State of Management of South Africa's Marine Protected Areas

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Prepared by Karen Tunley (2009)

Peter Chadwick and Sindiswa Nobula (Editors)

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Compiled by:

Karen Tunley[1]

[1]*Independent, 122B Belvedere Road Claremont Cape Town 7708*

Email: karentunley@gmail.com

Edited by:

Peter Chadwick [2] and Sindiswa Nobula [2]

[2] *WWF Sanlam Living Waters Partnership, WWF South Africa, Private Bag X2, Die Boord, 7613, South Africa*

Email: pchadwick@wwf.org.za
Email: snobula@wwf.org.za

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Executive Summary

In 2003 an assessment of the state of MPA management was undertaken by Lemm and Attwood and in which certain risks and weaknesses in the management of MPA's in South Africa were highlighted. This then guided management interventions over the five year period up until 2009. A repeat assessment was conducted during 2009 to report on and acknowledge the progress made through the actions of national and provincial agencies, involved in MPA management, and the NGOs supporting MPA management, and to re-prioritise the actions of agencies and NGOs for the near future. Managers from each of the Government Gazetted 22 MPAs were interviewed and representatives of each of the seven management authorities completed questionnaires. Discussions were held with biologists and social scientists involved in various MPAs to supplement the information. Each MPA was visited and discussions were held with MPA staff in order to gain a broader perspective of the issues faced. A scoring system was designed and used to assess and summarize the information.

The co-ordination and formalization of MPA management has improved substantially through the development of agreements between MCM and conservation authorities for the management of 21 of the 22 Government Gazetted MPAs. The implementation of legislation requiring that MPAs situated adjacent to terrestrial protected areas must be managed by the management authority for the protected area in an integrated manner has also greatly improved the situation. The deficiencies regarding the management of non-consumptive activities highlighted in the 2003 assessment persist.

There has been progress with regard to the formulation of MPA management plans; however in several cases, it was indicated that few aspects of the management plans were useful to managers and that the plans needed to be updated. Furthermore, the involvement of stakeholders during the management planning processes for the majority of the MPAs had not been sufficient and the information available to planners was partially adequate.

The management capacity of the MPA management teams has been improved through the allocation of dedicated funds, the improvement of the staff's understanding of MPA management and legislation, and the supply of equipment for management functions. However a lack of staff with skills and experience in the marine environment limited the enforcement and monitoring capacity of 11 of the 15 MPA management teams.

Summary of recommendations to address some of the challenges for MPA management include:

- The broadening of the objectives for the MPA network in the legislation and the listing of specific objectives for MPAs in the regulations.
- Exchange and mentorship programmes for staff to assist with skills development.
- The development of a comprehensive national monitoring programme to evaluate management effectiveness and facilitate adaptive management.
- The development of adult environmental education programmes specific to MPAs and customized for different user groups.
- The initiation of processes to increase knowledge regarding resource use amongst stakeholders, to build the capacity of communities and to engage with all local stakeholders meaningfully in matters regarding the design, planning and management of MPAs.

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List of acronyms

CBD	Convention on Biological Diversity
DEA	Department of Environmental Affairs
ECPB	Eastern Cape Parks Board
EEZ	Exclusive Economic Zone as defined by UNCLOS
EKZNW	Ezemvelo KwaZulu-Natal Wildlife
EPV	Enforcement Patrol Vessel
FAO	Food and Agriculture Organisation
FCO	Fisheries Control Officer
GN	Government Notice
IMP	Integrated Management Plan
MCM	Marine and Coastal Management branch of DEA
MLRA	Marine Living Resources Act 18 of 1998
MLRF	Marine Living Resources Fund
MPA	Marine Protected Area
NBF	National Biodiversity Framework
NBSAP	National Biodiversity Strategy and Action Plan
NEMA	National Environmental Management Act
NEM:BA	National Environmental Management: Biodiversity Act
NEM:ICMA	National Environmental Management: Integrated Coastal Management Act
NEM:PAA	National Environmental Management: Protected Areas Act
NPAES	National Protected Area Expansion Strategy
NSBA	National Spatial Biodiversity Assessment
SANParks	South African National Parks
UNCLOS	United Nations Convention on the Law of the Sea
WHCA	World Heritage Convention Act
WHS	World Heritage Site
WWF	World Wide Fund for Nature (South Africa)

Chapter 1: Background and context

CHAPTER 1. BACKGROUND AND CONTEXT

1.1 MARINE PROTECTED AREAS: A TAILOR-MADE TOOL

1.1.1 The international context

The health and integrity of much of the world's ocean and coastal environments has been degraded, and remains threatened by human activities such as, fishing, pollution, coastal development, boating, unregulated tourism and mining. Given the rapidly expanding human population and the increasing demands placed on the marine environment and its resources, mankind is now faced with a formidable challenge to restore and conserve marine ecosystems while meeting the needs of current generations.

The implementation of marine protected areas (MPAs) is a management strategy that has been employed worldwide, not only to address many of the threats to marine and coastal ecosystems, but also to meet a wide range of human needs, such as; education, fisheries management, recreation, income generation and research (Hockey & Branch 1997 and Attwood *et al*. 2000).

Fisheries managers are increasingly considering a more integrated, ecosystem-based management approach that incorporates the use of MPAs (Martin *et al* 2006). Reports have indicated that the spawning stock size, animal body size, and the reproductive output of several exploited species has been restored and enhanced in MPAs (Jameson *et al* 2002). In addition it has been suggested that MPAs potentially benefit fisheries through the spillover of fish into adjacent catch areas (Gell & Roberts 2003). The importance of MPAs as a tool to complement the existing fisheries management regimes, whilst fulfilling broader conservation goals, is thus expected to increase as a greater proportion of the world's fish stocks are exploited (Agardy 1994, Clark 1996 and Hockey and Branch 1997).

Several binding and non-binding international environmental instruments advocate the implementation of MPAs as a tool for marine conservation and fisheries management. In 1995 the Conference of the Parties to the Convention on Biodiversity (CBD) expressed a global consensus, known as the Jakarta Mandate, on the importance of marine and coastal biological diversity. The work programme on marine and coastal biodiversity, which resulted from this ministerial statement, is aimed at establishing and maintaining a global network of MPAs that are effectively managed, ecologically based, and that include a range of levels of protection.

In addition, a number of international and regional fisheries management instruments such as the United Nations Convention on the Law of the Sea (UNCLOS), and the Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations (FAO) support the use of MPAs as a key conservation and fisheries management tool (Sunde and Isaacs 2008). An ambitious target was adopted at the World Summit on Sustainable Development, hosted by South Africa in 2002, to establish a representative

network of MPAs by 2012. This target was reflected in the CBD's work programme on marine and coastal biodiversity.

1.1.2 Definition and purpose of MPAs

In order to get an accurate measure on the achievement of international obligations and programmes, it is essential to establish a common understanding for what is meant by the term MPA and what primary purpose MPAs serve.

The most widely accepted definition for MPAs, given by the IUCN, is:

'any area of inter-tidal or sub-tidal terrain, together with its overlying water and associated flora, fauna, historical, or cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment'.
(IUCN, Resolution 17.38).

There are key elements in this definition that several authors have incorporated in their own analogous definitions for MPAs. These elements are:

- MPAs are designated marine areas that can include subtidal and intertidal areas
- MPAs have some form of protection and most often this is legally established, but it can be established through customs and traditions
- MPAs are important not only for the protection of natural features but also cultural features and traditional uses or cultural practices
- The protection provided by a MPA should cover the seabed and the water column
- An MPA does not necessarily have the same level of protection throughout

The IUCN redefined the term protected area in 2007 as:

'A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values'.

This definition supersedes the 1999 definition of MPA and consequently a marine area needs to fall within the IUCN definition for the protected area to be considered as a MPA (UNEP-WCMC 2008). This new definition clearly depicts that protected areas must be conservation-focused and precludes sites with the primary purpose of resource extraction. However it does not prohibit additional purposes for protected areas such as research, education, fisheries management and the improvement of livelihoods providing that they are consistent with conservation (IUCN-WCMC 2008).

The term MPA has been applied widely to marine sites that meet the IUCN definition for protected areas regardless of differences in the additional purposes, design, management approach and the gazetted name (IUCN-WCMC 2008). Some authors have broadened the definition of MPAs so to emphasise that variation in purpose, design and management approach, is a characteristic of the term 'MPA'. Martin *et al* (2006) described the MPA as '*a*

tool which encompasses a whole range of management options' and presented a number of characteristics of MPAs based on several case studies. These included:

- The management of MPAs should be adaptive and the degree of flexibility of the MPA should be defined at the outset
- MPAs are successful at different scales (large marine ecosystem scale to very small no-take areas aimed at protecting representative areas of habitat and the associated species)

Ballantine and Langlois' (2008) described MPAs, as:

'user-orientated, knowledge-based, locality-dependent, problem-solving extensions of standard marine planning and management' that aim to ***'make human activities more efficient and more sustainable'.***

This description expands on the perception of MPAs as a *'tool with a range of management options'* as it emphasises that the design, planning and management approaches applied to a MPA should be 'tailor made' to that area based on the circumstances in the area.

The work on developing typologies for protected areas and MPAs highlights an international consensus that protected areas, with the primary objective of conservation, may use different management objectives in order to achieve this end. The IUCN described six categories for protected areas based on a range of management objectives (refer to Table 1.1). This typology was designed to promote international understanding and international standards, and to provide a tool to develop a representative network of protected areas, and a framework for data collection. The IUCN further developed this typology in their application of the seven IUCN protected area categories to MPAs (UNEP-WCMC 2008).

Table 1.1: IUCN protected area categories (IUCN, 1994)

Category I A	Protected area managed mainly for science (Strict Nature Reserve);
Category I B	Protected area managed mainly for wilderness protection (Wilderness Area);
Category II	Protected area managed mainly for ecosystem protection and recreation (National Park);
Category III	Protected area managed mainly for conservation of specific natural features (Natural Monument);
Category IV	Protected area managed mainly for conservation through management intervention (Habitat/Species Management Area);
Category V	Protected area managed mainly for landscape/seascape conservation and recreation (Protected Landscape/Seascape);
Category VI	Protected area managed mainly for the sustainable use of natural ecosystems (Managed Resource Protected Area).

Furthermore, both the IUCN and the CBD recommend that protected area systems incorporate a range of types of management areas. No-take areas, multiple-use MPAs, community managed areas, World Heritage Sites, Biosphere Reserves, Ramsar Sites, fishery management areas, seasonal and temporal management areas, whale sanctuaries and mangrove forest reserves have all been listed as management areas that are likely to be common elements in systems of MPAs (UNEP-WCMC 2008).

Given the range of objectives that MPAs can accomplish and the resultant variation in management approaches, it is essential to clearly define and customise the objectives for individual MPAs. Customising the objectives and management approach of a MPA requires the consideration of ecological, cultural and socio-economic factors in the area in which the MPA is established. These factors often have conflicting objectives and as a result their integration in MPA planning and management requires a series of trade offs. However it must be recognised from the outset that the MPA is a tool used primarily for conservation, and that this tool must be customised based on the demands and circumstances in the area.

For the purpose of this report 'MPA' refers to those declared under section 43 of the Marine Living Resources Act 18 of 1998 (MLRA). No definition has been provided in the MLRA for 'MPA' and it is assumed that the international understanding of the term applies in the South African context.

1.1.3 MPA Management

If not effectively managed, MPAs could lead to the harbouring of a false sense of security with regard to marine conservation. In recognition of this fact international instruments promote the effective management of MPAs. Several authors have described and recommended key elements that enable effective MPA management (Kelleher 1999, IUCN 1994, Young 2006, Pomeroy *et al*. 2006). These elements can be categorised as: effective legal and institutional frameworks, suitable MPA design, comprehensive management planning, and efficient and well-supported management systems. In addition several authors have recognised that the success of MPAs is predominantly dependant on social factors (Jameson *et al*. 2002, Christie *et al*. 2003, Pomeroy *et al*. 2006, Charles & Wilson 2009). It is crucial that the importance of social factors for enabling effective management and ultimately marine biodiversity conservation, is recognised in all of these categories.

i. Legal and institutional frameworks

Legislation is essentially a tool that can enable action, eliminate obstacles, or clarify rights and interests (Young 2006). The approach taken by countries in drafting legislation for MPAs will vary based on differences in culture, tradition and legal practices. Broad key principles pertaining to the content of effective MPA legislation were identified and described by Young (2006). These include provisions for the selection and authorisation of institutions; specific duties, restrictions and controls; and detailed processes for:

- identifying and declaring MPAs,
- decommissioning MPAs,
- applications for concessions and licenses, and
- ensuring appropriate public involvement in relevant decisions.

ii. Appropriate MPA Design

The effectiveness of a MPA in the achievement of conservation objectives will be limited by the design of the MPA (Kelleher 1999, Jameson *et al*. 2002 and IUCN 1994). Aspects that should be considered when allocating a site as an MPA include; size and shape, location, boundary position, zoning, ecological representation, connectivity with other MPAs, external and adjacent threats, and access (Jameson *et al*. 2002 and IUCN 1994).

iii. Comprehensive management planning

Management plans guide the development and management of a MPA and need to be customised to each MPA based on ecological processes, availability of funding, economic and social factors and international designations (Salm *et al*. 2000). All those involved in implementing the plan, as well as stakeholders, need to participate in the planning process so to ensure that the plan can be implemented (Salm *et al*. 2000 and IUCN 1994). Several guidelines for MPA management recommend the content and structure for management plans, and advise that they use an 'objective-orientated', pro-active approach so to facilitate an outcomes-based evaluation of progress and enable adaptive management (Kelleher 1999, IUCN 1994, Salm *et al*. 2000, Pomeroy *et al*. 2004).

iv. An effective and well supported management system

The successful implementation of management plans is also dependent on the capacity of the management authorities (Jameson *et al*. 2002). The key components to an effective management system include:

- *combination of professional and technical staff with skills in key programme areas;*
- *partnerships with institutions and volunteers;*
- *financial planning and management;*
- *sufficient infrastructure;*
- *equipment acquisition and maintenance;*
- *communication and information sharing within and between authorities;*
- *compliance and enforcement procedures;*
- *monitoring and evaluation systems for management effectiveness;*
- *research programmes;*
- *education and awareness programmes;*
- *processes for stakeholder engagement and participation*

1.2 CONTEXTUALISING MPAS IN SOUTH AFRICA

1.2.1 The need for MPAs

South Africa has a rich diversity of marine and coastal resources. This diversity can be attributed to contrasting oceanographic conditions along the east and west coasts. The cold Benguela current and the occurrence of large-scale upwelling influence the west coast, while the east coast is influenced by the warm Agulhas current and characterised by a virtual absence of upwelling (Lombard *et al*. 2004). These contrasting conditions have led to a gradient of productivity around South Africa which in turn has resulted in large-scale variations in community composition and biomass (Lombard *et al*. 2004).

There is a rich history of social and cultural interactions and traditions on the shoreline of South Africa. Important social and economic opportunities have been provided to the South African population through the use of the marine environment and its associated natural resources for food, commercial gain, recreation and transport (Attwood *et al*. 2000 and Atkinson & Clark 2005). The opportunities for employment, tourism and recreation, provided by the marine and coastal environment and its resources, have contributed considerably to the South African economy (DEAT 2006a). The value of the coast to South Africa was recognised in the *White Paper on Sustainable Coastal Development*. It was estimated in 2000 that the value of the direct benefits accrued from all goods and services provided by the coast was approximately R168 billion annually, which was equivalent to 35% of South Africa's Gross Domestic Product. In addition indirect benefits were estimated to contribute a further R134 billion. The South African population has thus come to rely heavily on the country's marine and coastal environment.

The pressure placed on South Africa's marine resources continues to intensify as the needs of an ever-growing human population increase and threats to the marine environment escalate. South Africa's marine environments and their associated resources have shown signs of over-exploitation and degradation (Attwood *et al*. 2000) and the expert opinion is that threats to the marine environment will continue to increase in the next ten years (Lombard *et al*. 2004).

The over-exploitation of marine living resources is considered the primary threat to South Africa's marine biodiversity (Attwood *et al*. 2000 and Lombard *et al*. 2004). It is the combination of commercial exploitation, recreational exploitation, small scale commercial and subsistence fisheries, illegal harvesting and trade in marine species for ornamental, medicinal or construction purposes, that contributes to over-exploitation on a national scale (Lombard *et al*. 2004).

There has been no comprehensive assessment of the status of marine species but evidence has shown that they have been heavily impacted by extraction (DEAT 2009). Some 22 fishery species were identified as threatened (Lombard *et al*. 2004) and in 2000, the South African linefishery was declared in a state of emergency due to the collapse of stocks of 10 line fish species (DEAT 2009). There has been no evidence to suggest that these stocks

have recovered since and, on the contrary, it is now believed that the inshore species are further threatened by increases in subsistence fishing (DEAT 2009).

Pollution has been ranked as the second largest threat to marine biodiversity (Lombard *et al*. 2004). Several sources of pollution have been identified: oil pollution, shipping, pipelines, outfalls, dredge disposal, nuclear waste disposal, plastic pollution and discarded fishing tackle (Lombard *et al*. 2004). Other threats to South Africa's marine environment and biodiversity include; mining, coastal development, climate change, poor catchment management, non-consumptive recreational uses (diving-based ecotourism, boat based ecotourism and visits to seabird colonies), alien invasive species and open-system mariculture (Lombard *et al*. 2004). A large-scale biogeographic analysis revealed that cumulatively threats were greatest closer to the shore, as it is most accessible, and that threats decreased from the west to the east, which was thought to be partly due to the higher biomass on the west coast and the presence of minerals (Lombard *et al*. 2004).

There has been no record of the extinction of any marine species in South Africa; however 302 marine taxa were listed on the IUCN Red List in 2007 and of these ten were listed as critically endangered (DEAT 2009). Given that the socio economic wellbeing of much of the population of South Africa is directly or indirectly dependant on marine biodiversity, there is a dire need for effective and sustainable management of the marine and coastal environment and its resources.

1.2.2 South Africa's MPA network

South Africa is signatory to several international conventions and protocols that advocate the implementation of MPAs as a tool for marine conservation and fisheries and promote the implementation of an ecologically representative, effectively managed network of MPAs. South Africa has committed to work towards the international target of establishing a representative and effectively managed MPA network by 2012.

The value of MPAs as a tool for marine conservation and the associated benefits for fisheries management has been recognised by the South African government through the passing of national legislation that integrates marine conservation and fisheries management. This recognition of the value of MPAs by government was further emphasised through the commitment to incorporate 20% of the coastline within MPAs by 2010 (DEAT 2006b).

MPAs are now the foundation of marine conservation in South Africa and are essential for fisheries management (Attwood *et al*. 1997). There is a network of 22 Government Gazetted MPAs in South Africa that incorporates a range of types of management areas consisting of multi-purpose MPAs, no-take zones, Ramsar Sites, a World Heritage Site (WHS) and a core area of a UNESCO Biosphere Reserve (see figure 1.1).

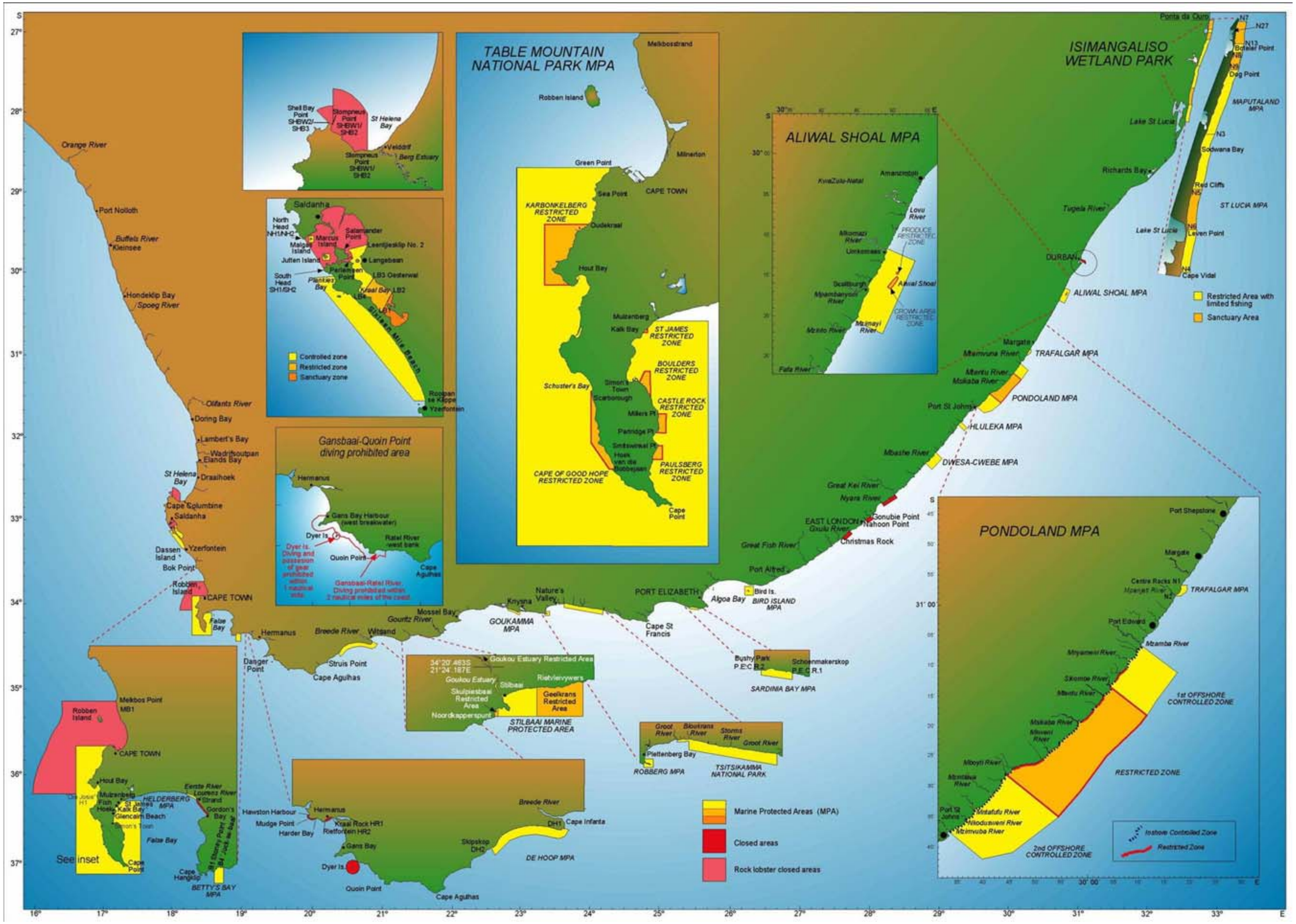


Figure 1.1: Map of South Africa's MPA Network (DEAT)

1.2.3 The evolution of MPA Management

The first MPA in South Africa was established in 1964 in Tsitsikamma. In 1977 a government-established task group developed a policy on MPAs that set out criteria for MPA management (Lemm & Attwood 2003) and declared that the management of a MPA should be assigned to one competent authority (Attwood *et al*. 2000). Hockey and Buxton completed a review on the State of MPAs 1989 and found that:

- The legislation relevant to MPAs was too diverse and in need of consolidation.
- A decentralised system whereby Provincial authorities have the ability to designate MPAs would be more effective.
- The awareness and enforcement at MPAs was not sufficient.

From 1990 onwards South Africa declared many MPAs (Bewana 2009). By 1996 there were a listed total of 112 marine and coastal protected areas, and, in response to conflict over resources, ambiguous goals and requests for additional protected areas, a Marine Reserves Task Group was established (Attwood *et al*. 1997). This task group was commissioned to review the administration, management, design and representativity of MPAs and to prepare a policy for MPAs in South Africa (Attwood *et al*. 1997). The review, which involved a questionnaire survey, identified the following weaknesses in management:

- The absence of a national MPA coordinating body.
- Inadequate legislation (Sea Fisheries Act) – which could not control non-fishing related activities in MPAs.
- MPAs mainly focused on preservation of ecosystems and enhancement of fisheries, at the expense of multiple-use of MPAs.
- Lack of management plans.
- Objectives for MPAs not documented or publicised.
- Lack of participatory process that involve consultation of users and adjacent communities.
- Insufficient numbers of dedicated enforcement staff.
- Inadequate monitoring programmes.
- The lack of public awareness.
- The shortage of funds.

