Mineral Resources
5. Conservation Areas
6. Heritage Resources
7. The Built Environment
8. Tourism

The report then examines legal and institutional frameworks that are in place on the parastatal, municipal, provincial and national levels for the management of each of the 8 coastal resource units. The achievements of management in the NMMM in each coastal resource unit are then evaluated in terms of the goals set in the White Paper. After the identification of the major coastal management issues facing the Nelson Mandela Metropolitan Municipality the report argues for the need for integrated coastal planning and management.

2. THE NMMM COAST

2.1 GEOGRAPHICAL SETTING

The Nelson Mandela Metropolitan Municipality (NMMM or Metro in short) coastline extends for some 90 km of the Indian Ocean between the mouths of the Sundays and Van Stadens Rivers in the east and west, respectively. The NMMM thus straddles the two large, half-heart shaped bays of Algoa and St Francis that are separated by the headland of Cape Recife. Their surf-swept sandy beaches interspersed with rocky outcrops vary widely in physical form owing to the combined effects of coastal orientation relative to prevailing winds, deepwater swell and sheltering by headlands. Along this coast vigorous phyto- and zooplankton production supports commercially exploitable concentrations of epipelagic shoaling fishes, such as Anchovy and Sardine, which in turn form the food base for a remarkable diversity and abundance of predatory fish, seabirds and marine mammals (Smale et al. 1994). Coupled with the abundance of shellfish, the richness in natural resources has attracted Man to these shores for hundreds of years. The islands of St Croix, Brenton and Jahleel (collectively: the Islands of the Cross) occur a few kilometres offshore and are located between the mouths of the Swartkops and Sundays Rivers, the two large, perennial rivers draining extensive catchment areas that flow into Algoa Bay. In contrast, the mouths of the Maitland and Van Stadens Rivers are seasonally closed and there are no islands in St Francis Bay.

2.2 LOCAL OCEANOGRAPHY

The most prominent oceanographic feature of the area is the Agulhas Current that carries warm tropical water south-westwards past the south coast of South Africa. Under the influence of the predominately westerly winds, irregular influxes of Agulhas water enter Algoa Bay (Lutjeharms et al. 1989) with the associated warm-water fauna, especially in winter (Klages et al. 1992). Average surface temperatures vary from about 15 °C in August to 20 °C in February. Wind-induced upwelling, associated with easterlies may result in sea temperatures dropping as low as 14°C in summer

(Schumann et al. 1982, 1988). The inshore, northeastward trending littoral drift countercurrent carries sand along the coastline, eroding it at some places and depositing sand at others to form new beaches. Apart from these major currents there are smaller rip currents and backwashes along the coast that can differ from day to day.

2.3 CLIMATE AND WEATHER

The NMMM coastal area has a warm temperate climate. The mean annual temperature is 16.9 °C (30-year average) with the average monthly temperature ranging from around 14 °C in winter (July) to 22 °C in summer (January). Daily mean maxima range from 25.4 °C in January and February to 19.6 °C in August, with daily mean minima ranging from 8.8 °C in July to 17.9 °C in January and February.

The weather of the NMMM area is mainly dependent on atmospheric depressions that move over the region in an easterly direction followed by anticyclones (Lubke et al. 1988). In winter, the approaching depression is preceded by a coastal low-pressure system accompanied by a northeasterly wind changing either to northerly or northwesterly berg winds. Following the low-pressure system, the westerly to southwesterly wind brings cooler weather with low cloud. As the depression passes, there is a tendency for more wind and rain to occur. Winds are often strong, sometimes giving rise to gales and rain lasting from 12 to 36 hours. In summer, the passage of coastal low pressure systems are followed by cloudy, occasionally rainy weather brought about by following cells of high pressure.

Winds at Port Elizabeth reflect the seasonal variation of the atmospheric circulation systems, and the influence of coastal lows. Westerly to south-westerly winds are the most prevalent, but during the summer months, easterly to south-easterly winds are almost as frequent. During winter, offshore (north-westerly) winds occur more frequently than in summer. This region of the South African coast experiences strong winds and occasional gales regardless of the season. The prevailing direction of these winds is west-south-west to south-west. Extreme winds (of $>8 \text{ m s}^{-1}$) are fairly frequent, with the highest prevalence of strong winds in September to December (Stone et al. 1998).

The Eastern Cape falls in a transitional region between the summer rainfall of the KwaZulu-Natal and Transkei coasts and the winter rainfall of the Western Cape. The summer months are the driest. The 30-year average of the mean annual precipitation is 610 mm. An average of 8 rain days have been recorded per month with only minor seasonal variation. The annual mean relative humidity of the air is 78%. Port Elizabeth can expect about 16 thunderstorm days per annum (Stone et al. 1998). The region experiences 17 days per annum where rainfall is in excess of 10 mm.

2.4 LOCAL COASTAL FEATURES

The most exposed coastal stretches are those areas where the waves approach the coast normally (i.e. at a right angle). This occurs on the sandy beaches between the Van Stadens and Maitland Rivers, and also westwards towards the Gamtoos River outside the municipal boundary. The rocky wave-cut platforms east of Maitland up to Cape Recife are also very exposed, although local sections may be more sheltered as a result of offshore reefs, for instance Sardinia Bay. People speak of the western side as the 'wild side'. This is as much a reflection of the prevailing wind and wave conditions as it is an expression of the relative lack of human development on that side of the coast. For a long period Schoenmakerskop was the only village of note. During the 1980s and 1990s Kini Bay and Seaview have attracted large numbers of new permanent residents and seasonal visitors, transforming the erstwhile tranquil small villages into suburbs with a vibrant momentum of growth and concomitant pressure on the coastal environment. About half of the 400 residential erven at Blue Horizon Bay have now been developed. The village was placed into the dunes halfway between the Van Stadens and Maitland Rivers with little concern for the sensitive environment in the late 1970s and early 1980s.

The town of Port Elizabeth owes its existence to the shelter from the major oceanic swells approaching from the south. Until the 18th century this was the only safe anchorage along the southeastern Cape coast. Adding to the safety is the gradual shelving of the nearshore beach profile. Accordingly Port Elizabeth's protected bathing beaches are situated here, offering a perfect combination of warm water, calm sea and fair breezes. These include Pollock Beach, Hobie Beach, Humewood Beach and Kings Beach. The heart of Port Elizabeth is bisected by Settlers Park and the small Baakens River, which discharges into the harbour.

North of the harbour the degree of shelter decreases as the alignment of the coast reapproaches the east-west orientation. The construction of the Port Elizabeth harbour caused an immediate decrease in the amount of sand supplied to New Brighton beach, thereby accelerating littoral erosive forces between the harbour and the Swartkops River (Heydorn 1986).

Eddy currents occurring around the Swartkops River mouth together with the river's sandbanks lend some shelter to Bluewater Bay beach. Along the beach from the Swartkops, past St Georges Strand and past the Coega valley towards Sundays River Mouth the salient features of the coastline are the vast stretches of sandy beaches backed by extensive dunefields.

2.5 DEMOGRAPHIC CHARACTERISTICS OF THE NMMM

The NMMM falls within the Sunshine Coast, a mixture of a few urban centres and undeveloped coastal areas rich in natural assets (Glavovic 2000). The economy centres on Port Elizabeth, with an emphasis on manufacturing, commercial and industrial activities. The main economic drivers are the automotive industry and the beneficiation of raw materials, largely for export. The new industrial development zone around Coega currently under construction is beginning to bring investments into the Metro. The region has some agribusiness, particularly citrus and deciduous fruit, as well as dairy farming and a leather industry. With a well-developed infrastructure the region attracts tourism and recreation. However, poverty levels are high and there is a lack of services in some areas.

Formed by the amalgamation of Port Elizabeth, Uitenhage and Despatch in the year 2000, the NMMM is a relatively young but rapidly growing urban complex. Port Elizabeth is the largest city in the Eastern Cape and the fifth largest city in South Africa. The population of the metropole has grown more than sixty-fold in the last 100 years and it has now reached 1 million inhabitants owing to a growth rate of 4.5 % per annum in recent years (Christopher 2000). The search for employment is a major factor driving human migration in the Eastern Cape. The trend is growing of people moving towards the cities. This is largely based on the perception that better employment opportunities are to

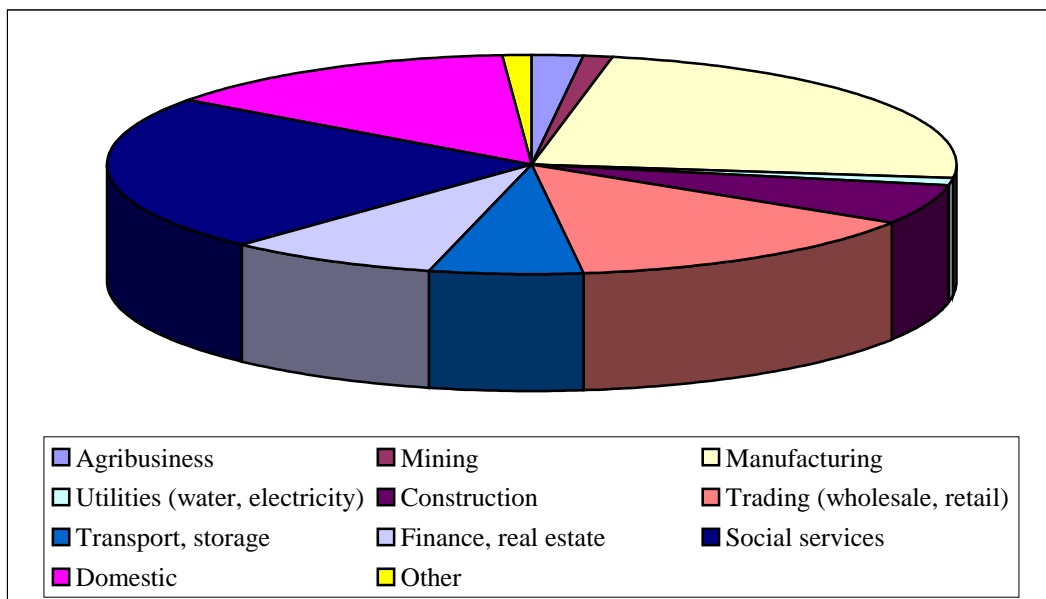


Figure 1. Employment by sector in the Nelson Mandela Metropolitan Municipality (Stats SA)

be found in urban centres. The NMMM has to absorb many of these migrants. Some 15 % of the total Eastern Cape population live in the Metro.

Children (0-15 years) and youth (16-35 years) comprise ca. 66 % of the population in the metropole. Approximately 69 % of the metropole's inhabitants live in formal dwellings and the same percentage are connected to electricity. Some 61 % receive piped water, 82.5 % have flush or chemical toilets but only 41 % have access to a telephone in their dwelling. Thirty-eight percent of the inhabitants between the ages 15 and 65 are unemployed and nearly 8 % are deemed illiterate (1996 census, Statistics South Africa). The breakdown of employment by sector emphasises the importance of manufacturing in the NMMM (Figure 1).

3. OUR LOCAL ASSETS

3.1.1 LIVING MARINE RESOURCES

The alternating sandy beaches and rocky shores of the NMMM coastline are noted for their abundant marine animal life. The sweeping sandy beaches in the Metro are inhabited by about 25 species of marine invertebrates, of which sandmussels and ploughsnails are probably the most well known owing to their high abundance and high biomass. Invertebrate life of the rocky shores is extremely diverse. Inter- and subtidal organisms show a distinct zonation in their distribution in response to environmental parameters such as wave action, topography and substratum. Resident species assemblages are characterised by attached macro and microalgae and sedentary invertebrates, usually associated with a range of mobile invertebrates and fish. Predators in the form of fish and birds are frequent visitors during high and low tide respectively.

The NMMM coast is situated in the transition zone between the cool West Coast and tropical African East Coast waters. As a result, the fish fauna is made up of species found on both the east and (to a lesser extent) west coasts of South Africa and the diversity of species is correspondingly high (Smale and Buxton 1998). Many of the fish species found here are endemic (restricted in their distribution to South Africa).

The south-eastern Cape coastline is richly populated with sea- and shorebirds. The biological diversity in Algoa Bay is enhanced by the presence of two groups of islands that serve as breeding, nursing and roosting grounds for large numbers of seabirds (Figure 2). Six of the seven islands in Algoa Bay are classed as Important Bird Areas, as they are inhabited by threatened and endangered species and because they hold (much) more than 5000 waterbirds (Barnes 1997). Eight of the 15 South African resident seabird species breed here, either on islands or on the shore of the adjacent coast. Most

migrants derive from either the southern (e.g. the albatrosses and petrels) or the northern cold regions (e.g. the Palearctic terns), and only a few tropical seabirds are regular visitors. Colonies on islands off the Western Cape are the source of endemic species which frequent the area during their non-breeding season. The Cape Gannet, African Penguin and Cape Cormorant are the most numerous of the resident species at sea, whereas terns (especially Common), stormpetrels, shearwaters and Whitechinned Petrel, dominate the migrants in terms of numbers (Smale et al. 1994). Cape Recife is an important roost for Roseate Tern, South Africa's second rarest seabird that only breeds on islands in Algoa Bay. Almost 15 % of the world population of the African Black Oystercatcher breed in the foredunes of the Metro's sandy beaches with highest densities being observed in the western parts.



Figure 2.

St Croix Island holds the majority of African Penguin breeding in Algoa Bay. The Coega coast is in the background where the Ngqura Port and Industrial Development Zone is currently being built.

Nine species of marine mammals are relatively common in the area, albeit some only seasonally. The two largest cetaceans are present in winter and spring only, when Southern Rightwhales give birth and nurse their young in shallow waters, and when Humpback Whales migrate through to their more tropical nursery areas. Humpback Dolphins (nationally a critically endangered species) use the surf zone extensively as a feeding ground, both along the mainland coastline and around the islands. Bottlenose Dolphins are commonly seen inshore riding the breakers. Approximately 4000 Cape Fur Seal breed in early summer on Black Rocks in the Bird Island group but have a wide at-sea distribution at other times of the year.

3.1.2 Utilisation and current status

A large variety of marine fish and shellfish species are commercially exploited along the Metro coastline. In addition to the commercial enterprises, recreational fishing is very popular, both from ski-boats at sea and from shore. Assessments of the shore-angling fishery, the spearfishery, gill-net fisheries, as well as the economic aspects of these fisheries have been carried out recently, but very

little is known about some of the other major inshore fisheries such as estuarine linefish and invertebrates from all inshore habitats (Britz et al. 2001). As a result of the high diversity of the living marine resources the status and utilisation pattern of each sub-sector differs greatly.

Approximately 25 species (or species groups), of linefish are exploited along sandy shores, 30 along rocky shores, and 18 within estuaries in the Eastern Cape. Of these, 11 species are common to sandy and rocky shores, and 10 species are common to all three habitats.

Recreational spearfishermen operate on inshore reefs and around the Bird Island group. Also largely recreational, the rock and surf fishery uses rods and lines to catch fish for the pan or in competitions. Recently, some subsistence fishers have joined this sector. They fish along the entire bay coastline although the recent ban of vehicles on beaches has shifted fishing effort to easily accessible stretches of the coast. Light-tackle anglers fish from small, open boats using nylon with 4 kg breaking strain and are confined to estuaries and the vicinity of the Port Elizabeth harbour. Ski-boats are 6 to 8 metres in length powered by twin outboard engines and typically carry a crew of 4 to 6 men. This type of craft is used both by commercial and recreational anglers who work throughout the bay.

The large commercial deck-boats carry a crew of about 20 men and stay at sea for several days at a time operating in and beyond Algoa Bay and St Francis Bay. The Yellowfin Tuna is the most commonly caught species, but Marlin, Dorado, Mackerel, carangids and some sharks are also targeted, using lures or bait trolled behind moving boats. Tuna and Swordfish are fished at the continental shelf edge, approximately 25 miles off Port Elizabeth, while Marlin occur even further offshore (Britz et al. 2001). It is noteworthy in this context that this fishing sector supports a substantial industry associated with boat building, maintenance and fishing equipment.

A very similar type of vessel is used by the Chokka squid fishery, which operates over inshore spawning grounds, their bright lights visible for a large distance at night. This is the most important and most valuable species caught by the commercial line fishery, and the squid industry is the largest employer in the fishing industry, with over 2000 people on the work force in the Eastern Cape (Britz et al. 2001). Approximately 80 % of South African squid is exported cleaned and unfrozen to Italy, Japan, Spain and the Far East. Recreational fishers also utilise this resource, but are limited to 20 per person per day. This resource is considered to be fully utilised (Durham & Pauw 2000).

Commercial trawlers concentrate on Hake, Maasbanker, Sole and Panga. Collectively, the demersal trawl fisheries in South Africa are the largest, the most complex, the most valuable, and in some cases, the most sophisticated of the commercial fishing sectors. The Hake industry is based mainly in Port

Elizabeth, and stocks appear to be in good condition (Britz et al. 2001). The trawl fishery for sole operates primarily out of Mossel Bay, but a few boats are based in Port Elizabeth. The Sole stocks appear to be in very good condition and the fishery is stable and well regulated (Britz et al. 2001). All fishing effort takes place outside of the inner bay areas of Algoa and St Francis which have been closed to inshore trawling for over 20 years.

Economic links also exist with the mid-water trawl industry directed at Horse and Chub Mackerel. This fishery is based mainly on stocks on the Agulhas Bank, particularly on the shelf edge on the South and East coasts. The availability of fish is not known with any certainty, but it is not believed to be extensive. Horse Mackerel is considered a low-priority research species with little directed research effort (Britz et al. 2001). Sporadic commercial longlining of Hake and purse seining of Sardine has taken place in the past. A crayfish trap fishery is situated at the edge of the continental shelf operating out of the Port Elizabeth harbour.

The overall perception of the Eastern Cape line fishery is that it has been exhausted and that there are few opportunities for further exploitation (Government Gazette No. 21949 of 2000). The status of the Kob species *Argyrosomus japonicus* and *A. inodorus* are of particular concern due to their importance in the rock and surf, commercial and recreational offshore line fisheries (Durham & Pauw 2000). All of the reef-associated species off the coast are heavily exploited, and the stock status of most of these fish is thought to be highly vulnerable, due to their highly territorial nature and slow growth rate, with late maturity. Three species considered not to be over-exploited are the Panga, Yellowtail and Santer. Approximately ten species are caught over sandy or muddy substrates, of which the Geelbek and Silver Kob have been heavily exploited and are highly vulnerable. Both stocks have collapsed in the Eastern Cape, and need to be protected from further exploitation until they have recovered. Hake, Kingklip and Jacopever are also highly exploited, but their stocks are stable at present. The Gurnard seems to be under-utilised, and the John Dory shows the potential to be vulnerable to exploitation, but is currently in good condition (Britz et al. 2001).

Eighteen and five invertebrate species, respectively, are harvested along the rocky shores and sandy beaches by subsistence and recreational fishers for food and for bait. Oysters and Mediterranean Mussels are cultivated in the sea eastwards of the Port Elizabeth harbour and in the Swartkops estuary. An Abalone (Perlemoen) farm situated behind the beach at Hougham Park exports nearly its entire product (80 tons p.a) to overseas markets. Poaching for wild Abalone is rife, especially on the rocky coast westwards from Cape Recife but also around the islands in Algoa Bay (Durham & Pauw 2000).

There is some seaweed harvesting under concession on the rocky shores within the Metro, mainly of *Gelidium* and *Gracilaria* species. Most seaweed is sold in a basic form for the extraction of agar, and a small percentage is milled to produce food salts, organic fertilisers and food stabilisers. (Britz et al. 2001). Current levels and methods of exploitation are thought to have a negligible ecological effect.

3.2.1 ESTUARINE RESOURCES

Two main geographical features in the eastern half of the NMMM are the lower reaches of the Sundays River and the Swartkops River. Flanked by salt marshes and grassy areas along their banks, they form substantial estuaries as they discharge their waters into the Indian Ocean. Between the two main riverbeds the quartzite outcrop of the Coega Kop rises above otherwise rather flat, dry, succulent thicket growing on geologically young sediments. At least in summer evaporation exceeds rainfall by such a large margin that salt pans are a prominent feature of this area. Two other river mouths in the Port Elizabeth area are hardly recognisable as estuaries any longer. One of these, the Baakens, has its outlet flowing into the harbour. The second, the Papenkuils estuary, has been almost completely canalised and now receives a lot of industrial effluent; the people therefore often call it “Smelly Creek”. The two estuaries west of Cape Recife, Maitland and Van Stadens are temporarily open/closed, they are comparatively small and they are largely unaffected by industrial development but are visited by many people at weekends and during holidays for recreation (Figure 3).



Figure 3. Maitland River mouth after floods opened the estuary to the sea.

3.2.2 Utilisation and current status

Estuaries are more than links between rivers and the sea. They are best thought of as ecosystems in their own right (or coastal resources in this case) owing to their peculiarities and their dynamic nature triggered by tidal movements and flooding. Estuaries provide many services; to name just a few, they serve as important nursery areas for fish, their wetlands and salt marshes act as natural filters, and they are attractive places for human recreational activities. Current problems facing estuaries are pollution, reduced freshwater inputs due to extraction and impoundments in the upstream catchments, habitat disruption, channel modification and siltation/sedimentation issues (Morant & Quinn 1999, Whitfield 2000), with many of these problems being interlinked. Current status and utilisation by humans are summarised in Table 1.

Table 1. Scores of environmental condition, conservation importance and human use of the seven estuaries in the NMMM.

Name	Van Stadens	Maitland	Baakens	Papenkuils	Swartkops	Coega	Sundays
Type and size class	mostly closed, <150 ha	mostly closed, <2 ha	canalised	canalised	open, runoff >15 10 ⁶ m ³	mostly closed, <150 ha	open, runoff >15 10 ⁶ m ³
Environmental condition	fair but functional	fair but functional	very poor, not functional	very poor, not functional	good and functional	poor, not functional	very good and functional
Conservation importance	high	medium	very low	very low	very high	low	very high
Prevailing human use	recreation	recreation	stormwater drain	effluent discharge	residential and recreation	salt works and harbour	residential and recreation
Degree of utilisation by humans	low, seasonally high	low, seasonally high	not applicable	not applicable	well utilised	increasing industrial use	well utilised

3.3.1 LIVING TERRESTRIAL COASTAL RESOURCES

The Eastern Cape Province has highly diverse vegetation since it is an area where the biomes of South Africa converge. As a result, the Eastern Cape vegetation is a mosaic of vegetation types, many of which have become severely threatened by development (Lubke and Everard 1986, Low and Rebelo

1996). Coastal vegetation types differ markedly between the western and eastern sector of the NMMM (Figure 4).

The western portion of the NMMM stretches from Cape Recife in the east to the Van Stadens gorge. The main geographical feature in the north is the Van Stadens Mountain, whereas the dune belt all along the shores of St. Francis Bay borders the Indian Ocean in the south. Midway between these two runs the national road N2 linking it with its neighbour the Kouga Municipality and the Garden Route beyond. Coastal thicket, often dwarfed by wind stress, and fynbos are the most dominant vegetation types in this area. Evergreen coastal forest occurs in areas of high rainfall around Van Stadens and Maitland. Salt marshes and estuarine vegetation occupy only very small areas.

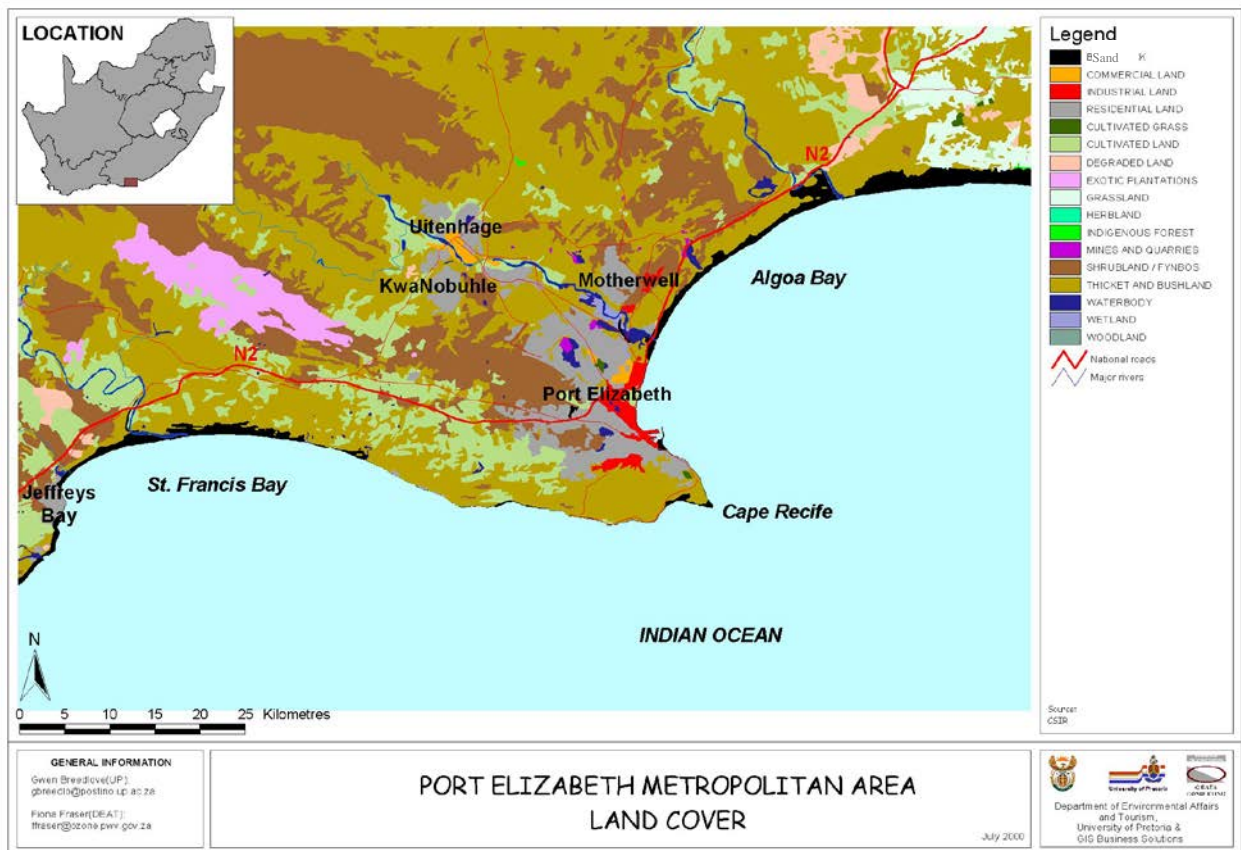


Figure 4. Land cover of the NMMM area.