The *Marine Living Resources Act No 18. of 1998* was created to replace the previous legislation pertaining to MPAs and fisheries. In 2000, 19 MPAs were declared under this Act. In 2003, an assessment of the state of management of MPAs was conducted by Lemm and Attwood. This was more exhaustive than the previous reviews as it involved site visits and interviews with those most involved in MPA management (Lemm & Attwood 2003). The assessment indicated that there had been considerable improvement, notably through new national legislation that governs both fisheries and MPAs and the assignment of a national coordinating body (Marine and Coastal Management). However it was reported that most of the weaknesses found in the previous assessment still needed substantial improvement.

The major shortcomings identified were:

- Lack of a national MPA programme
- No formalised management arrangement with provincial agencies
- Inadequate legislation in terms of implementing the user-pays principle, zoning plans, standardised management plans, community consultation and a permit system for activities other than fishing
- Lack of specific MPA management training available in South Africa
- Insufficient staff and equipment for compliance
- Inadequate MPA signage
- Poorly designed MPA monitoring

This report resulted in several positive developments. These include:

- the preparation and signing of formal management agreements with conservation authorities,
- the allocation of funds for MPA management,
- the establishment of a MPA manager's forum,
- the preparation of management plans for MPAs,
- the design and delivery of a MPA management training course

A reassessment of management was conducted by Bewana and completed in early 2009. This assessment was less exhaustive than the previous assessment and results were reported at an institutional level. The report indicated that there was much variation in the management efficiency between management agencies and it highlighted progress in the following areas:

- central coordination of MPAs
- improved structuring of conservation agencies in dealing with MPAs
- increased level of resources allocated to MPAs

The identified weaknesses included:

- lack of stakeholder participation
- insufficient staff
- outcomes of research not reported back or incorporated into management
- MPAs still have a rather narrow focus towards conservation of marine resources and biodiversity and ecotourism
- lack of multiple use MPAs
- inadequate zoning and management plans
- permit issuing procedures

This current assessment is a more exhaustive, site-level evaluation of the state of management of MPAs in South Africa and in addition to this, a scoring system approach was used. It aims to report on and acknowledge the progress made through the actions of national and provincial agencies involved in MPA management and the NGOs supporting

MPA management, and to prioritise needs and weaknesses to guide the actions of these agencies and NGOs.

1.3 OBJECTIVES

This State of MPA report has two objectives

(i) to develop a system, that can be used in future to assess the key elements that influence management effectiveness, and
(ii) to report on the current state of these elements.

The assessment comprised of four key elements, namely: legal and institutional frameworks, MPA design, comprehensive management planning and an effective and well supported management system. The system developed was based on a combination of literature; the approach used by Lemm and Attwood (2003), to ensure comparability; and several governance indicators incorporated in guidelines used to evaluate management effectiveness. It is important to note from the outset that this is not an evaluation of management effectiveness, but rather an assessment of the state of the key elements that influence management effectiveness. The evaluation was based on information sought from MPA managers and organisations involved in or supporting MPAs. This was supplemented with information from researchers involved in the various MPAs and by visits to the MPAs so to provide context and gain an understanding for site-level issues.

Chapter 2: Methods

CHAPTER 2. METHODS

2.1 DATA COLLECTION

Data were gathered for this assessment using:

- a desktop study;
- a comprehensive questionnaire directed at MPA managers;
- site visits;
- interviews with researchers;
- discussions with, and questions addressed to regional, business unit and conservation managers in each of the MPA management authorities;
- discussions with MCM, WWF-SA and those involved in designing and delivering the MPA management training course

2.1.1 Desktop Study

A review of the current legal framework relating to MPA management, the deficiencies highlighted by previous surveys, and any alterations or additions to the framework since the 2003 assessment, was conducted. Information regarding the organisational structure and mandate of the authorities responsible for MPA management was sought on their respective websites in addition to discussions held with representatives of the authorities.

2.1.2 Questionnaire

The questionnaire (Refer to Appendix A) incorporated elements of numerous MPA management effectiveness evaluations and the previous questionnaire conducted by Lemm and Attwood (2003). There were several background questions and outcomes-based questions included so to provide perspective on the issues at the MPA itself and to provide an indication of the state of knowledge and progress. During the assessment, it was noted that some of these questions could not be addressed adequately through an assessment of this sort and these have been excluded from the assessment and from the questionnaire provided. There were sections of the questionnaire dedicated to each of the four key areas of this assessment, namely: legal and institutional frameworks, MPA design, MPA Management Planning and Management Systems.

2.1.3 Site Visits

The questionnaire was mainly directed at MPA managers. It was emailed to managers prior to a site visit so to allow for preparation. Each MPA was visited during this assessment (with the exception of Helderberg MPA and Bird Island MPA, although a trip was made to Woody Cape) and each manager was interviewed. Time was spent at each MPA speaking to rangers, noting signage, general activities and the available infrastructure and equipment.

2.1.4 Other discussions and interviews

The elements of the questionnaire relating to monitoring, research, MPA design and resource conditions were directed to scientists, with experience in the respective MPAs, as well as to the MPA managers. Information regarding the organisations was sought through questions directed to regional, business unit or conservation managers within the organisations (Appendix B). Discussions were also held with social-scientists who had an understanding of the social issues within the MPAs. Interviews were also held with the course coordinators who structured and delivered the MPA management training course.

2.2 DATA ANALYSIS

A scoring system was developed (refer to Appendix C). Certain aspects of the scoring system were adapted from several indicators used in management effectiveness evaluations (see references: Guides used for scoring system). The scoring system was used to provide a relative measure on the adequacy of the following factors: institutional procedures, MPA design, MPA plans and planning process and the management system. A scoring system is advantageous as is allows for comparisons to be made between MPAs and is can be used to easily summarise a situation, however, it is recognised that the approach is too broad to adequately illustrate the situations in different MPAs. In order to try and address this, brief descriptions of the different factors were provided in addition to the scores.

A series of questions relating to each of these factors were arranged into categories. The scores assigned to each question within a category were equally weighted and an overall score for the category was provided. The questionnaire was designed so as to be adaptable to the variability between MPAs by allowing for scores to be adjusted where questions were not applicable.

2.2.1 Legal and institutional frameworks

An overview of the applicable legislation was provided and the strengths and weaknesses identified in this assessment were discussed. A description of the institutional framework and the mandates, organisational structures and permitting procedures of the different authorities involved in MPA management was provided. In addition the communication and information exchange efficiency within and between these authorities were discussed and scored based on four categories ranging from 'adequate' to 'urgent action required'. A brief summary of the support network that has developed since the last assessment is also provided.

2.2.2 MPA design

The assessment of the adequacy of MPA design requires more in depth biological and social analyses; however the opinions of managers and scientists regarding MPA design were considered scored and discussed. It is not within the scope of this report to propose changes

to the design of MPAs; however it does serve to highlight the areas in which design features should be reviewed.

2.2.3 MPA Plan and Planning processes

A scoring approach was used for the management plans and planning procedures and the state of knowledge for planning purposes. The following categories were scored and discussed:

- Existence of a MPA management plan, objectives and regulations
- The implementation and adequacy of the plan
- The consideration of socio-economic factors
- The plan context (state of information base used in planning processes)

The adequacy of the plan is dependent on the manager implementing it. The opinions of managers, regarding the implementation and adequacy of the plan, were used to assess the plans.

2.2.4 Management system

The following input factors were scored and discussed:

- ***STAFF NUMBER***

  This was based on management opinions and the extent to which posts for different functions had been fulfilled.

- ***STAFF SKILLS AND TRAINING***

  This category took into account the overall opinion of the manager, the level of continuity of staff, the staff's understanding of MPA functions, resources and legislation and the adequacy of the number of staff with the following specialised MPA skills:

  - MPA management;
  - Skippers;
  - Fishery Control Officers (designated under the MLRA);
  - Swimming;
  - Peace Officer training (court proceedings, arrests);
  - Radio communication, and
  - Administrative duties.

- ***EQUIPMENT***

  This section took into account the opinion of managers, the maintenance of equipment and the availability of equipment for:

  - communication;

- onshore compliance operations;
- offshore compliance operations;
- night compliance operations;
- vehicles;
- diving and snorkelling gear, and
- administrative functions.

- ***INFRASTRUCTURE***

  This section took into account the opinion of managers, the maintenance of infrastructure and the adequacy of the current state of visitor facilities, access points, boat launch site facilities, offices, education centres and staff accommodation.

- ***BUDGET***

  This section took into account the extent to which critical management needs were covered and the security of continued funding.

The following management processes were scored and discussed:

- ***BOUNDARY DEMARCATION***

  The boundary and zone markers and the signs indicating these are essential so to ensure that resource users are aware of what regulations apply in the different areas and are able to comply. The presence and adequacy of signs, beacons or fences was considered.

- ***PATROL AND ENFORCEMENT***

  The implementation of enforcement mechanisms and the consistency and the extent of patrols and enforcement activities was assessed.

- ***MONITORING AND ADAPTIVE MANAGEMENT***

  The extent to which monitoring and research programmes had been implemented to evaluate management effectiveness was assessed. The evaluation of management effectiveness involves the assessment of three main components; the biophysical aspects; the socio-economic factors, which involves the measuring of people's perceptions, resource use patterns, benefit distribution and welfare; and governance aspects, which looks at the appropriateness of management systems and processes (Pomeroy *et al*. 2004 and Hocking *et al*. 2000). Evaluating management effectiveness thus requires biological assessments, socio-economic studies and governance assessments aimed at assessing whether the MPA objectives are being met.

- ***PUBLIC EDUCATION AND AWARENESS***

  Education and awareness campaigns aimed at creating public support for conservation and compliance are essential for MPA management. Education programmes and the target audiences, as well as the availability of interpretative materials such as brochures and signs, were considered.

- ***INTERACTIONS WITH STAKEHOLDERS AND COMMUNITIES***

  The views and actions of the management authority in relation to developing positive relationships with local communities and the observations of the managers regarding the current state of the relationship with locals were considered in this section. Communication and information exchange strategies with stakeholders were also considered.

2.3 REPORT STRUCTURE

The first chapter of this report contextualises MPAs at international and national scales and provides background on the factors that shape effective management and the indicators of effective management. The third chapter provides a brief review of South Africa's international commitments and the national legal framework pertaining to MPAs. The fourth chapter presents a review of the institutional framework. Chapters 5 to 8 highlights the results of the MPA assessments and which incorporates the scores and discussions for MPA design, planning and management systems. These are arranged by organisations (except for KwaZulu-Natal, which is by province) and an overall summary for the progress and weaknesses of the organisations is provided. The findings of this assessment are discussed in chapter 9.

Chapter 3: Legal framework

CHAPTER 3. LEGAL FRAMEWORK

3.1 INTERNATIONAL COMMITMENTS

3.1.1 Legally binding conventions

South Africa is Party to a number of binding international and regional conventions that impact on the management of MPAs (refer to Table 2.1).

Table 2.1: International Conventions and the commitments of Relevance to MPAs

INTERNATIONAL CONVENTIONS	COMMITMENTS RELEVANT TO MPAS
Convention on Biological Diversity (CBD)	Recommends that Party states establish, by 2012, comprehensive, **effectively managed**, and ecologically representative national and regional systems of protected areas. There should be effective conservation of at least 10% of each of the world's ecological regions by 2010
United Nations Convention on the Law of the Sea (UNCLOS)	Territorial sea (up to 12 nautical miles). Each country has full sovereign rights over its territory. MPAs not required but States' have authority to create and enforce them. EEZ (up to 200 nautical miles). States are required to control the 'allowable catch of the living resources', and prevent 'over-exploitation' by imposing conservation and management measures.
Ramsar Convention on Wetlands	Wetlands (freshwater and marine to 6m depth at low tide) of 'international importance' can be designated and must be managed but may be subject to 'wise' use and do not require formal protected area legal status.
World Heritage Convention (WHC)	Marine sites that have outstanding values and that meet the specified criteria may be designated as World Heritage Sites. Creates incentives and mandates for protected areas that are or can be sites of tourism and similar uses. Specific criteria for MPAs have been drafted, although these criteria have not yet been formally adopted,
Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention)	Requires the establishment of a regional programme for the creation of a network of MPAs in the Eastern African Region.
African Convention on the Conservation of Nature and Natural Resources	Requires parties to promote the establishment of community-based protected areas.

3.1.2 Non-binding programmes and initiatives

There are several non-binding international instruments that promote the use of MPAs. These instruments have guided the development of binding conventions, national legislation and management approaches.

Table 2.2: Non-binding international programmes and initiatives

NON-BINDING INTERNATIONAL PROGRAMMES AND INITIATIVES	COMMITMENTS RELEVANT TO MPAS
Agenda 21	States committed to prevent, reduce and control degradation of the marine environment so as to maintain and improve its life-support and productive capacities. The establishment of MPAs was recognised as a necessary action to achieve this.
World Summit for Sustainable Development (WSSD)	Calls on States to develop new approaches and tools to establish marine protected areas consistent with international law and based on scientific information. The Plan of Implementation includes a commitment to establish a representative network of MPAs by 2012.
UNESCO Man and the Biosphere Programme	The programme aims to develop a global network of 'biosphere reserves' to promote sustainable use and conservation of biodiversity by improving the relationship between people and their environment.
FAO Code of Conduct for Responsible Fisheries	Focuses on the needs for conservation, restoration and sustainable use of ecosystems MPAs are thought relevant and often necessary for achievement of these objectives

3.2 NATIONAL LEGISLATION

South Africa is obligated to reflect the commitments and imperatives of the conventions that it is Party to in its national legislation. The commitments of relevance to MPAs are reflected in South Africa's legislation.

3.2.1 Constitution

The Constitution of the Republic of South Africa, No 108 of 1996, contains an environmental right in its Bill of Rights (Chapter 2, section 24). The environmental right reads:

> *"Everyone has the right -*
> *(a) to an environment that is not harmful to their health or well-being; and*

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development"

There are several other rights that are of relevance to environmental governance in South Africa. These include the right of access to information needed for the exercise or protection of any rights and the right to administrative action that is lawful, reasonable and procedurally fair (Constitution of South Africa, 1996, section 32 and 33(1)).

3.2.2 National Environmental Management Act

The National Environmental Management Act 107 of 1998 (NEMA) gives effect to the environmental right and other rights of relevance to environmental management at a framework level. Furthermore, NEMA gives effect to the principles of Co-operative Governance, which have particular significance for environmental management as both national and provincial authorities are responsible for the administration of environmental laws.

Section 2 contains guiding principles for the implementation of all environmental laws in South Africa. The following are principles that are of particular importance for MPAs: the requirement that all management must be integrated; equitable and effective public participation must be promoted; community wellbeing and empowerment must be elevated through education and raising awareness; and the use of environmental resources must serve the public interest. The use of Integrated Coastal Management (ICM), in which MPAs are a crucial element, is motivated by the principle which states:

'Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure'.

The provisions for criminal proceedings (Section 34) are also important for MPAs, as these are applicable to 'specific environmental management acts'. Many of the Acts of relevance to MPAs are listed as 'specific environmental management acts'.

In addition, the regulations for the control of vehicles in the coastal zone drawn up under NEMA prohibit the use of vehicles in the coastal zone unless it listed as a permissible use or if it has been permitted by a local, provincial or national authority. These regulations effectively ban unauthorised beach driving. In addition the regulations empower managers of coastal protected areas[1] to grant permits for the use of vehicles within the protected areas.

[1] "coastal protected area" means an area situated wholly or partially within the coastal zone that has been legally designated as a protected area for the purposes of conserving any aspect of the environment.

3.2.3 Marine Living Resources Act

The MLRA regulates access to and conservation of marine living resources. The Department of Environmental Affairs (DEA) (former Department of Environmental Affairs and Tourism – DEAT) have, up until 2009, been responsible for allocating rights and managing marine living resources. Section 43 of the MLRA stipulates that MPAs may be declared by the Minister of DEA to protect marine species and the environment on which they depend, to facilitate fisheries management, and to diminish any conflict arising from competing uses in the area.

In 2000, 19 MPAs were declared in GN 21948 and regulations for the MPAs were provided. In 2004 two of the declared MPAs were expanded and renamed in GN 26430 and 26431 and two new MPAs were declared in GN 26432 and 26433. Stilbaai MPA was declared in GN 31517 in October 2008 and regulations were provided in GN R 1108. Section 75 of the regulations (Government Notice No. 1111) drawn up under the MLRA is also of relevance to MPAs.

Activities that are prohibited without written permission are listed in section 43(2). These include fishing; taking or destroying fauna or flora; disturbing, altering or destroying the natural environment; constructing or erecting structures within a MPA; or carrying out any activity which may adversely impact the ecosystems. A contravention of this section and of international conservation and management measures in relation to the MLRA is listed on Schedule 3 of NEMA and therefore the criminal proceedings described under NEMA are applicable. The proclamation of the 19 MPAs in 2000 (GN 21948) indicated the boundaries of the MPAs, zones within the boundaries, permissible activities and prohibited activities. The regulations from 2004 onwards provide more detail concerning the objectives, the boundaries and zones within the boundaries, management plans, permissible activities, prohibited activities, research and commercial use.

The MLRA empowers the Minister to designate fishery control officers (FCOs) and honorary marine conservation officers. FCOs are provided with the powers to enforce the MLRA and are recognised as peace officers in the exercise of their functions (Criminal Procedure Act No. 51 of 1977). The powers bestowed on honorary marine conservation officers can be specified by the Minister.

The MLRA requires that the money generated through fines, penalties, fees, investments and donations is contributed to the Marine Living Resources Fund (MLRF) which in turn has to provide for the administration of the Act and the achievement of its objectives.

There are several other Acts that are applicable to the management of MPAs. The MLRA provides that when a conflict relating to marine living resources arises between the MLRA and the provisions of any other law with the exception of the Constitution, the provisions under the MLRA will prevail.

MCM is in the process of revising the MLRA and the proposed amendments relating to MPAs include defining the term 'MPA'; and introducing a new objective for MPAs to promote and regulate non-consumptive uses in MPAs (A. Boyd, Pers. comm.) The findings from this assessment regarding the MLRA and its regulations are discussed in chapter 9.

3.2.4 National Environmental Management: Protected Areas Act

The National Environmental Management: Protected Areas Act 57 of 2003 (NEM:PAA) provides for the declaration and management of protected areas in South Africa.

MPAs are recognised as protected areas by the NEM:PAA, however the provisions of the NEM:PAA, regarding the declaration and management of MPAs, do not apply except where a MPA is declared as part of a special nature reserve, national park or nature reserve in terms of this Act. If MPAs are included they must be managed according to the MLRA in conjunction with the criteria prescribed by the NEM:PAA for each category of protected area. In addition, the NEM:PAA states that where marine and terrestrial protected areas have a common boundary both must be managed as an integrated protected area by a single management authority (s38(4)).

NEM:PAA provides that where conflict arises between legislation specifically concerning the management or declaration of protected areas NEM:PAA will prevail. Therefore if conflicts arise between legislation, where a MPA has a dual designation, the NEM:PAA provisions will prevail if the conflict is related to the management and declaration of protected areas. However, the MLRA provides that the MLRA provisions prevail if the conflict is related to marine living resources.

3.2.5 World Heritage Convention Act

The World Heritage Convention Act 49 of 1999 (WHCA) provides for the implementation of the World Heritage Convention in South Africa. The objectives of the WHCA are to identify and protect the cultural and natural heritage of South Africa for the benefit of current and future generations; to promote tourism and development at sites without compromising the cultural or ecological integrity; and to encourage investment, job creation and the development of sustainable projects. The WHCA provides a list of fundamental principles, which are applicable to the development and management of WHSs. Most of these principles are contained within NEMA section 2 principles discussed above.

The WHCA empowers the Minister to establish authorities and to assign powers and duties to the authorities to manage World Heritage Sites (WHS). The Act also allows for the establishment of a broadly representative and multidisciplinary board to be responsible for the policy and the general oversight of the authorities, and to monitor and provide advice to the authorities. Furthermore, the WHCA obligates authorities to prepare and implement an Integrated Management Plan (IMP) and prescribes requirements, objectives and contents for the IMP.

The sections of NEM:PAA regulating access to the site and commercial and community activities in the site are also applicable to WHSs. Therefore where a MPA has been designated as a WHS it will be governed by a combination of the MLRA, WHCA and the applicable sections of the NEM:PAA. The WHCA is applicable to iSimangaliso Wetland Park of which approximately three quarters of the coastline is also designated as two MPAs under the MLRA.

3.2.6 National Environmental Management: Biodiversity Act

The National Environmental Management: Biodiversity Act 10 of 2004 (NEM:BA) provides for the management and conservation of biological diversity. This Act is applicable to South Africa's territorial waters, exclusive economic zone and continental shelf. The Act obligates the Minister to develop a National Biodiversity Framework (NBF) to provide for an integrated, co-ordinated and uniform approach to biodiversity management in South Africa. Furthermore the NBF must identify priority areas for conservation action and the establishment of PAs and must reflect regional co-operation on issues concerning biodiversity management. MPAs, as tools for biodiversity conservation, must be managed in accordance with the NBF. A NBF was drawn up in 2007 and was recently approved.

3.2.7 Action plans and programmes

The NBF builds on the ***National Spatial Biodiversity Assessment***, which was conducted in 2004 to identify priority areas for conservation, and the ***National Biodiversity Strategy and Action Plan*** (NBSAP) which sets out a strategy for the conservation and sustainable use of South Africa's biodiversity and further provides five strategic objectives (DEAT 4th report CBD). The NBF identified 33 Priority Actions to guide work up until 2013, and aligned these to the five strategic objectives of the NBSAP.

The first strategic objective of the NBSAP is to establish an enabling policy and legislative framework that integrates biodiversity management objectives into the economy. The fourth report to the CBD indicated that progress had been made in this regard by incorporating biodiversity considerations into legislation such as the MLRA; however the implementation of this legislation had been constrained by resources and human capacity.

The enhancement of the institutional effectiveness and efficiency so to ensure good governance in the biodiversity sector was listed as strategic objective two. It was reported that several government departments and agencies have significant resources and are well supported by NGOs and programmes; however their efficiency had been hindered by a lack of suitable candidates to fill vacant posts and high staff turnover. The establishment of South African Environmental Observation Network (SAEON) and the implementation of the Management Effectiveness Monitoring Tool (METT) have aided in monitoring; however data gaps and limited funding and capacity for research were reported as remaining challenges for institutions.

The ***People & Parks Programme*** was established in response to an objective to enhance human development and well-being through the sustainable use of biological resources and equitable sharing of benefits. There have been several important achievements linked to the programme, most notably the completion of a National Co-management Framework and the adoption and implementation of a national action plan.

The finalisation and implementation of a ***National Protected Area Expansion Strategy*** (NPAES), underpinned by national biodiversity targets were identified as priority actions and fell within strategic objective 5 under NBSAP. A NPAES has been developed and recently approved. It sets five and 20 year targets for protected area expansion, maps the most

important areas for conservation using biodiversity planning techniques and recommends mechanisms to achieve the targets. DEA's intention to develop a more consolidated MPA network is reflected by the targets set for inshore and offshore MPAs in the NPAES.

3.2.8 Conclusion

South Africa's legislative framework and policies clearly support the international impetus to establish MPAs and enable effective management. There are remaining deficiencies, identified through previous assessments which impact on the implementation of the legislation and policies and ultimately the achievement of effective management. Other Acts of relevance to MPA management include:

- National Environmental Management: Integrated Coastal Zone Management Act
- Sea Birds and Seals Protection Act 1973
- National Heritage Resources Act 1999

Chapter 4: Institutional framework

CHAPTER 4.INSTITUTIONAL FRAMEWORK

4.1 NATIONAL

4.1.1 Department of Environmental Affairs : Marine and Coastal Management

Mandate

The responsibility for monitoring and managing the sustainable development of the country's resources lies at the national level with the Department of Environmental Affairs. Marine and Coastal Management (MCM) is the branch within the department that has been entrusted to advise the Minister and the department on the sustainable development and conservation of the marine and coastal environment and its resources.

MCM, as the regulatory authority for marine and coastal activities, is responsible for the allocation and management of fishing rights, the regulation of recreational fishing, the management of MPAs, the protection and monitoring of coastal and estuarine resources, the monitoring and research of fish stock status, the control of the use of vehicles on the beach and the promotion of mariculture.

Organisational structure

There are five chief directorates at MCM, these are: Integrated Coastal Management (ICM) Research, Antarctica and Islands; Monitoring, Control and Surveillance; Resource Management; and that of the Chief Financial Officer. The ICM chief directorate is responsible for resource integrated coastal management and development (under the MLRA, NEM:PAA, NEM:BA and NEM:ICMA) and socio-economic development. MPA management and decision making falls under the competence of ICM who oversees the administration of all the MPAs in South Africa. MPAs also fall within the functions of the research, resource management and compliance directorates in MCM.

MPA management actions

Contractual Agreements

Funding and contractual agreements with conservation agencies for the day-to-day management of MPAs have been agreed for 21 of the 22 Government Gazetted MPAs. The majority of the MPAs share a common boundary with a terrestrial PA and, in keeping with the requirement under NEM:PAA, MCM have drawn up agreements for the management of these MPAs with the authority responsible for managing the adjacent terrestrial PA. The conservation authorities that share in MCM's responsibility to manage MPAs are the South African National Parks (SANParks) which is a national statutory body, Ezemvelo KwaZulu-Natal Wildlife (EKZNW) in Kwa Zulu-Natal, CapeNature in the Western Cape, Eastern Cape Parks Board in the Eastern Cape, iSimangaliso Wetland Park Authority and most recently the City of Cape Town Metropolitan Municipality.

There are currently no contracts with agencies to actively manage the Sardinia Bay MPA and sections of the Pondoland MPA in the Eastern Cape. Management activities by MCM are restricted to compliance and enforcement and for this reason a full assessment for these areas was not provided in this report. However a visit was made to Sardinia Bay during which the MCM compliance station manager in PE and a researcher were interviewed. A brief summary and recommendations are made below.

Sardinia Bay MPA

Figure 3.1 (a) Beacon near Schoenmakerskop, (b) ski-boat club in Sardinia Bay

Sardinia Bay MPA is located west of Port Elizabeth in the Eastern Cape Province. The shoreline of the MPA is 7km long and is marked by beacons located near to Schoenmakerskop (eastern boundary) and Bushy Park (western boundary). The MPA incorporates the area from the high-water mark to a line one nautical mile seaward of the high-water mark between the beacons. There is privately owned land, the Sardinia Bay Reserve and the Sylvic Nature Reserve (declared under Ordinance 19 of 1974 Nature and Environmental Conservation Ordinance) located adjacent to the MPA. The nature reserve is managed by the Nelson Mandela Metropolitan Municipality (NMMM). MCM have indicated that they plan to establish an agreement with NMMM to manage the MPA and the Swartkops estuary, and that there are funds available to support management.

The MPA contains rocky shores, sandy beaches, subtidal rocky reefs and subtidal sandy benthos. It is a popular recreational area for bathing, hiking, bird watching, surfing, horse riding, dog walking, sand boarding and boating. There is a substantial amount of abalone poaching in the area and it this considered a major threat to the MPA. In addition, there have been incidents of illegal commercial and recreational fishing in the MPA. The Sardinia Bay ski-boat club house is located on the beach and operates a launch site within the MPA. It was suggested that the beach dynamics and dune movements have been impacted by the club house and by the establishment of a beach wall. Furthermore the access road is poorly placed and, as a result of dune movements, it is frequently blocked.

There is no budget allocated or staff dedicated to the management of the MPA and there is no management plan. Compliance and enforcement is conducted by a team of 13 Fishery Control Officers (FCO) based at the Port Elizabeth compliance station. The FCOs are mandated to ensure compliance with the MLRA in a greater area than the MPA and have no

specific mandate to manage the MPA. Daily foot and vehicle patrols are being carried out and offshore compliance is conducted by the Enforcement Patrol Vessels (EPV) when tip-offs or complaints are made. Relationships regarding access through privately owned land have been established with the adjacent landowners to aid with compliance. There are Honorary Marine Conservation Officers and observers in the area that assist with surveillance, compliance and recovery. Enforcement activities have been hampered by the inability to monitor and control diving activities and the lack of night surveillance resulting from the working hours of the FCOs. Furthermore it was indicated that abalone poaching was intensifying, despite the increase in enforcement patrols since 2008, and problems such as overnighting and driving on the beach have been associated with this.

Ongoing monitoring is being conducted in the MPA and in areas adjacent to the MPA so to evaluate conservation progress. This monitoring is funded and supported by MCM. Fish surveys (line transects and catch and release), rocky shore surveys (line transects and quadrats) and beach surveys (transects) have been conducted. Results have indicated that abalone stocks in the MPA have been severely impacted by poaching, while fish stocks are expected to be healthier in the MPA than outside, however the assessment is still underway.

Recommendations:

- *Develop a firm management structure that will be responsible for the management of the MPA.*
- *Ensure that the current enforcement by FCOs and monitoring is continued and coordinated with that of the NMMM once an agreement has been formalized.*
- *Source and provide 'start up' funds to purchase equipment (quad bikes and diving gear were emphasised as essentials), to train staff and to draft comprehensive management plans.*
- *Ban diving in the MPA – there is no recreational diving in the MPA and only a limited amount of snorkeling.*
- *Provide GPS co-ordinates for the MPA in the legislation so to facilitate offshore compliance.*

MCM managed section of Pondoland MPA

The areas of Pondoland that are managed only by MCM are located between the Mzamba and Mtentu rivers in the North and the Lupatana and Mzimvuba rivers in the South. Both of these areas consist of controlled and restricted offshore and inshore zones (refer to figure 3.2). Problems reported in the areas included boat based poaching and the illegal removal of rocky shore invertebrates.

As with Sardinia Bay there is no dedicated budget allocated and no staff dedicated to the management of these sections of the MPA. Management activities in these areas are restricted to compliance and monitoring. Compliance is conducted by MCM FCOs stationed at Mzamba, Port St Johns and Mbotyi. Monitoring of linefish and boat launch registers is conducted by the Oceanographic Research Institute (ORI) and has been funded by MCM.

No visits were made to these sections; however a visit was made to Mkambati, an adjacent coastal PA managed by ECPB who have been contracted to manage the section of the MPA

extending between the Mtentu and Lupatana Rivers. A full assessment of this section and aspects relating to MPA design and planning for the whole MPA is provided in chapter 7.

Recommendations:

- Develop a firm management structure that will be responsible for the management of the MPA, or
- Employ a MCM team for these areas to conduct management activities beyond enforcement alone
- Continue supporting monitoring initiatives

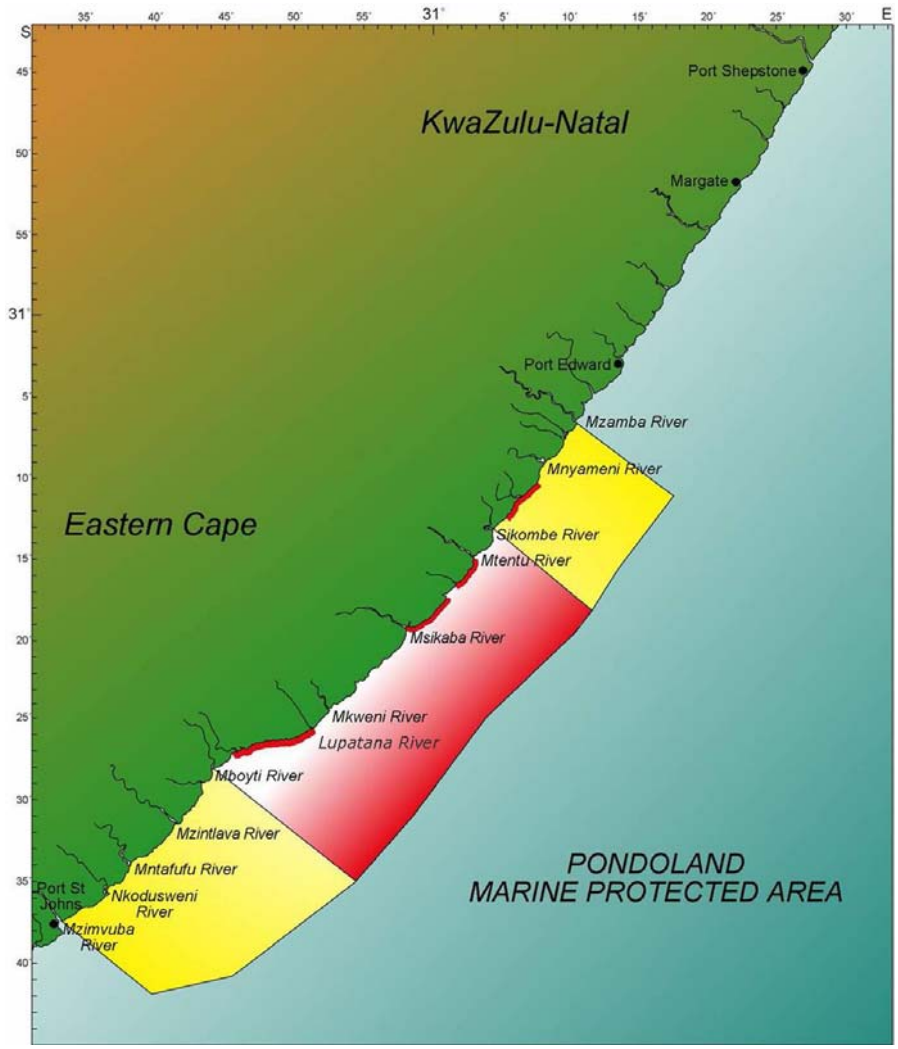


Figure 3.2: Pondoland MPA offshore restricted zone and inshore restricted zones shown in red. (Taken and adapted from Pondoland Management Plan 2006)

Enforcement

FCOs are designated by the Minister of DEA to conduct law enforcement in terms of the MLRA. MCM FCOs are based at 23 compliance stations extending between Port Nolloth and Mzamba. There are no MCM FCOs in KwaZulu-Natal as this responsibility has been designated to EKZNW. FCOs are focussed at slipways and harbours and their distribution follows that of commercial fisheries. The working relationships between the conservation agencies and FCOs are examined in this report.

Enforcement Patrol Vessels (EPV) conduct offshore enforcement activities from Tanzania to the Prince Edward Islands. They do monitor inshore activities, however they do not communicate their movement plans to MPA managers.

Research and Monitoring

Research in MPAs is conducted by the directorates for Resource Research and for Biodiversity and Ecosystems Research which both fall within the chief directorate of Research Antarctica and Islands. Scientists within the Resource Research directorate assess the effect that MPAs have on the stocks of exploited species. Two scientists from the Biodiversity and Ecosystems Research Directorate are part of a Marine Biodiversity Working Group. Representatives from ICM sit on this working group along with marine scientists from SANBI, SANCOR and various stakeholders. The working group is essentially a platform to discuss research needs. The monitoring and research needs in and for MPAs are brought to attention through this group.

Permitting procedures

Annual and monthly recreational fishing and SCUBA diving in MPA permits can be purchased from post offices and several permit offices located in KwaZulu-Natal. Permit conditions are printed on the permit. The MLRA regulations, a map and a description of the MPAs are provided in Marine Recreational Activity Information brochures. These brochures are intended to be disseminated at the point of purchase of the permits, however they are not always offered and when requested are sometimes not available.

Permits to conduct research in MPAs must be sought from MCM. Applications are made to the Research directorate who then consult with ICM. ICM confer with the managing agency and, if the permit is granted, will register the research with the relevant agency and send a scanned copy of the permit to the managing agency. A condition of the permit is that researchers inform MPA managers before commencing research in the MPA. There is no database listing the past and current permits or applications for permits, however when renewing an annual permit, the researcher has to provide feedback to MCM on the research already conducted.

Communication and Information Exchange

All the agreements signed to date require that the agencies compile quarterly reports and submit them to MCM. This serves as a means of communication, information exchange and monitoring of the management goals.

In addition to the quarterly reports, communication and information exchange takes place via on-site meetings, the annual MPA managers' forum and through emails and telephone calls. Personnel from ICM have visited several MPAs to facilitate interactive meetings with stakeholders or to gain a site-level perspective of management and management issues.

Joint Initiatives

MCM and WWF-SA have jointly funded the preparation and revision of management plans for MPAs, as well as the attendance of MPA managers and personnel at the South African MPA Management Training Course. MCM and WWF-SA also host the annual meeting of the MPA mangers forum.

4.1.2 South African National Parks

South African National Parks (SANParks) is a national body established under the National Parks Act 57 of 1976. The NEM:PAA repealed this Act in 2003 and provided for the continued existence and functions of SANParks.

Mandate

The mandate of SANParks is to conserve South Africa's biodiversity, landscapes and associated heritage assets through the acquisition and management of a representative system of national parks. SANParks also promotes and manages nature-based tourism, from which it generates part of its budget, and supports a people-centred approach to conservation.

There are sections of national parks that have been declared as MPAs and there are also MPAs adjacent to national parks (Refer to table 3.1). Section 14 and section 38(4) of NEM:PAA require that SANParks act as the management authority for these MPAs.

Table 3.1: MPAs part of or adjacent to national parks

MPA	DUAL DESIGNATION (NEM:PAA and MLRA)	MLRA ONLY (adjacent to national park)
Langebaan Lagoon MPA	X	
Sixteen mile beach MPA		X
Malgas Island MPA		X
Marcus Island MPA		X
Jutten Island MPA		X
Table Mountain National Park MPA		X
Tsitsikamma National Park MPA	X	
Bird Island MPA		X

Organisational Structure

SANParks has divisions for Parks, Conservation Services, Tourism and Marketing, and People and Conservation. Parks and Conservation Services are directly involved in the management of MPAs. The Parks division is responsible for the operational management of National Parks. The management structure within each national park comprises of a park manager, senior section rangers, section rangers and field rangers. The Conservation Services division provides the services needed to manage the national parks, and is concerned with the sustainable use and conservation of biodiversity.

Park Planning and Development, a unit within Conservation Services, is responsible for management plans and park system design. One of the purposes of this unit is to facilitate the establishment of MPAs adjacent to national parks and to consolidate those into SANParks, ensuring that priorities are set, all available staff are used to best effect, budgets are set and managed, and funds required are sourced.

Scientific Services, another unit within Conservation Services, consists of research teams that co-ordinate environmental monitoring programs. The team located in Rondevlei includes one marine biologist and one marine ecologist and is involved in monitoring and research in Tsitsikamma National Park MPA. The Cape Research Centre, situated in Table Mountain National Park, was established in 2008. MPAs are one of the focus areas in which the Cape node aims to advance knowledge, influence research, and evaluate and monitor conservation performance. SANParks also conducts social science research from its two centres in Kimberley and the Kruger National Park. This research and monitoring focuses on the interface between people, parks and conservation and is made available to managers to inform decisions.

The People and Parks division have three key functions that are important for MPA management. These are:

- to build understanding and support for biodiversity conservation within communities living in and around national parks, and to improve community access to national parks for cultural, spiritual and recreational purposes (Park Forums have been established);
- to conceptualise, plan, strengthen and oversee implementation of cultural resource management and indigenous knowledge in all national parks;
- to organise environmental education programs, with extra attention going to rural and poor communities (day programs for schools, the Kids in Parks programme, Imbewu wilderness camping program for South African youth leaders, and programs on calendar days like marine week are organised).

A Marine Working Group has also been established within SANParks. The Marine Working Group is attended biannually by park managers and conservation managers (Parks division) and is chaired by the Marine co-ordinator (Conservation services).

SANParks receives additional support through a World Bank funded program focussed on the expansion and the consolidation of Addo Elephant National Park and the Garden Route National Park.

SANParks Relations with MCM (Refer to Figure 3.3)

At the time of the site visits and interviews, there was much confusion over the responsibilities of, and relationship between MCM and SANParks. MCM and SANParks have since (August 2009) signed a memorandum of understanding to clarify their operational, management and reporting relationship with regard to MPAs and/or marine areas. The agreement includes Langebaan Lagoon MPA, Sixteen mile beach MPA, Malgas Island MPA, Marcus Island MPA and Jutten Island MPA (all managed as part of West Coast National Park, and referred to from here on as such); Table Mountain National Park MPA; Tsitsikamma National Park MPA and Bird Island MPA. This assessment is based on the management activities and relations prior to the signing of this agreement but the implications of the agreement for management and the improvement thereof will be discussed.

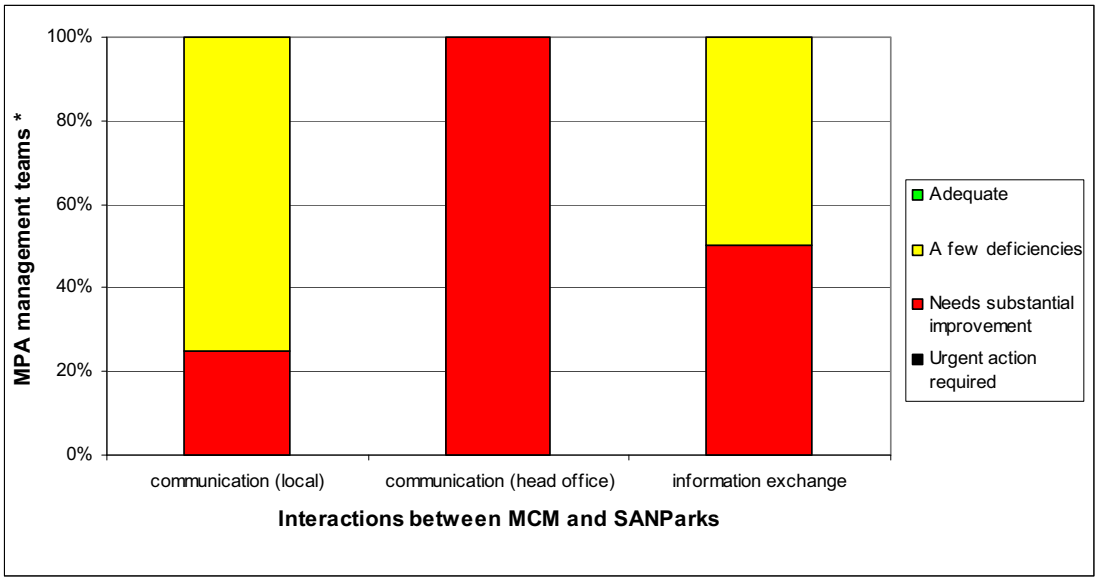


Figure 3.3: Indicators of the adequacy of relations between MCM and SANParks

MCM has provided assistance to SANParks in the management of the MPAs through limited enforcement support from FCOs and through the involvement of large patrol vessels in some of the abalone poaching operations. It was reported that information exchange and communication was not adequate between the agencies and that problems arose with regards to research permits and access to national parks by MCM officials, however this is expected to improve with the implementation of the agreement. Managers indicated that there was regular communication between themselves and MCM but there was room for improvement in this regard, with the exception of Bird Island MPA which reported that communication was limited, ad hoc and in need of substantial improvement.

Organisational Support (Refer to Figure 3.4)

All managers indicated that SANParks considered the management of MPAs a priority as funds and staff had been allocated and a Marine Working Group had been established, however it was implied that the status of marine issues was sometimes second to those of

terrestrial. Communication was indicated as limited and ad hoc and in need of improvement by all of the mangers with the exception of Bird Island MPA. There is information exchange regarding MPA issues within the agency, but this is in need of improvement and possibly the development of a more effective information sharing strategy. There were procedures available for dealing with MPA management issues, and most managers felt these could be improved.

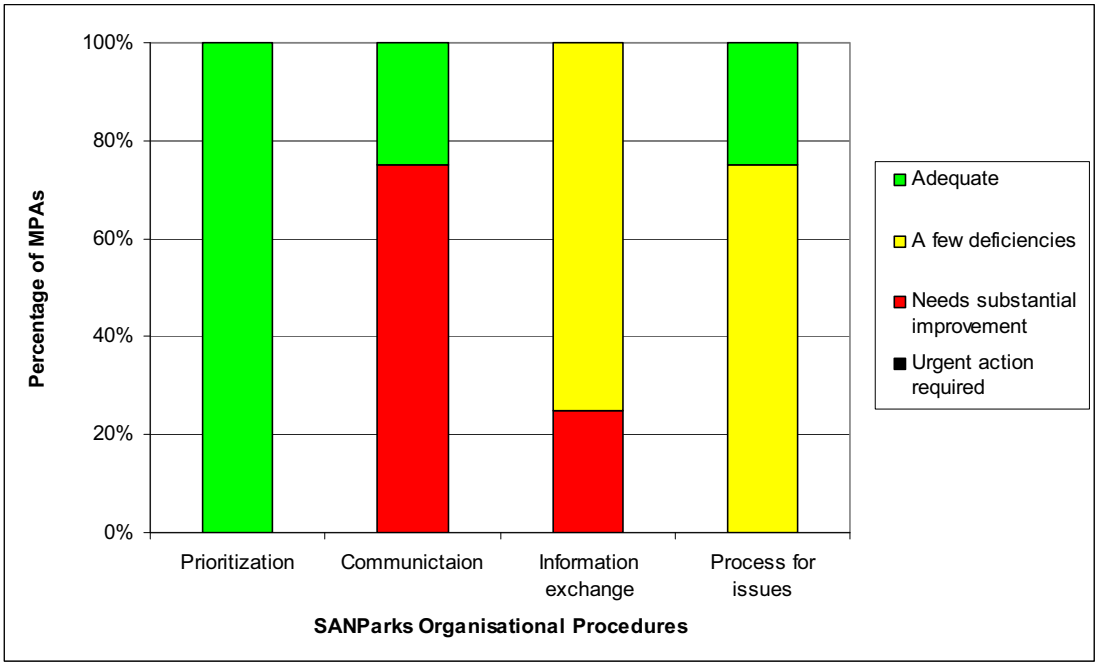


Figure 3.4: Indicators of the adequacy of relations within SANParks

Permit Procedures

In addition to a permit from MCM, researchers are required to apply for a permit from SANParks when conducting research in a National Park. The SANParks process differs to that of MCM in that managers are directly consulted and can comment on the permit. In addition, there is a database of SANParks issued permits available for managers.

4.2 PROVINCIAL

4.2.1 CapeNature

The Western Cape Nature Conservation Board (CapeNature) was established in 2000 under the Western Cape Nature Board Conservation Act 15 of 1998 under the auspices of Western Cape Department of Environmental Affairs and Development Planning. CapeNature is a public entity with a statutory responsibility to conserve biodiversity in the Western Cape.

Mandate

CapeNature is mandated to promote and ensure nature conservation; to generate an income; to render services and to provide facilities for research and training. CapeNature is also mandated through a contractual agreement with MCM to manage five MPAs.

Organisational structure

CapeNature has five components: Biodiversity, Operations, Business Development, Human Resources and Finance. The Operations component comprises of eight business units. The Boland Mountain, Overberg-Hessekwa, and the Garden Route business units oversee the management of MPAs located within their management area. Each protected area has a reserve manager and field rangers. There are no dedicated marine staff, with the exception of the Betty's Bay MPA manager and the De Hoop MPA Nature Conservator, however the staff in the protected areas do accept responsibilities and duties in both the marine and terrestrial environments.

There is currently no dedicated marine/MPA section or coordinator within CapeNature. The role of MPA coordinator has been taken on by a staff member with extensive MPA experience, however this is over and above his normal duties and there is no remuneration. An informal Coastal and Marine Forum has been established within CapeNature and comprises of conservation staff that work on estuaries, islands and MPAs. This forum meets quarterly to discuss issues and hold workshops.

Scientific Services, based within the Biodiversity directorate, research and monitor aquatic systems, plants, invertebrates, freshwater fishes, amphibians, reptiles, birds and mammals. There is no section or personnel specifically focused on marine research and monitoring within scientific services. The biodiversity directorate also comprises of a section for Youth Development and Community Based Natural Resource Management.

CapeNature's relations with MCM (Refer to Figure 3.5)

There are five MPAs that share partial or common boundaries with coastal protected areas managed by CapeNature. These are Betty's Bay MPA, De Hoop MPA, Stilbaai MPA, Goukamma MPA and Robberg MPA. In keeping with section 38(4) of the NEM:PAA, CapeNature signed an agreement with MCM in 2007 to manage these five MPAs. CapeNature agreed to conduct the management, monitoring, compliance and awareness in the MPAs and to submit quarterly and biannual progress reports to MCM. MCM consented to contribute funds to CapeNature for the management of MPAs on approval of the quarterly progress reports.