East of Cape Recife the bushy country on the hard soils of the Swartkops, Coega and Sundays Rivers is in strong contrast to sandy soils west of Port Elizabeth towards Van Stadens River. Here the dominant vegetation is the floristically rich Subtropical Transitional Thicket (commonly referred to as Valley Bushveld, with four types found in the Eastern Cape). Thicket is disappearing frighteningly fast

under remorseless urban expansion as Port Elizabeth and Uitenhage rush to meet each other along the bed of the Swartkops River.

3.3.2 Utilisation and current status

Most of this land has seen major changes in vegetation during the last 100 years through the introduction of alien tree species originating in Australia. Gum trees *Eucalyptus* (introduced for timber) and Rooikrans *Acacia cyclops* (introduced as a sand-binder) have spread so successfully that they have smothered low-growing but diverse fynbos in large tracks of land behind the coastal dunes. Vigorous growth of the human population and the transformation of natural areas into farmland and residential areas have led to it that fynbos became replaced by grazing lands and woodlots of exotic trees (Klages and Urquhart 1999). Fortunately, the western half of the Port Elizabeth region is quite well endowed with nature reserves. Coastal dunes are protected in the Cape Recife, Sardinia Bay and Sylvic reserves, whereas the Island Forest, Maitland and Van Stadens reserves cover pockets of coastal forest.

The Metro has well developed coastal roads which allow easy access to its entire coast, with the exception of a few sections in the west. This results in heavy recreational utilisation of this area. Pollution generated from continued recreational use can build up if there is inadequate refuse disposal sites and services and can have severe implications for the terrestrial environment. This type of pollution is particularly bad in town, mainly due to the number of people using the resource and consists mainly of litter discarded after a day at the beach or fishing. West of Cape Recife the coastal zone is less accessible due to infrastructural constraints. This, however, leads to intense use of the developed recreation/tourism nodes (e.g. Sardinia Bay) that are accessible to the general public resulting in increased pollution in these areas.

3.4.1 MINERAL RESOURCES

Although mining is a major industry in South Africa it forms the smallest productive sector of the Eastern Cape. Mineral resources found along the coast of the Metro are also not of major significance with the exception of the production of table salt, which is of African importance. Salt, lime, clay, dune sand (quartz) and quartzitic sandstone are mined locally. Despite extensive seismic searches and several series of test boreholes that have been drilled, no economically viable gas or oil fields have been located in the sea off the Metro's beaches.

3.4.2 Utilisation and current status

Salt (NaCl) is a mineral resource which is harvested from three sites within the NMMM, the Coega estuary, the pans at Swartkops and Missionvale and at Tankatara near Colchester. It is extracted from seawater in shallow pans by evaporation, which removes the water and leaves the salt crystals behind which are collected and purified. Annual production by the two companies involved in this industry is in the order of 60 000 t.

Ancient marine deposits of the calcareous shells of molluscs in the Schelmuhoek dunefield near the mouth of the Sundays River and at Hougham Park, as well as on the seafloor off that stretch of coast, have been investigated as a source of lime (CaCO₃) for the cement industry but their exploitation has been deferred due to technical and environmental constraints. Limestone deposits also occur further inland at Grassridge and are mined commercially by Pretoria Portland Cement.

The bedrock in the Algoa Basin is a complex assemblage of Enon, Kirkwood and Sundays River formations collectively known as the Uitenhage Group that is of late Jurassic to early Cretaceous age. These formations are sedimentary depositions and consist predominantly of mudstones and shales interspersed with areas that contain a large amount of clay, which is exploited on an industrial scale. Along the coast two clay quarries for masonry products are situated at Wells Estate and one at Coega.

Quartzitic sand is mined from tertiary dune systems at Seaview, Lovemore Park and at Hougham Park. They supply the building industry and annual production is in the order 30 000 m³.

Quartzitic sandstone (orthoquartzite) is quarried from several sites within the Metro's coastal area, the most important in this context being Coega Kop situated approximately 7 km inland from the Coega River mouth. This rock is very hard and in the past has been used for production of ballast, concrete aggregate and harbour wall armouring. The quarry at Coega Kop supplies the large blocks required for the construction of the Coega harbour breakwater and is therefore important in the coastal management process.

3.5.1 CONSERVATION AREAS ALONG THE NMMM COASTLINE

There are 10 coastal conservation areas within the NMMM protecting coastal dune forest and fynbos, coastal evergreen forest, sandy and rocky beach habitats, a coastal headland, estuarine mudflats, and marine intertidal and subtidal habitats. In the east, just outside the municipal boundaries, the Woody Cape Nature Reserve, which includes the Alexandria Dunefield, has been transferred to SAN Parks

and was declared part of the Greater Addo Elephant National Park (Government Gazette 22809, November 2001). St. Croix, its two satellite islets of Jahleel Island and Brenton Rock and an area of sea within 500 metres surrounding each, were the first marine island reserve to be proclaimed in South Africa (Gazette No 276, 1981 of the Province of the Cape of Good Hope). Presently these islands are provincial nature reserves, as are the islands of the Bird group. It is the intention of SAN Parks that the islands become part of the Greater Addo Elephant National Park in the not too distant future. Parts of Cape Recife and of the Swartkops estuary are declared municipal nature reserves. West of Cape Recife, the Sardinia Bay Marine Reserve extends from the village of Schoenmakerskop to Bushy Park and extends out to sea. Table 2 provides details on the 10 conservation areas within the Metro.

Table 2. Coastal conservation areas within the Nelson Mandela Metropolitan Municipality.

<i>Name of conservation area</i>	<i>Description</i>	<i>Size</i>	<i>In charge</i>
Maitland Mines Nature Reserve	Climax dune forest and riparian thicket	127 ha	NMMM Environmental Services
The Island Nature Reserve	Coastal forest vegetation	480 ha	Western Region DEAE&T
Sardinia Bay Nature Reserve	Calcrete coastal fynbos	320 ha	NMMM Environmental Services
Sardinia Bay Marine Reserve	Sandy and rocky shore adjacent to Sylvic and Sardinia Bay NR. Protects all marine living resources within 1 km of the shore	55 ha	Marine and Coastal Management
Driftsands Nature Reserve (not proclaimed)	Coastal fynbos, some areas have been taken over by Rooikrans and were previously used for <i>Eucalyptus</i> plantations	2500 ha	NMMM Environmental Services
Sylvic Nature Reserve	Calcrete coastal fynbos. Adjacent to Sardinia Bay Nature Reserve	78 ha	NMMM Environmental Services
University of Port Elizabeth Private Nature Reserve	Area of coastal fynbos within the UPE campus.	830 ha	University Port Elizabeth
Cape Recife Nature Reserve	Headland bypass dune system with dune scrub and fynbos	366 ha	NMMM Environmental Services
Zwartkops Nature Reserve	Valley bushveld and saltmarsh vegetation of the estuary	450 ha	NMMM Environmental Services
Aloes Nature Reserve (not proclaimed)	Valley bushveld along the Swartkops River estuary	350 ha	NMMM Environmental Services

3.5.2 Utilisation and current status

The Metro's conservation areas are very popular with the public as places of recreation and for sport. The fact that people value their local reserves is underlined by the existence of several non-governmental associations that act as guardians of these nature areas, such as the Swartkops Trust and the Cape Recife Environmental Trust.

All coastal reserves are easily accessible by road. Many provide public amenities, such as braai facilities, that add to their attractiveness. Entrance fees are generally low or not payable at all. Hiking and mountain biking trails in the reserves are well adopted by the public. Examples of formal, signposted coastal trails in the Metro include the Roseate Tern Trail at Cape Recife, the Bushbuck Nature Trail at the Island NR and the Sacramento Trail between Schoenmakerskop and Sardinia Bay.

3.6.1 HERITAGE RESOURCES

South Africa has a wealth of archaeological sites concentrated along the coast. Coastal heritage sites constitute the material evidence of human interaction with the marine environment. Preservation and study of these resources is therefore important for the understanding of the history of humankind and the definition of our cultural identity. The management of heritage resources in South Africa takes place within a legal and administrative framework. South African cultural heritage legislation has recently been revised. The National Heritage Resources Act (NHRA) came into force on 1 April 2000. The NHRA replaced the National Monuments Act of 1969. The organisation in South Africa responsible for the execution of the above new legislation is the South African Heritage Resources Agency (SAHRA) formerly known as the National Monuments Council (NMC). This organisation makes policies, issues guidelines and lays down regulations for the management of heritage sites.

According to the National Heritage Resources Act (NHRA) (No. 25 of 1999) archaeological heritage material of relevance for the NMMM coast includes:

- a. Material remains resulting from human activity that are in a state of disuse older than 100 years, this includes human and hominid remains as well as artificial features and structures.
- b. Wrecks of vessels or aircraft wrecks, whether on land or within our maritime zones or water, and any other associated artefacts or cargo.
- c. Features, structures and artefacts associated with military history and older than 75 years, as well as the sites in which they are found.

Heritage material as a result of past human activity along the Metro's coast consist chiefly of a) open station shell middens, b) shipwrecks and c) military defence installations.

3.6.2 Utilisation and current status

Open station shell middens dating from the Early Stone Age to the Later Stone Age occur at Sardinia Bay, in Happy Valley, at Humewood Beach, New Brighton Beach, Bluewater Bay, Aloes and on the grounds of the Coega Salt factory. An especially high density of Later Stone Age shell middens is present at Schoenmakerskop, which are visited by people walking the Sacramento Trail (Fig. 5).

Owing to the incidence of easterly gales and the lack of a natural harbour protecting sailing ships from wind from this direction, the near-shore seabed of Algoa Bay is strewn with the remains of many wrecks. Arguably the most famous of the wrecks are the Dutch corvette 'Zeepaard' which came to grief in 1823 at Holland Reef in Sardinia Bay, the Dutch man-o-war 'Amsterdam', which went down in 1817 at a place now known as Amsterdamhoek, and the 17th century Portuguese galleon



Fig. 5. Shell middens are the refuse heaps of prehistoric people ('strandlopers') that lived off the shellfish of the sea.

'Sacramento' with her cargo of Chinese bronze cannons lying in the sea at Schoenmakerskop.

The ruins of military coastal defence installations dating from the Second World War are present at Schoenmakerskop, behind the dunes at Cape Recife, on Brooks Hill in Humewood and at the mouth of the Swartkops River.

The NHRA follows the principle that heritage resources should be managed by the levels of government closest to the community. These entails that local and provincial authorities will manage heritage resources as part of their planning process. To ensure that heritage sites are effectively managed, managers should

- ❑ develop a sensitivity towards heritage sites and make resources available for the ongoing education and training of personnel who deal with heritage assets in the identification, assessment and management of heritage sites,
- ❑ take account of material with heritage value and prescribe the least possible alteration or loss of such material,

- ❑ make sure that before any work is done to a heritage site, the site is documented, researched and any information recorded.

Currently, the custodians of heritage resource management (living and non-living) for the NMMM are the South African Heritage Resources Agency (SAHRA), a statutory body with regional offices in Grahamstown, and the provincial Department of Sport, Arts and Culture via the provincial museums in Grahamstown (Albany Museum) and Port Elizabeth (PE Museum/Bayworld). Presently, these agencies suffer from major staffing problems and the cooperation between them is poorly developed.

3.7 THE BUILT ENVIRONMENT

The provision of infrastructure makes for access to coastal resources. While remoteness tends to protect natural coastal resources from exploitation, it also alienates people to the marine environment and prevents its appreciation. But it is appreciation followed by education that may lead people to support conservation. Consequently, there is a direct link between infrastructure development and sustainable use of coastal resources: if people can't experience it, they will also not understand it. However, this chain of reasoning does not mean that all parts of our coast should be equally well accessible.

Roads

The coast is reached almost exclusively by road, using private vehicles, taxis or a bus service. Road access to the coast of the NMMM can be considered as very good both for residents and for travelling visitors. For the NMMM, the major road is the N2; several well-built secondary roads link the N2 with the coast. An important coastal road in the NMMM area is Marine Drive extending from Summerstrand to Schoenmakerskop. The road then continues inland as New Seaview Road offering access to Kini Bay, Seaview and Maitland before turning inland again to join up with the N2. Cul-de-sac roads west of Port Elizabeth from the N2 are the only coastal access roads to Sardinia Bay, Blue Horizon Bay and Van Stadens with no public links between these roads along the coast, but this state of affairs is seen as desirable as it restricts further exploitation to existing developments in an otherwise highly sensitive section of coast. Presently, in the east there is no road running parallel to the shore between the Swartkops River mouth and the Sundays River mouth. Circumstances are bound to change though in the course of the expansion of the Industrial Development Zone centring on Coega with, hopefully, due attention being paid to the sensitivity of the coastal dune fields in that section.

Parking for coastal visitors along the beach front is adequate at most times of the year (see also Table 4), except when more than 100 000 people flock to the Metro's beaches on Boxing Day (weather permitting).

Ports and shipping

The port of Port Elizabeth is the oldest harbour of South Africa. It has an enclosed water area of about 115 hectares and more than 3400 meters of quayage for commercial shipping. Its container terminal is one of the three specialised container handling facilities along the South African coastline. It serves the immediate hinterland of the Eastern Cape where its main business focuses on the needs and requirements of the motor vehicle and components industry as well as various agricultural products being exported in containers. The terminal offers value-added services in the form of storage, packing and unpacking of containers and logistics management. The terminal has an annual throughput of 250000 TEUs (standard 20 ft containers). The dry bulk terminal is the premier manganese ore exporting facility in South Africa, exporting some 1.6 million tons of manganese ore per annum. Annual throughput of breakbulk and bulk cargo is over 2 million tons whilst more than 13 000 motor vehicles are landed annually. Besides handling cargo, the port also harbours a fishing fleet of deckboats as well as an armada of recreational yachts and skiboats. The port is managed by Portnet and by the National Ports Authority. The National Port Authority focuses on the provision of total port infrastructure and marine related services, the management of port activities in a landlord capacity and the regulation of the port system, whereas Portnet focuses on terminal and cargo operations. Portnet is a division of Transnet Ltd, a public company in which the South African Government is the sole shareholder.



Figure 6. Humewood and Kings Beach as seen from Brooks Hill. Bayworld and the harbour are in the foreground and background, respectively.

A second port in the Nelson Mandela Metropolitan Municipality is currently under construction by the National Ports Authority at Coega 20 km from the city centre of Port Elizabeth. The Port of Ngqura is expected to be operational in the year 2004. Entrance to the port will be along the natural geological channel created under the mouth of the Coega River. The main breakwater will extend more than two kilometres into the sea, while the lee breakwater will be just over one kilometre long. The depth of the harbour in the first phase will be some 16 metres which will accommodate vessels up to 80 000 tonnes deadweight.

The Ngqura deepwater port will complement the existing deepwater ports on the South African coastline at Richards Bay on the east coast and Saldanha Bay on South Africa's west coast. The Port of Ngqura has been designed to handle containers and various bulk materials, and to take account of projected business opportunities as well as changes in world shipping and logistics operations. In addition, future plans for the port incorporate the relocation from the existing Port Elizabeth harbour of a manganese ore facility and fuel tanks, which are used to store refined petroleum products.

The new Ngqura Port is being developed in close coordination with the Coega Development Corporation (Pty) Ltd (CDC), in which the only shareholder is the Eastern Cape Development Corporation, a parastatal owned by the Eastern Cape Provincial Government. The CDC is coordinating the creation of an Industrial Development Zone (IDZ) in the hinterland of the port. The Coega Industrial Development Zone eventually will extend across 12 000 hectares east of Port Elizabeth and west of the Sundays River. Development of this area will be done over phases, with 6 400 hectares of land being developed in the first phase. Serviced sites will be available in various industrial parks adjacent to a deepwater port. Proposed IDZ infrastructure will consist of roads, rail links, provision of bulk electricity and water, sewage treatment and a hazardous waste processing facility.

3.8 TOURISM AND SPORT IN THE NMMM

The NMMM is a gateway to the Eastern Cape Province and to the Garden Route with an excellent tourism infrastructure for visitor arrivals and departures. The Port Elizabeth airport, harbour and railway station are located within a radius of 5 km surrounded by a cluster of good hotels and other alternative accommodation. The Metro can offer over 3 000 beds in formal hotel accommodation and some 4 000 beds in guesthouses, bed & breakfasts, holiday flats and self-catering establishments. Without counting caravan and camping sites, the Metro can host over 1.3 million guests a year at a 50% bed occupancy rate with the existing infrastructure. A breakdown of the number of tourists

visiting the Metro in the year 2000 is provided in Table 3. Although more detailed statistics of the reasons why people come to visit are not available at present, it is probably safe to say that a very large proportion of the total number of visitors would include the coastal attractions of the Metro in their response.

Local tour operators offer a variety of tours in and around the Metro including cultural and heritage tours, game and bird viewing tours, adventure tours, hunting safaris, diving and fishing excursions etc. Algoa Bay is a perfect bay for all types of aquatic sports and Port Elizabeth is staking its claim to being recognised eventually as the Watersport Capital of Africa having successfully hosted a number of World Championship events e.g. boardsailing, windsurfing, yachting and Hobie Cat sailing. Within a two-hour drive from the Metro base, visitors can enjoy almost any tourism experience imaginable with a special emphasis on nature-based tourism (Figure 7).

The Port Elizabeth beachfront is the leisure tourism node of the Eastern Cape Province anchored by the world-class Boardwalk Casino and Entertainment World. Some 60 festival retail shops, a modern state-of-the-art cinema complex and a variety of theme restaurants within the complex provide day and night leisure and entertainment activities for all tastes, young and old. Nearby is the Bayworld oceanarium and museum complex where visitors will be entertained and educated by attending one of the morning or afternoon dolphin shows. The museum contains many interesting exhibits and artefacts depicting the history of the area and marine life along the coastline.

Table 3. Visitor statistics for the Nelson Mandela Metro in the year 2000.

Origin and purpose of visit	Arrivals	Percentage
Overseas:	75 000	100
Holiday	47 250	63
Business	8 250	11
VFR (visiting friends & relatives)	13 500	18
Other	6 000	8
Africa:	15 000	100
Holiday	9 450	63
Business	1 650	11
VFR	2 700	18
Other	1 200	8
Domestic:	1 200 000	100

Origin and purpose of visit	Arrivals	Percentage
Holiday	240 000	20
Business	360 000	20
VFR	600 000	50
Total number of visitors:	1 290 000	
Value of tourism	R 1.3 billion	
Mode of transport:	1 290 000	
Road	703 065	54.5
Air	434 335	33.7
Rail	152 600	11.8
<i>Source: Compiled by P. Myles, Centre for Tourism Studies at the University of Port Elizabeth from SATOUR and Markinor international and domestic tourism surveys.</i>		

3.8.1 Bathing

Owing to its geographical position at the seaside, the enormous population growth of Port Elizabeth inevitably has put enormous pressure on the natural coastal environment. The tight control exercised by the State over settlement space in the Apartheid years restricted and concentrated Black and Coloured urban growth in the northern townships where access to the sea was difficult and restricted to “own” beaches partitioned along racial lines. This legacy lives on in that the best support facilities for bathers (presence of lifesavers, public transport, shops etc.) are provided at the traditionally ‘White’ beaches of Kings Beach, Humewood Beach, Shark Rock Pier, Pollock Beach in Summerstrand and Sardinia Bay. In contrast, the beaches in the ‘northern’ parts of the NMMM (Brighton Beach, Wells Estate, St Georges Strand and Joorst Park) lack many of these amenities catering for the needs of bathers. Besides, they are also less sheltered and swimming is therefore potentially more dangerous (Table 4).

Table 4. The swimming beaches of the Metro and their features (from east to west)

Name of beach	Features and facilities
St Georges Strand	A long walk from the parking area to the dangerous surf. Life guards only on duty during peak seasons.
Joorst Park	Parking close to beach. Dangerous currents. Will be impacted by the Ngqura Port development.

Name of beach	Features and facilities
Wells Estate	Bathing close to the beach pier. Lifeguards only present in December. Potentially dangerous backwash and rip currents are present most of the time.
Bluewater Bay	Ample parking and ablution facilities. The surf can be dangerous. Bluewater Bay Life Saving Club on duty over weekends and during holidays.
Brighton Beach	A small beach in front of the promenade. New Brighton Beach Surf Lifesaving Club on duty over weekends.
Kings Beach	A 2 km long and very safe beach. Kings Beach Colibri Livesaving Club on duty; volunteer and professional lifesavers. Mac Arthur Baths Pool Complex with fresh water pools at its western end.
Humewood Beach	The Metro's Blue Flag beach. Professional lifeguards on duty. Safe swimming for families and easy access to the amenities of Happy Valley.
Hobie Beach	The Metro's most popular beach offering safe bathing. Professional lifeguards on duty and all amenities close by. Power craft launching area.
Pollok Beach	This beach offers excellent waves for surfers. Summerstrand Surf Lifesaving Club patrols the beach over weekends and during the summer season.
Sardinia Bay	The Metro's most picturesque beach. A favourite with horse and dog owners. Currents can be dangerous at times. Sardinia Bay Life Saving Club on duty during the summer season. Restrooms and braai facilities available.
Beachview	The beach is part of the Beachview resort. Lifesavers present only during peak season. Swimming often dangerous owing to strong rip currents.
Maitland	Parking close to bathing area. Not patrolled by lifesavers. Spectacular dunes and a small estuary that is mostly closed off from the sea.
Van Stadens	Part of the Van Stadens River Mouth Resort. Patrolled during peak holiday season only. The surf can be powerful.

3.8.2 Diving

Often branded as Africa's watersport capital, the Metro prides itself in its safe access to many dive sites. Rated as one of the country's best cold-water dives, the underwater reefs and wrecks are popular with local and upcountry sports divers. Bellbuoy, Phillip's Reef, Postman's, as well as Thunderbolt and Malay Pools are some of the popular spots inside and outside of Algoa Bay. The wrecks of the 'Haerlem', 'Patti' and many others at Cape Recife are also frequently visited by divers.

3.8.2 Boating and surfing

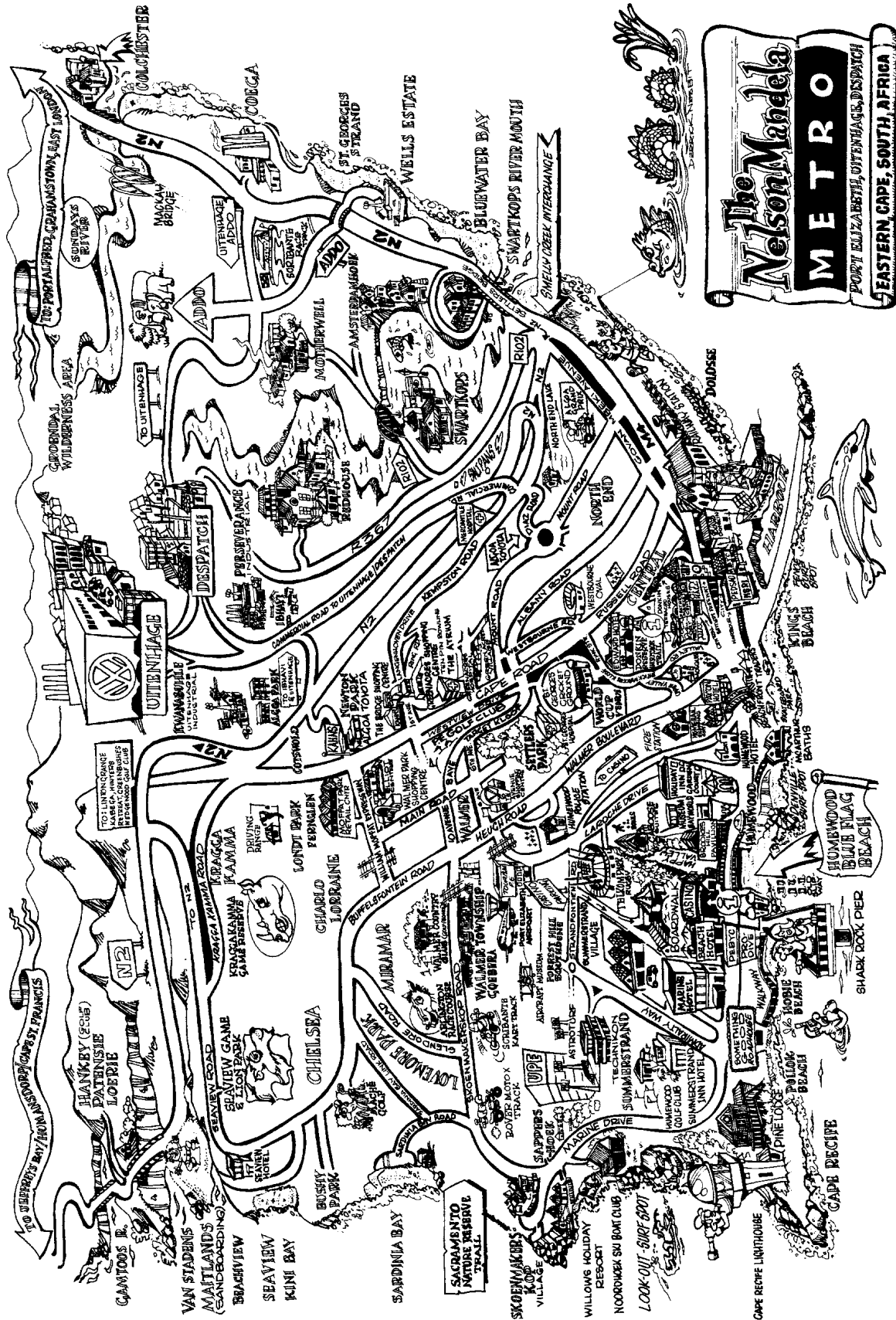
Any warm summer day with a light breeze bears witness to the fact that boating is a popular pastime in Algoa Bay. Virtually all types of wind- and motor-powered crafts have their enthusiastic following, from powerboats to ocean-going yachts, from windsurfers to sea-kayaks. Algoa Bay is world-renowned in sailing circles. Owners of the larger types tend to keep their crafts at one of the moorings

controlled by the Port Elizabeth Deep Sea Angling Club or the PE Yacht Club in the harbour but many more boats are stored on trailers on land, preventing an accurate census of boats in the Metro. Formal small craft boat launch facilities exist at Sardinia Bay, Noordhoek, Hobie Beach and inside the PE harbour. Jetski and rubberduck drivers additionally launch at a section of Kings Beach. Redhouse and Swartkops Yacht Clubs offer safe, protected river sailing, while PE Beach Yacht Club catering for the owners of smaller types of sailing crafts is at Hobie Beach.