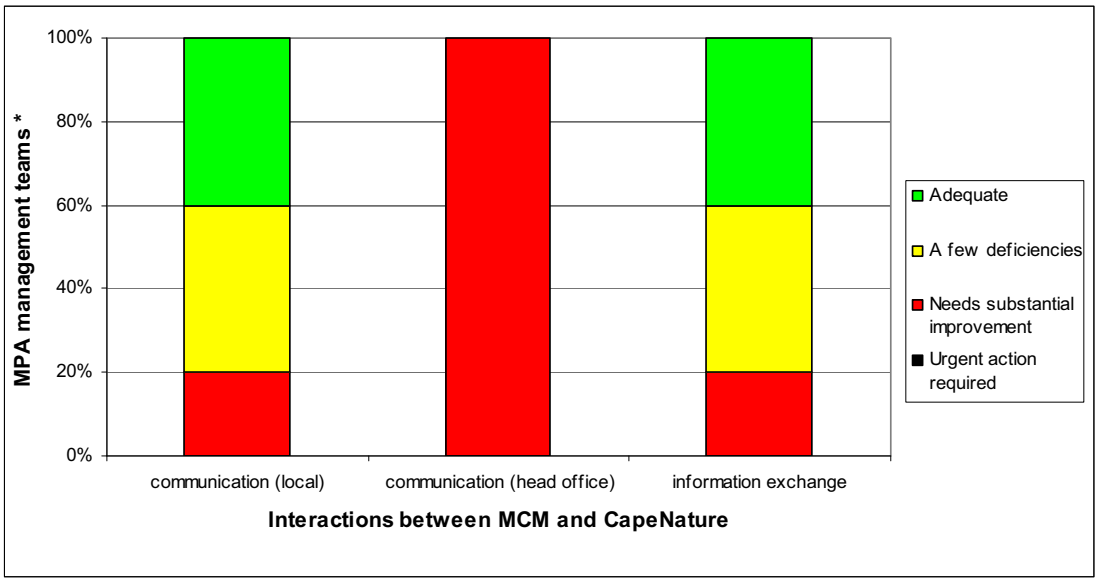


Figure 3.5: Indicators of the adequacy of relations between MCM and CapeNature

Communication and information exchange between MCM and CapeNature is conducted through the quarterly reports, ad-hoc meetings between the organisations and at the annual MPA managers' forum. It was reported that there was insufficient communication and information exchange between the agencies and it was suggested that this could be improved with the attendance of a MCM representative at the CapeNature Coastal and Marine Forum meetings and the appointment of a CapeNature MPA/coastal coordinator.

Good relationships have been established with some of the scientists from MCM and it was reported that they had been very helpful and had given their time and information freely. Managers at the Betty's Bay and Robberg MPAs indicated that there were adequate levels of communication between themselves and MCM.

***Organisational Support* (Refer to Figure 3.6)**

It was indicated by managers that CapeNature does recognise their mandate to manage MPAs but the prioritization of MPA management by the organisation was low. This was due to the lack of dedicated field staff, and a formalised support structure consisting of a MPA co-ordinator and marine researchers. Furthermore, it was implied that the status of marine issues was second to those of terrestrial. There were mixed opinions on the adequacy of communication regarding MPA issues within CapeNature. Two managers reported that communication was adequate; one reported that communication could be improved; and two indicated that communication was limited, ad-hoc and in need of improvement. MPA information exchange had been facilitated through the Forum and emails but a more efficient strategy was required.

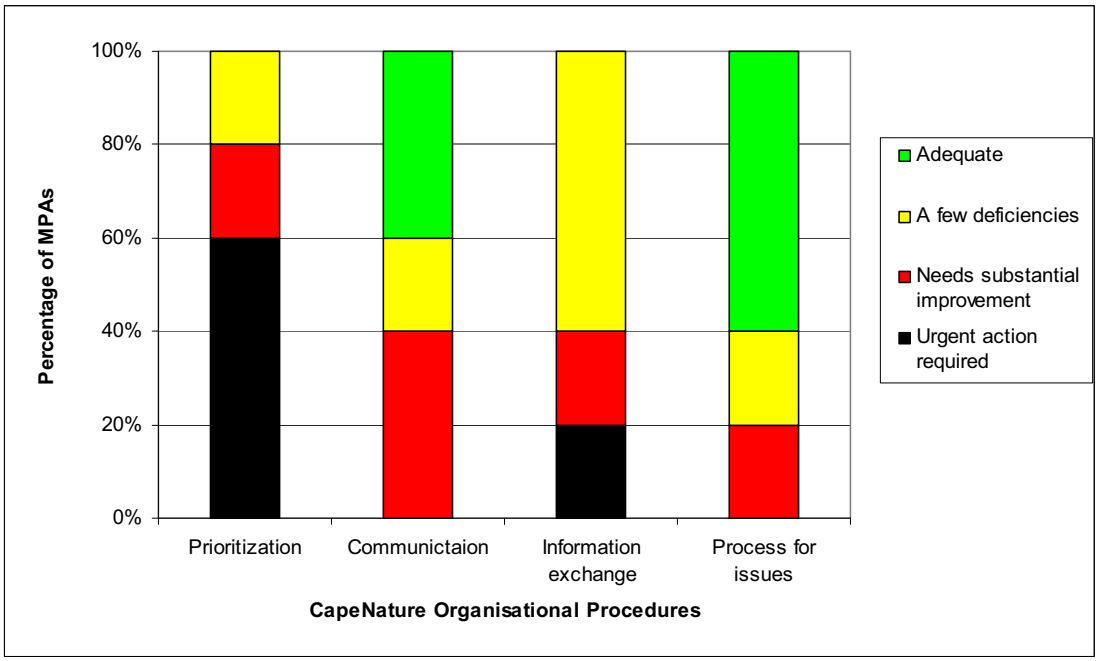


Figure 3.6: Indicators of the adequacy of relations within CapeNature

4.2.2 Eastern Cape Parks Board

Eastern Cape Parks Board (ECPB) is a public entity established in term of the Provincial Parks Board Act 12 of 2003 and governed by a board of directors which report to the provincial Department of Economic Development and Environment Affairs (DEDEA).

Mandate

The core mandate of ECPB is to manage the provincial parks delegated to it by the DEDEA so to conserve biodiversity as well as to promote tourism and community upliftment. ECPB are also mandated to manage three MPAs within the Eastern Cape through an agreement with MCM. ECPB is relatively new to marine conservation, having only commenced with MPA management at the end of 2007.

Organisational Structure

ECPB has four departments: Conservation, Human Resources, Finance and Commercialisation. The province has been divided into three sections; Eastern, Central and Western, each of which is managed by a Regional Manager who reports to the Executive Director of Conservation. All three of the MPAs which are managed by the ECPB fall under one Regional Manager. There are reserve managers and field staff who perform both marine and terrestrial duties in the three parks adjacent to MPAs in the Eastern section. The Conservation department also has a Scientific Services section, which has initiated marine biodiversity monitoring in the MPAs, and a People and Parks section, which liaises with communities and aim to strengthen co-management relationships.

During the assessment, the managers of the MPAs were undergoing a reallocation process and one manager resigned. Only one of the managers was able to provide information on the relations with MCM and processes within the agency.

ECPB relations with MCM

There are three MPAs that share partial or common boundaries with coastal protected areas managed by ECPB. These are the Dwesa-Cwebe MPA, Hluleka MPA and a central portion of the Pondoland MPA. In keeping with section 38(4) of the NEM:PAA ECPB signed an agreement with MCM in December 2007 to manage the Dwesa-Cwebe MPA, Hluleka MPA and a central section of the Pondoland MPA (the coastline of which extends 8km south beyond the coastline of the nature reserve). ECPB agreed to conduct the management, monitoring, compliance and awareness in the MPAs and to submit quarterly and biannual progress reports to MCM. MCM consented to contribute funds to ECPB for the management of MPAs on approval of the quarterly progress reports.

Communication and information exchange between MCM and ECPB is conducted through the quarterly reports, ad-hoc meetings between the organisations and at the annual MPA managers' forum. It was reported that there was limited ad-hoc communication and that there were often problems with information exchange at a management level. It was suggested that strategies for information exchange and clear lines of communication with MCM be established and the feedback from MCM on quarterly reports be improved.

Organisational Support

It was indicated that ECPB did recognise their mandate to manage MPAs and that the prioritization of MPA management by the organisation was improving. However there were no sections or personnel within the agency dedicated to MPAs or marine issues. The regional manager indicated that communication was adequate, despite there being no communication strategy, and that information exchange was effective for the most part but there were sometimes frustrations.

4.2.3 Ezemvelo Kwazulu-Natal Wildlife

EKZNW is the conservation management agency and biodiversity authority for the province of KwaZulu-Natal. This provincial agency has a long history of marine management and prior to 1994 was fully responsible for managing the marine environment adjacent to the province.

Mandate

EKZNW's mandate is to manage and conserve biodiversity within the province and in doing so has a statutory responsibility to apply national and provincial legislation. In addition EKZNW is mandated to conduct compliance and awareness in the marine environment for the entire province and to manage the four MPAs. The promotion of ecotourism is also a responsibility of the agency.

Organisational structure

EKZNW is divided into three clusters: Biodiversity Conservation, Commercial Operations and Corporate Support Services. The Biodiversity Conservation cluster is comprised of sections for Scientific Services and Conservation Partnerships and Projects. This cluster is responsible for fulfilling the agency's conservation duties and operations in the marine and coastal environment and, in recognition of this responsibility, a marine and coastal conservation branch and a marine eco-advice team have been created. Furthermore the biodiversity research division of scientific services plan and implement monitoring programmes in the marine environment and overlook research.

The coast of KwaZulu Natal has been divided into clusters (overseen by a cluster manager) which have been further subdivided into districts (overseen by a district conservation officer). The district conservation officer and field rangers are responsible for conducting compliance, monitoring and awareness activities along the entire coast of the district.

EKZNW relations with MCM

EKZNW has two agreements with MCM. The agency undertook the responsibility to conduct functions to ensure compliance with the MLRA, awareness of marine resources and regulations, liaison with various stakeholders so to facilitate co-management, and monitoring of the management goals and resource use, in the province of KwaZulu-Natal.

The other agreement is for the management of the Aliwal Shoal MPA and the Trafalgar MPA. The duties bestowed on EKZNW are to follow work plans that set goals for compliance, monitoring and awareness activities. In addition to fulfilling these duties, EKZNW has to submit annual and quarterly reports to MCM. MCM consented to contribute funds to EKZNW for the management of MPAs on approval of the quarterly progress reports.

Both the managers of the two MPAs indicated that there was sufficient communication between MCM and the agency, which had been facilitated by quarterly meetings between an EKZNW staff member and MCM, in which MCM were informed of progress and issues at the MPAs. The manager at Trafalgar indicated that there were sometimes frustrations with information sharing, while the manager at Aliwal Shoal indicated that information exchange was adequate. Communication between both managers and MCM was reported as limited, ad-hoc and in need of improvement.

EKZNW relationship with iSimangaliso Wetland Park Authority

The iSimangaliso Wetland Park Authority is mandated through an agreement with MCM to manage the St Lucia and Maputaland MPAs within iSimangaliso Wetland Park. EKZNW have been delegated the responsibility to manage conservation operations in the MPAs through a service agreement with the iSimangaliso Authority. EKZNW are required to perform law enforcement, assist the iSimagaliso Authority with monitoring and the implementation of the Conservation Operation Plan. The iSimangaliso Authority liaise with MCM directly regarding MPA issues.

Organisational Support

All the MPA managers indicated that there was adequate information exchange and communication with the agency, and that the agency considered the management of MPAs a high priority and that procedures implemented for dealing with MPA issues were adequate. A monthly reporting system in EKZNW has facilitated good communication and information exchange.

4.3 MUNICIPAL

4.3.1 City of Cape Town

An agreement on the management of the Helderberg MPA was entered into by the City of Cape Town Municipality ('City') and MCM during the course of this assessment. The City agreed to conduct the management, monitoring, compliance and awareness in the MPAs in accordance with MLRA and applicable regulations and to submit and present quarterly and annual progress reports to MCM. MCM consented to contribute funds to the City for the management of the Helderberg MPA.

Prior to this agreement, Helderberg MPA was not actively managed. A full assessment of the management of this MPA was not included in this report due to the previous lack of management and the recent signing of the agreement with the City. However, Darryl Colenbrander from the Environmental Resources Management Department (ERM) of the City was consulted regarding the state of affairs at the time of the assessment and future actions.

City of Cape Town Municipality – Environmental Resource Management Department

The ERM is mandated to implement the City's *Integrated Metropolitan Environmental Policy* which is a framework of strategies namely: Biodiversity, Energy and Climate Change, Coastal Zone Management, Cultural Heritage and Environmental Education and Training. A coastal coordinator has been employed to manage environmental resources in the coastal zone. This coastal coordinator has taken on the role of the Helderberg MPA manager. There are no designated field rangers at this point, however it was indicated that a ranger would be employed on a contractual basis. A management plan is to be developed and will follow the structure of the recently drafted Betty's Bay MPA management plan. Start up funding provided by MCM is to be used to purchase basic enforcement and monitoring equipment.

Helderberg MPA

The Helderberg MPA was declared under the MLRA in 2000 and is situated on the north eastern shore of False Bay in the Western Cape. The MPA is adjacent to land owned by the City and managed as a nature conservancy under the NEM:PAA. It is a small MPA that consists of 4km of sandy shoreline between the Eerste River mouth and the Lourens River mouth, and extends 500m offshore from the high water mark. The MPA is a no take zone. Currently the boundaries on the beach are fenced and no signs or beacons have been erected. There are no public access roads to the land adjacent to the MPA. The shoreline

within the MPA is regarded as the last portion of untouched sandy beach on the north shore of False Bay (C. Attwood pers. comm.).

4.4 iSIMANAGLISO WETLAND PARK AUTHORITY

The iSimangaliso Wetland Park was listed as a World Heritage Site in 1999 under the World Heritage Convention on the basis of its exceptional and outstanding natural values. It was declared a World Heritage site under the WHCA in 2000 and the iSimangaliso Wetland Authority was established.

The iSimangaliso Authority as the management authority for the World Heritage Site are obligated to ensure compliance with the WHCA and the NEM:PAA and are thereby mandated to:

- develop measures to protect the environment and cultures within the Park;
- promote and manage tourism-based development;
- prepare and implement an Integrated Management Plan and subordinate plans;
- promote the development of communities living within the Park, and
- enter into co-operative governance agreements.

The iSimangaliso Authority has entered into two agreements relating to the two MPAs situated within the Park boundaries. A service agreement was signed with MCM in September 2007 in which the iSimangaliso Authority agreed to conduct the management, monitoring, compliance and awareness in the MPAs and to submit quarterly and biannual progress reports to MCM. MCM consented to contribute funds to the iSimangaliso Authority for the management of MPAs on approval of the quarterly progress reports. The second agreement between iSimangaliso Authority and EKZNW stipulates that EKZNW is responsible for the management of the marine conservation component of the Park. Liaison between these agencies and MCM in relation to the MPAs occurs through the Conservation/Compliance Manager within the Park Operations division of the iSimangaliso Authority. It was reported that communication and information exchange with MCM was adequate.

In addition to the Park Operations division, the iSimangaliso Authority also has divisions for Commercial Development, Training and Capacity Building and Research, Policy and Planning. Permits for conducting activities within the MPAs must be issued by the iSimangaliso Authority in addition to those issued by MCM.

4.5 MPA MANAGEMENT SUPPORT SYSTEM

In 2008, WWF and Honda formed a partnership and initiated a Marine Parks Programme to play a role in addressing the challenges to MPA management that were identified in the *'State of management of MPAs in South Africa'* report by Lemm and Attwood (2003). Prior to the partnership and programme, WWF had directly started to play a supportive role in improving MPA management from early 2006.

The goal of the programme is to develop a support unit for MPAs that comprises of a combination of the strengths and competencies of national government, conservation agencies, the private sector and the public. The development of the MPA Management Forum is a means to develop this support unit through the networking and liaison opportunities it provides. The Forum comprising of representatives from each MPA (or at least each conservation agency), MCM, scientists and NGOs meets annually to discuss MPA issues and ensure a uniform approach to MPA management is taken.

The objectives of the WWF-Honda Marine Parks Programme are to build public awareness and support for MPAs, provide equipment to MPA staff to enable them to perform their duties, develop MPA management plans, and to strengthen the capacity and skills of the MPA management teams.

- *Public Awareness and Support*

The programme has contributed to raising awareness through the development of a MPA website, which provides background on each MPA in South Africa; the efforts to push MPA related stories in local and national newspapers, magazines and televisions; and the securing of a space for several MPA articles in an eco-tourism magazine and a fishing magazine.

- *Equipment*

The programme has so far contributed five patrol boats to MPAs and an additional four have been planned for. Furthermore the WWF-Honda partnership has had influenced key suppliers (Falcon Inflatables and Garmin) to play a role in supporting MPAs.

- *Management Plans*

Management plans for five MPAs have been completed with the support of WWF and MCM and a planning process has been initiated for Pondoland.

- *Skills and Capacity development*

A Certificate in MPA management has been developed through a partnership between MCM, WWF and Rhodes University. The MPA Management Training Course was designed to address the MPA management staffs' low levels of understanding of marine issues and legislation, and competence to address marine issues and ensure compliance. The course was piloted in 2006 and since then 112 personnel involved in MPA management have taken part in the course. This course, which is conducted over six to nine months with monthly contact sessions of three-four days, is comprised of the following eight modules:

- Understanding MPAs and MPA Legislation;
- Management Planning for MPAs;
- Marine Ecology;
- Natural Resources Management;
- Engaging with Stakeholders;
- Management of Human Resources;

- Assessing Management Effectiveness, and
- Financial Planning and Management.

During the visits made to all the MPAs in this assessment a total of 24 MPA personnel who had completed the course, or were in the process of completing the course, were encountered. Results from discussions held with these personnel indicated the following:

The most useful modules varied widely between participants depending on their own backgrounds and interests. The general opinion was that every module had useful aspects that either refreshed previous courses undertaken, took their current level of understanding of issues to a new level, or provided new information.

The main benefit derived from the course was the opportunity it offered to participants to network and build relationships with other role players and MPA staff. Some of the contents of the course have been shared by participants amongst other team members, thereby improving the basic level of understanding of the team as a whole and not just those on the course. The course manuals and a reference disk have been useful as a reference point for addressing issues. Furthermore the course broadened the perspectives of participants as to what is involved in MPA management and what their role is.

The opinion of the participants on the delivery and structure of the course was that is was well designed and structured but pitched at a level that was sometimes too high and fast for some.

There were requests that the course be repeated for certain MPAs (Table Mountain National Park MPA, West Coast National Park MPAs) and that a simpler bridging course be developed specifically for field rangers. A marine ranger's course has recently been piloted and could potentially serve as an entry level for marine rangers in future.

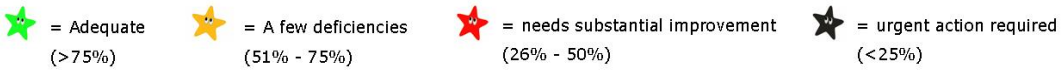
Chapter 5: South African National Parks

South African
NATIONAL PARKS

CHAPTER 5.SOUTH AFRICAN NATIONAL PARKS

5.1 SANPARKS OVERVIEW

Table 5.1: Overview of SANParks management of MPAs



Criteria	WCNP	TMNP	TNP	BI
MPA Design				
MPA Management Plan				
Existence of plan, objectives and regulations				
Plan implementation and adequacy		N/A		
Socio-economic considerations		N/A		
Plan context		N/A		
Management System				
Input				
Staff Number				
Staff Skills and Training				
Equipment				
Infrastructure				
Budget				
Processes				
Boundary demarcation				N/A
Patrol and enforcement				
Monitoring				
Public education and awareness				
Interactions with communities and stakeholders				

5.2 WEST COAST NATIONAL PARK MPAs

5.2.1 Context

The West Coast National Park (WCNP) MPAs are of global and national significance. The marine habitats represented by the five MPAs include exposed and sheltered sandy beaches and rocky shores, a lagoon, mud flats, salt marshes, subtidal reefs and sandy benthos. Malgas, Jutten and Marcus Islands support breeding colonies of several IUCN Red-list seabird species and are thus important for seabird conservation. Sixteen mile beach is situated on the west side of the peninsula and is representative of exposed west coast sandy beaches. Langebaan Lagoon, the only true lagoon system in South Africa, supports a rich bird life and is a declared Ramsar Site (a wetland of international importance). The lagoon also has a rich diversity of marine invertebrates and seaweeds and a total of 34 fish species have been recorded (Hanekom *et al*. 2009).

The lagoon is also significant for traditional subsistence net fishers and ten subsistence net fishing permits, two West Coast rock lobster permits and one white mussel harvesting permit have been allocated to local fishers (Sunde and Isaacs 2008). However, there are approximately 40 remaining traditional fishers without permits whose basic household food security is not sufficiently provided for through recreational linefishing in the multi-use zone (Sunde and Isaacs 2008), and there is pressure placed on management to allocate a further six permits. In addition, Langebaan has become a popular holiday destination and the lagoon attracts recreational activities such as power boating, sailing, water skiing, kitesurfing, and recreational fishing. Furthermore the islands and lagoon are unique sites for research and education.

The marine environment is threatened by:

- Increasing pressure by tourists and recreational users;
- poaching;
- non-compliance of recreational and subsistence fishers;
- the development of Langebaan town;
- the expansion of Saldanha Bay harbour;
- beach erosion;
- pollution (land and vessel source), and
- mariculture.

5.2.2 Legal framework

Langebaan Lagoon and sixteen mile beach are part of the West Coast National Park and are declared under the NEM:PAA. The Lagoon, Sixteen mile beach and its adjacent offshore area and the marine areas surround the three islands were declared as five MPAs under the MLRA in 2000 (GN 21948). The regulations provided a zonation pattern for the lagoon and permitted the catching of line fish from a boat in the Sixteen Mile Beach MPA and the three

island MPAs, and the recreational catching of West Coast rock lobster in the Sixteen Mile Beach MPA.

Managers suggested that there needed to be regulations or policies for non-consumptive uses, such as sailing and kitesurfing which are expected to disturb birdlife, and for fishing charters and competitions in MPAs. Furthermore they alleged that the lack of definition for the term "adverse impact" in the MLRA could lead to variable interpretations, and in some cases be applied too broadly. It was suggested that dual designation of the adjacent MPAs, under both the MLRA and the NEM:PAA, would assist management and allow for better control over non-consumptive activities.

Management indicated that there had been problems in implementing and effectively controlling the ORV regulations due to capacity issues and possible misinterpretation of the legislation. Furthermore it was reported that the slipways were not yet registered.

5.2.3 MPA design

***MPA DESIGN* (58%)**

The WCNP MPAs comprise of a lagoon, three islands and a long sandy beach, which creates a complex site for management. There were some areas that were critical for the maintenance of the ecological integrity of the MPA that had not been fully incorporated in the MPA. These included a fish nursery area in the harbour and an area with rock lobster and abalone around the military peninsula. No expansion to these areas was possible.

The lagoon had been divided in to three visitor-use zones:

- **Zone A**: Multi-use Zone: This area is managed as a marine Controlled Zone with enforcement of the MLRA. Fishing and motorized vessels are allowed.
- **Zone B**: Restricted Zone: Fishing and the use of any motorized vessel can only take place on authority of and in accordance with a permit obtained from the management authority. Fishers with net fishing rights are permitted to fish.
- **Zone C**: Sanctuary Zone: no boats or extractive uses are permitted.

There had been difficulties controlling sail boats moving into the sanctuary zone due to the open nature of the system. Conflicts had arisen between kite surfers and swimmers, and between kite surfers and fishermen. This had been improved to a limited extent through the designation of kite board launch areas (refer to figure 5.1).

Figure 5.1: Signboard at Main Beach Langebaan indicating beach user zonation.

5.2.4 MPA Management Plan

The management plan was undergoing revision during this assessment. The plan currently in use was assessed and the planning procedure for the new plan was also assessed.

Current plan in use

***Existence of plan, objectives and regulations* (58%)**

The management plan for the MPA was a section within the WCNP Management Plan which is currently undergoing a revision process. This plan was being implemented at the time of the assessment. It was indicated that the MPA objectives were not clearly specified anywhere other than in the MLRA. These objectives were viewed as compatible with most of the issues at the MPA but were not specific to the MPA. Furthermore the proclamation of the MPAs clearly defined allowable and restricted activities that are legally enforceable.

***Plan implementation* (33%)**

The plan in use at the time of the assessment was too broad and did not clearly indicate priorities for the MPAs. The plan did not provide adequate direction on management actions that needed to be taken and guidance for resource allocation. The major shortcomings in the old plan included a lack of measurable deliverables and insufficient guidance for day to day management. Although no desired future or priorities were clearly specified, it was indicated by management that the priorities could be inferred.

Planning procedure for new management plan

***Socio-economic considerations* (83%)**

All stakeholders were invited to participate in a meeting to review the management plan. These stakeholders included SANParks, MCM, Birdlife, local community representatives,

provincial government, park staff and scientists. During the process, two to three meetings of this sort will be held to come to a consensus on the parks visions and objectives. It was reported by management that the local stakeholders played a big role in influencing planning procedures and that a good structure, schedule, and level of understanding had been established through a park forum. The social systems and traditional practices were being considered in the planning, however not all local ideas could be incorporated.

***Plan context* (63%)**

During the planning process occurring at the time of the assessment, both the socio-economic and biophysical factors were considered and a threat analysis was initiated. The state of knowledge for informing and guiding management, was rated as partially adequate for socio-economic conditions and resource use statistics, while the information base for biophysical conditions was rated as adequate.

5.2.5 Management system

Input

STAFF NUMBER (48%)

The staff at WCNP comprised of three teams, one of which was a four-member marine team which was established three months prior to the assessment. The marine team was made up of a section ranger and three marine rangers. Management expressed that due to the complexity of the system, the high level of recreational activities and the increasing threats brought on by development, a larger marine team was required. There were deficiencies in staff dedicated to monitoring and MPA management planning.

Staff from all the teams (21 in total at WCNP) were involved in ensuring compliance with the MLRA along the shore of the WCNP. However, 17 members of staff were not dedicated solely to the MPA and their core function was terrestrial. The person involved in education and community liaison was from the People and Parks division, separate to that of MPA management.

STAFF SKILLS (61%)

The members of the team were all previously involved in marine conservation and thus all have an understanding of the role and function of MPAs and the legislation. There were staff skilled in management and compliance (FCOs and Peace Officers) and there was a skipper competent on the lagoon. The critical skills development areas include:

- the training of a skipper to conduct patrols along Sixteen mile beach MPA
- more peace officers to be trained

EQUIPMENT (65%)

There were no major deficiencies pointed out, however management did indicate that they required another vessel, with all the necessary on board equipment, suitable for offshore enforcement along Sixteen mile beach MPA. This assessment highlighted that the WCNP MPAs were currently lacking diving equipment, sufficient equipment for night patrols and surveillance, and a laptop and cell phone for MPA management. There is a maintenance schedule being implemented to a satisfactory standard.

INFRASTRUCTURE (48%)

The MPAs are open access areas with many access points that cannot be controlled and monitored. The five public launch sites were not registered and the offices were in poor repair. There is an education centre located close to the MPAs. Maintenance of the jetties and offices needed to be improved and, at the suggestion of managers, new offices needed to be allocated.

BUDGET (67%)

The managers motivated the need for increased funding by highlighting the complexity of the system of MPAs, the number of threats and high level of resource use and recreational activities. An increased budget needed to be negotiated so to allow for additional staff and training and an increase in offshore compliance along sixteen mile beach. This was the third year that funds had been allocated for the management of the WCNP MPAs. The funds for the first year went mainly towards purchasing capital equipment; much of the second year's funds went into maintenance and the building of jetties; while the funds for this year had been allocated mostly to maintenance and operations with some allocated to salaries, and capital expenses.

Processes

BOUNDARY DEMARCATION (75%)

The MPA boundaries and zone boundaries were legally defined and demarcated in the field. However the sign boards were old, and in some cases vandalised, and were in need of replacement.

PATROL AND ENFORCEMENT (67%)

Staff had the skills to enforce MPA rules however there were some deficiencies due to staff shortages (only 4 MPA dedicated, 17 of the staff do compliance and enforcement, but the MPAs are not their core function). Enforcement activities included daily foot and vehicle patrols and boat patrols and slipway checks when there were many boats on the water.

There was an increase in the number of patrols from 167 patrols in 2006/7 to 1167 patrols in 2008/9 while the reported incidents (warnings and fines) were reduced from 271 to 144. It was indicated that the implementation of enforcement procedures had been somewhat limited by poor levels of training, however this was expected to improve with the establishment of the marine team consisting of trained and experienced individuals.

MONITORING (63%)

There was no comprehensive strategy for monitoring of management effectiveness and adaptive management within SANParks at WCNP. There was some sporadic monitoring of resource conditions, inventories and use conducted through external programs; however there was no system implemented to monitor social conditions. A large amount of research has been and is being conducted in the MPAs (currently 17 projects) and researchers do inform management of the need for actions or interventions.

PUBLIC EDUCATION AND AWARENESS (58%)

There was an education programme that was being implemented. This is conducted by the People and Parks department and functions separately from MPA management. It focuses on educating scholars on various aspects of the WCNP including the MPAs, but this program does not reach the identified MPA stakeholders. There are brochures detailing recreational activity regulations (DEA brochure) available, but none specific to the MPA.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (50%)

Managers indicated that SANParks considered positive relations with local communities as critical and that efforts had been made to include them in management. The local communities' tolerance of illegal activities in the MPA was viewed as low; however illegal activities were not always reported to the authorities. There was mixed support for the MPA and its staff with some significant opposition where people's livelihoods had been affected by the MPA. There are some benefits from the MPA going to locals; however these are not distributed equitably. Significant dissatisfaction had been expressed with the closure of Sixteen mile beach to shore angling and the zonation of the lagoon. Despite efforts to include and engage all stakeholders, it was indicated that a minority could not engage adequately. The distribution of economic benefits to local communities is not equitable while recreational benefits were going mostly to visitors.

There was limited communication between MPA management and stakeholders which occurred only through attendance of the park forums. Stakeholders, although invited, did not all attend the forum meetings and there were often problems in disseminating information, leading to time frustrations. In addition stakeholders were only consulted as need or occasion arose.

Improvements

- *A marine team has been established.*
- *Equipment has been purchased for MPA management.*
- *A budget has been dedicated to MPA management.*
- *Enforcement activities have increased.*
- *Warnings have decreased despite increased patrols, indicating increased compliance by resource users.*
- *There is a large amount of research being conducted in the MPA with results made available for management.*
- *A comprehensive planning process has been implemented.*
- *Stakeholders have been involved in planning.*
- *Beaches have been zoned for different activities and sign boards have been set up to indicate the user zones.*

Weaknesses

- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *There are still staff shortages despite the new marine team.*
- *Revised and updated training is needed for the marine team.*
- *Education programs and workshops need to target the affected communities and resource users.*
- *Improved boundary markers and signs need to be erected.*
- *A user-friendly brochure specific to the MPA needs to be produced and distributed to tackle shops, launches and gates, and on patrols and in programmes.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*

5.3 TABLE MOUNTAIN NATIONAL PARK MPA

5.3.1 Context

Table Mountain National Park (TMNP) MPA was proclaimed in 2004 under the MLRA. The MPA is located in a transition zone between the south-western Cape bioregion and the Agulhas bioregion and it supports a rich diversity of marine species. It is a culturally significant area as it contains fish traps, numerous wrecks and traditional fishing communities. The MPA is important for commercial fisheries, such as the West Coast Rock Lobster industry, based in the MPA and for recreational fishers and subsistence fishers. Due to its proximity to Cape Town, there is a high level of tourism, recreational activities as well as research and education in the MPA.

Major threats to the MPA include the overexploitation of marine fish and invertebrates and pollution from the harbours and from land based sources. Abalone poaching and crayfish poaching are the main enforcement challenges for management.

5.3.2 Legal framework

The MPA was declared under the MLRA in 2004 (GN 26431). Much of the adjacent land was declared as a National Park under NEM:PAA, but the MPA does not have a dual designation. The schedule provided with the MPA proclamation lists objectives for the MPA and provides specific regulations.

Management indicated that there had been difficulties in interpreting the legislation and assisting the public in understanding the legislation. It was indicated that dual designation under the NEM:PAA would be beneficial for management, most particularly where it comes to zoning non-consumptive activities and controlling access.

5.3.3 MPA design

***MPA DESIGN* (67%)**

TMNP MPA is 956km^2 and contains six restricted areas which collectively make up 5.9% of the total area of the MPA. It was indicated that some critical areas were not afforded special protection within these restricted areas due to conflicts over traditional fishing grounds. The size and shape of the MPA was viewed as suitable, however, it was suggested that the restricted areas be expanded. The zoning of activities had been managed through the zoning of terrestrial areas for specific purposes and slipways. This activity zonation is not legally enforceable except where bans have been included in the regulations, such as those for diving and personal watercraft. Managers indicated that there needs to be a legal tool to allow for zonation and that scientific data is needed to advise and support zonation.

5.3.4 MPA Management Plan

***Existence of plan, objectives and regulations* (58%)**

Management indicated that there was currently no MPA management plan being implemented at TMNP MPA. The allowable and restricted activities, zonation and the MPA objectives are provided in the GN 26431. The objectives of the MPA are:

- to protect and conserve marine ecosystems and populations of marine species;
- to protect the reproductive capacity of commercially important species of fish, including abalone, rock lobster and traditional linefish and to allow their populations to recover;
- to promote eco-tourism within the MPA

It was advised that the MPA management plan will be included as a section in the TMNP Management Plan when it is reviewed. This review process as indicated in WCNP MPAs incorporates a substantial amount of stakeholder and community involvement.

5.3.5 Management system

Input

STAFF NUMBER (79%)

A team of 23 SANParks staff had been dedicated to the management of the MPA. There were personnel from the People and Parks division that were involved in educational programmes and community outreach and engagement. There was a lack of staff members involved in monitoring and planning duties. Management indicated that there were staff shortages during crayfish season and that an additional five rangers were needed for this season. The major deficiencies were occurring over weekends when MCM staff were off duty.

STAFF SKILLS (98%)

The staff members were all well trained and aware of the roles and functions of MPAs, the resources in the MPAs and the relevant legislation. There were experienced skippers and commercial divers on the team, and all team members were FCOs and could swim. The majority of the team could carry out administrative duties. Furthermore it was conveyed that the MPA management course needed to be repeated. Four of the staff members that attended the first course in 2006 had since left and four remained. It was felt that a repeat and refresher of the course would be beneficial for management. If permission is granted to use weapons in enforcement operations staff members would require weapons training.

EQUIPMENT (89%)

There was sufficient equipment for offshore, onshore and night enforcement; diving; administrative duties; and communication. Maintenance of equipment was taking place to a satisfactory standard however it was indicated that there was a need for improvement in some areas. If permission is granted to use weapons in enforcement operations a safe will be needed to store the weapons.

INFRASTRUCTURE (78%)

Facilities did not constrain the achievement of major management objectives, however it was indicated that an additional office and boat house in the northern section of the park would facilitate better management practices. There are many public access points to the MPA due to the adjacent city of Cape Town, therefore controlling access is not a feasible management strategy for this MPA. There are six public launch sites in the MPA. The City of Cape Town Metropolitan Municipality is responsible for maintaining these, charging fees and keeping

launch registers. SANParks staff felt that this should become their responsibility as it would allow for better control and coordination of enforcement operations. There are two education centres, run by the terrestrial management teams in TMNP, which could be utilized to increase MPA awareness.

BUDGET (100%)

The funds allocated to TMNP MPA were fully sufficient for all critical management activities and had been secured through a contract with DEA. Approximately two thirds of the budget was allocated to salaries, and a third to maintenance and operation costs, with a small portion of this allocated to capital expenses.

Processes

BOUNDARY DEMARCATION (83%)

Figure 5.2: MPA sign boards in Table Mountain National Park MPA

The boundaries of the MPA and the restricted areas in the MPA were legally defined and demarcated through the use of notice boards in the field. There were 23 signs on the coastline located at busy access points and walkways. Of these, 15 were well-designed, easy-to-interpret SANParks boards that provided detailed maps that indicated position relative to the MPA and its zones and boundaries (refer to figure 5.2). However, at launch sites, it may be more useful for skippers if the GPS coordinates of the boundaries and zones within the MPA were provided on the boards.

PATROL AND ENFORCEMENT (83%)

Rangers conducted daily foot and vehicle patrols and sat at observation posts. Boat patrols were conducted on average two to three times per week according to weather and sea conditions and boat traffic. The staff had excellent capacity and resources to conduct enforcement operations, and enforcement procedures were being implemented effectively. The enforcement activities were found to be consistent, however the northern parts of the MPA received less attention than the southern parts of the MPA. There were staff shortages on the weekends during crayfish season and as a result, some slipways and popular crayfish areas were left unmanned. The rangers indicated that they had been sent on courses and felt competent; however they felt that weapons may be necessary during certain enforcement operations.

The biggest enforcement challenge was abalone poaching by highly organised crime syndicates and several tactics had been employed to catch and arrest poachers and those involved in poaching operations. The South African Police Service and MCM cooperated with SANParks staff on call outs regarding poachers. Observers have aided enforcement by informing SANParks of poaching operations.

Another major issue was the crayfish poaching conducted by a local community in the Hout Bay area. It was reported that this issue arose due to poor consultation with the community when the area was declared a restricted area without considering co-management. SANParks staff could not engage with the community due to high levels of animosity. SANParks staff felt that this was poorly directed as they were not the mandated authority to allocate rights. This issue cannot be solved through enforcement, community engagement and involvement by MCM with regard to rights allocations, rather, exemptions should be initiated instead.

SANParks staff at TMNP MPA conveyed that MCM officers were in charge of enforcement in the harbours within the MPA and that these enforcement activities were not being conducted to a satisfactory standard.

MONITORING (58%)

There was some sporadic monitoring of coastal zone use, pollution and resource use, however, there is no comprehensive monitoring system and no strategy for adaptive management. Management has acknowledged that catch per unit effort could be recorded by the rangers on foot patrols and has indicated that they were trying to implement this practice so to contribute to a database for resource use monitoring. A monitoring programme had been established to encourage divers to participate in monitoring activities within the MPA.

Research coordination and monitoring is expected to improve as there is a newly established SANParks Cape Research node with a marine specialist.

PUBLIC EDUCATION AND AWARENESS (75%)

A People and Parks conservation officer was based on a full time basis at the MPA office. There was a planned education and awareness programme linked to the objectives and needs of the MPA. This programme consisted of:

- primary school group visits with outdoor lessons
- adult training on legislation and rocky shore ecology, which has been aimed at subsistence fisherwomen, Coast Care workers, the Navy and other relevant organisations,
- community outreach projects

The community in Hout Bay had not been engaged with due to the alleged animosity shown towards SANParks staff. This had been brought on by the community's false perception of SANParks as the 'rule makers'. Rangers on patrol have increased awareness among tourists and resource users through communication, their presence and their enforcement actions.

Brochures for the MPA were being developed, and information cards on abalone and rock lobster had been produced in English. SANParks staff handed out recreational activity brochures produced by DEA, but they indicated that they struggled at times to get hold of these. The signboards positioned in busy areas and access points to the MPA illustrated restricted and allowable activities in the different areas and provided brief detail and motivation for the MPA and permit requirements, thereby aiding in raising awareness.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (47%)

There was mixed support in adjacent communities regarding the MPA and the SANParks staff. Some communities were opposed to the MPA and felt that they had a right to resources where they have been denied access. As a result they were either involved in poaching or were tolerant of it. Furthermore the benefits offered by the MPA were not equitably distributed. There was some support from other communities to the extent that they did not tolerate poaching and reported incidents to staff. Efforts had been made by SANParks to try and develop the support and trust of local communities; however it was indicated that these efforts had not reached the communities most opposed to the MPA and thus had not been effective.

There had been some engagement between management and a few stakeholders, however, it was reported that most of these were not meaningful and effective due to the fact that MCM held the mandate to allocate resources and restrict activities. It was reported that limited communication did occur between SANParks staff and stakeholders, but not through a planned or scheduled program, and that there were often problems in sharing information with stakeholders. Stakeholders had only been engaged where need or occasion had arisen. Specific efforts had been made to engage jet-ski users in the formulation of regulations for jet-ski use and to involve the recreational diving community in research to aid with monitoring efforts and mend bridges with this community who were dissatisfied with the introduction of permit requirement and a dive ban.

Management at TMNP MPA believed that approximately half of the stakeholders were satisfied with the processes and outputs of the MPA and were able to effectively participate in management decisions. They acknowledged that there are some stakeholders that were frustrated and needed to be more meaningfully involved in management and decision making.

Improvements

- *A marine team has been established.*
- *Equipment has been purchased for MPA management.*
- *A budget has been dedicated to MPA management.*
- *Enforcement activities are consistent and extensive.*
- *Warnings have decreased despite increased patrols, indicating increased compliance by resource users.*
- *There is a large amount of research being conducted in the MPA with results made available for management.*
- *A comprehensive planning process has been implemented.*
- *Stakeholders have been involved in planning.*
- *Beaches have been zoned for different activities and sign boards have been set up to indicate the user zones.*

Weaknesses

- *A comprehensive plan needs to be formulated with active involvement of the management team and stakeholders.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *Education programs and workshops need to target the affected communities and resource users.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*
- *Co-management with affected communities dependant on the resources should be considered.*
- *Revised and updated training is required by MPA staff.*

5.4 TSITSIKAMMA NATIONAL PARK MPA

5.4.1 Context

Tsitsikamma National Park was proclaimed in 1964 and is the oldest MPA in Africa. The marine section of the Park contains one of the larger MPAs in South Africa, extending 57km along the coast and three nautical miles offshore, and is entirely a no take zone. The coastline of the MPA is predominantly rugged with high rocky ridges and boulder bays, while the offshore environment consists of submerged rocky reefs and sandy benthos.

The MPA is significant for fish conservation in South Africa as it is an important nursery area for many reef fish species; it is central in the distribution range of several endemic species; protects large populations of commercially exploited species; and it supports a rich diversity of fish (202 species from 84 families), some species of which are Red Data species. Furthermore, there is evidence that several species have a high degree of residency, which combined with slow growth rates, makes them vulnerable to over-exploitation. In addition to this, the MPA protects approximately 11% of the Warm Temperate South Coast rocky shoreline. The offshore marine living resources in the MPA are in near pristine condition while the inshore resources are exposed to illegal extraction.

The MPA is an important eco-tourism attraction drawing approximately 170 000 local and international visitors annually. Recreational activities in the MPA include boat rides, snorkelling and diving, and the renowned Otter Trail and Dolphin Trail which run adjacent to the MPA. Cultural and heritage resources in and related to the MPA include a wreck, an old harbour and strandloper shell middens in caves along the shore. Furthermore, there has been a significant amount of research and several educational programmes in the MPA.

There is a long history of resource use in the area. In 2001 the whole MPA was declared a no take area under the MLRA. A number of communities, dependant on access to marine living resources for their livelihoods, actively campaigned to retain access to the area but were denied in 2007. This has come to be a major source of conflict and tension in the area and has resulted in some locals resorting to illegal fishing in the MPA. SANParks staff allege that there are approximately 30 persistent illegal fishers in the area.

The threats to the MPA include:

- Illegal fishing;
- Continued political pressure to allow local communities access to the Park for fishing;
- The development of a golf course, estate and hotel in close proximity to the MPA;
- Minor abalone poaching on the borders of the MPA, and
- Fertilizer run off from dairy farms in close proximity to the MPA.

5.4.2 Legal framework

Part of the marine section of the Tsitsikamma National Park was proclaimed as Tsitsikamma MPA under the MLRA in 2000. Both the MLRA and the NEM:PAA are applicable to the Tsitsikamma MPA. SANParks staff indicated that there was great value in the dual designation as the NEM:PAA provided greater scope to manage activities unrelated to marine living resources.

SANParks managers at Tsitsikamma MPA suggested that: the admission of guilt fines be increased so to deter illegal fishing; the MPA be extended so to include the boundaries of the De Vasselot marine section and to create a 0.5 nautical mile buffer zone around the MPA; diving be banned throughout the National Park and that a transit through the MPA be banned for enforcement purposes.

5.4.3 MPA design

MPA DESIGN (89%)

The Tsitsikamma MPA stretches 57km along the shore between the Groot River and Die Punt in Natures Valley. The entire MPA is a Restricted (no take) zone. Critical habitats such as breeding grounds for resident fish species, temporary refuges, and areas that protect certain life-history stages for many species were included within the MPA and were afforded extra protection through the no take status of the MPA. The size and shape of the MPA was adequate to achieve conservation objectives, however the design could be improved by extending the MPA to three nautical miles offshore between the Bloukrans River and Nature's Valley, eliminating the dog leg, so to protect a large offshore reef complex.

5.4.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (92%)

There was a management plan for the Tsitsikamma MPA although this was only being partially implemented. The plan provided objectives that were relevant and specific to the MPA and set out the restricted and allowable activities in the MPA.

PLAN IMPLEMENTATION AND ADEQUACY (67%)

The SANParks staff at the Tsitsikamma MPA indicated that the management plan clearly indicated priorities for the MPA but did not provide adequate direction on management actions that should be taken or facilitate the allocation of resources. Most aspects of the plan were viewed as adequate; however the staff indicated that more frequent revisions of the plan and more effective operational plans for enforcement would improve management.

SOCIO-ECONOMIC CONSIDERATIONS (42%)

Local stakeholders were invited to participate in the planning process through the Park Forum. Stakeholders who expressed interest in the MPA attended however there was limited meaningful engagement with some of the stakeholders. The local culture was considered during the planning process, however local ideas were seldom incorporated into the plan due to conflicting objectives.

PLAN CONTEXT (96%)

Both biophysical and socio-economic information were considered during the planning process. The information available concerning resource use, biological resource conditions and biophysical conditions was considered adequate for future planning purposes; however it was recognised that information regarding the social conditions in the area was limited. There has been an ongoing analyses of threats in the MPA since 2005.

5.4.5 Management system

Input

STAFF (100%)

The Tsitsikamma National Park was divided into two different management sections, an eastern section based at Storms River mouth and the western section based at Bloukrans. A senior section ranger was assigned to each section and both reported to one conservation manager. At the end of 2007, when a budget was allocated for the management of the marine section of the Park, 12 extra posts (six at Bloukrans and six at Storms River) were assigned for marine law enforcement.

There were 39 staff members from the Parks division based at Tsitsikamma National Park. All of the offshore management and enforcement activities for the MPA were conducted by the management team in the Eastern Section. A total of 12 permanent field rangers, two permanent sergeant rangers and six contracted marine rangers reported to the section ranger.

STAFF SKILLS (88%)

This team consisted of 14 FCOs, four skippers and one commercial diver and they were involved in ongoing training and skills development programmes. There were eight people completing skippers training and several were in the process of being authorised as FCOs. The senior section ranger reported that the staff were sufficiently trained to carry out present and likely future duties and that all had a good understanding of the role and function of the MPA and the value of the resources. However, it was noted that the team required more radio operators' tickets and a more in depth knowledge of the relevant policies and legislation. The section ranger had completed the MPA managers training course and indicated that management practices could be improved if some of his staff were to take part in the course.

There were staff from the People and Parks division, who were involved in education and community liaison based at Tsitsikamma National Park. In addition, the Rondevlei scientific services research team conducted monitoring and research in the MPA.

EQUIPMENT (93%)

The senior section rangers reported that there was adequate equipment for management purposes and that the maintenance of the equipment was of a high standard. There were three boats for offshore surveillance and enforcement, and sufficient vehicles and equipment for onshore enforcement; however, it was noted that night sights, radar and MPA sign boards were required.

INFRASTRUCTURE (98%)

The infrastructure was adequate for management and the current levels of visitation, and there was a maintenance schedule being implemented to a high standard. There were no public slipways and only one non-public slipway located at the Storms river mouth. The MPA could be accessed from the land through one official entrance to the Tsitsikamma National Park and several unofficial access points.

BUDGET (89%)

It was reported that the allocated funds were acceptable for most management activities. Currently the budget allocated by DEA supports 12 dedicated marine posts (one is currently vacant) as well as capital expenses and the cost of maintenance and operations related to the MPA.

Processes

BOUNDARY DEMARCATION (50%)

The boundaries of the MPA were legally defined and demarcated with beacons, however there were no MPA signs boards providing the boundaries, GPS co-ordinates or maps of the MPA.

PATROL AND ENFORCEMENT (92%)

The staff had sufficient capacity and resources to enforce the MLRA and there were clearly defined enforcement mechanisms being implemented effectively. Over the last 5 years enforcement practices had improved substantially. The enforcement activities comprised of boat patrols which span the entire MPA (two to three times per week, depending on sea conditions), foot patrols and observations of illegal fishing hot spots.

MONITORING (89%)

There had been extensive monitoring and research of marine biodiversity in this MPA. There were long-term research programmes that provided information on linefish (monitored since 1995 but stopped at the beginning of 2009 due to lack of funding), and mussels and bait organisms (monitored since 1999). In addition, there was ongoing monitoring of the achievement of management targets and illegal fishing. Management effectiveness was measured through the use of Key Performance Areas and Thresholds of Potential Concerns (TPC). A monitoring system had recently been established to monitor the following TPCs: recruitment of marine biota from estuaries, intertidal mussel beds and bait organisms, inshore and nearshore linefish, and the utilization of marine invertebrates and fish. This monitoring system had been aligned with the conservation objectives for the Park and had

been designed to test the achievement of the objectives. There had been less research and monitoring of social conditions made available to Parks management.