Although overshadowed by the world-famous surfing destination of Jeffrey Bay, the Metro nevertheless boasts a number of excellent board surfing spots between the harbour wall and Pollok Beach in Summerstrand, but also on the 'wild side' under the right wind and wave conditions. The Metro is the best place in South Africa for wind- and kite surfing. Exciting surfing conditions are created by a large shore break that develops when the southeaster blows. Noordhoek just outside the bay is totally exposed to the ocean swells and visited mainly by experienced boardsailors.

3.8.4 Madiba Bay

In November 2002 a 50-year municipal lease agreement has been signed with developers Madiba Bay Holdings for a multi-million rand wildlife theme park stretching over 5 577 ha from Cape Recife to Schoenmakerskop. With gates set to swing open in 2004, this mammoth undertaking promises to change the face of the province's tourism industry. Situated 10 minutes south of the City Hall and the airport, the park's purports to offer as many as 170 attractions worth over a billion rand to its visitors. Affectionately named after South Africa's former president, Madiba Bay will include the Big Five wildlife, marine ventures in Sea-World, agriculture undertakings and farm routes in Agri-World, and cultural villages and museums in Edu-World. The main attractions will be accessed through hiking, horse-riding and bicycling paths, golf cars and an antique steam train. The stated aim of Madiba Bay Safari World is to provide affordable access to the wildlife and eco-heritage of the region and a holiday to remember. Environmental impact assessments for a number of aspects of this project will have to be completed before the development can become a reality.



4. GOVERNANCE AND INSTITUTIONAL CAPACITY

4.1 LEGAL FRAMEWORKS: LEGISLATION AFFECTING COASTAL MANAGEMENT

Management and use of natural resources in South Africa is subjected to national Acts, international policies, agreements and other legislation, which is to say that legislation affecting coastal management is fragmented. While some of these legal frameworks are decidedly dated, e.g. the Sea Shore Act 21 of 1935, a number of new policies have been specifically developed in recent years, in an integrated, participatory manner, for the living marine resources of South Africa. A shift towards stronger environmental protection and balancing this protection with the needs of the people is evident (Durham & Pauw 2000). For the sake of brevity only the most important legal frameworks are mentioned in this chapter.

Constitution of the Republic of South Africa

The Constitution (Act 108 of 1996) provides for environmental protection and conservation within its Bill of Rights (Sections 24, 25), and allocates marine resources as an exclusive national competence. In terms of Section 24, every person has the right to an environment that is not harmful to their health or well being, and to have the environment protected for the benefit of present and future generations through legislative and other measures that prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development

Marine Living Resources Act

The Marine Living Resources Act (MLRA) (No. 18 of 1998) has equity, sustainability and stability as three guiding principles, and promotes a broadening in the focus of management of marine resources to include more socio-economic benefit to coastal communities. The MLRA recognises the importance of conserving biodiversity and maintaining the populations of all species at levels that are consistent with their roles in the ecosystem. Fisheries, for example, should not exploit a species in a manner that will negatively affect other fish species in terms of food availability or other components of ecosystem interaction (Britz et al. 2001). The Act deals almost entirely with fish and fisheries, and the objectives and principles behind the utilisation, conservation and management of marine living resources. It highlights the need to protect whole systems, preserve marine biodiversity and to minimise marine pollution, as well as to comply with international law and agreements, and the restructuring of the fishing industry. South Africa's marine resources are managed at a national level.

Legislative authority over resources below the high water mark is assigned by the MLRA to the Department of Environmental Affairs, Marine and Coastal Management, but there are numerous provincial and local government by-laws that apply to the coastal zone. In some cases, local and provincial authorities pass by-laws that are at odds with national attempts to conserve marine biodiversity and this remains a challenge in the future.

Sea Birds and Seals Protection Act

South African seabirds and seals are administered in terms of the Sea Birds and Seals Protection Act No. 46 of 1973 as well as other acts (e.g. National Parks Act No. 57 of 1976) and provincial ordinances (e.g. Nature Conservation Ordinance 19 of 1974 (Cape)). The Act prohibits the killing, capture or wilful disturbance of seals and seabirds, damaging of their eggs or collection of their eggs, feathers or guano, unless sanctioned in terms of a permit issued by the Minister. Certain legal deficiencies of the Act pertaining to absence of protection for seabirds and seals above the highwater mark and bays have recently (2002) prompted calls for its replacement.

White Paper for Sustainable Coastal Development in South Africa (2000)

White Paper on a Marine Fisheries Policy for South Africa (1997)

White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity (1997)

Eastern Cape Coastal Management Plan (in progress)

The MLRA, and the White Papers of biodiversity and marine fisheries all recognise the need to protect ecosystems as well as to ensure the sustainable utilisation of target and non-target species. They advocate a precautionary approach in cases where there is little available information, or where there is a potential loss of biodiversity. The Minister has been given powers to regulate a number of activities that threaten biodiversity (e.g. marine pollution, mariculture, fishing methods) and enforcement is made more effective through increased capacity and empowerment of law enforcement officials together with increased penalties (Durham & Pauw 2000).

The White Paper for Sustainable Coastal Development in South Africa sets out a vision for the coast and outlines principles, goals and objectives for coastal management, together with a plan of implementation. This policy is concerned with maximising opportunities for economic and social development connected with social resources through maintenance of the health, diversity and productivity of coastal systems. The White Paper seeks to promote a people-centred approach to coastal development. The policy seeks to promote recognition of the value of the coast. In the Eastern Cape, this is particularly important, as the economy outside the cities is nature-based and can provide important socio-economic benefits if developed in a sustainable way. The policy promotes a holistic way of thinking and the promotion of co-ordinated and integrated coastal management. The policy

also proposes a change from top-down control and regulation as in the past, to a style of management that involves more co-operation and shared responsibility with a range of stakeholders that is adaptive in nature and responds to the diversity of our coast (Britz et al. 2001).

Eastern Cape Environmental Conservation Bill

The Eastern Cape Environmental Conservation Bill (G.N. 719 of 2001) provides for the consolidation of the laws relating to environmental conservation applicable to the province. It combines the various provisions contained in the Transkei Environmental Conservation Decree (No. 9 of 1992), the Ciskei Nature Conservation Act (No. 10 of 1987) and the Cape Province Nature and Environmental Conservation Ordinance (No.19 of 1974) into one piece of comprehensive legislation.

National Heritage Resources Act

The National Heritage Resources Act (No. 25 of 1999) establishes a system of protection of heritage resources which are of cultural significance or have other special value for present or future generations. The Act makes provision for various types of protected areas, namely national and provincial heritage sites, protected areas, heritage areas, and archaeological and palaeontological sites. The NHRA specifically includes South Africa's territorial waters and maritime cultural zone.

National Parks Act

The National Parks Act (No. 57 of 1976 as amended) provides for the Minister of the Department of Environmental Affairs and Tourism (DEAT) to set aside land for the establishment, preservation and study of wild animals and plant life, and objects of geological, archaeological, historical, ethnological, oceanographic, educational and scientific interest to be retained as natural as possible. This act assigns all administrative responsibility of all National Parks to SAN Parks.

Environmental Conservation Act

National Environmental Management Act

The Environmental Conservation Act (ECA) (No. 73 of 1989) recognises the dynamism of the coastal zone and provides for the protection of ecological processes of natural systems and the preservation of biotic diversity in the natural environment. Although many of the provisions of the ECA (No. 73 of 1989) have been repealed by NEMA, the Environmental Impact Assessment (EIA) regulations, as well as the regulation on Sensitive Coastal Areas (SCA) remain in force until they are replaced with new regulations under NEMA.

The National Environmental Management Act (NEMA) (No. 107 of 1998) provides a framework for the integration of the environmental management activities of the various spheres of government. It

promotes integrated management to ensure sustainable resource utilisation and development, and requires DEAT be the lead agent in ensuring effective custodianship of the environment. It also provides that sensitive, vulnerable, highly dynamic or stressed ecosystems require specific attention in management and planning procedures, especially where subjected to significant human resource usage and development pressure.

National Water Act

The National Water Act (No. 36 of 1998) provides for the sustainable utilisation of fresh water and protection of water quality. Integrated management of rivers, from the catchment areas to their estuaries, is prescribed in the Act.

National Forests Act

All areas proclaimed State forests are protected by the National Forests Act (Act 84 of 1998) which is enforced by the Department of Water Affairs and Forestry. This Act provides for conservation and development ensuring the sustainability and equitable use of the forest resources, including coastal forests.

International legislation and agreements that have relevance to the management of the Metro coast include the following:

United Nations Convention on the Law of the Sea, 1982

United Nations Convention on Biological Diversity, 1992

Agenda 21, 1992

Rio Declaration, 1992

Convention on Biological Diversity, 1993

FAO Compliance Agreement and Code of Conduct for Responsible Fisheries, 1995

The Jakarta Mandate on Marine and Coastal Biodiversity, 1995.

In summary, the legislative framework within which coastal resources are protected in the NMMM is relatively good, and stands to improve in the near future with the current reviews and new legislation (e.g. review of NEMA and the Sea Bird and Seal Protection Act). Problems arise in terms of the institutions managing the resources and the manpower available to tackle the tasks in hand. Many of the management agencies are short-staffed, not in terms of service staff, but in terms of rangers and other officials capable of enforcing legislation.

4.2 INSTITUTIONAL FRAMEWORKS: AGENCIES OF COASTAL MANAGEMENT IN THE NMMM

The South African Constitution (Act No. 108 of 1996) provides the fundamental legal basis for coastal management by allocating powers to different spheres of government. The Constitution emphasises the need for cooperation between them and it also encourages participation of the public in governance and responsibility. A concerted approach to the management of the coast is therefore constitutional and, considering that the coast is a meeting place for many different users and stakeholders who all have an input to make, it is also desirable.

Coastal resource management has three primary components; monitoring and assessment, regulation and enforcement. Several government agencies are involved in managing coastal affairs within the NMMM. The main players are dealt with below. Additionally there are several other agencies that play lesser roles in coastal zone management, including the provincial Department of Water Affairs and Forestry, the provincial Department of Housing, Local Government and Traditional Affairs, as well as the national Department of Agriculture and the Department of Land Affairs.

4.2.1 DEAT and MCM

The National Environmental Management Act (NEMA, No. 107 of 1998) provides a framework for the integration of the environmental management activities of the various institutions of government. The Act identifies the Department of Environmental Affairs and Tourism (DEAT) as the lead agent of effective custodianship of the environment. The Act promotes integrated management to ensure sustainable resource utilisation and development. It also provides that sensitive, vulnerable, highly dynamic or stressed parts of nature require specific attention in management and planning procedures, especially where subjected to significant human pressure.

Management and conservation of marine living resources falls under the Chief Directorate Marine and Coastal Management (MCM) of DEAT. MCM is divided into four directorates: Support Services, Economics and Resource Development, Coastal and Inshore Resources Management, and Offshore Resources Management. Empowered by the Marine Living Resources Act (No. 18 of 1998) and other legislation, MCM's role is the protection of marine ecosystems, the preservation of marine biodiversity and the minimisation of pollution. Fishery issues (e.g. quotas, permits, minimum sizes etc.) are the focus of the practical enforcement of the MLRA. The Sardinia Bay Marine Reserve is managed by MCM in terms of the MLRA.

MCM maintains a regional office in Port Elizabeth staffed with a senior technician that captures basic statistical data on commercial fisheries landing their catch at the Port Elizabeth harbour. A team of 6 marine law enforcement personnel is also based there whose capacity to enforce the MLRA is heavily taxed fighting Perlemoen poachers.

4.2.2 DEAE&T

The head office of the Department of Economic Affairs, Environment and Tourism of the Province of the Eastern Cape is situated in Bisho. Many of the functions of the DEAE&T are being carried out by regional offices. The NMMM area falls under the Western Region office. Located in Port Elizabeth, the office's 12 officials are charged with integrated environmental management between the Bloukrans and the Great Fish River. The numerous responsibilities of DEAE&T include enforcement of coastal and environmental management legislation, review of environmental impact assessments and the protection of biodiversity within the province (reserve establishment and management).

4.2.3 DWAF

The Department of Water Affairs and Forestry (DWAF) acts as the public trustee of the nation's water resources. Within the Department of Water Affairs and Forestry, the Directorate Water Quality Management and the various Regional Offices are jointly responsible for the governance of water quality in South Africa. They ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all persons. Situated as it is at a stretch of South African coastline where seven rivers flow into the sea (Sundays, Coega, Swartkops, Papenkuils, Baakens, Maitland, Van Stadens) the quality of the discharged water greatly influences the environmental health of the adjacent sea. DWAF is therefore an important stakeholder in the management of the NMMM coast.

4.2.4 The Municipality

After the recent administrative reorganisation into business units, the municipal responsibilities for aspects of coastal management are shared between Environmental Services (formerly Parks & Recreation Department), Culture and Recreation, and Housing and Land. In terms of the Local Government Municipals Systems Act (LGMSA, Act No. 32 of 2000) the NMMM has drawn up an integrated development plan (NMMM 2002) for the area within its jurisdiction, which includes 90 km of coastline. As such the Municipality makes fundamental decisions in terms of planning development.

Seven of the 54 wards in the NMMM border the sea directly but the Metro's legal standing and therefore responsibility does not extend below the highwater mark. The shore and all waters below the

highwater mark are administered nationally by DEAT (via MCM). In the NMMM this simple division of jurisdiction is somewhat more complicated as a large part of the Metro coastline, namely from the Sundays River mouth to Cape Recife falls within the Port Control Area and is controlled by the National Ports Authority. This has led to the odd situation that the NMMM has to lease Port Elizabeth's beaches from NPA for a nominal annual fee so that it can assume control by means of by-laws over the bathing beaches, which are vitally important for the Metro's tourism.

In practice, municipal officers sometimes perform enforcement functions on behalf of DEAE&T and MCM due to capacity issues in those agencies. Currently there is one conservation officer and 5 labourers responsible for management of the western municipal reserves (e.g. Cape Recife, Sardinia Bay) and one conservation officer and one ranger stationed at the Zwartkops Nature Reserve. They are responsible for monitoring the reserves and responding to complaints within the region.

4.2.5 SAN Parks

The importance of South African National Parks (SAN Parks) as a major role player in the management of local coastal resources is expected to increase substantially in the short term. Falling just outside of the Metro area in the east, SAN Parks manages the coastal area from the Sundays River to Woody Cape since 2002 as part of the Greater Addo Elephant National Park. This includes some 16 000 ha of the Alexandria coastal dune field. Although *de jure* still under the control of the Department of Economic Affairs, Environment and Tourism of the Province of the Eastern Cape, all islands in Algoa Bay are already administered *de facto* by SAN Parks, awaiting formal declaration as a Schedule 1 National Park.

5. EVALUATION OF COASTAL MANAGEMENT ACHIEVEMENTS ALONG THE NMMM COAST

5.1 INTRODUCTION AND METHODS

Besides presenting a vision for the coast, the White Paper for Sustainable Coastal Development in South Africa (DEAT 2000) also lays down goals and objectives for coastal management. Management goals fall into five categories, called themes:

- A) Governance and capacity building,
- B) Our national asset [local asset in this instance],
- C) Coastal planning and development,
- D) Natural resource management, and

E) Pollution control and waste management.

Several goals are set in the White Paper under each of these themes. Goals are statements providing direction for action for the governmental agencies tasked with coastal management at the national, provincial and municipal level. In this section the present state of coastal management in the Metro will be evaluated against these goals. The evaluation is performed qualitatively in the form of a matrix (Table 5) by juxtaposing each goal set in the White Paper with each of the eight coastal resource units introduced in some detail earlier in this report. A rating of “poor”, “reasonable” or “good” is given for each cross-section expressed as the values of 1, 2 or 3. Good management practise therefore scores higher in row and column averages, and vice versa. The assessment does not rate the declared policies of the agencies tasked with coastal management nor does it consider the good intentions of the officers in charge. Rather, it makes a value judgement how well our coastal resources of the Metro are being managed on the ground, as it were.

5.2 EVALUATION BY WHITE PAPER GOAL

Goal A1: To ensure meaningful public participation, and to promote partnerships between the State, the private sector and civil society in order to foster co-responsibility in coastal management.

As demonstrated by the public participation process for the Coega IDZ and construction of the Port of Ngqura, which was required to be conducted by law, public interest in co-responsibility in coastal management is large. After the transition to participatory democracy in 1994 South Africa has witnessed a radical legislative reform. In all sectors, including the management of coastal and fisheries resources, new policies and legislation have been introduced and alternative approaches to governance are being sought. Policies which foster participation, cooperation and joint responsibility for coastal resource management are being advocated. However, little progress has been made to date to put policy into practise. With the possible exception of the conservation areas, where there is some interaction between NGOs and NMMM Environmental Services, Metro-specific public participation programmes addressing coastal issues are either absent or poorly implemented thus preventing assignment of an average score higher than 1.75.

Goal A2: To promote public awareness about the coast and to educate and train coastal managers and other stakeholders to ensure more effective coastal planning and management.

No evidence was found suggesting that dedicated training programmes for coastal managers exist in the Metro for any of the eight coastal resource units. Likewise, there is an absence of public awareness programmes specifically tailored to coastal issues leading to a very low average score of 1.25.

Goal A3: To promote a dedicated, co-operative, co-ordinated and integrated coastal planning and management approach.

Coastal planning and management is characterised by the absence of coordination and integration among the governmental agencies concerned. A low average score of 1.50 is therefore assigned to the achievements made in this respect.

Goal A4: To conduct coastal planning and management activities in a manner that promotes learning through continuous research, monitoring, review and adaptation.

Government agencies tasked with coastal planning and management are generally understaffed and underfunded leaving little resources or time for formal monitoring programmes. The situation is more positive in the management of the conservation areas and in the tourism sector. Average score 2.13.

Goal B1: To ensure that the public has the right of physical access to the sea, and to and along the sea shore, on a managed basis.

This goal achieves the maximum average score of 3.00 because after the 1994 elections access to parts of the coast is no longer restricted by government as a matter of formal policy, and also because NMMM infrastructure facilitates physical access.

Goal B2: To ensure that the public has the right of equitable access to the opportunities and benefits of the coast, on a managed basis.

Substantial progress towards the attainment of this goal has been made with the promulgation of modern environmental legislation, e.g. the NEMA and the MLRA which address human rights with respect to the environment generally and marine living resources specifically. To date the issue of fishing quotas has not been an entirely equitable process depressing the average score to 2.88.

Goal B3: To preserve, protect or promote historical and cultural resources and activities of the coast.

No formal inventory exists of historical, archaeological, cultural and scientific sites along the NMMM coastline as a result of systematic surveys funded by government. Despite this, the most important sites are probably known from the research conducted by archaeologists at the Port Elizabeth Museum and at the Albany Museum in Grahamstown supported by NGOs such as the Historical Society. Guidelines for the management of such sites encouraging appropriate uses and discouraging inappropriate ones still have to be developed for the NMMM. Average score 1.50.

Goal B4: To ensure that the State fulfils its duties as the legal custodian of all coastal State assets on behalf of the people of South Africa.

The legal custodianship encompasses both ownership and effective management of coastal waters and the seashore. Marine pollution, overfishing, poaching and disregard of coastal heritage resources are just some of the examples why the management of coastal State assets is perceived as ineffective. It is also noted with considerable concern that the Draft National Ports Authority Bill published in October 2002 affirms the ownership – and therefore control – of large tracks of coastline in the Metro by the NPA. Since NPA is essentially managed as a commercial enterprise, the obligation of the State to retain ownership of coastal waters and the seashore appears somewhat compromised. This may lead to conflict between NPA and other coastal user groups in the future. Average score 1.25.

Goal C1: To promote the diversity, vitality and long-term viability of coastal economies and activities, giving preference to those that are distinctly coastal or dependent on a coastal location.

Good progress towards achievement of this goal has been made within the built environment and in tourism and sport. Average score 2.29.

Goal C2: To alleviate coastal poverty through proactive coastal development initiatives that generate sustainable livelihood options.

The Metro has no poverty relief programmes aimed specifically at the coast. Little has been done to promote job creation within the coastal conservation areas. An average score of 1.75 is assigned.

Goal C3: To maintain an appropriate balance between built, rural and wilderness coastal areas.

The balance has been tipped heavily in favour of the built environment along the Metro's estuaries. Average score 1.67

Goal C4: To design and manage coastal settlements to be in harmony with local and regional aesthetic, amenity, biophysical and cultural opportunities and constraints.

Severe understaffing problems in the municipal planning section after the absorption of the workload formerly performed by the Western District Council's planning office has meant that the progress made in this respect has been less than satisfactory. Average score 2.00.

Goal C5: To plan and manage coastal development so as to avoid exposure of people, property and economic activities to significant risk from natural dynamic coastal processes.

Protection against this kind of risk is perceived to be barely reasonable as there are many activities and structures in the Metro that lead to physical disturbance of natural drainage patterns, near-shore sediment transport patterns, or have impacted negatively on water quality or indigenous coastal vegetation. Average score 2.00.

Goal D1: To maintain the diversity, health, and productivity of coastal processes and ecosystems.

In view of overfishing, coastal pollution and degradation of estuarine habitats this goal has not been achieved in the NMMM. Average score 1.40.

Goal D2: To establish and effectively manage a system of coastal protected areas.

While a number of protected areas have been established along the coast of the Metro, these are not very effectively managed owing to understaffing and lack of resources. Moreover, there is little evidence that coastal protected areas are managed as a coherent system. Average score 1.75.

Goal D3: To ensure that the use of renewable resources and associated user practices do not compromise the regenerative capacity of coastal ecosystems.

Overfishing, lack of control whether bag limits are being adhered to and widespread poaching drop the average score to a low 1.50.

Goal D4: To use non-renewable coastal resources in a manner that optimises the public interest and retains options for alternative and future uses.

Absence of any effective management of coastal, non-renewable heritage resources and severe staff shortages in the Department of Minerals and Energy mean that hardly any progress has been made towards the attainment of this goal. Average score 1.00.

Goal D5: To rehabilitate damaged or degraded coastal ecosystems and habitats.

Rehabilitation attempts have had limited success thus far and where there has been a recovery of degraded habitats this has largely been due to its inherent capability of repair. Average score 2.00.

Goal E1: To implement pollution control and waste management measures in order to prevent, minimise and strictly control harmful discharges into coastal ecosystems.

The present waste management measures in force in the NMMM are not perceived as successful in controlling the discharge of harmful substances into the sea, although it is recognised that conservation areas are presently adequately protected from this impact. Average score 1.80.

Goal E2: To manage polluting activities to ensure that they have minimal adverse impact on the health of coastal communities, and on coastal ecosystems and their ability to support beneficial human uses.

Similar to the assessment rating for Goal E1, the management of polluting activities is not stringent enough to minimise adverse impacts on coastal ecosystems. Average score 1.60.

5.3 EVALUATION BY COASTAL RESOURCE UNIT

Living marine resources

While access to the sea, both physical and economical, is rated as good in the Metro, attainment of most other goals set in the White Paper is rated as poor leading to the second lowest overall score. Overfishing, pollution and inadequate law enforcement are seen as the main factors tipping the balance. Average score 1.60.

Estuarine resources

Only the two largest estuaries in the Metro, Swartkops and Sundays, can be said to be functional and in good environmental condition. Arguably their positive status is a result of the internal resilience of these large systems than the result of judicious management. The remaining five estuaries are degraded to a greater or lesser degree because of encroaching human development activities. Average score 1.59.

Terrestrial coastal resources

The positive aspects of alien eradication and tree planting programmes in the coastal areas are offset by the large-scale destruction of mesic succulent thicket and bontveld in the wake of the construction of the industrial development zone at Coega. Overextended fire fighting services in the Metro have led to it that coastal fynbos areas are allowed to burn too frequently and with no regard to their specific state of regeneration after removal of alien invasive trees. Average score 1.83.