PUBLIC EDUCATION AND AWARENESS (58%)

There was an educational programme involving school trips to the Park and visits to local schools where presentations were given and brochures distributed. Presentations and displays specific to the MPA were organised during marine week and on Ranger Day. These education programmes, which targeted seven local schools, did not reach many other stakeholders. There were brochures available detailing different habitats in the Park, marine species and the functions and benefits of the MPA. The brochures provided were in English only. There is an education centre within the Park with a marine display and MPA posters. There were no MPA specific sign boards along the shoreline.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (47%)

SANParks met with stakeholders through a Park Forum every two months. This Forum was under the auspices of the People and Parks division however Conservation staff did attend. A Conservation Forum had been established to meet every six weeks; however this had not been consistent. Communication between conservation authorities and stakeholders was described as ad-hoc and in need of improvement. Information sharing occurred at these meetings; however there was a lack of total transparency with all stakeholders because of the 'volatile' situation that is said to be present amongst the different stakeholders. Stakeholders were contacted as need or occasion arose and their comments were always responded to. There was limited cooperation between conservation and tourism staff to enhance visitor experiences and conservation objectives despite both functions falling under SANParks.

There were several local communities who were opposed to the 'no take' status of MPA and had actively campaigned through the Tsitsikamma Community Angling Forum to gain access to the MPA to fish. The situation was described as 'volatile' and it was evident that there was no positive interactions between the conservation staff and these communities. However the community of Natures Valley were supportive of SANParks staff and the marine section of the National Park. There was mixed acceptance by adjacent communities regarding illegal activities as well as mixed support for the MPAs staff and the conservation programme. There was no co-management. Moreover the community representatives on the Park Forum could not effectively participate in management. The economic benefits to communities from the MPA were limited to the employees in the National Park that came from the local community and those community members that had been able to derive benefits through tourism.

Improvements

- *A marine team with adequate skills and training has been established.*
- *A budget has been dedicated to MPA management by DEA.*
- *Enforcement activities have increased and improved.*

- *A comprehensive management effectiveness monitoring program has been designed and implemented.*
- *There are brochures and interpretive materials in the education centre specific to the MPA.*

Weaknesses

- *Education programs and workshops need to target the affected communities and resource users.*
- *Improved boundary markers and signs need to be erected.*
- *A planning process that involves adequate engagement with communities needs to be initiated.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*
- *A socio-economic assessment of the adjacent communities should be conducted and made available to management.*

5.5 BIRD ISLAND MPA

5.5.1 Context

The Bird Island MPA was declared under the MLRA in 2004. The MPA surrounds the Bird Island group (Bird Island, Stag Island, Seal Island and Black Rocks) which is situated in Algoa Bay close to the Woody Cape Section of Addo Elephant National Park. The Bird Island Group and St Croix Island were declared as a part of Addo Elephant National Park in 2005. The islands are important areas for seabird conservation as they support keystone species such as the Cape Gannet (largest gannet colony in the world), African Penguin, Roseate Tern, Antarctic Tern and Kelp Gull. In addition, Bird Island is important for threatened abalone stocks; Black Rocks support a seal breeding colony which in turn is an important food source for great white sharks; and the subtidal reefs around the islands support many endemic species of fish, invertebrates and seaweeds.

The objectives of the MPA as given in the proclamation are:

- to allow over-exploited species of fish a sanctuary in which to recover and breed;
- to protect seabird breeding colonies, and
- to promote and regulate eco-tourism activities and scientific research in a way that does not adversely affect the marine environment and biodiversity of the Bird Island Group Marine Protected Area.

Threats to the MPA include abalone poaching, small levels of illegal fishing, pollution (chemicals have been found in egg shells) and development of the Kouga Harbour and water extraction around Algoa Bay.

5.5.2 Legal framework

The MPA includes the 'water, seabed and airspace to 1000 meters above sea level' but not the islands. The Bird Island Group was declared in terms of the National Parks Act and currently falls under the NEM:PAA. SANParks staff indicated that there needed to be more control over vessel access to the MPA as ski boats were observed to be disturbing the birds and it suggested that the MPA be declared under the NEM:PAA. This will provide a wider range of tools for resource protection that focuses on the utilization of the system as a whole and is not dictated by marine living resources alone.

5.5.3 MPA design

***MPA DESIGN* (50%)**

The Alexandria Dune Field System provides an important source of freshwater and nutrients to the Bay and many processes are dependant on this. The Bird Island MPA is not connected to the headland and this dune field, and it was indicated that this design cut off an important corridor between the headland and the MPA. The MPA is too small to sufficiently buffer the interior from edge effects and many of the birds were observed feeding outside of the MPA. The entire MPA is a no-take zone which is viewed as adequate for the achievement of conservation objectives.

There are plans to expand the MPA across Algoa Bay and create a multiple use MPA with different restricted and controlled zones.

5.5.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (92%)

There was a management plan for the MPA, however the plan had not been approved and was only partially implemented. The plan set out objectives that were an appropriate response to the issues at the MPA and consistent with legislation and it clearly defined the allowable and restricted activities.

PLAN IMPLEMENTATION AND ADEQUACY (67%)

Priorities were indicated in the plan and facilitated the allocation of resources; however, the management actions that needed to be taken were not always clearly indicated and it was felt that the plan was broad and generic and not specific enough to the MPA. It was indicated that most aspects of the plan were adequate but that it could be improved by setting specific goals and targets with time allocations.

SOCIO-ECONOMIC CONSIDERATIONS (83%)

All identified stakeholders were engaged in the planning process. Notices informing stakeholders of the planning process were made available in national and local newspapers and SANParks staff held open days for the public and met with individual stakeholders. Local ideas were considered given that they did not compromise conservation objectives.

PLAN CONTEXT (71%)

Scientific data was consulted during the planning process but not explicitly cited. The information base for resource use, social conditions and biophysical conditions was adequate for planning purposes; however a full inventory of biological resources was not available.

5.5.5 Management system

Input

STAFF NUMBER (68%)

SANParks had been managing the MPA since 2004; however a marine team was only established in 2008. There were 10 staff members (seven marine rangers, two section rangers and a senior section ranger), based at Woody Cape, that were dedicated to the management of the MPA. Nine of the members were employed on a contract basis and one was permanent. Staff members spent two weeks at a time on the island and thus built up much overtime. The agency compensated by giving the staff time off and as a result there were often staff shortages. All members of the team were involved in planning, assisting researchers, maintenance and law enforcement; however the team's core function was to reduce abalone poaching.

STAFF SKILLS (69%)

The team was established through a rigorous three-day interview process where all members were required to have, at the least, swimming skills and experience on boats. There were four skippers, nine FCOs (one new member still to be designated as a FCO) and seven radio operators. All team members were Peace Officers. At the time of the assessment, four members were undergoing commercial diver training, two were busy completing the MPA Management Course and six were in skippers training.

The staff had sufficient skills and training to carry out their current compliance function; however in future, it is expected that the staff will have to become involved in monitoring and community liaison. It was indicated that few of the staff members had adequate knowledge of the marine resources and only half had a sufficient understanding of the role and function of MPAs. Skills development areas that were needed included marine science (ecology and fish

identification), communication and engagement with stakeholders and the public and basic handyman skills.

EQUIPMENT (78%)

There was a large amount of good quality compliance equipment available to the team. This equipment included two boats (one high speed for pursuit), weapons, cameras (one waterproof), floating waterproof radios, night sights, spotlights, spotting scopes and diving equipment. It was pointed out that the team had possibly the best reactive compliance equipment but were lacking proactive equipment such as radar, which could reduce the fuel budget and create an early warning system. The lighthouse at Bird Island was proposed as a good site for aero-foil radars. It was indicated that maintenance was currently not satisfactory as a maintenance schedule was not being fully implemented, broken or damaged equipment was not always reported and equipment was generally not being adequately looked after.

INFRASTRUCTURE (24%)

The infrastructure at Bird Island was not fully adequate for management purposes, and in some cases constrained management activities. A jetty and slipway were required on the island. There was rustic staff and researcher's accommodation and an office on the island. There was no maintenance of infrastructure taking place.

BUDGET (83%)

The funding received from DEA was acceptable for most management activities; however it was reported that operations were planned based on the cost of fuel thus indicating that funds were a limiting factor.

SANParks also received substantial funding through a World Bank Project to expand Addo Elephant National Park. This contribution funded the development of a jetty at Bird Island (which has since been damaged by the September storms in 2008 and needs to be rebuilt), the acquisition of a 43ft vessel used for patrols, monitoring and the transport of researchers to the island and the development of plans to improve infrastructure (staff housing) and equipment (radar) on the island.

Processes

PATROL AND ENFORCEMENT (92%)

There were always a minimum of two rangers staying on Bird Island. The rangers rotated every two weeks. Foot patrols and observations from the lighthouse were conducted daily and boat patrols were conducted based on sea conditions and in response to the presence of vessels in the MPA. Abalone poaching was the main illegal activity in the area. The enforcement activities and presence of marine rangers in the MPA improved with the establishment of the marine team and had resulted in an alleged 80-90% reduction in poaching.

MONITORING (71%)

There was some monitoring occurring in the MPA but no overall strategy for adaptive management has been employed. The monitoring is focussed on abalone, key fish species and the birds on the islands. SAEON (South African Environmental Observer Network) is developing a scientific data base for marine living resources in the MPA. Thresholds of Potential Concerns had been assigned to the MPA and there was a monitoring system in place to evaluate these. Independent consultants identified research needs for the MPA and support was provided to students to work on management driven projects. The research was not comprehensive and had been mandated specifically for abalone.

PUBLIC EDUCATION AND AWARENESS (33%)

There was a planned education programme based in Addo Elephant National Park. The education programme targeted children and incorporates the Kids in Parks Programme, Imbewu camping trips, EnviroKid books and competitions, day trips to the National Park and visits to schools. There was no programme specific to the MPA; however SANParks arranged school group visits to Bird Island during marine week and arranged buses to transport the group (reaching approximately 600 children). There was no adult education for stakeholders and the public in the area and there were no brochures for the MPA. There was only one MPA sign board near the slipway at the harbour in Port Elizabeth

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (91%)

There was a communication program being implemented through the Park Forum to build support for the MPA amongst relevant stakeholders. Information exchange from SANParks staff to stakeholders was effective for the most part but there was still a distrust of the information provided by the community. Stakeholders were consulted at regular intervals and major stakeholders such as commercial fishermen, angling clubs and ski boat clubs consistently participated. All comments made in the meetings were responded to and extra information was usually provided to those making the comments so to attempt to build support for conservation.

There were two forums which facilitated interaction between local communities (around the Woody Cape section) and SANParks staff, these were the Park Forum and the Mayibuye Ndlovu Development Trust on which representatives from eight local communities, local government, Sundays River Tourism Forum and SANParks sat. Despite these efforts the communities in the Woody Cape area harboured much animosity towards the SANParks staff. Poaching of abalone was accepted by most of the communities in the area and many allegedly supported and assisted poaching operations. There was little understanding of SANParks role and function in the MPA and it was reported that many threats had been made against staff.

Improvements

- *A marine compliance team with adequate skills and training has been established.*
- *There is sufficient equipment.*
- *A budget has been dedicated to MPA management by DEAT.*
- *A high profile enforcement programme has been implemented.*
- *A comprehensive management effectiveness monitoring program has been designed and implemented.*
- *There are brochures and interpretive materials in the education centre specific to the MPA.*

Weaknesses

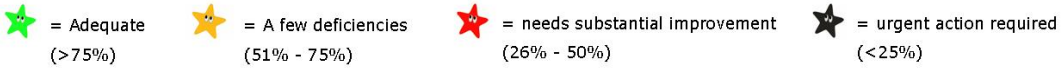
- *Signs containing a map, GPS coordinates and regulations need to be displayed at all slipways that are used to access the MPA.*
- *Brochures for the MPA should be distributed at information centres, diving businesses and tackle shops.*
- *The management plan is not adequate and in need of revision.*

Chapter 6: CapeNature

CHAPTER 6. CAPENATURE

6.1 CAPENATURE OVERVIEW

Table 6.1: Overview of CapeNature management of MPAs



Criteria	BB	DH	StB	GK	RB
MPA Design					
MPA Management Plan					
Existence of plan, objectives and regulations					
Plan implementation and adequacy					
Socio-economic considerations					
Plan context					
Management System					
Input					
Staff Number					
Staff Skills and Training					
Equipment					
Infrastructure					
Budget					
Processes					
Boundary demarcation					
Patrol and enforcement					
Monitoring					
Public education and awareness					
Interactions with communities and stakeholders					

6.2 BETTY'S BAY MPA

6.2.1 Context

The Betty's Bay MPA is situated at the western end of the Agulhas bioregion. The coastal town of Betty's Bay is situated adjacent to the MPA and the Kogelberg Nature Reserve (managed by CapeNature) is within close proximity to the MPA. The MPA forms part of the core zone of the United Nations Educational and Scientific Organisation (UNESCO) designated Kogelberg Biosphere Reserve. There are diverse habitats within the MPA including rocky shores, exposed sandy beaches, estuaries, subtidal reefs and kelp forests. The area is productive and supports a rich diversity of fish, invertebrate and algal species as well as populations of two Red Data species, namely the African penguin and bank cormorant. The MPA is important for the protection of abalone, west coast rock lobsters, line fish species and the African penguin.

It was reported that the inshore fish species were over exploited and some had disappeared from the MPA or have become rare. The reduction in fish, a food source for seabirds, was expected to have impacted the seabird populations in the area. The abalone populations had been heavily impacted in the MPA. Intertidal invertebrates were moderately exploited and impacted by trampling.

There are a variety of tourist attractions in and associated with the MPA. These include:

- recreational shore angling,
- surfing and kite-surfing,
- visits to the penguin colony,
- visits to the whaling station,
- swimming and bathing,
- hiking,
- boating.

Threats to the MPA include:

- abalone poaching,
- overexploitation by shore anglers,
- overexploitation of intertidal organisms,
- development in the adjacent areas (increase population pressure and disturbance of dune dynamics)
- accumulation of discarded fishing line and tackle,
- littering of beaches.

6.2.2 Legal framework

The Betty's Bay MPA was initially declared as the H.F. Verwoerd marine reserve. It was re-proclaimed under the MLRA in 2000 as the Betty's Bay MPA. There are no specific

regulations for the MPA under the MLRA; however the regulations do provide that shore angling is allowed.

The manager at Betty's Bay indicated that a dive ban in the MPA would facilitate compliance and that the MPA should be closed to shore angling. It was suggested that fines be increased, the Green Court be reinstated and the profile of poaching raised beyond that of a 'petty crime'. There is an inconsistency in the demarcation of the MPA in the proclamation in that the eastern boundary of the MPA was described through the use of a beacon and GPS coordinates that do not align.

Issues that need to be dealt with include the agreement between MCM and the Overstrand Municipality as it was reported that there was no proactive management of penguins outside of the MPA and that penguins were being removed from municipal land.

6.2.3 MPA design

MPA DESIGN (67%)

The MPA extends along the shore for 3km, between a beacon at Stony Point (western boundary) and a beacon to the east of Jock's Bay, and extends two nautical miles offshore from the high water mark. A total area of 20.14km^2 is incorporated in the MPA. The MPA was not zoned and was managed as a controlled zone. Shore angling was the only consumptive activity that was permitted.

The MPA included critical areas for abalone conservation and fish spawning; however all of these areas were not afforded extra protection as shore-angling was permitted. The size and shape of the MPA would be considered adequate if the MPA was zoned as a no-take area. There was no zonation of activities; however this was not required due to the structure of the coastline and the influence this had on zoning activities naturally.

6.2.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (83%)

A comprehensive management plan for the MPA had recently been drafted. At the time of the assessment it was not yet approved but was being used to guide management. The plan listed the broad objectives for MPAs under the MLRA and the generic biophysical, social and governance objectives provided by CapeNature that were applicable to the MPA. The management plan was designed so to aid in the achievement of these objectives. Allowable and restricted activities were dealt with clearly in the plan.

PLAN IMPLEMENTATION AND ADEQUACY (92%)

The management plan set out priorities and facilitated resource allocation. The plan did not indicate specific management actions to be taken but work plans and operational plans could

be easily formulated using the management plan as a reference. The manager indicated that the plan was useful in its current form.

SOCIO-ECONOMIC CONSIDERATIONS (58%)

All drafts of the plan were made available to stakeholders at local libraries and through the Kogelberg Marine Working Group (KMWG). Many of the stakeholders were engaged and could contribute meaningfully through the KMWG; however there was not an adequate representation of local fishing communities on the KMWG. Despite the plan being made available elsewhere, these local fishers may not have been aware of the process nor have they had the capacity to comment on the plan, and thus they were not afforded adequate opportunity to actively participate. References were made to historical sites associated with the MPA and the local communities were described and considered in the sections for compliance and awareness.

PLAN CONTEXT (58%)

Biophysical scientific information had been used and cited in the management plan; however during the planning process, there was insufficient information regarding resource use and resource inventories. Furthermore, no comprehensive socio-economic assessment was available for use in planning. Threats were identified in the planning process and actions were provided to address most of these threats.

6.2.5 Management system

Input

STAFF NUMBER (25%)

There was only a MPA manager dedicated to the MPA with no staff. This manager was involved in enforcement, monitoring, planning, education, community liaison and maintenance. There was clearly an urgent need for field staff. The manager received assistance with monitoring and enforcement from a field ranger based at the Kogelberg Reserve once a week. In addition the manager was assisted by SEAWATCH, a local organization of volunteers which assist in the combating of poaching, and by MCM FCOs located in Kleinmond.

STAFF SKILLS (63%)

The manager was busy completing the MPA Management Course. He had sufficient background and experience to carry out present and likely future duties and had a good understanding of the role and function of MPAs, the natural and cultural resources in the MPA and their value, and the relevant legislation. He was a qualified skipper and FCO, and could carry out administrative tasks and swim. Further training required and planned for included a commercial diving licence and a radio operator's ticket.

EQUIPMENT (68%)

There was insufficient equipment for all management activities, however it was indicated that there were funds available to purchase some of the needed equipment. There was a new boat with radios, echosound and GPS available for offshore compliance and diving equipment was available. Lacking were binoculars for onshore compliance, a cell phone and radios for communication purposes, a vehicle suitable for towing the boat and night sights and spot lights for night operations. The available equipment was being maintained in accordance with maintenance schedules to a satisfactory standard.

INFRASTRUCTURE (52%)

The visitor infrastructure was maintained by the municipality and was satisfactory for current levels of visitation. The office for the MPA is situated in the Kogelberg Reserve which was not ideal as it is too far from the MPA. There is also no accommodation made available to staff which is an issue as living costs are high in the area. There are 10 major access points to the MPA with parking facilities. The number of access points coupled with the staff shortages made monitoring of resource use and enforcement impossible. There is one public slipway within the MPA which was managed by the Betty's Bay Boat Club. The municipality provided free storage for the boat in a boat house near the slipway. However, the boat house has not been adequately maintained and had a broken door at the time of the assessment.

BUDGET (33%)

The entire budget allocation for the MPA came from MCM. The funding had been secured through a three year contract. The budget allocation for Betty's Bay was inadequate as it did not provide salaries for any additional staff.

Processes

BOUNDARY DEMARCATION (33%)

There was confusion in the legislation over the eastern boundary of the MPA that needed to be clarified. There were beacons on each of the boundaries but these were inadequate as they were not clearly visible from the land and the sea. The signs for the MPA were outdated municipal signs that did not clearly indicate the boundaries of the MPA or provide GPS co-ordinates.

PATROL AND ENFORCEMENT (42%)

Abalone poaching was identified as the major compliance issue in the Betty's Bay MPA. Enforcement activities comprised of responses to SEAWATCH reports of poaching incidents and one foot patrol, three vehicle patrols and one boat patrol per week. Enforcement had been severely hindered by staff shortages, however partnerships with SEAWATCH, the

South African Police Service (SAPS) and MCM FCOs had aided in the arresting and driving out of several abalone poachers. The poaching was not only posing problems for the resources but also the local community as abalone poachers had threatened and harassed several SEAWATCH volunteers.

MONITORING (49%)

Monitoring in the MPA was limited to:

- resource use was recorded when on patrols, however these were not consistent and extensive;
- oystercatcher nesting sites and breeding success was recorded over December 2008

There was no comprehensive system implemented to monitor biotic and abiotic conditions and social conditions. There was some research taking place in the MPA, however this was not driven by management. A schedule for the periodic review and updating of the management plan was provided in the plan.

PUBLIC EDUCATION AND AWARENESS (50%)

There was no planned education programme specific to the MPA being implemented. School groups took part in environmental education programs offered by the South African National Biodiversity Institute at the Harold Porter Botanical Gardens in Betty's Bay. Some aspects were related to marine ecology but none specifically to the MPA. An adult group was addressed by the MPA manager, in collaboration with SANBI, and taught about various aspects of the MPA. Adults involved were only those who were particularly interested in the MPA. This ad-hoc education was not adequate to raise awareness amongst the local communities, visitors and stakeholders. There were no brochures specific to the MPA, however the Marine Recreational Activity Information brochure produced by DEA was available. The signs indicated restricted and allowable activities but were outdated and still referred to the MPA as a 'Marine Reserve'.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (58%)

CapeNature recognised that positive relations with local communities were important for MPA management but no specific actions to develop these relations had been implemented. There was mixed support by local communities for the MPA and its manager and there was mixed tolerance of illegal activities in that some community members were strongly opposed to poaching and reported it while others supported poachers. There was no co-management with local stakeholders however; this was being addressed through the planning of an Integrated Management Plan for the marine section of the Kogelberg Biosphere Reserve. Benefits from the MPA were going mainly to foreigners that used the MPA for recreational purposes.

The Kogelberg Marine Working Group consisted of representatives from CapeNature, MCM, SEAWATCH, WWF-SA, SAPS Betty's Bay, Rate Payers Association of Betty's Bay, the Overstrand Municipality and the Kogelberg Biosphere Reserve. The KMWG facilitated good

information exchange and communication between stakeholders; however some stakeholders were not represented. Stakeholders' comments were responded to as much as possible; however this was limited due to staff shortages.

Improvements

- *A stakeholders forum has been established.*
- *Good relationships have been established with a local organisation and with MCM officers to assist with compliance.*
- *A MPA management plan has been developed and is useful to the manager.*
- *A boat had been supplied.*
- *Funding from the World Bank has allowed for a two year focussed project to be undertaken within the Kogelberg Area which will assist in improving marine management for the MPA and surrounds.*

Weaknesses

- *No MPA specific regulations are in place.*
- *Trained and skilled staff need to be employed.*
- *A larger allocation of funding needs to be negotiated for additional staff.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *Education programs and workshops need to target the affected communities and resource users.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*

6.3 DE HOOP MPA

6.3.1 Context

The De Hoop MPA is located adjacent to the De Hoop Nature Reserve, a World Heritage Site, and the Overberg Test Range (a missile testing range) on the south coast of the Western Cape. The MPA includes rocky platforms, boulder bays, sandy beaches and subtidal rocky reefs and sandy benthos. MPA access is only via the De Hoop Nature Reserve. The MPA supports a rich diversity of intertidal biota, protects reef fish, provides a refuge for several over-exploited fish species and is a critically important nursery area for the Southern Right whale. The MPA is also an important breeding area for African Black oystercatchers. Recreational activities in and associated with the MPA include the famous De Hoop Whale Trail, snorkelling, whale watching, swimming and bathing and hiking. Threats to the marine environment in the MPA include commercial linefishing, recreational and subsistence fishing from ski-boats, shore based angling, abalone poaching and vessel source pollution.

6.3.2 Legal and organisational framework

The De Hoop MPA was initially proclaimed in 1985 and then later re-proclaimed under the MLRA in 2000. The adjacent De Hoop Nature Reserve, a World Heritage Site, was listed under the World Heritage Convention Act 1999 in July 2004. There are no regulations or objectives in the legislation specific to De Hoop.

6.3.3 MPA design

MPA DESIGN (67%)

The length of the shoreline of the MPA is 46km and it extends 3 nautical miles offshore. The total area of the MPA is 253km^2. The entire area is a no take zone and it was indicated that there was no need to zone recreational activities. The size and shape of the MPA Is adequate and it could buffer the interior from edge effects. The Breede River mouth was excluded from the MPA. This estuary is an important fish nursery area and impacts ecological processes within the MPA.

6.3.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (67%)

A management plan for the MPA was prepared in 2006. The plan lists the broad objectives for MPAs under the MLRA and the generic biophysical, social and governance objectives provided by CapeNature that are applicable to the MPA. The management plan is designed to aid in the achievement of these objectives. Allowable and restricted activities were dealt with clearly in the plan.

PLAN IMPLEMENTATION AND ADEQUACY (50%)

The plan is a general guiding document that sets out priorities for the MPA. There were no specific management actions prescribed in the plan and it did not facilitate resource allocation adequately. In the absence of a permanent manager to use the plan as a guiding tool for formulating work plans and operational plans, there were few aspects of this plan that were useful for day to day management. The plan is in need of revision and requires improvement with regard to defining long-term visions and adaptive management.

SOCIO-ECONOMIC CONSIDERATIONS (25%)

There was insufficient engagement with local stakeholders during the planning process. Local communities and cultural aspects were given some consideration in the management plan but the local stakeholders did not have an adequate role and input in planning.

PLAN CONTEXT (75%)

A threat analysis was conducted and the threats were prioritized and addressed in the management plan. Available biophysical information was referred to and considered in the plan. Biological information available for planning purposes was adequate, while information regarding social conditions was partially adequate.

6.3.5 Management system

Input

STAFF NUMBER (50%)

There was no reserve manager at De Hoop. Two new staff members (one nature conservator and one field ranger) had been recently appointed specifically for the MPA. The acting manger indicated that the current number of staff was inadequate and that another field ranger and a manager needed to be appointed. There were two other nature conservators and six field rangers whose core function was terrestrial but they accepted marine tasks.

STAFF SKILLS (39%)

It was indicated that few of the staff members had sufficient training to carry out present and likely future duties in the MPA. The majority of the staff had a basic understanding of the role and function of the MPA and the resources in the MPA and their value. Less than half the staff had an understanding of the legislation applicable to the MPA. Two skippers had recently been trained, however it was indicated that they were seldom available to take the boat out and still required further experience. The MPA was lacking staff with swimming skills, radio operator's tickets and diving licences. Furthermore it was indicated that further training was required to develop maintenance, monitoring, skippering, compliance and public liaison skills as most of the staff had little experience in the marine environment. The two new marine staff members were in the process of completing the MPA Management Course. Management has been negatively impacted by the poor continuity of key staff members.

EQUIPMENT (70%)

It was reported that there was adequate equipment for management purposes at the MPA. However it was evident the maintenance of MPA equipment needed improvement (the boat could not be used for a period due to poor upkeep) and, as implied above, this limitation may be due to the minimal experience of staff in the marine environment. A boat was donated to the MPA to assist with offshore compliance and monitoring however this boat was rarely used due to staffing issues and maintenance and licensing constraints. There were four vehicles and two motorcycles for the reserve and MPA and there was equipment for offshore and onshore compliance, diving and communication. Additional equipment that should be

considered included night sights for night compliance operations and a laptop for MPA management purposes.

INFRASTRUCTURE (65%)

Visitor facilities were managed and maintained by the De Hoop Collection through a partnership with CapeNature. The visitor facilities included accommodation and a restaurant and were adequate for levels of visitation. The office complex and the education centre in the reserve were adequate for management needs. There are three access points to the MPA from the land that are controlled and thus facilitated management. More staff accommodation was required on the reserve and the development of a non-public slipway should be considered as the nearest slipways were only at the Breede River and at Arniston, causing delayed responses to offshore compliance issues. The maintenance of infrastructure was satisfactory but could be improved on.

BUDGET (67%)

The budget for the management of the MPA was acceptable for most management purposes. The funding received by CapeNature from MCM was secured by a three year contract and covered approximately 60% of the personnel, operational and capital equipment expenses incurred by the MPA. CapeNature and other partners provide the additional funding that is needed.

Processes

BOUNDARY DEMARCATION (67%)

The GPS co-ordinates of the boundaries of the MPA are provided in the proclamation in the Government Gazette. The borders of the MPA were clearly demarcated with six metre high beacons and there were two MPA signs with maps at each of the entrances into De Hoop Nature Reserve. Signs providing a map of the MPA, GPS coordinates of the boundaries and the restricted activities should be established at the two nearest slipways (Cape Infanta and Arniston).

PATROL AND ENFORCEMENT (50%)

There were deficiencies in the capacity of staff to issue fines and implement enforcement mechanisms, and the availability of the boat and skippers to conduct offshore enforcement. The enforcement mechanisms were not sufficient to control illegal activities as there were difficulties in capturing poachers and securing evidence.

The enforcement activities comprised of one foot patrol per week and 10 aerial patrols per annum. Two boat patrols were planned per month but only one occurred during the first half of the year due to an inadequate number of experienced skippers and maintenance and licensing problems. If boats were sighted in the MPA, staff members at De Hoop phoned the managers of the slipways in the vicinity to check the boat launch registers. Attempts were

then made to check the vessels once they returned to the slipways. A working relationship had been established with the Breede River Conservancy to assist with boat patrols and compliance of boats launched at Infanta.

MONITORING (37%)

There was no comprehensive system for monitoring with results to be used in adaptive management. Aerial counts of great white sharks and whales were conducted during the aerial patrols and there was monitoring of oystercatchers and penguins, however this was limited due to the lack of staff experience. There was research occurring in the MPA but this was not driven by management and the results were not used in adaptive management. Research in the MPA included long-term monitoring of fish abundance and Southern Right whale movements. The management plan set out requirements for periodic review, but these had not been followed.

PUBLIC EDUCATION AND AWARENESS (67%)

There was a planned education programme that targeted school groups. The programme was not specific to the MPA but did incorporate some aspects related to the MPA. There is an environmental education centre in the Potberg section of reserve as well as accommodation facilities for school groups. There were no brochures specific to the MPA; however the DEA Marine Recreational Activity Information brochure was available. MPA signs were required at nearby slipways and an additional sign should be incorporated in the information display at Koppie Alleen within the reserve.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (67%)

It was reported that regular interactions occurred between CapeNature and local farmers adjacent the MPA. Some of the community at Arniston was opposed to the MPA and took part in or supported illegal activities in the MPA. Occasional efforts were made by CapeNature staff to engage with these communities meaningfully however none of this is fed back into the management of the MPA.

A CapeNature Community Conservation Officer from De Hoop liaised with local fishing communities and local landowners (farmers and Overstrand Test Range) in monthly committee meetings. Communication lines and a means for information exchange had been established, however not all role players have been included.

Improvements

- *A management plan has been prepared, although it is seen as too broad, but none the less a step in the right direction.*
- *A nature conservator and marine ranger have been employed specifically for the MPA.*
- *A budget has been allocated by MCM for the management of this MPA.*
- *A boat has been supplied to the MPA.*

- *A positive relationship has been established with the Breede River Conservancy to assist in enforcement.*

Weaknesses

- *MPA specific regulations need to be promulgated.*
- *There has been no permanent reserve manager at De Hoop since 2007 to date and many key staff members have also left. The lack of leadership and team strength that resulted may have reversed some of the improvements to management that were implemented in the MPA since the last assessment in 2003. Some of the previous systems and plans remain; however, due to changes in staff structure and skill, these are not being implemented effectively.*
- *Staff lack basic skills required for operations in MPAs.*
- *Sea-going capabilities are still limited despite the new boat.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *Education programs and workshops need to target the affected communities and resource users.*

6.4 STILBAAI MPA

6.4.1 Context

The Stilbaai MPA is situated along the southern coast of the Western Cape west of Mossel Bay. The ecology and habitats represented in the MPA are not unique and instead, consist of features that are typical to the warm-temperate south coast. The MPA includes the Goukou estuary, sandy beaches, a shallow sandstone shelf and rocky shores. The Goukou estuary is permanently open and highly productive, forming an important nursery area for coastal fish. This is the first estuary to be included in a MPA in the Western Cape. Reef fish species, Southern Right whales, two species of eel and ragged tooth sharks are represented in the MPA.

Figure 6.1/…

Figure 6.1: Vywers in Stilbaai MPA

A unique feature of the MPA is the culturally and historically significant stone-age fish traps (*vywers*) (refer to figure 6.1). These are one of two remaining functional *vywers* in South Africa. The use of the *vywers* to catch fish is currently illegal and the modern practices employed are unsustainable; however the maintenance of the *vywers* is dependant on these fishers (Kemp *et al* 2009). Management authorities are mandated to conserve both biological and cultural heritage and are thus faced with a challenge to ensure catches are legal and sustainable while the historical site and the associated cultural activities are maintained.

There are four small nature reserves in the vicinity. These are Skulpiesbaai, which is managed by the municipality, Geelkrans, which is a provincial reserve managed by CapeNature, Bosbokduin, which is a private nature reserve (has self catering and bed and breakfast facilities) and the Pauline Bohnen Nature Reserve. Skulpiesbaai, Geelkrans and Bosbokduin are all situated on the coast on the landward border of the MPA.

The coastal town of Stilbaai is set around the banks of the Goukou estuary and borders on a large part of the MPA. The small town has several bed and breakfast facilities and self-catering cottages and residents generate much of their revenue from tourists during December. There are a range of tourist activities within the MPA which include recreational fishing (rock, surf and charters), surfing and water-skiing, boating (non and motorised). The MPA also attracts hikers, birders and whale watchers.

The proclamation regulations provide that the functions of the MPA include biodiversity conservation, the protection of exploited fish species and the nursery function of the estuary, the management of tourism and activities in the MPA and the prevention of the degradation of habitats and *vywers*.

The threats to the MPA include:

- high recreational boating activity on the estuary during peak seasons (over 600 boating permits issued during December 2008);
- water extraction from the estuary resulting in siltation;
- land source pollution in the estuary;
- commercial linefish and oyster industries (currently 17 commercial line fishers are landing catch in Stillbay, however the fishing occurs on the border of the MPA and not within the MPA itself);
- development on and the disturbance of the primary dunes;
- vessel source litter and pollution;
- illegal gill netting in the *vywers;*
- over exploitation of intertidal invertebrates, and
- over exploitation of fish species by fishermen.

6.4.2 Legal and organisational framework

The Stilbaai MPA is under the MLRA in Government Notice 1109 in October 2008. The GPS co-ordinates and a description of the boundaries are provided. Government Notice 1108 provides comprehensive regulations specific to the MPA. The regulations provide specific objectives for the MPA, define restricted and controlled zones and describe the requirements and procedures for various activities in the MPA.

Management indicated that the legislation and regulations applicable to the MPA were well drafted and adequate for management purposes; however it was suggested that the flexibility of the regulations be increased to allow for more adaptive practical spatial management.

6.4.3 MPA design

MPA DESIGN (92%)

The MPA includes 13.5km of coastline between Noordkapperspunt (Bosbokduin) and Rietvlei *vywers* and 15.7km of the Goukou estuary. The high water mark on the coast and in the estuary is the landward boundary while the seaward boundary is defined by straight lines extending eastward from Noordkapperspunt to a point 4.2km offshore from Rietvlei *vywers* and from this offshore point back to the coast at Rietvlei *vywers*.

Three restricted zones had been established in the MPA. These were:

- The Geelkrans restricted zone, adjacent to the Geelkrans Nature Reserve at the eastern end of the MPA

- The Skulpiesbaai restricted zone at Noordkapperspunt, incorporating the *vywers*
- The estuary of the Goukou River from approximately 4km upstream of the mouth to a point 15km from the mouth.

The remainder of the MPA is a controlled zone.

Areas critical for the maintenance of the ecological integrity of the MPA and the cultural heritage have been included within its boundaries and afforded extra protection (approximately 75% of the estuary and 20km^2 of reef systems are restricted). Zones were adequate for all the activities in the MPA.

6.4.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (83%)

A comprehensive management plan for the MPA had recently been drafted. At the time of the assessment it was not yet approved but was being used to guide management. The plan listed the broad objectives for MPAs under the MLRA, the generic biophysical, social and governance objectives provided by CapeNature that are applicable to the MPA, as well as the specific objectives for Stilbaai MPA as provided in the regulations. The management plan is designed so to aid in the achievement of these objectives. Allowable and restricted activities are dealt with clearly in the plan. The plan required that a supplementary management plan be developed for the estuary.

PLAN IMPLEMENTATION AND ADEQUACY (92%)

The management plan set out priorities and facilitated resource allocation. The plan did not indicate specific management actions to be taken but work plans and operational plans could be easily formulated by using the management plan as a reference. The manager indicated that the desired future state was clearly articulated and could be used as a decision making reference point and that the plan was useful in its current form. The adequacy of the plan could be attributed to the manager's direct involvement in the planning process.

SOCIO-ECONOMIC CONSIDERATIONS (75%)

Notices of the planning procedures were made available in newspapers, on the radio and in pamphlets that were made available to the public. All interested parties were invited to participate and comment in the planning process and a meeting was held with the local liaison committee. However no active efforts were made to engage meaningfully with the three local communities. Details of the historical sites associated with the MPA and cultural practises were provided and the different local communities were described and considered in the sections for compliance and awareness. The requirements for managing the *vywers* were still to be investigated through a workshop at the time of the assessment.

PLAN CONTEXT (83%)

Both social and biophysical information was consulted in the planning process. Management advised that the available information on resource use, social conditions and biophysical conditions was adequate for planning purposes; however, a full inventory of resources in the MPA has not yet been completed. Threats were identified in the planning process and actions were provided to address most of these threats, however this was not a formal threat analysis.

6.4.5 Management system

Input

STAFF NUMBER (61%)

The current number of staff members was below the optimal number for critical management activities. There was one Nature Conservator and two field rangers who also worked in the terrestrial reserves in the area. It was indicated that an additional three field rangers were required. Despite the low number of staff, there were personnel conducting monitoring, planning, maintenance, education and law enforcement roles in the MPA.

STAFF SKILLS (75%)

The Nature Conservator and one of the field rangers had been working in the area for several years and were qualified skippers, divers, peace officers and radio operators. They had a sufficient understanding of the role and function of the MPA, the applicable legislation and the resources in the MPA. The Conservator had completed the MPA Management Course and the field ranger was in the process of completing it. The other field ranger had been recently appointed and required training in MPA theory and as a skipper, diver, FCO, Peace Officer and radio operator. A local SCUBA diving group and the MCM FCOs offered additional skills and assistance to management.

EQUIPMENT (98%)

It was indicated that the equipment was sufficient for management purposes and that the maintenance of the equipment was of a high standard. There was sufficient equipment for offshore compliance and monitoring, onshore compliance, diving, administrative duties and communication. Additional equipment that may be considered includes night sights and a spot light for night compliance operations and pepper spray apparatus for enforcement operations.

INFRASTRUCTURE (56%)

The infrastructure for MPA management included an office and store room based at the Stilbaai municipality building. It was indicated that this was not adequate for management

purposes. The MPA is an open system with no controlled access from the land. There are four public slipways on the estuary, three of which are managed by the municipality, and there is one slipway in the harbour managed by MCM. The harbour is the only slipway that currently provides access to the sea and boats can only be launched at high tide. There were 43 private access points to the estuary which severely hindered monitoring and compliance on the estuary.

BUDGET (67%)

The budget allocation for the MPA was described as adequate for most management activities, and had been secured through a contract with MCM. The budget covered a portion of the personnel expenses and capital expenses as well as operational costs. Funding had also been received for capital expenses through the WWF Honda Marine Parks Programme.

Processes

BOUNDARY DEMARCATION (100%)

There were eight sign boards around the MPA which were well placed and provided GPS coordinates. The boundaries of the different zones were demarcated with poles and there were sign boards indicating the boundary of the estuarine restricted zone (refer to figures 6.2).

Figure 6.2: Boundary demarcation at Stilbaai MPA

PATROL AND ENFORCEMENT (92%)

The staff had excellent capacity and resources to enforce the MPA legislation and the enforcement mechanisms were being implemented effectively. The mechanisms and procedures were sufficient for controlling illegal activity. Enforcement activities were currently limited by the number of available staff to an average of two patrols per week, these being

either foot, vehicle or boat patrols. The entire extent of the MPA was covered at least once a week and more often during the busy season.

MONITORING AND ADAPTIVE MANAGEMENT (95%)

There was a monitoring system being implemented in the Stilbaai MPA. This system included monitoring of:

- Estuarine Salinity;
- Water bird counts;
- Estuarine fish surveys;
- Scuba diving transect counts of fish and invertebrates;
- Sea surface temperatures;
- Visitor use of the MPA, and
- CPUE recorded on patrols.

The extent to which the results of monitoring would be used in adaptive management was yet to be seen given the early stage of the MPA. There was no monitoring of socio-economic conditions related to the MPA planned.

PUBLIC EDUCATION AND AWARENESS (83%)

An education programme existed for the Stilbaai MPA involving half-day visits to the MPA by local school groups. Raising awareness for the MPA was conducted in patrols and through the presence of CapeNature staff at angling competitions. A brochure for the MPA was available in English and was distributed on patrols and at tackle shops and the local post office. There were eight Stilbaai MPA signboards with text in English and Afrikaans as well as an interpretive educational MPA sign board in the vicinity of the MPA. There currently is no education or interpretive centre that could be utilised.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (67%)

There were three settlements within the vicinity of the MPA. These were Stilbaai, Melkhoutfontein and Jongensfontein. It was indicated that positive relations with local communities were viewed as critical. There was no co-management with communities and support for the MPA was mixed with some opposition from fishers wishing to utilise the *vywers*. The communities generally had a low tolerance for illegal activities and illegal incidents were reported some of the time. There were five honorary rangers in the area that assisted by reporting incidents. Benefits from the MPA were going to both foreign and local users but were not equitably distributed between locals.

Communication between CapeNature and stakeholders concerning the MPA took place through a structured community liaison committee. In addition to this committee, CapeNature representatives attended the annual meetings of local NGOs, and there was an open door policy at the CapeNature office allowing for ad-hoc meetings with stakeholders to take place as needed. A total of nine meetings with local communities and six meetings with

stakeholders had taken place in the previous year. There was no strategy for information exchange between management and stakeholders however, information did move freely for the most part through the committee. Consultation with stakeholders was regular however, their comments were not always explicitly responded to.

Strengths

- *A comprehensive and adequate MPA management plan has been developed*
- *The staff have sufficient skills and capacity.*
- *There is adequate equipment available to conduct management functions.*
- *A budget has been allocated for the management of the MPA.*
- *A comprehensive monitoring system has been designed for the MPA, the extent to which it is implemented and used in adaptive management is yet to be seen considering the early stage of this MPA and plan.*

Weaknesses

- *Signage could be improved by providing bold illustrations of do's and don'ts and indicating the position of the reader on the map.*
- *Monitoring of socio-economic conditions and the effects of the MPA on local communities should be planned and implemented.*

6.5 GOUKAMMA MPA

6.5.1 Context

The Goukamma MPA is situated adjacent to the Goukamma Nature Reserve, on the southern coast of the Western Cape between Knysna and Sedgefield. The town of Buffalo Bay lies within the Goukamma Nature reserve on the coast. The shoreline of the MPA is 14km long and consists of rocky and sandy shores and a semi-closed estuary. The landward boundary of the MPA is the high water mark from which the MPA extends one nautical mile offshore. There are offshore reefs and soft sediment within the MPA. No offshore angling is allowed in the MPA while shore angling is permitted for the entire length of the MPA. Oyster catcher breeding areas are included in the MPA as well as offshore reefs which are an important habitat for commercially exploited fish species. The main activities in the MPA are shore-based line fishing, surfing, boating (traversing beyond MPA to fish) and swimming and bathing. The surrounding towns of Knysna, Sedgefield and Buffalo Bay are popular tourist destinations over the summer and Easter holidays and draw large amounts of recreational anglers and beach users to the area.

The main threats to the environment and biota in the MPA were:

- Overexploitation by shore anglers;
- Overexploitation of offshore reefs on the border of MPA;
- Extraction of water from the estuary, which negatively affects the flow of the estuary;
- Bait collecting;

- Dogs disturbing birds on the beaches, and
- Beach wall development.

6.5.2 Legal and organisational framework

The Goukamma MPA was initially proclaimed in 1990 and then re-declared under the MLRA in 2000. Specific regulations and objectives were not provided for the MPA under the MLRA; however the provisions in GN 21498 provide that shore angling is permitted.

It was indicated that night fishing should be banned so to facilitate enforcement and reduce incidence of over-nighting in the reserve, that stricter regulations for shore fishers be implemented in the MPA (one rod per fisher), and that a more flexible system be developed so to allow for the zoning of users, dogs and shore anglers. It was also suggested that the Green Court be reinstated and the profile of poaching raised beyond that of a 'petty crime'.

6.5.3 MPA design

MPA DESIGN (56%)

The offshore reefs were not adequately protected by the MPA as they were only partially incorporated within its boundaries. The extension of the MPA further offshore should be considered. The MPA was managed as one zone. There is no formal user zonation on the shore at Goukamma. Basic zoning of activities has been accommodated through the management of the adjacent terrestrial area however this was not adequate for the area as there were still conflicts arising over dogs on beaches. Furthermore, there are no areas on the shore that are closed to fishermen and it was indicated that there should be designated closed areas to facilitate the recovery and maintenance of coastal fish species.

6.5.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (67%)

There was an approved management plan being implemented at Goukamma MPA. Broad objectives were provided in the plan that were not specific to Goukamma but were compatible with the issues faced. Restricted and allowable activities were provided in the plan, but not all of these were legally enforceable.

PLAN IMPLEMENTATION AND ADEQUACY (42%)

The plan was a general guiding document that was described as 'too generic but a good starting point'. Priorities were not clearly indicated and could be perceived differently. There were no specific management actions prescribed in the plan and it did not facilitate resource allocation adequately. The usefulness of this plan was dependant on the experience of the MPA manager, who in this case found many of the aspects useful for management but

acknowledged that the plan was in need of revision and required improvement with regard to defining long-term visions and adaptive management. A revision process for the plan under the Garden Route Initiative had recently commenced.

SOCIO-ECONOMIC CONSIDERATIONS (42%)

There was inadequate consultation with local stakeholders during the compilation of the management plan. The plan was made available to locals once, and only those who had an interest in the MPA and the capacity to respond were involved. The social systems and cultural and historical features in the MPA were described, however the traditional practices were not considered in the plan. Local stakeholders were informed of planning processes, but seldom had meaningful input.

PLAN CONTEXT (46%)

The management planning process made use of available biological and socio-economic information. No formal threat analysis was conducted; however threats were identified and addressed in the plan. There was insufficient information regarding social and biophysical conditions for planning, while resource use statistics and a partial biological resource inventory was available. An analysis of the threats to the MPA would be undertaken during the revision of the plan.

6.5.5 Management system

Input

STAFF NUMBER (61%)

The current number of staff members was below the optimal number for critical management activities. There was a total of 10 CapeNature staff members (four field rangers, four conservation assistants, one clerical and one Conservation Manager) dedicated to the management of the nature reserve and MPA. In addition, there was an unfunded but well trained nature conservation student assisting with all the activities in the MPA. There were two field ranger posts available, however people with sufficient skills and capacity had not yet been sourced. The two additional roles were needed particularly for enforcement and monitoring in the MPA.

In addition there was an ecological co-ordinator (terrestrial), a data co-ordinator and a tourism officer shared between Goukamma and Robberg Nature Reserves.

STAFF SKILLS (35%)

The conservation manager was still new to the MPA and a new team was in the process of being developed. Most of the staff members were aware of the role and function of the MPA, however very few had an understanding of the applicable legislation and were aware of the

natural/cultural resources and their value. Half of the staff members had sufficient skills to conduct present and future duties. There was one skipper, one commercial diver and three FCOs. Critical skills development areas that were required include:

- Radio operator's tickets;
- Skippers;
- Maintenance skills (especially for the boat);
- Communication with members of the public;
- Law enforcement;
- Data management, and
- Computer literacy.

EQUIPMENT (86%)

There were some deficiencies in the equipment available for the MPA; however these did not constrain major management activities. There was a boat dedicated to the MPA that was used for offshore compliance and monitoring. Additional equipment that was required included more radios, another set of diving gear, a digital camera with a waterproof housing, nights sights and a spotlight for night compliance, another four-wheel drive vehicle (or another vehicle with launch capabilities) and two motorbikes. The maintenance of equipment was conducted to a high standard in accordance with the relevant maintenance schedules.

INFRASTRUCTURE (67%)

The visitor facilities in the Nature Reserve that were utilised by MPA visitors were adequate for current levels of visitation. The facilities did not constrain major management activities, however, it was reported that that a boat house in Buffalo Bay and store room needed to be developed. The MPA is an open system and could be accessed from the land at both its boundaries and through a gate into the Goukamma Nature Reserve. There is one public slipway that is maintained by the Buffalo Bay ski club and could be used only at high or mid tide.