Coastal mineral resources

The insignificance of the mining industry compared to other sectors of economic activity in the Metro appears to be responsible for the fact that little attention has been paid to the proper management of this resource. Examples are the woefully inadequate rehabilitation of exhausted sand quarries in the western coastal parts of the Metro which is promoting the invasion of alien Rooikrans, and the observation that brine from ill-conceived salt works has inundated valuable grazing land in the flood plain of the Sundays River at Tankatara. Average score 1.75.

Conservation areas

The management of the NMMM conservation areas scores high in respect of access, promotion of learning and public participation as well as fighting pollution. To a large measure these goals are achieved through the active participation of NGOs working in tandem with governmental agencies as evidenced by environmental education programmes and beach clean-ups. On the flip side there seem to be insufficient manpower and funds to effectively combat poaching or illegal hunting and to

rehabilitate degraded habitat. Diversity, health and productivity of coastal ecosystems are consequently only poorly maintained. Average score 2.13.

Heritage resources

Except for the positive fact that coastal heritage resources in the Metro are accessible, there seems to be no active management in place, thus yielding the lowest overall score of 1.50.

Built environment

The Metro's good coastal infrastructure and reasonably good system of urban planning contributes substantially to the elevated score assigned to the management of this resource. However, the absence of dedicated training and awareness programmes for the officers in charge is seen as a negative point that needs to be addressed. Average score 2.14.

Tourism and sport

Scoring the highest in the column averages, this sector is dominated by private enterprise and non-governmental organisations (clubs and associations) who are taking full advantage of the exiting opportunities present in the Metro. Average score 2.44.

5.4 CONCLUDING REMARKS

In the previous two sections the legal and institutional frameworks of coastal management were described. It was shown that a comprehensive body of legislation has been passed in modern times that provides useful legislative tools for the coastal manager to support his task. Conversely, it was evident from the description of the agencies involved in managing coastal affairs in the Metro that there are serious constraints on the side of institutional capacity. The reasons for poor management practise will have to be sought in the area of institutional capacity and inter-agency cooperation. This is highlighted by the bottom score for the management of NMMM coastal heritage resources which experiences a dismal shortage of qualified officers at SAHRA, at provincial museums and on the Metro's staff. At the other end of the scale of scores one should guard against evoking the fundamentally wrong notion that coastal conservation should only be practised behind the fences of formally declared conservation areas.

Table 5. Evaluation of the achievements of coastal management in the Metro in terms of the goals of the White Paper. Achievements were rated as Poor (1 - orange, Reasonable: 2 - yellow, or Good: 3 – green. Row and column scores represent row and column averages, respectively. Blank cells in the scoring matrix are irrelevant or not applicable in the context of the evaluation.

Goal categories according to the White Paper (A: Governance and capacity building; B: Our national asset; C: Coastal planning and development; D: Natural resource management; E: Pollution control and waste management)	Living marine	Estuarine	Terrestrial coastal	Mineral	Conservation areas	Heritage	Built environment	Tourism and sport	Row score
A1 : To ensure meaningful public participation, and to promote partnerships between the State, the private sector and civil society in order to foster co-responsibility in coastal management	2	2	2	1	2	1	2	2	1.75
A2 : To promote public awareness about the coast and to educate and train coastal managers and other stakeholders to ensure more effective coastal planning and management	1	1	1	1	2	1	1	2	1.25
A3 : To promote a dedicated, co-operative, co-ordinated and integrated coastal planning and management approach	1	1	1	1	2	1	2	3	1.50
A4 : To conduct coastal planning and management activities in a manner that promotes learning through continuous research, monitoring, review and adaptation	2	2	2	2	3	1	2	3	2.13
B1 : To ensure that the public has the right of physical access to the sea, and to and along the sea shore, on a managed basis	3	3	3	3	3	3	3	3	3.00
B2 : To ensure that the public has the right of equitable access to the opportunities and benefits of the coast, on a managed basis	2	3	3	3	3	3	3	3	2.88
B3 : To preserve, protect or promote historical and cultural resources and activities of the coast		1	1		2		2		1.50
B4 : To ensure that the State fulfils its duties as the legal custodian of all coastal State assets on behalf of the people of South Africa	1	1	1	1	2	1	2	1	1.25
C1 : To promote the diversity, vitality and long-term viability of coastal economies and activities, giving preference to those that are distinctly coastal or dependent on a coastal location	2	2	2	2	2		3	3	2.29
C2 : To alleviate coastal poverty through proactive coastal development initiatives that generate sustainable livelihood options		2	2		1			2	1.75
C3 : To maintain an appropriate balance between built, rural and wilderness coastal areas	2	1	2						1.67
C4 : To design and manage coastal settlements to be in harmony with local and regional aesthetic, amenity, biophysical and cultural opportunities and constraints							2		2.00

Goal categories according to the White Paper (A: Governance and capacity building; B: Our national asset; C: Coastal planning and development; D: Natural resource management; E: Pollution control and waste management)	Living marine	Estuarine	Terrestrial coastal	Mineral	Conservation areas	Heritage	Built environment	Tourism and sport	Row score
C5 : To plan and manage coastal development so as to avoid exposure of people, property and economic activities to significant risk from natural dynamic coastal processes			2	2	2		2		2.00
D1 : To maintain the diversity, health, and productivity of coastal processes and ecosystems	1	1	2	2	1				1.40
D2 : To establish and effectively manage a system of coastal protected areas	2	2	1				2		1.75
D3 : To ensure that the use of renewable resources and associated user practices do not compromise the regenerative capacity of coastal ecosystems	1	1	2		2				1.50
D4 : To use non-renewable coastal resources in a manner that optimises the public interest and retains options for alternative and future uses				1		1			1.00
D5 : To rehabilitate damaged or degraded coastal ecosystems and habitats	2	2	2	2	2				2.00
E1 : To implement pollution control and waste management measures in order to prevent, minimise and strictly control harmful discharges into coastal ecosystems	1	1	2		3		2		1.80
E2 : To manage polluting activities to ensure that they have minimal adverse impact on the health of coastal communities, and on coastal ecosystems and their ability to support beneficial human uses	1	1	2		2		2		1.60
Column score	1.60	1.59	1.83	1.75	2.13	1.50	2.14	2.44	

6. THE MAJOR COASTAL MANAGEMENT ISSUES ALONG THE NMMM COAST

As we have seen in the previous sections, the Metro coast is a meeting place for many different users and stakeholders. The sheer number of people has put enormous pressure on the natural coastal environment, whose capacity to absorb the impact without massive degradation is finite. Many reasons could be cited that have led to this increase in pressure. Arguably the most important factors are the phenomenal population growth in the last 100 years and the popularity of Port Elizabeth as a tourism destination that in turn have led to a vastly accelerated exploitation of both renewable (e.g. fish) and non-renewable natural resources (e.g. stands for houses with unobstructed sea view). This process was driven by a somewhat slow at times, but nevertheless sustained, economic growth. Seemingly inevitably the growth in production and in consumption of material goods was accompanied by:

- ❑ A disproportionately large discharge of waste materials harmful to the sea and
- ❑ The unsustainable depletion of natural resources.

Threats to and impacts on the environment derive from both commercial and the recreational activities (CLABBS Consortium 1999):

- Increase in shipping activity and boating
- Discharge of ballast waters
- Discharge of dredged spoil
- Discharge of polluted water from shore based activities (stormwater, sewage)
- Construction of infrastructure below the highwater mark
- Indiscriminate use of vehicles on beaches (now halted)
- Over-exploitation
- Non-compliance with the Marine Living Resources Act. and other legislation
- Ineffective policing and management of protected areas and natural resources.

Manifestations in the Metro of the two main issues – unsustainable depletion of natural resources and discharge of waste materials harmful to the sea - are discussed below.

6.1 DEPLETION OF NATURAL RESOURCES AND LOSS OF BIODIVERSITY

The marine fishes of South Africa have been exploited on a commercial scale for more than 100 years, and in the last 50 years they have been particularly heavily exploited in coastal waters with the advent of better fishing gear, boating and navigation technology (Penney et al. 1989). Every type of fishery located in Algoa and in St Francis Bay either is under severe pressure or is believed to be in a state of collapse. Of 27 species of linefish for which adequate information nationwide is known, four are optimally exploited at present (Yellowtail, Hake, Queen Mackerel and Longfin Tuna), two are underexploited (Panga and Strepie), one is overexploited (Elf) and 18 species have collapsed (Galjoen, kobs, rock cods and seabreams). Linefish are therefore considered to be in a state of emergency (Government Gazette No. 21949 of 2000) and significant changes to regulations are to be implemented to try to reverse this sad state of affairs (Griffiths and Lamberth in press).

Along the Metro coastline serious problems exist with regard to compliance and enforcement of regulations pertaining to living marine resources. Abalone poaching in the Sardinia Bay Marine Reserve and off the Cape Recife Nature Reserve has been a problem for several years and is decimating the natural stocks. Abalone poachers are often associated with violent crime. Many members of the public feel unsafe along the rocky shores west of Cape Recife that the poachers tend to frequent and which has sparked public protest spearheaded by citizen initiatives against such crime. Control efforts by the MCM Law Enforcement Inspectorate supported by the South African Police Services and the S.A. National Defence Force have started to achieve success against the large-scale organised illegal industry.

Marine and coastal enforcement at a national level is currently under review. In keeping with international governmental trends, Marine and Coastal Management have decided to investigate the privatisation of certain sections of their regulatory functions, one being that of compliance management. Some strategies have been proposed and the selection process is currently underway (Shipton & Sauer 2001).

Of great concern is the possible introduction of pests, primarily rats, to the Islands of the Cross, where DEAE&T is nominally on charge but for all intents and purposes is not exercising its control. Although the islands are separated from the mainland, rats have the remarkable ability to travel large distances on marine flotsam, or to stowaway on craft, and their reaching the islands cannot be discounted. If introduced they have the potential to decimate bird life by preying on eggs and

fledglings. Terrestrial alien plants continue to thrive unchecked on many of the islands, and threaten the functioning of these systems.

By and large the Metro's conservation areas (above the highwater mark where the Municipality is in charge) are adequately managed to meet the management goals and criteria set out in the legislation. Illegal and environmentally destructive activities are mostly restricted. There are, however, some exceptions. Snaring for small game is a problem at times and so is trespassing on sensitive coastal dunes, which leads to blow-outs and destruction of valuable sand-binding vegetation. Another example is the mudprawn collecting in the Swartkops River estuary. An estimated 600 000 prawns are extracted from this system each year (Paul Martin, NMMM Environmental Services, pers. comm.), the majority illegally. Also at the Swartkops estuary large numbers of fish are caught each year, primarily by recreational and subsistence fishers, and there is little control over bag and size limits. As is the situation in the marine environment, current law enforcement is ineffective and is further complicated by overlapping jurisdictional responsibilities. The Sundays estuary, due to it being situated further from Port Elizabeth, is not threatened to the same extent, although considerable numbers of fish are removed each year by recreational and subsistence fishers.

6.2 DISCHARGE OF POLLUTANTS INTO THE NEARSHORE

Throughout Man's history the sea has been used for the purposes of disposing of anthropogenically derived materials. Thus, raw sewerage from coastal settlements historically and in recent times treated effluent from sewerage works have routinely been discharged into this environment. The disposal of treated effluents in the marine environment, although not ideal, is a viable solution if conducted in a controlled manner. If disposed of irresponsibly, effluent discharge is an important source of contamination and has the potential to lead to serious environmental degradation, especially as a result of long-term cumulative effects, which are difficult to anticipate during the planning stages of a sewerage treatment works. In addition to effluents, there are a myriad of other types of pollution entering the sea, including stormwater runoff, the disposal of spoil generated during maintenance dredging of harbours as well as pollution from deliberate dumping or accidental leaking of oil.

6.2.1 Discharge of sewage

Although of significance for the majority of the residents in the Metro, few are aware of the role of the sea as a receptor of liquid waste. There are three major marine sewage outfalls in the NMMM area (Table 6). Additionally, stormwater containing untreated sewage from the inner city of Port Elizabeth is channelled into the bay either directly, for instance inside the PE harbour and near Pollok Beach in

Summerstrand, or is released indirectly via the Papenkuils and Swartkops Rivers (e.g. Motherwell Stormwater Canal).

Table 6. The three major marine outfalls on the coast of the Metro.

Locality	Discharge type	Volume
Cape Recife Sewerage Treatment Works	Treated effluent, largely derived from domestic sewage	10000 m ³ day ⁻¹
Fishwater Flats Sewerage Works	Treated effluent, domestic and industrial sewage	60000 m ³ day ⁻¹
Papenkuils Canal	Industrial effluent, stormwater contaminated with untreated sewage	32000 m ³ day ⁻¹

When an effluent is discharged into the marine environment, contaminants contained therein can 1. either remain in solution within the water column and from whence 2. they can be taken up by marine organisms across their body surfaces or attached to food, and 3. the chemical state of the contaminant can be transformed and it can accumulate in marine sediment. There are consequently three fate compartments for contaminants in the marine environment, namely water, sediment, and biota.

While domestic and industrial effluent has been discharged into Algoa Bay for a considerable period, relatively little monitoring of the impacts thereof has been undertaken (Emmerson et al. 1983). What monitoring and research has been undertaken has been conducted in a piece meal and usually reactionary manner with little co-ordination or long-term planning. The last extensive survey in this respect was undertaken 20 years ago (Watling and Watling 1983), although some smaller studies have recently been completed. To date no single large-scale assessment of the pollution status of the NMMM coast has been made. It is thus impossible to make an informed quantitative statement about its general pollution status or to pinpoint where the most important sinks for contaminants are. Under these circumstance judgement will be restricted to qualitative ratings derived from indicators of biological functioning, such as presence/absence of particular species.

6.2.2 Stormwater

Stormwater runoff is an extremely important yet underrated source of pollution for the marine environment. Stormwater sewers are designed to remove large volumes of unpolluted runoff, and consequently discharge into the natural environment. The marine environment is a common discharge point for stormwater runoff from coastal cities. Apart from the visible forms of pollution (e.g. plastic bags) that are washed into stormwater drains by rainwater and then discharged to the marine environment, the unseen contaminants are probably of far more importance. Motor vehicles deposit various forms of pollutants on tarred roads through exhaust emissions and engine leaks. Two of the

most important pollutants in this respect are oil and lead. A visit to the parking lot outside any large shopping complex will highlight this - almost every parking bay shows visible evidence of oil and grease deposits. When rain falls these contaminants are washed from the tar into the sewer and from there they end up in the sea. The impacts of stormwater pollution are possibly the most severe in areas where rainfall is infrequent. In areas where rainfall is frequent, contaminant loading of the runoff is generally small and the contaminants can be assimilated by marine environment with relatively minor impacts. In areas where there are fairly long periods between rainfall events, the period over which contaminants accumulate on tarred roads is naturally lengthened. When rain falls the runoff is loaded with contaminants to a far greater extent, so much so that the marine environment may not be able to assimilate this shock loading with consequent negative impacts to the ecological functioning of this system. When pollutants accumulate within surficial sediment they can become toxic to benthic fauna, which can lead to developmental deformities and loss of reproductive capacity. Moreover, these pollutants can be passed on and magnified in the food chain when eaten by a predator. Such magnification can have disastrous effects, including the incomplete development of eggshells of birds (De Kock and Randall 1984) and increased susceptibility to disease in mammals (e.g. dolphins; Cockcroft et al. 1991).

6.2.3 Ballast water pollution

The introduction of alien species through ballast water exchange is also a form of pollution. Since the introduction of steel hulled vessels around 120 years ago, water has been used as ballast to stabilise vessels at sea. The amount of ballast carried on board may be as much as 100 000 tons, depending on the size and purpose of the vessel. Global shipping transports over 80 % of the world's commodities and in the process, transfers around 10 billion tons of ballast water across regions each year (IMO 1997). Tankers and bulk-carriers are the largest vessels existing in the industry. They normally transport goods on the outward voyage and use ballast when they return. They then pump-out ballast water when they load cargo for the next voyage.

While ballast water is essential for safe and efficient modern shipping operations, it may pose serious ecological, economic and health threats. In fact, the introduction of invasive marine species into new environments by ships' ballast water or attached to ships' hulls has been identified as one of the greatest threats to the world's oceans. There are literally thousands of marine species carried in ships' ballast water. These include bacteria and other microbes, small invertebrates, eggs, cysts and larvae of various species. In some cases, healthy, living fish have been found in ballast tanks. Many species can be transferred in ballast water because virtually all marine species have a planktonic stage in their lifecycle that is small enough to slip through intake filters.

During the last three decades, a significant number of introduced, non-indigenous species have been transported through ships' ballast tanks. As a result, whole ecosystems are being changed. In some cases, the economic impacts have been devastating. It is estimated that 4500 different species are carried around the world at any one time in ballast tanks and that a marine species invades a new environment somewhere in the world every nine weeks (Puhic 2001). The development of larger and faster ships, combined with rapidly increasing world trade, reduced natural barriers to the dispersal of species. Greater quantities are carried more quickly and frequently to a greater number of destinations. With a new port currently under construction at Coega the threat of marine invasions by means of ballast water is only too real.

6.2.4 Biocides

Fouling of ships hulls due to attachment of organisms such as molluscs and barnacles is a major problem to the shipping industry as it reduces the efficiency of ships by slowing them down. The use of anti-fouling paint containing the biocide tributyltin has been common practice for many years. However, the biocides leach out of the paints and they are extremely toxic to marine life, inhibiting larval development and decreasing spawning of invertebrates. While the application of tributyltin has been banned for a number of years, the substance persists in the biosphere and continues to exert its detrimental effects.

6.2.5 Catastrophic oil spills and chronic oiling

The southern African coastline is adjacent to one of the world's major shipping routes (Moldan and Dehram 1989), and has experienced more severe oil pollution events than any other country in the southern hemisphere (Whittington et al. 1998). Seabirds, and especially penguins, are susceptible to oil pollution, which is considered to be one of the main mortality factors of adult African Penguins (Randall et al. 1980).

Oil pollution was virtually non-existent prior to the closure of the Suez Canal in 1967. This closure resulted in a dramatic increase in the volume of oil tanker traffic, with its concomitant oil spillages and pollution resulting from the flushing of tanks, around the Cape. Subsequent re-opening of the Suez Canal and the fluctuating price of oil have led to lower volumes of oil being transported around the Cape in recent years (Moldan 1989). However, tankers are not the only sources of oil pollution. The leaking of fuel oil from wrecked cargo vessels, and small-scale releases of bunker oil from ships have been the major cause of seabird oiling in recent years (Adams 1994).

Oiled seabirds are a familiar sight on the islands in Algoa Bay and on other seabird islands in South Africa. The vulnerability of the islands' seabird populations - particularly penguins - to oiling is

highlighted by the occurrence of two major oil spills in the past 10 years. The ‘Apollo Sea’ oil spill in June 1994 released 2400 tons of oil and resulted in the oiling of close to 10 000 African Penguins, and the ‘MV Treasure’ oil spill in June 2000, which released some 1300 tons of oil, contaminating about 20 000 African Penguins. Oil pollution will continue to be a threat to seabirds and other marine life, especially with the expected increase in ship traffic to Ngqura Port.

7. THE NEED FOR INTEGRATED COASTAL PLANNING AND MANAGEMENT

In the NMMM (and for that matter in the Eastern Cape), very little coastal planning has been carried out with the specific intention of developing the utilisation of inshore coastal resources. The Nelson Mandela Metropolitan Municipality has completed its integrated development plan, which includes broad statements on environmental management. However, no specific details are provided for conservation areas or metropolitan open space systems (MOSS) under municipal control.

The last assessment of the ecological sensitivity of the coast within the NMMM area (Figure 8) was published almost 20 years ago as an annotated map in the Coastal Sensitivity Atlas of Southern Africa (DoT 1984). Since then the high population growth rate has increased pressure on coastal resources owing to the compounded impacts of human activities (pollution, habitat degradation, coastal developments etc.) and the map has become outdated. A future revision will have to be much more detailed as the scale of the original map was too coarse for planning or management purposes on a local municipal scale.



COASTAL SENSITIVITY KUSSENSITIWITEIT			
	Exposed rocky headlands Blootgelede rotsuitlopers		Closed estuary Geslote monding
	Wavecut rocky platforms Brandererosie-rotstoepe		Coarse grain sandy beaches Gruis- of grofkorrelrige sandstrande
	Fine grain sandy beaches Fynkorrelrige sandstrande		Pebble/Shingle beaches Kies- of grofkorrelrige sandstrande
			Estuarine environment Getyrrivieromgewing
			Intake Inlaat
			Outfall Uitlaat
			Marine nature reserve Seereservaat
			Sanctuary Beskeringsgebied
			Recreation Ontspanning
			Refer to biological key Verwys na biologiese verklaring

Figure 8. Coastal sensitivity map of the Nelson Mandela Metropolitan Municipality in 1984 (DoT 1984).

Mapping of the ecological sensitivity of the NMMM should be undertaken with the aid of a modern geographical information system (GIS). The information should be based on multi-disciplinary research that integrates socio-economic considerations and that addresses the needs of decision makers. Baseline studies and studies that go beyond the traditional single-species research are needed. The results of impact studies should be fed into operational management procedures to improve existing management strategies in an adaptive way.

A number of research organisations have carried out studies on the inshore coastal regions of the Metro. These include the University of Port Elizabeth, Bayworld, Rhodes University, the South African Institute for Aquatic Biodiversity, and others. However, most of these assessments have been short-term research projects limited by time and funding. There is a paucity of long-term monitoring studies to determine the scale of natural spatial and temporal variability and to establish baselines against which to measure change and the impacts of exploitation. South Africa does not have a

comprehensive monitoring programme in place, and assessments tend to take place on a species-by-species basis.

The NMMM has been fortunate in that two major marine and terrestrial biodiversity audits have been completed in recent times for the Industrial Development Zone at Coega and for the proposed creation of a marine protected area in Algoa Bay as part of the Greater Addo Elephant National Park. These studies must now be extended to the western parts of the Metro in St Francis Bay. Completion of this auditing task for the whole Metro area is seen as essential in order for appropriate management measures to be implemented.

This report on the state of coastal resources and their management in the Nelson Mandela Metropolitan Municipality has shown that presently there is a lack of integrated decision-making and coordination, both within and between government structures. The NMMM Integrated Coastal Management Initiative, spearheaded by the National Ports Authority (which has commissioned this report), has as its chief aim to overcome this major stumbling block in the management of coastal resources in the NMMM.

VOLUME III

ENVIRONMENTAL MANAGEMENT SYSTEMS AND ASSOCIATED ACTION PLANS



III. ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS) AND ASSOCIATED ACTION PLANS (AP)

1. BACKGROUND TO EMS AND AP

In order to successfully manage the NMMM coastal area there are two key components or systems that need to be designed and implemented *viz.*:

1. A system which manages the implementation of the specific environmental¹ aims and objectives of the NMMM coastal area within the framework provided by the White Paper, Provincial Coastal Management Plan and the Integrated Development Plan of the NMMM.
2. Specific action plans which specify the “on the ground” actions associated with the system outlined above.

In the context of managing a coastal area, an environmental management system addresses how activities that cause, or could cause environmental damage are controlled and minimised. In addition, this system should attempt to maximise any activities that are beneficial to the region. A tremendous amount of literature is available on Environmental Management Systems. EMS have in common with the very closely related Quality Management Systems (QMS) that they provide for a systematic and cyclical process of continual improvement. There are a number of international standards that outline the EMS process, e.g. ISO 14000 and Eco-Management and Audit Scheme (EMAS). The basic stages of ISO 14001 are planning, implementation and operation, checking and corrective action and management review. These different stages are linked (Figure 1) in a cyclical manner that ensures that there is continual improvement.

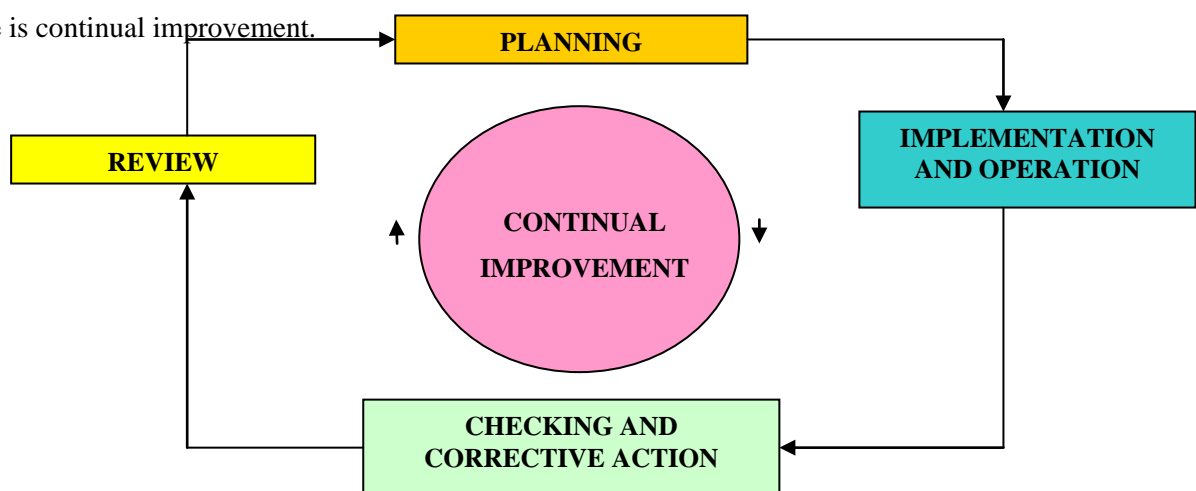


Figure 1. Basic stages of a quality management system

¹ Readers are reminded that the term environment encompasses the biophysical; social and economic world.

Specific “on the ground” actions need to be clearly articulated and effectively undertaken, in order to ensure successful implementation of any decisions made in the implementation and operation box in Figure 1. These “on the ground” actions are often called Environmental Management Plans or Action Plans. The World Bank defines an Environmental Management Plan (EMP²) as consisting of mitigation, monitoring and institutional measures to be taken during implementation and operation, to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels (World Bank Operational Manual 4.01 January 1999).

A World Bank Action Plan requires that the environmental managers:

- Identify the set of responses to potentially adverse impacts.
- Determine the requirements for ensuring that the responses are made effectively and in a timely manner.
- Describe the manner in which the requirements will be met (e.g. Finances or Institutional capacity).

An Action Plan (Environmental Management Plan) includes the following key components or tasks:

Mitigation

- i. Identifies and summarises all anticipated significant adverse environmental impacts.
- ii. Describes the technical details for each mitigation measure.
- iii. Estimates any potential impacts of these measures.
- iv. Ensures that any linkages with other action plans are identified.

Monitoring

- i. Provides a specific description and technical details of monitoring measures, including the parameters to be measured, methods to be used, sampling locations and frequency of measurements.
- ii. Ensures that there are monitoring and reporting procedures

Capacity Development and Training

- i. Provides a specific description of the institutional arrangements, i.e. who is responsible for operation, enforcement, monitoring, implementation, remedial action, financing and reporting.

Implementation schedule

² Also termed an Action Plan

- i. Provides an implementation schedule for all components of the management plan.

Cost estimates and sources of funds

- i. Provides capital and recurrent cost estimates and sources of funds for implementing the EMP.

2. APPROACH TO EMS AND AP FOR THE NMMM COASTAL AREA

2.1 NMMM COASTAL EMS AND ITS RELATIONSHIP TO OTHER MANAGEMENT PLANS AND STRUCTURES

As outlined above the NMMM Coastal Management Plan requires an overall system in which to operate, and best practice dictates that this system should provide for a systematic and cyclical process of continual improvement. In addition the system needs to ensure that it is compatible with The National White Paper on Sustainable Coastal Development, Provincial Coastal Management Plan and the NMMM Integrated Development Plan.

White Paper

The White Paper outlines a new approach to coastal management with the four key changes from previous policies being that:

1. Due cognisance of recognising the value of the coast takes place.
2. Coastal management involves a strong people centred approach.
3. Coastal management involves holistic thinking through promoting co-ordinated and integrated coastal management.
4. Coastal Management involves a facilitatory style of management that is not top down in nature.

In addition the White Paper outlines 10 principles of coastal management *viz.*:

1. **National Asset** – The coast must be retained as a national asset, with public rights to access and benefit from many opportunities provided by coastal resources.
2. **Economic Development** - Coastal economic development opportunities must be optimised to meet societies needs and to promote the well-being of coastal communities.

3. **Social Equity** – Coastal management efforts must ensure that all people, including future generation, enjoy the rights of human dignity, equality and freedom.
4. **Ecological Integrity** – The diversity, health and productivity of coastal ecosystems must be maintained and, where appropriate, rehabilitated.
5. **Holism** – The coast must be treated as a distinctive and indivisible system, recognising the interrelationships between coastal users and ecosystems and between the land, sea and air.
6. **Risk aversion and Precaution** – Coastal management efforts must adopt a risk adverse and precautionary approach under conditions of uncertainty.
7. **Accountability and Responsibility** – Coastal management is a shared responsibility. All people must be held responsible for the consequences of their actions, including financial responsibility for negative impacts.
8. **Duty of Care** - All people and organisations must act with due care to avoid negative impacts on the coastal environment and coastal resources.
9. **Integration and Participation** – A dedicated, co-ordinated and integrated coastal management approach must be developed and conducted in a participatory, inclusive and transparent manner.
10. **Co-operative Governance** - Partnerships between government, the private sector and civil society must be built in order to ensure co-responsibility for coastal management and to empower stakeholders to participate effectively.

These 10 principles have been translated into goals and objectives which have been divided into a number of key themes:

Theme A – Governance and Capacity Building

Theme B – Our National Asset

Theme C – Coastal Planning and Development

Theme D – Natural Resource Management

Theme E – Pollution Control and Waste Management

Provincial Coastal Management Plan

The Provincial Coastal Management Plan has in turn translated the national objectives into Provincial objectives and has suggested certain actions that need to be undertaken. In addition, the ECCMP has provided each of these actions with a time frame for completion and a priority ranking. For continuity, the objectives and associated actions have been categorised according to the themes outlined in the National approach.

NMMM Integrated Development Plan

The NMMM CMP must be fully integrated with the NMMM IDP. The NMMM IDP released August 2002 outlines a broad vision for the NMMM viz.

Vision 2020 – The Nelson Mandela metropolitan area practises social justice in a culture of public participation guided by an efficient, accountable, non-racial, non-sexist municipality that focuses on sustainable environmental, social and economic development, improving quality of life of its communities in a secured, safe and tourist friendly environment.

The NMMM IDP has a number of developmental priorities of which Cleansing and the Environment is the most pertinent to the NMMM CMP. To achieve these developmental priorities a number of municipal structures have been created of which Environment and Health & Recreation and Cultural Services are the most likely to interact with the NMMM CMP.

While the NMMM is situated on the coast little emphasis is placed on the coastal area but two broad developmental strategies have been proposed that could link and interact with the NMMM CMP:

- Promotion and expansion of biodiversity in the Metro.
- Development of the NMMM MOSS (Municipal Open Space System).

The integrated Environmental Management Plan will consist of a spatial plan and a policy framework. The spatial plan will identify and map the most important ecological assets of the metro and ensure that ecological processes are maintained. The policy framework will outline the Environmental Policy, Environmental Management System, and determine the institutional and budget requirements (NMMM IDP August 2002)

The Recreation and Cultural Services Portfolio is orientated to recreation and the tourism potential of the NMMM cultural assets e.g. one of the developmental strategies is the identification of all heritage sites and determination of their potential tourism potential.

As outlined above the IDP does not emphasise the importance of the coastal zone to the NMMM other than being an important tourism asset. This oversight should not be viewed negatively but rather as an opportunity for the NMMM CMP to provide this input to the IDP and ensure that all the coastal assets are identified and sustainably managed.

Proposed approach

One of the key facets of a management system is that it is not static but a dynamic process (Figure 1), which continually evolves. The NMMM CMP and associated system should not be a once off annual meeting and discussion, but rather a dynamic process that has regular feedback sessions and a quick response time to new issues that arise and need immediate action.

The proposed system to be used in the NMMM CMP is structured into three major phases (Figure 2).

1. ***Vision and Objectives*** – This phase will involve the various stakeholders of the NMMM coastal area (e.g. National Departments, Provincial Departments, NGOs, NMMM, SANP, NPA) being involved with the formulation of the Vision and Objectives for the area (Figure 2). This starter document will provide the basis on which to move forward, but it should be noted that the Vision and Objectives outlined in the starter document have not gone through an extensive public participation process. In formulating the Vision and Objectives, the stakeholders will be required to take cognisance of the overall framework that the White Paper, Provincial Coastal Management Plan and the NMMM IDP provide.
2. ***Planning and Implementation*** – This phase is normally where all management systems fail, as it is a challenge to change words into deeds. The planning and implementation stage basically revolves around establishing what objectives are the most urgent and how these are going to be addressed. It is imperative that the action plans are well formulated and comprise specific components which clearly outline what is to be done, who is responsible for doing it, when and how long they should be doing it, who is going to pay for it and how the outcomes of the action plan are going to be monitored.

It should be noted that monitoring would be a stand-alone phase in many other models. The fact that in this one it is part of the planning and implementation stage does not diminish its importance in any manner (Figure 2).

3. ***Review and Auditing*** – The review and auditing section of the process is imperative, as this is where the continual improvement cycle comes into play (Figure 1). The NMMM CMP will require two review processes:
 - a. *Review of the NMMM Coastal Management Plan (Volume 1)* - The Coastal Management plan should be reviewed less regularly than the action plans (Volume 2), as the vision and objectives for the area should be less dynamic than the day-to-day implementation of the actions associated with achieving these objectives. It is proposed that the vision and objectives for the area be revisited every five years (Figure 2) which is the same period that the NMMM IDP will be revisited. During this review a number of tasks should be undertaken *viz.*:
 - i. Update the NMMM CMP according to any changes in the National or Provincial Management Approach.
 - ii. Check that the vision and objectives are still relevant.

- iii. Check that the funding structures are operational.
- iv. Check that the institutional arrangements are still in place.
- v. Check that the reporting structures are operating.

After the review it is essential that the necessary corrective actions are implemented and followed up.

- b. *Review of the Individual Action Plans (Volume 2)* - The action plan review cycle will be dependant on the type of action plan with some requiring long periods of implementation and annual review, while others may be of short duration and only require a once off review. Notwithstanding the review period, the review must establish that each of the components of the Action Plan *viz*, mitigation, implementation, institutional arrangements, schedules, etc. are being adhered to and are operating (Figure 2). The review process must also ensure that any corrective actions suggested are implemented and followed up on.

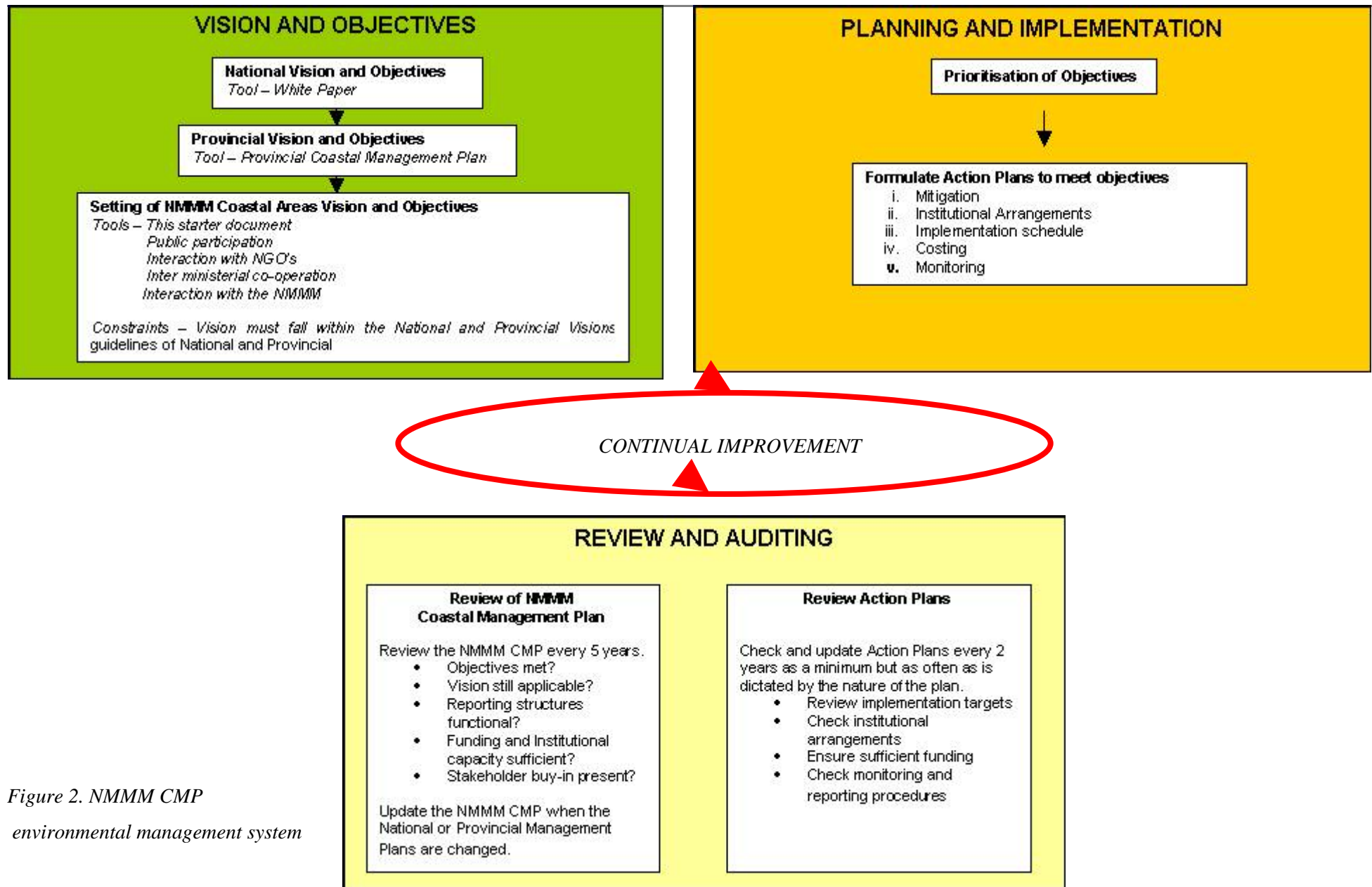


Figure 2. NMMM CMP environmental management system

3. NMMM CMP ACTION PLANS

In order for the NMMM CMP to succeed, the objectives set out need to be realised by specific activities on the ground. The tools to ensure that these activities occur are the Action Plans.

It is recognised that the NMMM coastal area is presently being managed by a wide range of agencies and therefore the basis of many action plans will already be in place. These currently operating management approaches and plans will, however, need to be documented according to the agreed template structure.

The content of Action Plans will vary considerably as some will be addressing biophysical issues, while others will be addressing social, cultural or economic issues. However, in order for a common approach to be adopted, all the standard sections in each action plan must remain relatively constant, i.e. all action plans must cover what is to be done, who is to do it, how it is going to be paid for, etc.

The proposed template to be used in the NMMM CMP contains a number of key sections, namely:

Emergency Protocol

The emergency protocol aims to provide any party, which has the NMMM CMP, with an easily obtainable information sheet on how to deal with any emergency situation. The protocol will provide the reader with the contact details of the people to get hold of, as well as a list of do's and don'ts to handle the situation (Figure 3).

Action Plan - Summary

The action plan summary (Figure 3) aims to provide the reader with an overview of the Action Plan without providing them with the detail associated with background or new approach. This section is aimed at parties not directly involved in, but have an interest with, the ongoing management of this action plan.

Action Plan - Background

The background and associated methods of reaching the new management approach are outlined in a separate section to the New Approach (Figure 3). This separation is to allow the reader, who is interested in the New Approach, to be unencumbered by the original approach, the detailed legislation, the public participation process followed, etc.

The action plan background section is made up of five subsections, namely:

1 – Description: This section outlines the type of management issue the action plan is addressing, what information is available, who knows anything about the issue and finally what valuable lessons have been learnt from previous approaches.

2 - Scope of the Action Plan: This section outlines exactly what the action plan aims to achieve and where it is applicable. Most importantly to avoid confusion with similar action plans or issues the section should outline exactly what the plan does not address.

3 - Institutional Framework: This section outlines the institutional and legislative framework in which the action plan must be undertaken.

4 - Current Management Approach: This section aims to outline the *status quo*, i.e. what is happening presently. The section must explain who is currently responsible, what their capacity is and what their current effectiveness is.

5 - Consultation to achieve New Management Approach: This section details exactly what consultation was undertaken to derive the new management approach. Depending on the type of issue, different forms of consultation will need to be undertaken. For example, a new ballast water action plan for the area will involve the NPA, MCM, NMMM and DEAE&T and not much public consultation. Whereas, an action plan managing beach access will involve a tremendous amount of public participation. This section details the process undertaken and most importantly the issues and concerns raised by the different stakeholders and how these were handled.

Action Plan – New Management Approach

The new management section is the core of the Action Plan as it represents the way in which things will be done in the future. This new management approach section is made up of eight sections which are based on international norms (Figure 3):

1 - Relationship to Provincial and National plans: This details how the action plan complies with the National and Provincial frameworks as well as the NMMM IDP. This component is essential to ensure that an integrated approach is taken to coastal management on a national scale.

2 - Relationship to the NMMM CMP: This details how the new approach meets the vision and objectives set for the NMMM coastal area.

3 - Approach: This section is probably the most important as it describes the new approach to be adopted and, most importantly, details the specific on-the-ground tasks to be undertaken.

4 - Challenges and Opportunities: As discussed, changing words into deeds is difficult and this section will outline the challenges and constraints in which the action plan will

need to operate. Conversely there may be opportunities that need to be recorded so that they can be optimised.

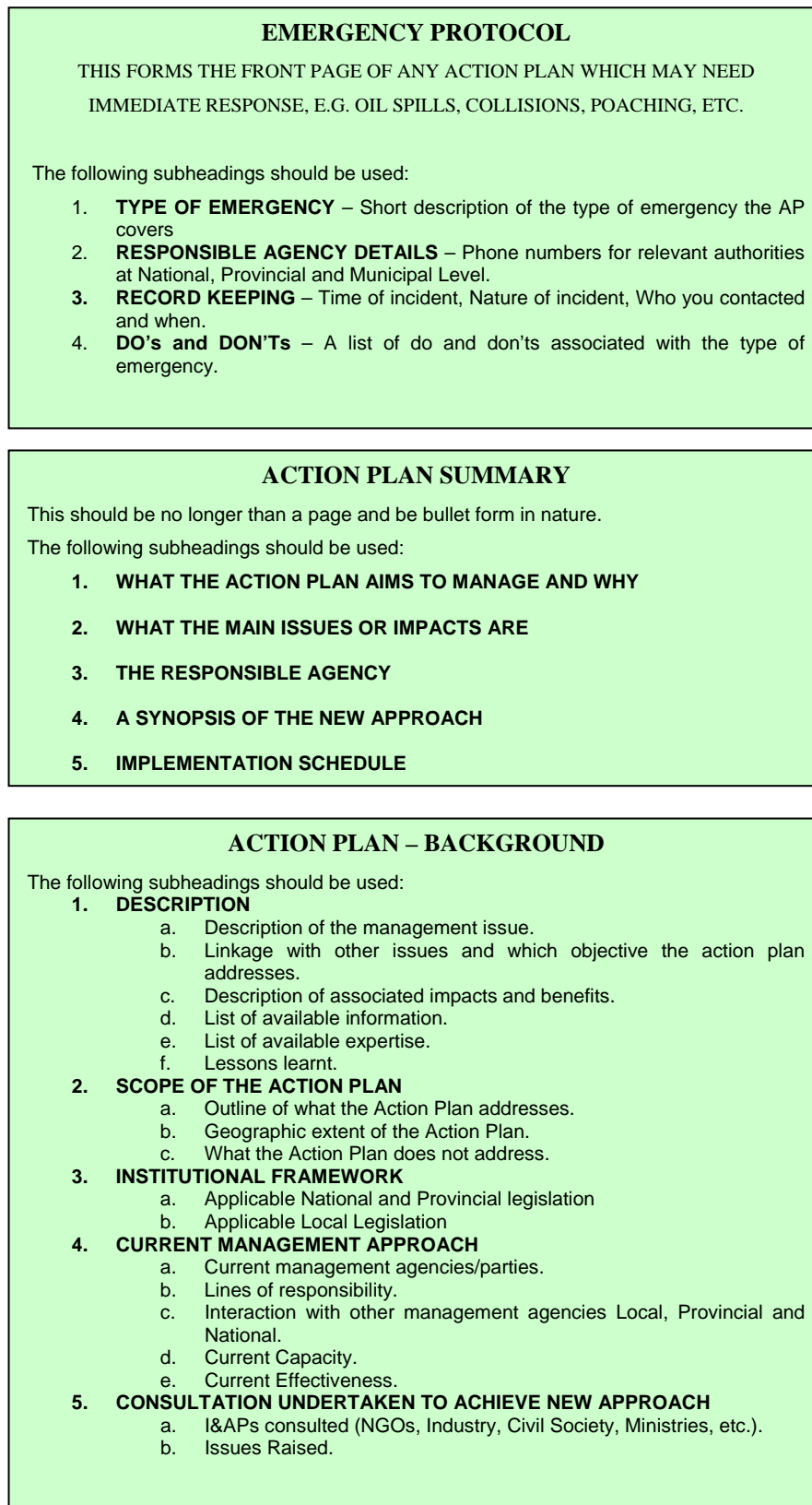
5 - Responsible agencies: This section identifies the agencies that will be responsible for the implementation and management of the action plan. Where possible, this should be down to the individual level, as people do work, not organisations. It should be noted that the White Paper specifically advocates that not only the authorities should be tasked with management but civil society as well. This section must clearly indicate who the responsible agencies are and what tasks they will be undertaking.

6 - Targets and Measurable Indicators: This part must indicate how the tasks outlined in the approach are being achieved. Without this section the cycle of continual improvement fails and thus there must be sufficient emphasis on this component. The section must provide a list of specific targets and measurable indicators for each task, the way in which the task deliverables will be measured, and most importantly the manner and frequency in which the results will be reported.

7 - Implementation schedule: In order for integration to occur, tasks need to be scheduled and the milestones associated with each task given a specific date. This section will require a list of major milestones and a Gantt chart indicating them.

8 – Costs: Active management requires funding, and this section requires a costing for all tasks and actions and an analysis of where finances will come from and when they will be available.

Figure 3. NMMM CMP Action Plan outline and relationship to international norms



ACTION PLAN – NEW MANAGEMENT APPROACH

1. RELATIONSHIP TO PROVINCIAL AND NATIONAL PLANS
Explanation of how the AP adheres to the Provincial and National Framework.

2. RELATIONSHIP TO NMMM CMP
Explanation of how the Action Plan relates to the objectives and Vision.

INTERNATIONAL NORMS

3. APPROACH
An outline of the approach to be adopted.
An outline of the specific on-the-ground tasks to be undertaken.



MITIGATION

4. CHALLENGES AND OPPORTUNITIES

5. RESPONSIBLE AGENCIES
List of responsible agencies.
A list of responsible individuals and what tasks they will be undertaking.



CAPACITY DEVELOPMENT AND IMPLEMENTATION

6. TARGETS AND MEASURABLE INDICATORS
A list of specific targets and measurable indicators for each task and/or action.
Measurement methods to be used.
Reporting format and frequency.



MONITORING

7. IMPLEMENTATION SCHEDULE
List of major milestones for each task.
Gantt chart for the entire Action Plan.



IMPLEMENTATION SCHEDULE

8. COSTS
Costing of all tasks and actions.
Analysis if availability of funds.
Timing of funding.



COSTING

4. ABALONE ENVIRONMENTAL ACTION PLAN

4.1 EMERGENCY PROTOCOL³

i. **TYPE OF EMERGENCY**

This action plan addresses Abalone poaching and compliance.

ii. **RESPONSIBLE AGENCY CONTACT DETAILS**

a. **Local**

Environmental Services

- | | |
|------------------------|-------------------|
| • Head Office | Tel: 041 585 9711 |
| • Beach Manager | Tel: 041 586 1040 |
| • Sardinia Bay Office | Tel: 041 585 3673 |
| • Cape Recife Office | Tel: 041 583 1928 |
| • Swartkops Office | Tel: 041 466 0909 |
| • Sundays River Office | Tel: 041 466 0909 |

SAPS

Humewood
Seaview
Swartkops
Walmer

Tel: 041 504 5020
Tel: 041 378 1710
Tel: 041 466 1111
Tel: 041 5811949

b. **Provincial**

Marine and Coastal Management

Tel: 041 5854051

c. **National**

Marine and Coastal Management

- | | |
|---------------------|------------------|
| • Inshore resources | Tel: 021 4023111 |
| • Mariculture Unit | Tel: 021 4023111 |

iii. **DETAILS TO RECORD**

- a. Time of incident
- b. Nature and description of incident
- c. Who was contacted and their response

iv. **DO's and DON'T's**

Poaching incidents should be reported to Marine and Coastal Management (PE office). In their absence, contact should be made to the nearest SAPS or Environmental Services Office. It is inadvisable for the general public to approach and confront suspected poachers.

³ Very short. Forms the front page of those Action Plans that may need immediate response e.g. oil spills, collisions, poaching.

4.2 ACTION PLAN SUMMARY

This should be no longer than one page

4.2.1 WHAT THE ACTION PLAN AIMS TO MANAGE AND WHY

This action plan is designed to enhance the current management of the Abalone resource within the NMMM. The conceptual adoption of the TURF fisheries (Territorial User Rights Fishery) by Marine and Coastal Management, indicates that the resources in the NMMM will shortly be zoned for rehabilitation. Abalone poaching in the NMMM is rife, and at the local level, is hampered by a lack of both management and compliance resources.

4.2.2 WHAT THE MAIN ISSUES OR IMPACTS ARE

The main issues impacting the Abalone resources are

- An illegal fishery that is severely impacting the resource
- Lack of Local Management structures designed to manage the resource
- Under resourced compliance structures in the NMMM
- Public safety issues – members of the public often feel intimidated by poachers

4.2.3 THE RESPONSIBLE AGENCIES

- NMMM Environmental Services
- Marine and Coastal Management

4.2.4 A SYNOPSIS OF THE APPROACH

The action plan aims to reduce Abalone poaching within the NMMM. It is anticipated that this will be achieved by:

- The establishment of a local management committee to oversee the Abalone resources in the NMMM
- Enhancing the current compliance capability within the NMMM Environmental Services
- Stimulating voluntary compliance through an educational / public awareness programmes
- Restricting access to the resource
- Improve resource monitoring

4.2.5 IMPLEMENTATION SCHEDULE

With the exception of the development of the Local Management Committee (that must await the formal buy-in of the TURF protocol by MCM), all the proposed activities will be completed within the first 6 months of the adoption of the Action Plan. It should be noted that some activities (e.g. public awareness programmes, resource monitoring) are long-term projects lasting longer than 6 months.

4.3 ABALONE ENVIRONMENTAL ACTION PLAN - PART 1: BACKGROUND

4.3.1 DESCRIPTION OF MANAGEMENT ISSUES

In recent years, the Abalone resources in the Eastern Cape Province have come under increased fishing pressure. Principally, this is due to the development of an illegal fishery. The coastal areas comprising the NMMM (most notably Cape Recife and Sardinia Bay areas) have been particularly hard hit and are characterised by a high number of poachers who are prepared to use intimidation and violence to protect their activities. The Abalone resource in these areas has become severely depleted, threatening the populations with respect to both local extinctions and severe reductions in genetic diversity. Annually, the illegal operations are costing the state millions of rands in lost revenue and jobs.

The principle management issues surrounding the Abalone resource in the NMMM comprise:

- Over-exploitation of the resource
- An illegal fishery that has become a risk factor in the lives of private individuals who no longer feel safe accessing and utilizing coastal areas around the NMMM.
- Ineffective policing and management of the resource.
- At a national and provincial level, there is currently no coherent management policy for the resource - A management plan based on a Territorial User Right Fishery (TURF) is proposed, but has yet to be ratified.
- Inadequate resource monitoring - a lack of information on the resource constrains the development of long-term management strategies.

Linkages with other issues

The status of the Abalone resources in the NMMM may be affected by the following:

- Pollution events
- Development / construction of infrastructure below the high water mark
- Mariculture development

Description of associated benefits

In the short term, the development of a coherent management plan that is designed to conserve the resource and curtail the illegal fishery, will restore the public's confidence in accessing and utilising some of the near shore areas (particularly Sardinia Bay and Cape Recife). In the medium to long-term, the policy will ensure the regeneration of the severely depleted Abalone stocks. The adoption of the national TURF policy will promote the re-stocking of the severely depleted areas, and may one day result in the opening of commercially sustainable TURF fisheries.

List of available information

Over the past two decades, the development of lucrative far eastern Abalone markets has triggered considerable interest in all aspects of Abalone biology, ecology, mariculture and management. This interest has led to the publication of an extensive literature base – principally scientific and popular articles, reports and assessments. While it is beyond the scope of this plan to list this information, much it can be accessed through public and University libraries and the electronic media. In addition, a number of baseline and policy documents that outline and address many of the issues associated with the Abalone resources within the Eastern Cape have been published. Amongst others, the following resources are available:

Libraries

South African Institute of Aquatic Biodiversity
 Contact details
 Telephone: 046 636 1002
 Web Site: <http://www.saiab.ru.ac.za>

University of Port Elizabeth
 Telephone: 041 5042281
 Web Site: <http://www.upe.ac.za/library>

University of Cape Town
 Telephone: 021 650 3115/3871
 Web Site: <http://www.lib.uct.ac.za>

Electronic media

Marine and Coastal Management: <http://www.environment.gov.za/mcm/>
 ABNET: <http://www.uct.ac/depts/zoology/abnet/>

Management and Policy documents

Management plan for the Eastern Cape Abalone resource (2003) Britz, P.J., de Waal, S., Godfrey, B.P., Report prepared for the, Marine and Coastal Management. Unpublished. Copies available by request from the Department of Ichthyology and Fisheries Science, Rhodes University, Grahamstown.

Baseline study of the utilization of living marine resources in the Eastern Cape Province (2002) Britz, P.J., Sauer, W.H.H., Mather, D., Oellerman, L.K., Cowley, P.D., Ter Morshuizen, L., Bacela, N. Report prepared for the Department of Economic Affairs, Environment and Tourism, Eastern Cape Province. Copies available by request from the Department of Ichthyology and Fisheries Science, Rhodes University, Grahamstown.

Eastern Cape Coastal Management Plan (2003) Prepared for the Department of Environmental Affairs, Coast Care. In preparation.

List of available expertise

Name	Capacity	Institution	Contact Details
Prof. Pete Britz	Academic	DIFS, Rhodes University	046 6038415 / 6 P.britz@ru.ac.za
Dr Schalk de Waal	Academic	DIFS, Rhodes University	046 6038415 / 6 schalkd0@absamail.co.za
Mr Brian Godfrey	Researcher	DIFS, Rhodes University	046 622143 briangodfrey@yebo.co.za
Mr Rob Tarr	Resource manager : Abalone	MCM, CapeTown	021 4023111 rtarr@mcm.wcape.gov.za
Ms G. Maharaj	Resource Manager : Subsistence fisheries	MCM, CapeTown	021 4023111 gmaharaj@mcm.wcape.gov.za
Dr G. Pitcher	Resource Manager : Mariculture	MCM, CapeTown	021 4023111 gpitcher@mcm.wcape.gov.za

Description of historical matters associated with the issue

Historically, marine resource managers have assumed that the distribution and abundance of the Abalone in the Eastern Cape was too low and patchy to justify extensive commercial exploitation. Unfortunately, the development of the illegal Abalone industry - which currently has proportions estimated to be similar to the legal industry in the Western Cape – has proved this assessment flawed. In 2001, the illegal yield derived from the Eastern Cape was estimated at 200 – 400 t whole mass (valued at R190 - R390 million). An estimated 383 people are involved in the illegal Eastern Cape fishery, and it has been calculated that since 1997, between R140 - R280 million has been lost to the local economy. Associated with these activities are organized crime syndicates operating out of Gauteng.

The extremely lucrative poaching industry is based on a system of low running costs and high-risk. The fishery began at a low level, and has increased as more areas have been identified as sources of

the resource. In essence, a large informal and illegal fraternity has developed over the last 5 - 6 years. It is based mainly in the NMMM. The extensive rocky shore habitat in the NMMM represents an ideal habitat for Abalone. Unfortunately, the proximity and easy access to the Abalone stocks have contributed to the degree of illegal fishing activities in this area and has made it the most poached area in the Eastern Cape. Despite on-going compliance activities, the general area including Cape Recife and the Sardinia Bay Marine Protected Area, appears to have been systematically denuded of much of its Abalone stock. While a lack of information on stock status is a constraint to the formulation of management protocols, interventions are urgently required if the resource is to be saved from collapse.

4.3.2 SCOPE OF THE EMP

Outline exactly what the management plan addresses

The management plan addresses issues pertaining to the management of the Abalone resources within the NMMM. Principally, these issues include:

- Limitations in the current management capacity – both institutional, personnel and resource based
- Compliance and the reduction in illegal exploitation
- Resource status issues

Geographical extent of the EMP

The EMP is applicable along the entire coastal zone of the NMMM, from the van Stadens River in the west to the Sundays River in the east.

Temporal extent of the EMP

The management issues and associated procedures outlined the EMP should be reviewed every two years. The contact details of the various stakeholders should be revised on an annual basis.

What the EMP does not address

Issues pertaining to the allocation of fishing rights are not addressed in the plan, *vis*, the allocation of recreational, subsistence, and commercial user rights.

4.3.3 INSTITUTIONAL FRAMEWORK

Applicable National and Provincial legislation

Natural resource management is exclusively a national government competence, and is therefore managed by the Department of Environmental Affairs and Tourism (DEAT). Key national environmental framework legislation is administered and managed by DEAT. This legislation includes the National Environmental Management Act (Act 107 of 1998), the Sea Fishery Act 1998 (Act 12 of 1988 as amended in 1992), the Seabirds and Seal Protection Act, 1973 (ACT 46 of 1973), National Parks Act (Act 57 of 1976 as amended), and the Marine Living Resources Act (MLRA, Act 18 of 1998).

The Directorate of Marine and Coastal Management (MCM) of the Department of Economic Affairs and Tourism (DEAT), is the primary institution responsible for the management of living marine resources. Living Marine resources are considered a national asset, and as such are managed at a national level. MCM is responsible for administering the Marine Living Resources Act (MLRA, 1998), and as such, is responsible for fisheries management and compliance. With respect to fisheries management, there are at present no commercial or subsistence Abalone permits allocated within the NMMM. Nevertheless, recreational permits will have been issued. In the recreational sector, Abalone are managed on an effort basis, and a minimum legal size (MLS) of 114 mm and a bag limit of 3 Abalone per person per day is enforced. The season is closed between the 19th January and the 16th December each year.

In addition to managing the resource, MCM are also responsible for the management of the Sardinia Bay Marine reserve that falls within the NMMM, and the marine component of the Sylvic Nature Reserve (the management of the terrestrial component of this nature reserve is under the control of the NMMM Environmental Services).

Under the auspices of the Department of Economic Affairs and Tourism (DEAT), the South African National Parks (SAN Parks) administers the National Parks Act (1976). The Act provides for the establishment, preservation and study of wild animals, marine and plant life, and objects of geological, archaeological, historical, ethnological, oceanographic, educational and scientific interest. In the near future, the islands of Algoa Bay (St. Croix and its two satellite islets of Jaheel Island and Brenton Rocks, and the Bird Island group) are likely to be declared components of the GAENP, and the management of the islands will therefore fall under the jurisdiction of SAN Parks.

At a provincial level, the management plan must comply with the Eastern Cape Management Plan that is currently being formulated for the Department of Economic Affairs and Tourism (DEAT). The provincial plan takes cognisance of the White Paper on Sustainable Coastal Development (2000), and as such, the current management plan must comply with the themes and objectives instilled in that document.

Applicable local legislation

There is no applicable legislation pertaining to the Abalone resources – they managed at a national level by DEAT (via MCM). NMMM's legal standing and therefore responsibility does not extend below the high water mark.

4.3.4 CURRENT MANAGEMENT APPROACH

Current management agency / parties

The management of the Abalone resources falls under the jurisdiction of Marine and Coastal Management. The national offices in Cape Town are responsible for the issuing of user rights (commercial, recreational, subsistence and mariculture rights). While compliance policy is promulgated at a national level (Cape Town), the day-to-day issues of enforcement are dealt with at a provincial level. Thus, the Port Elizabeth MCM office is responsible for compliance activities within the NMMM. The MCM compliance officers work in close collaboration with the SAPS. A formal agreement exists between the South African Police Services (SAPS) and MCM in which a reimbursement sum of R1 million is allocated (from MCM to the SAPS), for the policing of the Abalone resources.

Although no formal agreement exists between the South African National Defence Force and the elite 'Scorpions' unit (Directorate of Special Operations), both organizations provide support against the illegal Abalone industry. The partnership that exists between the MCM Inspectorate, the SAPS (particularly the Endangered Species Unit) and the Scorpions, is proving to have positive impacts.

MCM has approved the accreditation of honorary compliance officers, and is investigating the privatisation of certain sections of their regulatory functions - one being that of compliance management. This will enhance the lines of responsibility currently in use.

Lines of responsibility

Marine and Coastal Management (DEAT) is the national body that is responsible for the Abalone resources in the NMMM. At the provincial level, they have an office in Port Elizabeth that is

responsible for the local resource. Much of their energies are directed at compliance and the elimination of the poaching activities. Although the NMMM does not have the mandate to enforce the Marine Living Resources Act (1998), it has three staff members within its environmental division who are capable of enforcing it.

Current capacity and effectiveness

The Port Elizabeth MCM office has 2 administrative staff and 9 officers involved with coastal law enforcement. Currently, they spend considerable time performing commercial quota inspections in the harbour. It is anticipated that in the near future these inspections will be outsourced to a private company, and thus free up staff for coastal patrols. The area they cover stretches from van Stadens River to the Sundays River. In order to minimise illegal activities, the officers in the area make their presence known by visual patrolling. They are also responsible for the Sardinia Bay marine reserve. With the exception of enforcing the ban on vehicles on the beach, they are not directly responsible for any of the coastal reserves or terrestrial areas.

The NMMM Environmental Services has 8 staff members whose coastal area of responsibility ranges from Van Stadens estuary to the Sundays estuary. Within this area, their duties usually entail managing the reserves and open public spaces. Three employees spend the majority of their time in the coastal area, and are capable of enforcing the MLRA. The Sundays River Municipality does not have any jurisdiction over the coastal area, and thus these responsibilities fall under the control of the NMMM.

4.3.5 PUBLIC PARTICIPATION UNDERTAKEN

Public participation process has not been undertaken. Actual management actions may therefore differ from those described for illustrative purpose in this Action Plan!

Consultation with interested and affected parties

[Give details]

Issues raised

[Give details]

4.4. ABALONE ENVIRONMENTAL ACTION PLAN - PART 2: MANAGEMENT APPROACH

4.4.1 RELATIONSHIP TO THE PROVINCIAL COASTAL MANAGEMENT PLAN AND THE NMMM COASTAL MANAGEMENT PLAN

The Eastern Cape Coastal Management Plan (ECCMP) is a provincial management plan that has been designed to address the new governmental policy that has been promulgated in the White Paper on Sustainable Coastal Development (2000). The White Paper requires all the coastal provinces to submit a Provincial Coastal Management Plan. The management plans are designed to enable the provincial governments to manage their coastal zone resources in a manner conducive to the themes and objectives set out in the White Paper. At a provincial level, the Eastern Cape Coastal Management Plan (ECCMP) is currently being finalised.

Within a local context, the NMMM Coastal Management Plan seeks to meet the expectations set out by the White Paper. As such, it provides a vision, set of principles, objectives and actions specific to the NMMM.

The objectives defined in the ECCMP and the White Paper relate directly to problems associated with the Abalone resource, namely: compliance, capacity, education and awareness. The heavy poaching, particularly in the Port Elizabeth area, has severely impacted Abalone populations. Abalone poaching and compliance is a high priority management issue of national importance, and must therefore be addressed at all levels of government.

4.4.2 VISION AND APPROACH

The approach to be adopted

The curtailing of the illegal Abalone poaching industry is the primary goal of this action plan. While compliance is a central government (DEAT-MCM) responsibility that is dealt with at both National and Provincial levels, there are a number of interventions that the NMMM can initiate. In the short to medium terms, these include the provision of additional compliance personnel in the Department of Conservation, the development of a long-term monitoring programme that is designed to assess the resource, and public awareness campaigns. In addition, restrictions in public access rights can be used to limit access to the resource. It should be noted that the permitting / resource allocations processes are undertaken at a national level, and are therefore beyond the scope of this action plan. In the long-

term, the adoption of the proposed TURF protocol will require the development of a local management structure that will formally facilitate the management of the Abalone resources. It should be noted that the formulation of such boards can only take place once MCM has formally adopted the TURF framework.

The specific actions associated with the approach

- Increase the compliance capacity along the NMMM coastline and the Algoa Bay Islands. This will be required during the interim period prior to the legislative, financial and structural transformations that will affect this resource in the near future. To achieve this, six additional staff members should be contracted by the MCM and a further four by NMMM Environmental Services. It is envisioned that they will be employed as dedicated coastal compliance officers. In addition, an increase in the staff capacity at SAN Parks is also required. SAN Parks should employ two additional staff members. It is envisioned that they will be responsible for monitoring compliance on the Algoa Bay Islands. MCM compliance training should be made available to all these officers and they should be made “Honorary Compliance Officers” capable of enforcing the MLRA. This procedure is currently available at a provincial level - to the Eastern Cape Nature Conservation Officers (DEAT).
- Initiate a long-term resource-monitoring programme that is designed to assess the status of the resource and the efficacy of the compliance activities. A lack of research capacity in the NMMM suggests that this component of the plan will have to be outsourced to the private sector.
- Initiate a public awareness campaign designed to inform the public about the state of the resource, encourage voluntary compliance, and actions to be taken if and when they encounter suspected poachers.
- Restrict access to the Abalone resources by banning SCUBA diving within 1 nautical mile of selected beaches.
- Establish a Local Management Committee (LMC) to oversee the Abalone resources in the NMMM – once the TURF development framework has been adopted.

4.4.3 CHALLENGES AND OPPORTUNITIES

The action plan provides a unique opportunity to resolve the Abalone poaching issues in the NMMM. While a number of interventions are designed to combat the Abalone poaching in the short-term. The longer-term challenges are to rehabilitate the Abalone resources. It is anticipated that MCM’s adoption of the TURF framework will lead to the designation of two rehabilitation TURFs in the NMMM. In

order to be successful, both Provincial and Local Management Committees (LMC) will have to be convened. The mandate for the committees will be the facilitation of the allocation of long-term ownership rights of the Abalone resources. It is anticipated that while the LMCs will facilitate TURF development at a regional level, personnel from the NMMM will be expected to be included (members of NMMM Environmental Services etc.). At present, the LMCs do not exist, and a major challenge for the development of the TURF fisheries will be the development of these regulatory bodies. Nevertheless, it has been proposed that the development of the TURF management structures is tendered out to a private contractor, and as such, the NMMM will not be the lead agent.

An integrated coastal management approach must be sought, and management responsibility must be devolved to the municipal level. In addition, other issues such as the lack of capacity, and the limited financial resources available to the NMMM need to be addressed. Currently, the NMMM is home to six MCM funded compliance officers and three staff from the NMMM. These officers are capable of enforcing the MLRA. There are therefore 9 officers responsible for a 90 km stretch of coastline. Compare this to the level of enforcement in Natal, namely 1 compliance officer per 3 km of coastline, and the NMMM falls desperately short of human resource capacity.

4.4.4 RESPONSIBLE AGENCIES⁴

Who the responsible agencies are

The MLRA mandates responsibility for the protection and management of coastal and marine resources to the Department of Environmental Affairs and Tourism (DEAT), Chief Directorate Marine and Coastal Management (MCM). Compliance policy is therefore promulgated at national level by MCM. It places provincial Abalone compliance issues in the hands of MCM's provincial compliance department located in Port Elizabeth. Besides the lack of human and financial resources, this discourages the local government from taking responsibility for implementing plans of action that could mitigate and reduce levels of Abalone poaching.

In light of the challenges and opportunities, the implementation of the prescribed actions will only be achievable once all parties adopt the principles of co-responsibility and co-governance. This transformation will take time and this, being an issue of consequence in itself, makes the need for the immediate employment of additional compliance officers within the NMMM coastal zone (including the Algoa Bay islands) a priority. Action 1, prescribed below, is achievable within the very short term,

⁴ Must have specific people and contact details

whilst actions 2 through to 7 will only be achievable once responsibility has been devolved to the local municipal level.

Action 1: MCM to employ Honorary Compliance Officers within the NMMM coastal zone

Responsible Agency: Marine and Coastal Management, Port Elizabeth regional office.

Responsible individual: Mr Eugene Swart

Action 2: Increase conservation staff within the NMMM

Responsible Agency: Recruitment: NMMM Environmental Services

Responsible individual: Dr Paul Martin

Responsible Agency Training: MCM provincial office PE

Responsible individual: Mr Eugene Swart

Action 3: Increase conservation staff at SAN Parks

Responsible Agency Recruitment: SAN Parks

Responsible individual: Mr Lucius Moolman/Dr Michael Knight

Responsible Agency Training: MCM provincial office PE

Responsible individual: Head of MCM compliance arm

Action 4: Long-term resource monitoring programme

Responsible Agency: NMMM Environmental Services

Responsible individual: Dr Paul Martin

Action 5: Public awareness programme

Responsible Agency: NMMM Environmental Services

Responsible individual: Dr Paul Martin

Action 6: Restrict access to resource

Responsible Agency: NMMM Environmental Services

Responsible individual: Dr Paul Martin

Action 7: Establish a Local Management Committee

Responsible Agency: NMMM Environmental Services

Responsible individual: Dr Paul Martin

4.4.5 TARGETS AND MEASURABLE INDICATORS

What are the specific targets and measurable indicators for the various actions?

Action 1: MCM to employ Honorary Compliance Officers within the NMMM area

- Targets*
- Six coastal compliance officers need to be employed and trained as a matter of urgency
 - To increase compliance monitoring and reduce Abalone poaching

- Indicators*
- Six Honorary Compliance Officers employed
 - Increased 'Incidence Reports'
 - Increased arrest rates
 - Increases in the number of fines paid
 - A reduction in the levels of poaching
 - Increase in Abalone density / improved stock status

Action 2: Increase conservation staff within the NMMM Environmental Services

- Targets*
- Four coastal compliance officers need to be employed and trained as a matter of urgency
 - To increase compliance monitoring and reduce Abalone poaching

- Indicators*
- Four Honorary Compliance Officers employed
 - Increased 'Incidence Reports'
 - Increased arrest rates
 - Increases in the number of fines paid
 - A reduction in the levels of poaching
 - Increase in Abalone density / improved stock status

Action 3: Increase conservation staff at SAN Parks

- Targets*
- Two coastal compliance officers need to be employed and trained as a matter of urgency for compliance monitoring around the Algoa Bay Islands
 - To increase compliance and reduce Abalone poaching around the Algoa Bay Islands

- Indicators*
- Two Honorary Compliance Officers employed
 - Increased 'Incidence Reports'
 - Increased arrests
 - Increases in the number of fines paid
 - A reduction in the levels of poaching
 - Increase in Abalone density / improved stock status

Action 4: Long-term resource monitoring programme

- Targets*
- NMMM Environmental Services to develop a tender to contract and 'Agent of Competence' to design and implement the monitoring programme
 - To establish a long-term monitoring programme

- Indicators*
- 'Agent of Competence' contracted to conduct the monitoring programme
 - NMMM conservation staff trained to conduct aspects of the monitoring activities
 - Database established for capturing stock data
 - Stock Assessment Reports

Action 5: Public awareness programme

- Targets*
- To develop and compile a public awareness programme
 - To increase awareness amongst the public regarding the value of the Abalone resource
 - To increase public participation in compliance monitoring

- Indicators*
- Public awareness programme compiled indicating actions to be employed
 - Employment of Extension Officers
 - Increase in the number of educational workshops undertaken within the NMMM area
 - Public signage providing scientific information on the importance of the Abalone resource, also contact information for purposes of reporting poaching activities
 - Increase in number of reports by the public on incidences of poaching
 - Increase in levels of compliance

Action 6: Restrict access to resource

- Targets*
- To ban SCUBA diving within 1 nautical mile of selected beaches
 - To reduce the levels of Abalone poaching within these areas

- Indicators*
- Promulgation of a by-law that prohibits SCUBA diving within 1 nautical mile of selected beaches in the NMMM
 - Physical restriction of access to selected beaches, i.e. development of appropriate infrastructure
 - Signage developed indicating restrictions and relevant contact information
 - Improved stock status within these areas

Action 7: Establishment of a Local Management Committee (LMC)

- Targets*
- To form a Local Management Committee (LMC)
 - To manage the resource locally
 - To promote compliance monitoring by the LMC

- Indicators*
- Local Management Committee established
 - Regular meetings with coastal management structures within the NMMM
 - Incidence reports regarding poaching, by the LMC

How and when the targets are measured***Action 1: MCM to employ Honorary Compliance Officers within the NMMM coastal zone***

<i>Targets</i>	<i>How</i>	<i>When</i>
1. Increased capacity - six coastal compliance officers need to be employed and trained	1. Recruitment Reports	1. Within 2 months of the adoption of Action Plan
2. Increase levels of compliance	2. Compilation and Review of 'Incidence Reports'	2. Every 4 months after the adoption of the Action Plan

Action 2: Increase conservation staff within the NMMM Environmental Services

<i>Targets</i>	<i>How</i>	<i>When</i>
1. Increased capacity - four coastal compliance officers need to be employed and trained	1. Recruitment Reports	1. Within 2 months of the adoption of the Action Plan
2. Increase levels of compliance	2. Compilation and Review of 'Incidence Reports'	2. Every 4 months after the adoption of the Action Plan

Action 3: Increase conservation staff at SAN Parks

<i>Targets</i>	<i>How</i>	<i>When</i>
1. Increased capacity - two coastal compliance officers need to be employed and trained for compliance monitoring within the Algoa Bay Islands	1. Recruitment Reports	1. Within 2 months of the adoption of the Action Plan
2. Increase levels of compliance	2. Compilation and Review of 'Incidence Reports'	2. Every 4 months after the adoption of the Action Plan

Action 4: Long-term resource monitoring programme

<i>Targets</i>	<i>How</i>	<i>When</i>
1. A tender developed by NMMM Environmental Management	1. Tender record & review	1. On completion of tender
2. 'Agent of Competence' contracted to design and implement the monitoring programme	2. 'Record of Decision'	2. On appointment of 'Agent of Competence'
3. A long-term monitoring programme established	3. Review of monitoring programme designed by the 'Agent of Competence'	3. Within a month of appointing the 'Agent of Competence' & every 6 months thereafter
4. Assessment of stock status	4. Stock Assessment Reports	4. Bi-annually

Action 5: Public awareness programme

<i>Targets</i>	<i>How</i>	<i>When</i>
1. A public awareness programme developed and compiled	1. Programme record & review	1. Within 4 months of the adoption of the Action Plan
2. Increased awareness amongst the public regarding the value of the Abalone resource	2. Public awareness survey undertaken (part of programme review)	2. Within 6 months of programme implementation & every 6 months thereafter
3. Increased public participation in compliance monitoring	3. Compilation and Review of 'Incidence Reports'	3. Within 6 months of programme implementation & every 4 months thereafter

Action 6: Restrict access to resource

<i>Targets</i>	<i>How</i>	<i>When</i>
1. Ban on SCUBA diving within 1 nautical mile of selected beaches	1. Review of By-laws	1. Within 3 months of the adoption of the Action Plan
2. Restricted access to Abalone stocks within these areas	2. Survey coastal zone for evidence of physical restriction to selected beaches	2. Within 6 months of the adoption of the Action Plan
3. Reduced levels of Abalone poaching	3. Compilation and Review of 'Poaching Incidence Reports'	3. Within 6 months of the adoption of the Action Plan

Action 7: Establish a Local Management Committee (LMC)

<i>Targets</i>	<i>How</i>	<i>When</i>
1. Local Management Committee (LMC) formed	1. Record of Decision indicating committee representatives	This activity can only start once the TURF framework has been legally adopted by MCM
2. Local management of the resource	2. Quarterly reports compiled by the LMC	
3. Compliance monitoring by the LMC	3. Compilation and Review of 'Incidence Reports'	

Reporting format and frequency

Those responsible for the individual actions outlined in the action plan will be asked to submit assessment reports to the Coastal Management Structure. A template (Figure 1) has been compiled to aid the responsible managers to present the relevant information. It should be noted that each task within the Action Plan has a different time frame and reporting schedule. These schedules are outlined in Section 5.2 and should be adhered to. With respect to the overall assessment of the Action Plan, it is anticipated that the Action Plan will be assessed every two years. As such, bi-annual reports will be prepared and submitted to the Coastal Management Structure. Until the appropriate Coastal

Management Structure has been identified and finalised, it is not possible to assign the responsibility for compiling the bi-annual reports.

Format for reports detailing the individual actions associated with the Action Plan

Action	E.g.: Action 1: MCM to employ 'Honorary Compliance Officers' within the NMMM coastal zone
Responsible Authority	E.g.: MCM
Responsible Individual	E.g.: Mr Eugene Swart (etc.)
Contact Details	
Date	
Has the action been fulfilled	
If not, why not	
Recommendation to fulfil the action	
Targets	1. 2. 3.
What targets have been met	1. 2. 3.
How targets were measured and by whom (where applicable)	1. 2. 3.
When targets were measured (dates)	1. 2. 3.
Why targets have not been met (where applicable)	E.g Action 5, target 2 – public awareness survey must be carried out within 6 months of implementation of public awareness <i>programme</i> and therefore not undertaken as of yet.
Proposed adaptation or action to be taken to meet targets	
Deliverables particular to each target must be attached as appendices (where applicable)	1. E.g. Target 1 - Tender compiled 2. E.g. Target 1 - 'Record of Decision' with LMC representatives 3. E.g. Target 3 - Monitoring programme compiled

4.4.6 IMPLEMENTATION SCHEDULE

A Gantt chart describing the implementation schedule is presented in Table 1.

Action 1: Employ Honorary Compliance Officers within the NMMM area

This phase of the action plan should be completed within 3 months of the adoption of the Action Plan.

Action 2: Increase conservation staff within the NMMM Environmental Services

This phase of the action plan should be completed within the first three months of the adoption of the Action Plan.

Action 3: Increase conservation staff at SAN Parks

This phase of the action plan should be completed within the first three months of the adoption of the Abalone Action Plan.

Action 4: Long-term resource monitoring programme

Compilation of a tender for the monitoring and assessment of the Abalone resource should be completed and released within the first month of the adoption of the Action Plan. The tender should be compiled and advertised by NMMM's Environmental Services. The selection process should take no longer than one month, and thus, the successful bidder will be selected within the first two months of the implementation of the plan. The monitoring programme should be up and running within the first 4 months of the adoption of the Action Plan. Bi-annual stock assessment reports must be compiled.

Action 5: Public awareness programme

This phase of the action plan must be viewed as an ongoing activity that is under constant review. The development and compilation of an effective public awareness programme will require a thorough investigation of the alternative and appropriate methods of stimulating public awareness. This task will be undertaken by the NMMM's Environmental Services - in consultation with relevant coastal management structures, stakeholders and user groups. Links to national coastal initiatives, such as Coastcare, should be encouraged.

The programme may identify the need for increased capacity, for example, the employment of extension officers to carry out activities on the ground - 'Open Air Classes', road shows and workshops. The programme should be up and running within six months of the adoption of the Action Plan.

Action 6: Restrict access to resource

In order to identify those beaches that require restricted access, workshops must be arranged with the relevant coastal management / stakeholders. Once the beaches have been identified, appropriate by-laws must be developed. These by-laws should be designed to prohibit SCUBA diving within one nautical mile of the high water mark. These by-laws should be in place within 2 months of the adoption of the Action Plan.

Action 7: Establish a Local Management Committee

The formation of a Local Management Committee (LMC) can only take place once the TURF framework has been legally adopted by MCM.

Table 1. Implementation schedule

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	1 month				2			3			4			5			6								
Pre-transformation - Interim period prior to transformation towards an ethic of co-governance and co-responsibility																									
<i>Action 1: MCM to employ Honorary Compliance Officers within the NMMM area</i>																									
Advertise compliance officer posts	■	■	■	■																					
Selection period					■	■																			
Employ & train Honorary Compliance Officers							■	■	■	■	■														
Post transformation – Structures and funds for co-governance and co-responsibility secured																									
<i>Action 2: Increase conservation staff within the NMMM Environmental Services</i>																									
Advertise compliance officer posts	■	■	■	■																					
Selection period					■	■																			
Employ & train Honorary Compliance Officers							■	■	■	■	■														
<i>Action 3: Increase conservation staff at SAN Parks</i>																									
Advertise compliance officer posts	■	■	■	■																					
Selection period					■	■																			
Employ & train Honorary Compliance Officers							■	■	■	■	■														
<i>Action 4: Long-term monitoring programme</i>																									
Compile & release tender	■	■	■	■																					
Selection period					■	■	■																		
Select & contract competent agency to carry out programme								■	■	■	■														
Design & compile monitoring programme								■	■	■	■	■													
Review monitoring programme submitted												■	■	■	■	■									
Skills-transfer to NMMM staff																■	■	■	■	■					
<i>Action 5: Public Awareness Programme</i>																									
Research & compile programme	■	■	■	■	■	■	■	■	■																
Compile tender										■	■														
Release tender & advertise extension officer posts											■	■	■	■	■										

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Selection period																								
Contract competent agency & employ extension officers																								
Competent agency contract specifications complete																								
<i>Action 6: Restrict access to Abalone resource</i>																								
Review current legislation and bylaws																								
Discussion with coastal management structures																								
<i>Action 7: Establish a Local Management Committee</i>																								
Meetings - coastal management structures, stakeholders and user groups																								

4.4.7 COSTS AND FUNDING

Cost of actions

The costs associated with the various actions outlined in the Action Plan are presented in Table 2.

Table 2. Costs associated with the implementation of the Action Plan

Action	Estimated Cost
Action 1: MCM to employ Honorary Compliance Officers within the NMMM area	
Action 2: Increase conservation staff within the NMMM Environmental Services	
Action 3: Increase conservation staff at SAN Parks	
Action 4: Long-term resource monitoring programme	
Action 5: Public awareness programme	
Action 6: Restrict access to resource	
Action 7: Establish a Local Management Committee	

Availability of funds

A variety of potential funding sources have been identified for the execution of the Action Plan (Table 3). It should be noted that the different actions will require different levels of finance, and that the finance may be obtained from different sources.

Table 3. Potential funding sources.

Action	Source
Action 1: MCM to employ Honorary Compliance Officers within the NMMM area	National (DEAT - MCM)
Action 2: Increase conservation staff within the NMMM Environmental Services	Local (NMMM)
Action 3: Increase conservation staff at SAN Parks	National (DEAT - MCM)
Action 4: Long-term resource monitoring programme	National/Provincial (DEAT - MCM/DEAE&T)
Action 5: Public awareness programme	Local (NMMM)
Action 6: Restrict access to resource	Local (NMMM)
Action 7: Establish a Local Management Committee	Provincial/Local (DEAE&T/NMMM)

Sources of funds

- **Local Government Revenue**

At present, over 60% of local government revenue is derived from utility services (water, sanitation, power). These utilities generate their own revenues and are self-funding. On average, municipalities have sufficient revenue raising powers to fund the bulk of their expenditure, and thus finance over 90% of their recurrent expenditure (Department of Finance, 2000). Over the long-term, and in the absence of other financial resources, the NMMM should investigate the possibility of financing the management structure (or part thereof).

Source: *Local (via own revenue)*

- **National Revenue Funds**

According to the Appropriation Act (Act 29 of 2002), certain designated fiscal responsibilities belong to the state. In such cases, monetary transfers are made to the various government departments (e.g. DEAT). Associated with this act are the various municipal grants that are allocated to the provincial and local governments. Funds from these institutions should be investigated.

(a) Department of Environmental Affairs and Tourism (DEAT)

The Appropriation Act (2002) allocates funds from the state to DEAT. Financial support is allocated to the following departmental organs: 'Administration', 'Environmental Planning and Coordination', 'Marine and Coastal Management', 'Tourism', 'Environmental Quality and Protection', 'Biodiversity and Heritage' and 'Auxiliary and Associated Services' (Appropriation Act, 2002).

Source: *National (DEAT)*

(b) Department of Provincial and Local Government

The Appropriation Act (2002) allocates funds from the state to the Department of Provincial and Local Government. The purpose of such allocations is to develop and promote a national system of cooperative governance, and to support the development of provincial and local government. Of relevance here are the transfers made to local government / municipalities. Allocations are also made to the national treasury - from which provincial and local government transfers are made.

- **Local Government Municipal Grants**

Local government is funded from nationally raised revenue. This revenue comprises:

- an equitable share of nationally raised revenue
- conditional grants
- agency payments

The Department of Provincial and Local Government administer the “equitable share of the nationally raised revenue”. The “conditional grants” are available to those municipalities that apply for, or are selected to, receive these funds. The “agency payments” are available to those municipalities that perform certain services on behalf of national or provincial government. Conditional grants are operated and disbursed by departments. They are designed to address specific policy objectives and are usually dispersed with conditions. Allocations are based on a three-year cycle.

The following are examples of conditional grants that may provide appropriate funding for this project.

(a) Local Government Support Grants that provide assistance to municipalities experiencing financial difficulties, namely:

- Management Support Programme – R60 million
- Institutional Re-organization Fund – R60 million
- Municipal Financial Assistance Grant – R30 million

(b) Local Government Restructuring Grant

This is a new grant intended to assist large municipalities to undertake extensive financial restructuring exercises that will have beneficial impacts on national economic stability and development. Eligibility for the grant is restricted to those municipalities whose total annual budget exceeds R300 million.

(c) Land Development Objectives Grant

This grant is intended to assist municipalities to improve their strategic capacity to manage land use development - through the adoption of the land development objectives set out in the Development Facilitation Act (1995).

(d) Local Government Transition Fund

Recently, the municipalities have been required to amalgamate and restructure administration and service delivery arrangements. In order to undertake these operations, the municipalities have been provided with financial support for approximately two years. This will be a once-off grant available for 2003/2004.

Source: *Local (via National)*

- **Provincial Funding**

Funding at a provincial level is received via the National Revenue Fund - through the equitable share of revenue or through conditional grants. The Eastern Cape Provincial Government falls under the Department of Provincial and Local Government, and therefore ultimately receives funds from the National Treasury. The Eastern Cape Provincial Government is divided into various departments - one of which is the Department of Economic Affairs, Environment and Tourism (DEAE&T). DEAE&T - being a significant management body within the NMMM - could investigate the possibility of receiving additional funds via the National Treasury. In addition to the national revenue, its own revenue may be available for use (this would be revenue derived from the province). The Eastern Cape Provincial Treasury collects this revenue.

Source: *Provincial (via National and own revenue)*

Ongoing and Additional Funding Sources

Within the coastal zone of the NMMM, the following funds are currently available for financing management activities - such as co-management initiative programmes, training and education. These funds could be centralized, and in essence create of a local fund for the management of local issues.

- **Compliance Penalties**

Any penalties incurred within the NMMM boundaries related to the MLRA may be used to create a fund specifically for the purposes of coastal management.

- **Polluter Pays Penalties**

The adoption and implementation of the “polluter pays principle” could realize significant funds. Any payments accruing to such activities could go into a coastal management fund.

- **Local Permit Fees**

Local permit fees incurred within the NMMM could contribute to the fund established for coastal management purposes.

- **Entrance Fees**

Entrance fees into NMMM reserves may be another source for the above-mentioned fund.

- **International Aid**

International development agencies could be approached and asked to provide support - such as the United Kingdom's Department for International Development (DFID). DFID has given financial support to the compilation of the Provincial Coastal Management Plans, and intends to contribute approximately R50 million to improvements in the livelihoods of poor coastal communities. Building institutional capacity that is designed to ensure that cross cutting issues are integrated into the relevant programmes / planning strategies is one of the policies that DFID is currently focusing on.

Timing of funding

Timing of funding should coincide with the transformation to the new coastal management structure.

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APPENDICES



APPENDIX 1. BRIEFING DOCUMENT PROVIDED BY THE CONSORTIUM TO S&M CONSULTING

STRAW DOG APPROACH

Background

As part of the environmental process associated with the establishment of the Coega IDZ and Ngqura Port an Algoa Bay Management Plan (ABMP) was produced. Running in parallel with the development of the ABMP was the development of the White Paper for Sustainable Coastal Development in South Africa. The National Ports Authority (NPA) has commissioned a consortium made up of Coastal and Environmental Services, the Institute for Environmental & Coastal Management and Enviro-Fish Africa to update and align the ABMP with the new White Paper.

It should be recognised that the management of Algoa Bay⁵ and its surrounds is a dynamic process and not a single product. While NPA recognises that it is a major stakeholder in the Bay, they are not responsible for its overall management. However as part of their corporate responsibility, they decided to initiate a process which will hopefully result in the management of the Bay according to the guidelines outlined in the White Paper.

The success of this initiative is directly linked to the participation and buy-in of all the stakeholders in the Bay. The aim of this NPA-sponsored programme is to establish what is required to start the process and also to provide some initial guidelines and documentation to initiate the holistic management of the Bay and its resources.

As only one of the stakeholders in the Bay the NPA does not see it as their role or mandate to produce a comprehensive management plan which by its very nature would include many activities which are outside of NPA's operations. NPA are however willing to sponsor the initial steps in formulating a dynamic and co-operative management plan and process in the Bay of which they are a stakeholder.

Suggested approach

While not wishing to be prescriptive, the consortium has developed a preliminary approach which requires input from stakeholders regarding the need for such a plan, the approach, practicality and

⁵ Note that the geographical scope of the project was later expanded to cover the whole Nelson Mandela metropolitan area.

scope.

The principal objective is to:

Provide a working document which provides the broad guidelines and management objectives for the Bay. This document would then be utilised by the stakeholders as a starting point and specific Environmental Action Plans⁶ would then be developed by the mandated stakeholders for the various management issues that arise in the Bay.

Step 1a – Translate the White Paper into an Algoa Bay specific document.

This initial phase will involve translating the White Paper into an Algoa Bay specific document. This will entail brief discussions of the various themes and goals of the White Paper in terms of the Bay and its surrounds. Aspects that will be covered are current status, current management issues, future management issues, possible management approaches and managing agencies. The themes in the White Paper are:

Theme A – Governance and capacity building:

- i. To ensure meaningful public participation and to promote partnerships between the state, private organisations and civil society.
- ii. To promote public awareness
- iii. To promote an integrated coastal planning approach.
- iv. To promote management in terms of continued research and refinement.
- v. To fulfil international responsibilities.

Theme B - Our National Asset:

- vi. The right of physical access.
- vii. Equitable access to benefits and opportunities.
- viii. Preserve and promote cultural and historical resources.
- ix. To ensure the state fulfils its role as legal custodian

Theme C - Coastal Planning and Development:

- x. To promote the viability and diversity of coastal economies.
- xi. To alleviate coastal poverty
- xii. To maintain a balance between built, rural and wilderness areas.

⁶ Environmental Action Plans are documents that operationalise the guidelines and provide specific directives and approach to managing specific problems.

- xiii. To carefully design coastal settlements.
- xiv. To plan coastal activities to avoid exposure of people and economic activities from risk from coastal processes.

Theme D Natural Resource Management:

- xv. To maintain the diversity, health and productivity of the coastal processes.
- xvi. To establish and maintain a system of coastal protected areas.
- xvii. To ensure the viability of resource utilisation.
- xviii. To ensure that non-renewable resources are utilised in a manner that is in the public interest.
- xix. To rehabilitate and manage degraded coastal ecosystems.
- xx. Theme E Pollution control and waste management:
- xxi. Implementation of pollution control and waste management.
- xxii. Management of pollution activities.

Step 1b – A key component of step 1 will be suggesting potential management and co-operative decision making structures and their advantages and disadvantages.

Step 2 – Prioritise the key management issues associated with the Bay.

Input in this process would be provided by the scoping exercise undertaken by SMC. The issues would be prioritised and compared with the priority list included in the White Paper for projects.

Step 3 – Develop examples⁷ of draft Environmental Action Plans associated with the main management issues.

Draft Environmental Management Plans would be developed for selected priority management issues. These management plans represent the manner in which these issues will be addressed would include management protocols, key stakeholders, pertinent legislation, implementation timeframes and funding options. These EAPs will only be in a draft format as they will need to be reviewed and adapted by the structures outlined in Step 1b.

Step 4 – Develop draft Environmental Action Plans associated with key NPA activities e.g. construction of the port. These EAPs will only be in a draft format as they will need to be reviewed and adapted by the structures outlined in Step 1b.

Product

⁷ The number of draft Environmental Action Plans will depend on budget availability.

The envisaged initial product would be two documents. These documents would be made available to all key stakeholders and would be managed dynamically, with key sections being included or updated as they are developed or reviewed.

Part 1 – Guideline Document

This portion would contain the guidelines and objectives for managing the Bay. It is envisaged that these guidelines would be periodically updated. This part of the report would also include sections on the management structures and relationships between various stakeholders. Certain sections of this document would contain various alternatives that the stakeholders would need to decide upon.

Part 2 – Environmental Action Plans

The document would provide the templates and requirements for action plans. A list of key priority issues would also be provided. In addition, part 2 will provide some examples of draft action plans designed for some priority issues in the Bay. These can be used as templates for future EAs drawn up by the stakeholders mandated to do so using structures such as those outlined in step 1b.

It must be noted that the Part 2 will grow considerably over the next few years, as EAPs are developed for a whole host of issues e.g. ballast water, outfall pollution, recreation, beach access, beach rehabilitation, coastal management, estuarine management, visual impacts, cultural site protection, rat control, recreational zoning etc.

Key Notes and Discussion Points

The following key notes and discussion points can be considered by SMC in their process. These are not meant to be prescriptive but are the types of issues which the consortium will find valuable.

Key questions

Is there a need for a co-ordinated management programme for the Bay?

What name would be suitable for the product and why?

What would an effective management unit be and why?

What are the key issues that need to be managed in the Bay?

What type of product do you think should be produced?

What role do you think NPA should be playing in the development of a plan?

What comments do you have on the draft proposal produced?

Do you have any suggestions as to how this approach can be improved, recognising the budgetary constraints placed on this first phase?

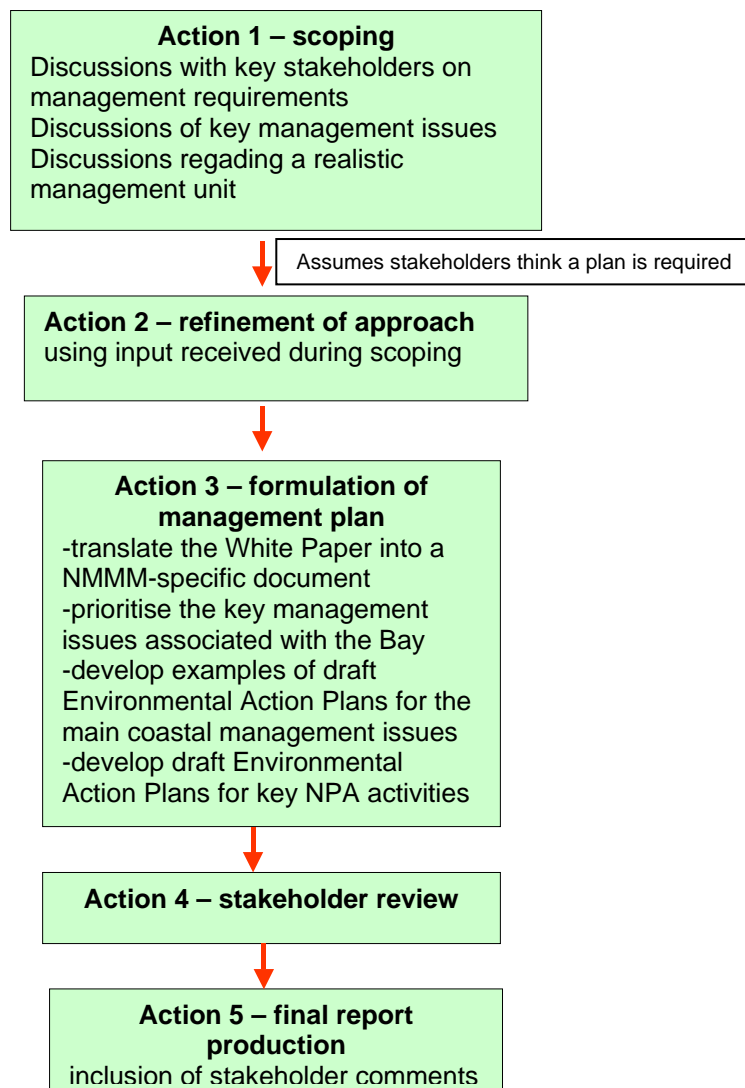
Key notes

The consortium believes it is essential to obtain the buy-in and comments from the DEAE&T Coastal Working Forum.

It is essential that the scoping process can inform the refinement of the TOR phase to ensure that the right product is produced.

It is essential that the stakeholders understand that the product proposed is not a comprehensive manual that answers all the problems but rather a document which outlines the guidelines and the way forward. The specific management details are issue-specific and can only be formulated by the stakeholders and management agencies they affect.

The consortium is not totally bound by the proposal and if another product is envisaged, then this can be accommodated, provided the scope matches the budget and the NPA agree.



APPENDIX 2. NATIONAL PORTS AUTHORITY OF SOUTH AFRICA

BRIEFING PAPER

Public Consultation Process

WHAT IS THIS DOCUMENT ABOUT?

The National Ports Authority of South Africa (NPA) is the agency responsible for the development of the Port of Ngqura, Port Elizabeth. After extensive environmental assessments the National Department of Environmental Affairs has issued a Revised Record of Decision and the National Ports Authority of SA has been granted the authorisation to construct a deep-water port on the mouth of the Coega River estuary.

The Revised Record of Decision contains a number of conditions and construction of the port is subject to these conditions. In addition to this it is the objective of NPA to follow best environmental practice for the construction of the Port of Ngqura. In terms of following best practice and meeting specific objectives contained within the Revised Record of Decision Sandy & Mazizi Consulting have been appointed by the National Ports Authority of South Africa to assist them with the following:

- The identification of all users of the Algoa Bay near shore water, the identification of their needs to accommodate these needs in a management plan before construction and dredging of the Ngqura Port commences.
- Together with all stakeholders whose operations are likely to impact negatively on the marine life of Algoa Bay, submit a strategic plan indicating their commitment towards financially and logistically facilitating the establishment of the seabird and marine mammal rehabilitation centre before operation of the Ngqura Port commences.
- Review, update and align the Algoa Bay Management Plan with the White Paper on Sustainable Coastal Development.

A consortium comprising Coastal and Environmental Services, the Institute for Environmental & Coastal Management and Enviro-Fish Africa has been commissioned to update and align the ABMP with the new White Paper and provide a framework for the initiation and implementation of a comprehensive Management Plan for the users of Algoa Bay.

This document provides interested and/or affected parties with background information on these three projects and outlines the process proposed to complete these tasks. It further provides you with

information on how you can become involved in the process and raise issues of concern that may affect or interest you. While there are links between these three tasks the resolution and outcome of each will be in different forms.

ALGOA BAY MANAGEMENT PLAN

The Algoa Bay Management Plan was produced in December 1999 with the purpose to provide a comprehensive framework for management of Algoa Bay. Subsequent to the production of the plan there have been a number of developments that have taken place that need to be taken into account by the Algoa Bay Management Plan, namely:

- Adoption of the White Paper on Sustainable Coastal Development
- Establishment of the Nelson Mandela Metropolitan Authority to include a larger area of responsibility
- The proposed expansion of the Greater Addo Elephant National Park to include a Marine Protected Area
- The proposed Madiba Bay development to include a Marine Park Area

The scenario presented by these developments is that a large portion of the Metropolitan Authority Coastline is proposed for development and utilisation in different forms.

While NPA is a major stakeholder in the Bay, they are not responsible for its overall management, which is presently shared between various government structures and departments. However, as part of their corporate responsibility, NPA have initiated a process which will hopefully provided a framework and foundation from which all stakeholders can participate in the management of the Bay according to the guidelines outlined in the White Paper on Sustainable Coastal Development.

MANAGEMENT PLAN FOR THE USERS OF ALGOA BAY

A specific recommendation in the revised Record of Decision is the identification of the users of Algoa Bay and the accommodation of their needs in a Management Plan before dredging and construction commences to avoid possible loss of income and occurrences of accidents.

STRATEGIC PLAN FOR A SEABIRD AND MARINE MAMMAL REHABILITATION CENTRE

A specific recommendation of the Revised Record of Decision is to submit a strategic plan together with all stakeholders whose operations are likely to impact negatively on the marine life of Algoa Bay, indicating their commitment towards financially and logistically facilitating the establishment of the seabird and marine mammal rehabilitation centre.

A trust called the SA Marine Mammal Rehabilitation and Education Centre (SAMREC) has been established and is working towards setting up a centre, which will include as one of its functions, the rehabilitation of marine mammals. Other components of this proposal include education and that the centre should have a commercial element. This process, driven by SAMREC, has been implemented to date in consultation with SANCCOB (SA National Foundation for the Conservation of Coastal Birds), National Ports Authority and other interested parties.

This process will take into account that there is an existing initiative, which proposes the establishment of such a centre, and will attempt to co-ordinate and build on these efforts in the development of the strategic plan.

PUBLIC PARTICIPATION PROCESS

The following public participation process is proposed to facilitate the input of interested and affected parties for the completion of the revision of the Algoa Bay Management Plan and the identification of the users of Algoa Bay.

Stage 1: Identification of Users and Scoping of Issues

The identification of the users of Algoa Bay and consultation regarding the development of the Algoa Bay Management Plan will take place simultaneously. A database of interested and affected parties has been developed and networking meetings will be held to identify additional parties, potential impacts and mitigatory measures.

Stage 2: Revision of Issues Identified

The issues identified in Stage 1 of the process will be forwarded to the consortium responsible for the development of the Algoa Bay Management Plan. Based on the input received through the public consultation process and a scientific revision of the plan the Consortium will develop an outline of key issues to be addressed by the Algoa Bay Management Plan.

This outline together with the mitigatory measure proposed for managing dredging and construction related activities would be presented to all interested parties in a workshop for further input and amendment.

Stage 3: Draft Algoa Bay Management Plan

Once an outline for the plan has been adopted the Consortium will produce a Draft Algoa Bay Management Plan. The Draft Document will be circulated to all interested parties and be presented in a workshop for further input, comment and amendment by all interested parties.

Stage 4: Final Algoa Bay Management Plan

All comment and amendment received at the workshop will be submitted to the consortium and NPA for them to consider in the drafting of the Final Algoa Bay Management Plan and the mitigatory measures for management of the Bay.

Stakeholder Consultation Seabird and Marine Mammal Rehabilitation Centre

The following process outlines the public consultation process for the development of a Strategic Plan for the above activity.

Stage 1: Identification of Stakeholders and Plan Revision

The first stage in this process will entail the identification of any additional stakeholders and a revision of the existing plan. It will outline any further recommendations and issues that may need be considered for inclusion in the plan.

Stage 2: Draft Strategic Plan

A draft Strategic Plan outlining the financial and logistical process for facilitating the establishment of a Centre will be distributed to all stakeholders and presented in a workshop format for amendment and input.

Stage 3: Strategic Plan

The input received at the workshop and any other written comments will be considered in the development of the Final Strategic Plan.

HOW CAN YOU GET INVOLVED

Sandy & Mazizi Consulting are responsible for the public participation component for the processes outlined above. You can register your interest in these processes by contacting them at the address indicated below. This will ensure that you are registered on our database, are invited to attend any workshops and receive any information related to the tasks above.

Sandy & Mazizi Consulting, PO Box 23088, Port Elizabeth 6000
Phone: 041 - 3748426 Fax: 041 - 3732002 Email: smc@sandyandmazizi.co.za

APPENDIX 3. LIST OF MEETINGS HELD AND ISSUES RAISED

Title	First Name	Surname	Position	Organisation	Sector	Address1	Address2	Town	Consulted	Invite 4/10/02	4/10/2002	Invite 29/11/02	Att 29/11/2002	Min 29/11/2002
Mr	Younus	Amod		EPSLSU	Life Saving	PO Box 8200		Schauderville	4	4	4	4	4	4
Mr	Fernando	Cain		EPSLSU	Beach Managers Office	8 Romneya Crescent	Gelvan Park		4	4	4	4	4	4
Dr	Guy	Castley	Scientific Services	SANParks	Parastatal	Conservation Development UPE	PO Box 20419	Humewood	4	4	4	4	4	4
Dr	Vic	Cockroft		Centre for Dolphin Studies	Environmental NGO	PO Box 1856		Plettenberg Bay	4	4	4	4	4	4
Capt		Coetzee		SAPS/SANDF Aqua Club	Monitoring	PO Box 460		Port Elizabeth	4	4	4	4	4	4
Mr	David	Crews		Hougham Park	Landowner	PO Box 612073		Bluewater Bay	4	4	4	4	4	4
Mr	Abra	De Klerk		EP Shore Anglers Association	CBO	PO Box 88		Port Elizabeth	4	4	4	4	4	4
Mr	Redah	De Maine		Risar Fishing	Business				4	4	4	4	4	4
Mr	Johan	Dreyer		Madiba Bay	Business				4	4	4	4	4	4
Mr	Andrew	Durheim	Financial Manager	Eyethu Fishing	Commercial Fishing	PO Box 1531		Port Elizabeth	4	4	4	4	4	4
Mr	Lloyd	Edwards	Whale Charters		Tourism	PO Box 15317		Emerald Hill	4	4	4	4	4	4
Mr	Leon	Els	Deputy Director	Provincial DEAE&T	Authorities	Private Bag x5001		Greenacres	4	4	4	4	4	4
Ms	Jill	Gordan	Scientific Services	SANParks	Parastatal	Conservation Development UPE	PO Box 20419	Humewood	4	4	4	4	4	4
Ms	Robyn	Greyling		Bayworld	Tourism		PO Box 13147	Humewood	4	4	4	4	4	4
Dr	Kevin	Hendricks		Bird Life PE	Environmental	P.O. Box 13797		Humewood	4	4	4	4	4	4
Mr	Brian	Jackson		EC Tourism Board	Tourism	PO Box 1611		Port Elizabeth	4	4	4	4	4	4
Ms	Lynn	Jackson	Marine & Coastal Management	DEAT	Authorities	Private Bag x2		Rogge Bay	4	4	4	4	4	4
Ms	Pumza	Kaleni		DWAF	Authorities	Private Bag X6041		Port Elizabeth	4	4	4	4	4	4
Ms	Wendy	Kant		Bayworld	Tourism	PO Box 13147		Humewood	4	4	4	4	4	4
Mr	Paul	Killean		National Sea Rescue Institute	NGO	36 Ruth Street	Glenhurd	Port Elizabeth	4	4	4	4	4	4
Mr	Norbert	Klages	IECM	SA Marine Rehabilitation & Education Centre	Consultancy	PO Box 1600		Port Elizabeth	4	4	4	4	4	4
Dr	Michael	Knight	gAENP Project Manager	SANParks	Parastatal	Conservation Development UPE	PO Box 20419	Humewood	4	4	4	4	4	4
Mr	Themba	Koza	Environmental Manager	Coega Development Corporation	Business	Postnet Suite 35	Private Bag x13130	Humewood	4	4	4	4	4	4
Mr	Mzimasi	Mangcotywa	CEO	NMMM	Authorities	PO Box 116		Port Elizabeth	4	4	4	4	4	4
Dr	Paul	Martin	Manager	Nature Conservation	Authorities	PO Box 12435		Centrahil	4	4	4	4	4	4
Mr	Jonothan	Mercer	Assistant City Engineer	NMMM City Engineers Dept	Authorities	PO Box 116		Port Elizabeth	4	4	4	4	4	4
Mr	Duane	Muller	Chairperson	Algoa Bay Yatch Club	Yatching	PO Box 1034		Port Elizabeth	4	4	4	4	4	4
Mr	Connie	Muller	Director	Marine Growers	Mariculture	PO Box 21555		Port Elizabeth	4	4	4	4	4	4
Mr	Peter	Myles	Director	Tourism 2000	Tourism	14 Bird Street	Central	Port Elizabeth	4	4	4	4	4	4
Mr	Thembisile	Mzamo		Regional DWAF	Authorities				4	4	4	4	4	4
Mr	Thabo	Ndlovu	Environmental Manager	National Ports Authority of SA	Parastatal	PO Box 162		Port Elizabeth	4	4	4	4	4	4
Mr	Herman	Nel	Beach Manager	NMMM Beach Manager	Authorities	PO Box 12435		Centrahil	4	4	4	4	4	4
Ms	Ronel	Nel		Zoology Dept. UPE	Environmental				4	4	4	4	4	4
Mr	John	Raimondo	Environmental Director	Coega Development Corporation	Business	Postnet Suite 35	Private Bag x13130	Humewood	4	4	4	4	4	4
Mr	Brian	Reeves	Environmental Officer	Wildlife & Environment Society of SA	Environmental NGO	2 B Lawrence Street	Central	Port Elizabeth	4	4	4	4	4	4
Mr	Barnie	Rose	Director	Eyethu Fishing	Commercial Fishing	PO Box 1531		Port Elizabeth	4	4	4	4	4	4
Mr	Dave	Schoeman		Zoology Dept. UPE	Environmental				4	4	4	4	4	4
Mr	Echard	Schumann		WESSA & SAMREC	Environmental NGO	26 Marine Gardens	Glencarry Crescent	Humewood	4	4	4	4	4	4

APPENDIX 4. MINUTES OF INITIAL WORKSHOP

MINUTES OF THE JOINT WORKSHOP FOR NATIONAL PORTS AUTHORITY OF SA HELD ON THE 4 OCTOBER 2002, ALGOA BAY YACHT CLUB

Introduction and Welcome

Mr. Mazizi Msutu opened the meeting and welcomed all present.

Objectives of the Meeting

Provide participants with background information on the tasks
Identification of the near shore Users of Algoa Bay and their needs
Seabird & Marine Mammal Rehabilitation Centre
Algoa Bay Management Plan Review
Provide information on the processes to be implemented
Provide feedback on outcome of the initial consultation process
Obtain input on the process
Identify additional needs and issues

Workshop Process and Rules

Mr. Msutu presented the workshop process and rules, which were adopted by the meeting.

Context of the Workshop and Background Information

Refer to Appendix One for Input

Feedback from the Floor

The dumping of dredge material from the construction of the Port and its potential negative impact on squid spawning grounds and squid fishing is a strong issue raised by the Squid Industry. The impact of this needs to be identified.

Vic Cockroft holds the whale-watching permit for the area.

It must be noted that the Crews of Hougham Park is a lessee and no longer a landowner. Their interest and area of concern is that below the high water mark to enable them to continue with their oyster concession. Will this be affected by the construction of the Port?

Users of Algoa Bay

Refer to Appendix One for Input

Discussion Points Feedback

Research and Educational users should be included as a user of Algoa Bay.

How do we know that the process will be legally binding?

Is there an independent monitoring committee that will ensure implementation of the plan?

There needs to be some kind of recourse action if issues are not being addressed.

The SAN Parks proposed Marine Protected Area would go through a public involvement process to establish its boundaries. Everyone's input needs to be obtained before the areas can be established.

Seabird and Marine Mammal Rehabilitation Centre

Refer to Appendix One for Input

Discussion Points Feedback

The following organisations must be included as stakeholders:

Environmental Tourism Businesses

SANCCOB

SAN Parks

The proposed centre should serve a region and not just the new Port or the Metropolitan area.

7. Algoa Bay Management Plan

Refer to Appendix One for Input

Discussion Points Feedback

A strategic plan of the area is needed before a management plan is developed

Fundamentals need to be defined, that is, what area are you dealing with?

A framework for management of the Bay is being discussed but Marine and Coastal Management has already issued permits for dredging of the Harbour.

More information is needed on the Marine Protected Area for the Bay and what restrictions will be in place.

There needs to be co-operation and not exclusion for the Marine Protected Area.

Will the ABMP take into account emerging situations and catastrophic events?

Will operational issues be addressed in the ABMP?

There is a concern that events may overtake the process.

8. Scientific Review

Refer to Appendix Two for Input

9. General

No issues were raised under General

10. Closure

Mr. Msutu closed the meeting at 11h00.

CONTEXT OF THE WORKSHOP AND BACKGROUND INFORMATION

SANDY & MAZIZI CONSULTING cc.

Context of the Workshop

NPA & CDC - Revised Record of Decision (ROD) issued by National DEAT - construction of the Port of Ngqura & Coega Industrial Development Zone

Identification of the near shore users of Algoa Bay and their needs (ROD)

Seabird and Marine Mammal Rehabilitation Centre (ROD)

Revision of the ABMP (not part of ROD)

Background Information

Sandy & Mazizi Consulting - independent facilitators of the consultation process for the tasks

Consortium - Scientific Review of ABMP (Coastal & Environmental Services, Institute for Environmental and Coastal Management; & Envirofish)

Process Objectives

Inclusivity

Transparency

Bottom up

Create a sense of ownership

Users of Algoa Bay

Identification of all users of the Algoa Bay near shore water and accommodate their needs in a management plan before construction and dredging of the Ngqura Port commences, to avoid, amongst other things, possible loss of income and occurrences of accidents

Seabird and Marine Mammal Rehabilitation Centre

The NPA, together with all stakeholders whose operations are likely to impact negatively on the marine life of Algoa Bay, must submit a strategic plan indicating their commitment towards financially and logistically facilitating the establishment of the seabird and marine mammal rehabilitation centre before operation of the Ngqura Port commences

Algoa Bay Management Plan

Not part of the Revised Record of Decision

Review, update and align the Algoa Bay Management Plan with the White Paper on Sustainable Coastal Development

Scientific Review - Consortium (Coastal & Environmental Services, Institute for Environmental and Coastal Management; & Envirofish)

Public Consultation - Sandy & Mazizi Consulting

Users of Algoa Bay

Condition of approval for Port construction

Identification of needs to avoid loss of income and/or damage before Port construction and dredging commence

Scope

Area immediately surrounding the Port of Ngqura

Metropolitan Coastal Area - proactive & advertisements

Registered and/or active organisations, businesses and groups with the NMMM

Consider needs in a Review of the Environmental Plan for the Port of Ngqura and the IDZ

Discussion Points

Clarity on the input

Identify additional users

Identify additional needs

Feedback on Proposed Process

Seabird & Marine Mammal Rehabilitation Centre

Issues emerging

Need a more inclusive process

Since conceptualization additional stakeholders have emerged

Need a restatement of the problem with a focus on the new port

Require a center for daily cleaning not only catastrophic events

Should serve a broad area/region

Need Consultation and cooperation by all stakeholders

Need an education and training component to ensure the sustainability of the centre

Key elements

ID stakeholders whose operations impact negatively on the marine life of the Bay

Develop a Strategic Plan - Logistical & financial commitment for establishment of a center before operation and dredging of the Port commences

Discussion Points

Clarity on the input

Additional stakeholders

WESSA, NSRI, NPA, CDC, SAMREC, Bayworld, Madiba Bay, Birdlife SA, Cape Reciefe Trust & NMMM

Feedback on Proposed Process

Algoa Bay Management Plan

Key Issues Emerging

Need for a comprehensive framework plan for sustainable development of the NMMM Coastal area

Numerous developments taking place in the coastal area

Coordination between relevant role players in the Bay (NPA, SAN Parks, CDC, MCM, Madiba Bay & NMMM)

Clarify areas of jurisdiction, monitoring and authority

Increased Shipping

Pollution Control

Oil Spills

Dredging

Clarify Implementing Authority/Body

NPA initiative - Not a condition of approval

Review, update and align ABMP

Scientific Review - Consortium (Coastal & Environmental Services, Institute for Environmental and Coastal Management; & Envirofish Africa)

Public Participation & Consultation

Sandy & Mazizi Consulting

Scope - Key Issues to be addressed for the Construction and Operation of the Port of Ngqura.

APPENDIX 5. MINUTES OF SECOND WORKSHOP

MINUTES OF THE MEETING FOR THE USERS OF ALGOA BAY AND THE NMMM INTEGRATED COASTAL MANAGEMENT PLAN INITIATIVE HELD ON THE 29 NOVEMBER 2002, PE CITY HALL AUDITORIUM

WELCOME

Mazizi Msutu opened the meeting and welcomed all present.

PURPOSE OF THE MEETING

- To present and adopt the approach to the NMMM Integrated Coastal Management Plan Initiative
- To present the responses to issues raised by users of Algoa Bay
- To identify additional issues for inclusion in the Users Trail

NMMM INTEGRATED COASTAL MANAGEMENT PLAN INITIATIVE (ABMP)

The following input was provided by Dr Norbert Klages of the Consortium:

Background

- Original ABMP produced in 1999 as a part of the Coega documents.
- Not widely accepted and lacked buy-in.
- Since this document was produced, the White Paper on Sustainable Coastal Development in South Africa has been released (April 2000).
- Major changes in the design of Ngqura port.
- Therefore: Revision of ABMP

Important Points

- ABMP not part of the ROD for Coega Port and IDZ.
- NPA not the only role player in Algoa and St Francis Bay.
- Therefore a coastal management plan must be inclusive of all major stakeholders, and all must take ownership of the document and process.
- NPA are prepared to kick off process.

NMMM Integrated Coastal Management Plan Initiative

The National Ports Authority (NPA) as major stakeholders in the Algoa Bay region have decided to initiate a programme that aims to result in a more co-ordinated approach to managing the NMMM coastline.

Extent of the area to be covered

The spatial coverage of the management plan has since been expanded to include the whole NMMM coastline, from the Sundays River in Algoa Bay, past Cape Recife, to the Van Stadens River mouth.

Approach

Aim - To produce a document that addresses a need and will aid management.

Objective - *Present a working document which provides the broad guidelines and management objectives for the NMMM coast. This document would then be utilised by the stakeholders as a starting point for specific Environmental Action Plans.*

EAPs will need to be developed by the mandated stakeholders for the various management issues that arise in the NMMM coastal environment.

a. Scoping

- Discussions of management requirements with key stakeholders
- Discussions of key management issues in Algoa and St Francis Bay

b. Refinement of Approach

- Input received during scoping is used to refine the approach.

c. Formulation

Step 1 - Translate the White Paper into an NMMM coastline specific document.

Theme A - Governance and capacity building

Theme B - Our national asset

Theme C - Coastal planning and development

Theme D - Natural resource management

Step 2 - Prioritize the key management issues in the NMMM

Step 3 - Develop examples of draft Environmental Action Plans associated with main management issues.

Step 4 - Develop Key Environmental Action Plans associated with NPA activities.

d. Stakeholder review

- Input is obtained from stakeholders as to possible refinements and additions.

Users & ABMP Response Trail

f. Report finalisation

- Where possible stakeholder comments are include in the report.

Report Structure

Part 1 - Guideline document

- Contains management structures and relationships between stakeholders.
- Contains guidelines and objectives of managing the NMMM coastal waters.

Part 2 - Environmental Action Plans.

- Provides requirements and templates for action plans.
- Provides examples of action plans designed for priority issues in Algoa Bay. e.g. pollution, dredging etc.
- NB - Product will need to be built upon by stakeholders.

Comments from the floor

- A balance is needed between social and economic issues in the plan, will this be provided for?
- Will the plan link with other planning initiatives beyond the boundaries of the NMMM and take these into account in its development?

The approach presented was proposed for adoption by Brain Reeves of WESSA and finally adopted by the Meeting.

USERS TRAIL AND ALGOA BAY MANAGEMENT PLAN RESPONSE TRAIL

The enclosed appendix for details of the amended Issues and Response Trail.

Comments from the floor

- Management and monitoring
 - Comments focus on the harbour development and islands and needs to be broader
 - For the first time SA is looking at beach tourism and there is an international demand for beaches. We need to maintain our beaches at world class level if we are to minimize the impact on beach and leisure tourism.

GENERAL

- **General Comments**
 - WESSA are happy with the way things are moving and are satisfied with the process
 - Daryl, NMMM, happy that the scope has been well defined.
 - Peter Myles, happy that the process will take into account other processes
 - Crews, awaiting draft report
 - Clive Sharwood, process seems fine, waiting for draft report.
 - Dwain, ABYC, happy with the process
 - Thabo, NPA, the document is needed urgently. Sessions like this are important to create interaction to develop understanding.

WAY FORWARD & CLOSURE

- **Users**
 - Adverts for the Users Trail to be placed
 - Final draft to be submitted to NPA
 - Specialists to prepare the Draft NMMM Integrated Coastal Management Document
 - Present Draft document for review and comment around mid to end February

Mazizi Msutu closed the meeting.

APPENDIX 6. MINUTES OF THE ADOPTION OF THE STARTER DOCUMENT WORKSHOP

NELSON MANDELA METROPOLITAN MUNICIPALITY (NMMM) COASTAL MANAGEMENT PLAN WORKSHOP, 23 JUNE 2003, BAYWORLD BOARDROOM

Comments Received

Echart Schumann – WESSA & SAMREC

What is the coast, we need a clear definition of this if we are to define responsibilities?

Response: Norbert Klages - UPE

The white paper does not define the coast, but it will once it is translated.

Peter Myles – Centre for Tourism - UPE

When Nelson Mandela Bay was adopted the importance of the coast was acknowledged. Surely the widest definition of what is a coastline applies.

Eckart Schumann – WESSA & SAMREC

In the introduction to this document this broad definition should be included.

Thabo Ndlovu - NPA

Could the consortium outline the cost difference between the different management approaches especially the difference between working groups and experts.

Peter Myles – Centre for Tourism - UPE

Have you looked at the institutional structure, Trust versus a Section 21 Company? One may need to look at an appropriate structure as this impacts on institutional structure and funding.

Malcome Smale - Bayworld

Who decided on the way forward?

Guy Castley - SANParks

You need to look at the management options, each option and make a recommendation on the way forward.

Eckart Schumann – WESSA & SAMREC

The option agreed upon needs to consider other areas as we should have an arrangement that can be used elsewhere.

Response: Tom Shipton - SASNA

The idea is there will be a coastal management unit for each province. The policy was designed to fit in with a provincial policy.

Guy Castley - SANParks

Neighbouring municipalities may need to be included in the process e.g. Sunday's River Valley Municipality.

Norbert Klages - UPE

The islands and Addo are more a provincial responsibility than local municipal responsibility.

Peter Myles – Centre for Tourism - UPE

A framework plan for disaster management should look at various scenarios of increased shipping. A disaster may happen sooner than expected.

Godfrey Murrell – Nelson Mandela Metropolitan Municipality

Need more on accountability, who is accountable to who?

Structure of the Starter Document

What is its relationship with the white paper and provincial Coastal Policy.

This is a nation wide process, it is not only happening in the Eastern Cape

VISION - comments

- The new Management Body should revisit the vision and its appropriateness
- How much of this is based on the provincial statement?
- The last statement excludes the fact that we need to understand the coast and our processes to accommodate an interdisciplinary approach to understanding our coast.

Adoption proposed by Mr. Godfrey Murrell, seconded by Mr. Peter Myles

PRINCIPLES

Adoption proposed by Mr. Thabo Ndlovu, seconded by Dr. Eckart Schumann

THEMES

Theme – A

Objective 5 – timeframe says high should be short

Guy Castley - SANParks

- Need regular review of this plan and updating of the Plan.
- Do these objectives cut across municipal areas or are they specific to the Metropole? Just because DEAT might be on top of this process does not mean they will address these issues in other areas

Response - Thabo Ndlovu - NPA

Coordination needs to happen somewhere, it may come out when we deal with specific management issues and development management plans.

Adoption proposed by Dr. Guy Castley, seconded by Mr. Stanford Slabbert

Theme - B

Guy Castley - SANParks

Would this include legislation on vehicle beach use?

Adoption proposed by Mr. Peter Myles, seconded by Captain Sihlali

Theme – C

Peter Myles – Centre for Tourism - UPE

Does this cover the link between the final plans and IDP's, they need to feed into one another. If there is anything in the CP that should be included in IDP's this needs to be done?

Guy Castley - SANParks

Objective 20 needs to bring in the notion of sustainable development.

Mariette Bause - UPE

There is no objective 13, number needs to be corrected.

Adoption proposed by Dr. Guy Castley, seconded by Dr. Eckart Schumann

Theme – D

Mr. Msutu – Sandy & Mazizi Consulting cc

Need to move away from using term zone, this is outdated.

Jim Tucker - SASMIA

Need to define what fishing we are talking about and not use broad terms. Change it to say “ avoid over fishing of resources”

Malcolm Smale - Bayworld

Change it to say “of some resources”

Peter Myles – Centre for Tourism - UPE

- Is appropriate development in sensitive eco-systems covered elsewhere in the document?
- Tourism is resourced based and should take into account resources when determining development. Objective 23 add something to this effect.
- What we mean by appropriate development?

Godfrey Murrell – NMMM

Maybe we need to look at this objective and the Wylie Act, require South African's do an EIA for development with 1000 meter of the high water mark.

Eckart Schumann – WESSA & SAMREC

Need to include something at the beginning about coordination.

Guy Castley - SANParks

Need a zonation scheme for the coast.

Godfrey Murrell – NMMM

The provincial policy looks at conservation worthy areas.

Norbert Klages - UPE

This meeting is tasked with the job of making a recommendation on the way forward. Coastal Management has been fragmented and this process proposes bringing that together.

Malcome Smale - Bayworld

Belongs under C.

Sandy Wren - Sandy & Mazizi Consulting cc

Need a detailed structure policy plan for the development of the Nelson Mandela Metropolitan Municipality coastal area as a separate objective under theme C.

Pieter Retief - DWAF

- Objective 26 – does this include rehabilitation of catchment areas?
- Need to clearly define the coast when we are talking rehabilitation. What area is it?

Malcome Smale - Bayworld

Need to include rivers on the map on Page 7 and municipalities in catchment areas.

Adoption proposed by Captain Sihlali, seconded by Dr. Malcome Smale

Theme – E

Captain Sihlali – Border Police

Does this include refuelling of ships and monitoring of this?

Godfrey Murrell – NMMM

- Objective 30 – one needs to include landfill sites under this.
- Theme E needs an objective on marine discharge which takes into account national and provincial policy

Peter Myles – Centre for Tourism - UPE

Need to add in aesthetic pollution and impacts.

Stanford Slabbert – NMB Tourism

Objective 28 – there is a body that meets regularly on disaster management in the metro and maybe disaster management for the coast management could be handled by this body.

Pieter Retief - DWAF

Objective 28 – What is defined as a disaster, need to clarify this. Include DWAF as a responsibility agent.

Objective 29 – Polluter pays, include DWAF as a responsible agent.

Adoption proposed by Dr. Guy Castley, seconded by Mr. Stanford Slabbert

Structural and Operational Arrangements

Guy Castley - SANParks

Need a board.

Godfrey Murrell – NMMM

Which is the best in respect of legislative requirements?

Peter Myles – Centre for Tourism- UPE

Need to have teeth and a strong authority in place.

Thabo Ndlovu - NPA

- What about the start up costs for a structure?
- Would support structure.
- But need a multi-disciplinary forum to coordinate activities and different departments

Recommend that a NMMM Coastal Management Unit be established. Need to meet with DEAE&T to bring them on board of this process.

Way Forward

- Comments received need to go to the consortium for them to revise the document based on comments received.
- Will send all on the database a CD of the final document