BUDGET (67%)

The budget allocation from MCM in combination with the allocation from CapeNature was described as adequate for most management activities. CapeNature provides the funding for staff and the contribution from MCM covers the operational costs and a portion of the capital expenses.

Processes

BOUNDARY DEMARCATION (67%)

The GPS co-ordinates for the boundaries of the MPA are provided in the proclamation. There was a tall beacon at the eastern boundary of the MPA in Buffalo Bay, but no beacon on the

western boundary. There were seven sign boards in the vicinity of the MPA that provided a map; however no GPS co-ordinates were listed and the readers' position relative to the map was not indicated.

PATROL AND ENFORCEMENT (67%)

The main compliance issues were fishermen fishing without permits and shell-fish poaching and bait collecting. Some of the staff members lacked confidence in issuing fines because of a poor understanding of legislation and poor communication and human relations skills. Therefore, there were problems in the implementation of enforcement mechanisms. The enforcement mechanisms that did exist though were sufficient for controlling illegal activities but there were deficiencies in the implementation of the mechanisms. The onshore enforcement activities consisted of foot and vehicle patrols that took place three to seven times per week depending on tides and activities. Boat patrols were sporadic and the boat was mainly used for monitoring purposes.

MONITORING (48%)

Resource use was monitored on patrols, through a catch card system administered by the Oceanographic Research Institute (ORI) and in a roving creel survey. Oystercatchers' nests and breeding success was monitored and alikreukel surveys were conducted on a quarterly basis. The monitoring system at Goukamma MPA was not comprehensive and monitoring of resource conditions and inventories, abiotic conditions and social conditions was found to be lacking. There was research occurring in the MPA but this was not driven by management. The management plan set out requirements for periodic review, but these have not been followed.

PUBLIC EDUCATION AND AWARENESS (67%)

Local schools were involved in an educational programme at the Nature Reserve. There were a total of four visits made to the MPA each year by school groups. Stakeholders and resource users were made aware of the MPA by field rangers on patrols, who handed out maps with co-ordinates, and by signs in the vicinity. There were brochures for the Goukamma Nature Reserve, with some information on the MPA, provided in English. MPA signs provided general information in English on MPAs, restricted activities in Goukamma MPA and a map of Goukamma MPA. There were two information points with interpretative posters and displays on marine biology and MPAs.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (44%)

Positive relations with local communities were viewed as critical by the management authority. There was currently no co-management with communities and support for the MPA was mixed with some opposition from locals wishing to have access to invertebrates on the rocky shore. Some members of the communities had a low tolerance for illegal activities and reported incidents, while others were involved in illegal harvesting or fishing without permits. Benefits from the MPA went mostly to locals but were not equitably distributed.

Communication between the management authority and local stakeholders and communities took place at an annual liaison meeting and on an ad-hoc basis on patrols. It was acknowledged that this was not sufficient to build relationships and trust.

Improvements

- *A budget has been allocated for the management of the MPA.*
- *There is adequate equipment available to conduct management functions.*
- *A boat has been supplied the MPA and there is a skipper.*

Weaknesses

- *Expansion of the MPA's seaward boundaries needs to be considered.*
- *The zonation of the MPA needs revision that would included provision for no-fishing zones and would restrict the impact of dogs.*
- *The management plan needs to be revised with the input of the manager.*
- *Staff lack basic skills required for operations in MPAs.*
- *Staff require training on marine ecology and the applicable MPA legislation.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented (long term monitoring of dune dynamics and sand movements should be initiated and historical photos of the dunes sourced).*
- *Education programs and workshops need to target the affected communities and resource users.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*

6.6 ROBBERG MPA

6.6.1 Context

The Robberg MPA is situated on the southern coast of the Western Cape adjacent to the Robberg Nature Reserve. The Nature Reserve is a peninsula with one access point controlled by CapeNature. The length of the shoreline in the MPA is approximately 9.5km and it consists mainly of rocky shores with two sandy beaches making up 1km of the shoreline. The MPA extends one nautical mile offshore around the MPA and includes subtidal reefs and sandy benthos. The area supports exploited reef fish species, a Cape Fur seal colony and oystercatchers. No fishing activities are permitted in the MPA with the exception of shore angling. The MPA is situated in close proximity to Plettenberg Bay which is a popular tourist destination over summer and Easter holidays. Tourist activities in the MPA include whale and seal watching, kayaking, recreational fishing, hiking and swimming and bathing.

6.6.2 Legal and organisational framework

Robberg MPA was declared under the MLRA in 2000. No specific regulations were provided for the MPA in the proclamation. It was indicated that regulations for non-consumptive uses and competitions (such as kayak races, regattas, swimming, and fishing) were needed.

6.6.3 MPA design

MPA DESIGN (67%)

Reef fish nursery areas were included within the boundary of the MPA. The size and shape of the MPA was not constraining the achievement of objectives however it could be improved by incorporating more of the Bay. The entire coast was open to fishing. Discussions had been held to close the southern coast of the MPA to fishing. The northern side was the more popular fishing area so it is predicted that there shouldn't be too much opposition. There were no user conflicts and thus no need to create user zones.

6.6.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (67%)

There was an approved management plan being implemented at Robberg MPA. Broad objectives are provided in the plan that are not specific to Robberg but are compatible with the issues faced. Restricted and allowable activities are provided in the plan, but not all of these were legally enforceable.

PLAN IMPLEMENTATION AND ADEQUACY (42%)

Priorities were not clearly indicated and could be perceived differently. There were no specific management actions prescribed in the plan and it did not facilitate resource allocation adequately. The usefulness of this plan was dependant on the experience of the MPA manager and the involvement of the manager in the planning process. In this case, the manager had found many of the aspects useful for management but acknowledged that the plan was in need of revision and required improvement with regard to defining long-term visions and adaptive management.

SOCIO-ECONOMIC CONSIDERATIONS (67%)

During the planning process, the plan was made available in the public library and to the reserve liaison committee and the Plettenberg Bay angling and ski clubs. Stakeholders and interested parties were invited to comment and were made aware of the process through advertisements in the local newspapers. One meeting was held and there were no comments made and no resistance to the plan. There were no cultural practices and heritage

resources to consider within the MPA. There are stone-age artefacts and tools and 19 heritage sites in the nature reserve and these were mentioned in the plan.

PLAN CONTEXT (71%)

The management planning process made use of available biological and socio-economic information. No formal threat analysis was conducted; however threats were identified and addressed in the plan. There was very little baseline data available for planning when the plan was formulated. At the time of the assessment, there was sufficient information regarding resource use statistics and social and biophysical conditions for planning, and a partial biological resource inventory was available.

6.6.5 Management system

Input

STAFF NUMBER (71%)

The number of staff members was below the optimal number for critical management activities. The team consisted of one Conservation Manager and six field rangers dedicated to the management of the Nature Reserve and the MPA. All staff members were involved in monitoring, maintenance, education and law enforcement. An additional two field rangers, one of which was needed to co-ordinate marine patrols and ensure more physical presence in the MPA, would suffice.

In addition, there was an ecological co-ordinator (terrestrial), data co-ordinator and tourism officer shared between Goukamma and Robberg Nature Reserves.

STAFF SKILLS (82%)

The conservation manager and field rangers had been working as a team at Robberg for more than 10 years. Most of the staff members were aware of the role and function of the MPA, had an understanding of the applicable legislation and were aware of the natural/cultural recourses and their value. Most of the staff members had sufficient skills to conduct present and future duties. There was one skipper and seven FCOs. There was one field ranger in the process of completing skippers training and the MPA Management Training Course. Critical skills development areas that were required include:

- Radio operator's tickets;
- Swimming;
- Diving, and
- Data management.

EQUIPMENT (97%)

The equipment available at Robberg was adequate and aided in the achievement of management objectives. There was a boat dedicated to the MPA that was used for offshore compliance and monitoring. Additional equipment that was required included more radios and evidence bags and pepper spray for law enforcement. The maintenance of equipment was conducted to a high standard in accordance with the relevant maintenance schedules.

INFRASTRUCTURE (86%)

The visitor facilities in the nature reserve that were utilised by MPA visitors were adequate for current levels of visitation. The facilities did not constrain major management activities however, it was reported that that a boat house needed to be developed. The entire coast of the MPA was a terrestrial protected area and the one access point, with closing times, was controlled by CapeNature. There were no slipways in the MPA but there were nearby launch sites at Plettenberg Bay and on the Keurbooms River Estuary. There was an interpretive centre in the Nature Reserve where tourists could read several sign boards about the ecosystems, biological resources and cultural resources at Robberg (e.g. caves, middens and tools).

BUDGET (67%)

The budget allocation from MCM in combination with the allocation from CapeNature was described as adequate for most management activities. CapeNature provides the funding for staff and the contribution from MCM covered the operational costs and a portion of the capital expenses.

Processes

BOUNDARY DEMARCATION (67%)

The GPS coordinates are provided in the proclamation. The boundaries were not demarcated in the field, however, there were well placed recreational fishing regulation signs which provided a map and GPS coordinates for the MPA. Some of these signs needed replacement as they had faded, and a sign was needed at the launch site in Plettenberg Bay.

PATROL AND ENFORCEMENT (92%)

There had been a minimal amount of illegal activity reported at Robberg over the last three years. The main issues encountered in the MPA included fishing without permits and not abiding by the regulations (many claim ignorance and lack of access of the DEA information brochure) and bait collecting on the borders of the MPA. The enforcement activities consisted of foot patrols once per week or more, depending on the level of activity in the MPA, and ad-hoc boat patrols. During the day, there were always staff present in the nature

reserve and at the gate and they were aware of fishers entering the nature reserve and they also did check fishers sporadically to ensure compliance. The staff members had excellent capacity and resources to enforce the MLRA and the enforcement mechanisms were effectively implemented and were sufficient.

MONITORING (25%)

There was no comprehensive monitoring or research being conducted in Robberg MPA. Currently the only monitoring consisted of seal counts, oystercatcher monitoring and catch cards which were sent to the Oceanographic Research Institute (ORI). The management plan set out requirements for periodic review and adaptive management, but these had not been followed.

PUBLIC EDUCATION AND AWARENESS (75%)

There was an education programme for local school groups. Brochures were provided on entrance into the nature reserve. These brochures included a section on the MPA and were available in English, Afrikaans and French (for tourists). There is an interpretative centre on the peninsula which provides information on marine ecology and resources. The signs available were recreational fishing regulation boards which did not provide information on the role, function and benefits of the MPA. In addition, field guides interacted with the public to raise awareness.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (87%)

Positive relations with local communities were viewed as critical by the management authority. Specific efforts had been made to involve local disadvantaged communities by offering transport to the nature reserve but there had been little response and involvement despite these efforts. The local community had a low tolerance for illegal activities but illegal actions were rarely acted on or reported. The MPA's staff and the conservation programme were welcomed and supported by most of the local community. Benefits from the MPA went mostly to locals (through tourism) but were not equitably distributed.

Communication and information exchange between the management authority and stakeholders was facilitated by biannual local liaison committee meetings. Information regarding changes, plans or progress in the MPA was also advertised in the local newspaper. Stakeholders were consistently consulted but did not provide much response or comment regarding issues at the MPA. The contact between tourism operators in the MPA and the management authority was found to be confined mostly to regulatory and administrative matters.

Improvements

- A management plan has been prepared, although it is seen as too broad, but none the less a step in the right direction.
- A budget has been allocated for the management of the MPA.

- There is adequate equipment available to conduct management functions.
- A boat has been supplied the MPA and there is a skipper.
- Staff have a basic understanding of MPA theory, marine resources and applicable legislation.
- Most staff members have basic skills required for operations in MPAs.
- Brochures specific to the MPA have been produced in different languages.

Weaknesses

- Revision of the MPA's zonation needs to be undertaken (which needs to consider the implementation of a no-take zone).
- The management plan needs to be revised with the input of the manager.
- A comprehensive management effectiveness monitoring program needs to be designed and implemented.
- Interpretative signs for raising awareness about the MPA need to be erected.
- Education programs and workshops need to target the affected communities and resource users.
- There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.

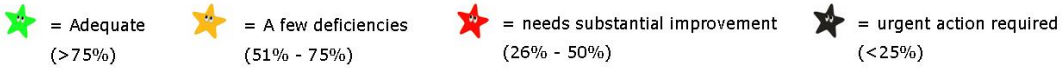
Chapter 7: Eastern Cape Parks

EASTERN CAPE
PARKS

CHAPTER 7.EASTERN CAPE PARKS

7.1 EASTERN CAPE PARKS BOARD OVERVIEW

Table 7.1: Overview of ECPB management of MPAs



Criteria	DC	HL	PL
MPA Design			
MPA Management Plan			
Existence of plan, objectives and regulations			
Plan implementation and adequacy	N/A	N/A	
Socio-economic considerations	N/A	N/A	
Plan context	N/A	N/A	
Management System			
Input			
Staff Number			
Staff Skills and Training			
Equipment			
Infrastructure			
Budget			
Processes			
Boundary demarcation			
Patrol and enforcement			
Monitoring			
Public education and awareness			
Interactions with communities and stakeholders			

7.2 DWESA-CWEBE MPA

7.2.1 Context

The Dwesa-Cwebe MPA is situated in the Eastern Cape adjacent to the Dwesa and Cwebe Nature Reserves. It is located at the break between the Agulhas and Natal inshore bioregions. The length of the shoreline included in the MPA is 14km and consists of rocky platforms, sandy beaches and the tidal portion of the Mbashe River mouth. The MPA extends six nautical miles offshore and includes subtidal rocky reefs and sandy benthos. The MPA is an important area for the conservation of large sparid species and contains spawning areas for the threatened white and red steenbras.

The local communities and stakeholders were not adequately consulted when the MPA was proclaimed under the MLRA as a single no take zone. Consequently, the communities harbour much animosity towards the authorities as they have been denied access to their traditional fishing and invertebrate harvesting areas. In addition tourism activities have reduced in the area due to the prohibition on fishing.

The reserve manager for the nature reserves and MPA had recently retired and was not available to provide information. The new manager Ntokozo Cele (At Dwesa for less than a month at the time of the assessment), the Regional manager, Zwai Kostauli, Jan Venter from ECPB Scientific Services and Ronnie Mapukata (field ranger at Dwesa) were consulted.

7.2.2 Legal and organisational framework

The Dwesa-Cwebe MPA was initially proclaimed as a marine reserve in 1989 under the former Transkei Government. Fishing from the shore was allowed in some designated sections in the reserve. The MPA was proclaimed in 2000 under the MLRA and declared in its entirety as a no take zone. No specific regulations have been provided for the MPA.

7.2.3 MPA design

MPA DESIGN (58%)

Critical habitats were included within the boundaries of the MPA and the size and shape of the MPA was adequate for sustaining ecological processes and protecting the interior from edge effects. The entire MPA comprises of one no-take zone which is not adequate for tourism activities and is highly opposed by the local community.

7.2.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (42%)

There was no MPA management plan being implemented at Dwesa-Cwebe. Broad MPA objectives and restricted and allowable activities were provided in the MPA proclamation and legislation. No specific regulations have been provided for the MPA.

7.2.5 Management system

Input

STAFF NUMBER (61%)

The current number of staff members was below the optimal number for critical management activities. There was a total of 18 ECPB staff members dedicated to the management of the nature reserve. The team consisted of

- 6 field rangers and 1 conservation officer at Cwebe,
- 5 field rangers at Dwesa
- 1 reserve manager
- 1 administration clerk,
- 4 maintenance staff

It was indicated that four marine rangers and a supervisor dedicated to the MPA were needed.

STAFF SKILLS (21%)

The newly appointed reserve manger and one of the field rangers were busy completing the MPA management training course at the time of the assessment. Many of the staff members were locals and did have some traditional knowledge of the resources in the MPA and the value of protecting these. Other than this, there were no staff members trained or skilled in areas required for MPA management. Furthermore, there were no dedicated FCOs which therefore limitied enforcement capacity. Critical skills development areas included:

- Compliance and enforcement
- MPA theory
- Swimming
- Skippers training (however an experienced skipper is required)
- Radio operators course
- Basic marine biology
- Boat maintenance

EQUIPMENT (56%)

There was sufficient basic equipment for onshore and offshore compliance operations (offshore limited by lack of skipper and launch site). Radios and a cell phone were required to enable communication during operations. Another four-wheel drive vehicle was needed especially during the rain season when the condition of the roads deteriorates. There was sufficient administrative equipment.

INFRASTRUCTURE (48%)

Visitor facilities in the reserves consisted of six cottages and a camp site in Dwesa and the Haven Hotel in Cwebe. The ablution facilities at the camp site were in poor condition.

There were two offices for the nature reserves, the one in Dwesa was adequate and in good condition, the one in Cwebe was not used. The staff accommodation in the reserves consisted of small cottages which were old and in poor condition. Dwesa Nature Reserve had three open access points, two of these were sign posted and controlled and one was an unmanned pathway open to the local community. The Cwebe Nature Reserve had two access points both of which were sign posted and controlled. The access roads to the Nature Reserves were dirt tracks that were most suitably accessed by four-wheel drives or at least with vehicles with high ground clearance. Four-wheel drives were needed for most of the roads within the reserves. There was one possible launch site for management at the Mbashe River mouth. A storage facility for the boat was required.

Maintenance of most of the facilities was taking place to a satisfactory standard but could be improved in some areas.

BUDGET (67%)

The MPA is jointly funded by MCM and ECPB. The budget was found to be sufficient for critical management activities. The funds from MCM were secured via the contract between ECPB and MCM and had been used to purchase capital equipment. There was funding available for additional staff members to be dedicated to the MPA.

Processes

BOUNDARY DEMARCATION (33%)

There was inadequate boundary demarcation for the MPA. The southern border of Dwesa Nature Reserve and the Northern border of Cwebe Nature Reserve were demarcated by fences. The fence extended up to the rocks on the shore at Dwesa and up to the beach at Cwebe but there was no indication there that these were the borders of the MPA. There were signs at four of the five access points (one vandalised and removed at the foot path into Dwesa) that indicated that the area is a nature reserve and MPA but no map was provided.

PATROL AND ENFORCEMENT (25%)

The main compliance issue in the MPA was the removal of mussels and crayfish by the locals. Foot patrols were undertaken daily by field rangers. The rangers do not have the capacity to enforce the MLRA and therefore could not effectively implement enforcement mechanisms. Any poachers that were caught on patrols were driven to the police station along with any evidence.

MONITORING AND ADAPTIVE MANAGEMENT (27%)

There was no comprehensive system to monitor progress on conservation objectives and to facilitate adaptive management. Monitoring of fish stocks had commenced and invertebrate monitoring had been planned but not yet implemented at the time of the assessment. There was no monitoring of social conditions or MPA management effectiveness.

PUBLIC EDUCATION AND AWARENESS (25%)

There was no planned education programme for the MPA. Four community liaison officers had been appointed for the region to interact with communities and raise awareness for conservation in general. None of the local communities around Dwesa-Cwebe had been adequately engaged in awareness programmes; however two members of the community were taking part in the MPA Management course at the time of the assessment. Awareness about the designation of the MPA was raised by field rangers on patrols; however their knowledge regarding the MPA was limited. There were no brochures specific to the MPA provided. The DEA Marine Recreational Activity Information brochure was available in the reserve but it was only produced in English and thus did not adequately facilitate the raising of local awareness. The signs in the reserve provided no information about the MPA or its role and benefits.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (47%)

The management authority did recognise that positive relations with local communities were important; however actions taken up until the assessment had been ineffective. The local community were opposed to the MPA and did not support the staff. There was no co-management of the MPA.

Local stakeholder representatives interacted with the management authority through a stakeholder forum. The representatives on the forum were voted in by the local communities. Two representatives were taking part in the MPA Management Course and the increased awareness and relationship building, which is likely to result from this course, might facilitate more meaningful engagement with the authority in future. However this may be hindered as communities were not satisfied with the representatives currently on the forum and had not been able to vote in new representatives. Consequently, the two representatives who took part in the MPA Management Course had not been able to effectively raise awareness within the communities and communication and information exchange between the authorities and these stakeholders had been hampered.

Improvements

- *A budget had been allocated for the management of the MPA.*
- *A boat had been supplied to the MPA.*
- *There was sufficient basic equipment available to conduct management functions.*
- *Two staff members were in the process of completing the MPA Management Training Course.*

Weaknesses

- *There was no MPA management plan being implemented.*
- *There are no MPA specific regulations in place.*
- *There were no designated FCOs on the staff.*
- *Staff lacked the basic understanding of MPA theory and the applicable legislation.*
- *Most staff members lacked basic skills required for operations in MPAs.*
- *There were no skippers thereby limiting sea-going abilities.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *Interpretative signs for raising awareness about the MPA need to be erected.*
- *Education programs and workshops need to be designed and must target the affected communities and resource users.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*

7.3 HLULEKA MPA

7.3.1 Context

The Hluleka MPA is situated adjacent to the Hluleka Nature Reserve in the Eastern Cape approximately 45km south west of Port St Johns along the coast. The shoreline of the MPA is 4km long, consisting of rocky shores, sandy beaches and a river mouth, and the MPA extends 6 nautical miles offshore. The whole MPA is a no take zone.

There was no manager at Hluleka at the time of the assessment and Ntokozo Cele (previous manager), Jan Venter (Scientific Services), Gift Maluleke (acting manager for previous three weeks) and Thozamile Matana (field ranger) were consulted during the assessment.

7.3.2 Legal and organisational framework

The Hluleka MPA was proclaimed under the MLRA in 2000 as a no take area. There has been some resistance regarding the no-take status of the MPA from locals. There are no specific regulations for Hluleka.

7.3.3 MPA design

MPA DESIGN (58%)

The MPA did incorporate representative habitats in the area but it was felt that it was too small to sustain ecological processes and buffer the interior from edge effects. The entire MPA was a no-take area and there was some resistance to this designation by local communities, however given the size of the MPA, this zoning was viewed as adequate.

7.3.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (42%)

There was no MPA management plan being implemented at Hluleka. Broad MPA objectives and restricted and allowable activities were provided in the MPA proclamation and legislation. No specific regulations have been provided for the MPA.

7.3.5 Management system

Input

STAFF NUMBER (39%)

The current number of staff members was below the optimal number for critical management activities. There was a total of 15 ECPB staff members dedicated to the management of the Nature Reserve. The team consisted of:

- 5 field rangers;
- 1 senior supervisor;
- 1 administration clerk, and
- 9 maintenance staff.

There was no permanent manager appointed at the time of the assessment.

STAFF SKILLS (29%)

One of the field rangers was busy completing the MPA management training course at the time of the assessment. Many of the staff members were locals and did have some traditional knowledge of the resources in the MPA and the value of protecting these. Legislation had been read to the staff during meetings, which increased the staff members' knowledge of legislation and the role of MPAs. Other than this there were no staff members trained or skilled in areas required for MPA management. Furthermore there were no dedicated FCOs, therefore limiting enforcement capacity. Critical skills development areas included:

- Compliance and enforcement;
- MPA theory;
- Swimming;

- Radio operators course;
- Basic marine biology, and
- Quad bike driving lessons (there had been some accidents in the past).

EQUIPMENT (56%)

There was sufficient basic equipment for onshore compliance operations. Radios and a cell phone were required to enable communication during operations. Another four-wheel drive vehicle was needed especially during the rain season when the condition of the roads deteriorates.

INFRASTRUCTURE (29%)

Sustainable energy generators had been established in the reserve. However these were not in working condition due to theft and vandalism. Visitor facilities in the reserves consisted of a day visitor area and hikers huts. Seven bungalows had been recently developed and fully furnished but were not open to the public as there was no water and electricity. An education centre had been developed but could not be used due to the situation with water and electricity (refer to figure 7.1).

Management activities were being constrained by the state of the infrastructure. There was one office for the nature reserve, which was in good condition but has no access to electricity. The staff accommodation was adjacent to the reserve and there were no electricity or ablution facilities. Hluleka Nature Reserve has one access point which is sign posted and controlled. The road to the Nature Reserve is a dirt track that is most suitably accessed by four-wheel drive vehicles or at least with vehicles with high ground clearance. Maintenance of most of the facilities was taking place to a satisfactory standard but could be improved in some areas.

Figure 7.1: Education centre in Hluleka Nature Reserve

BUDGET (67%)

The MPA was jointly funded by MCM and ECPB. Currently the budget is sufficient for critical management; however it was indicated that the funding was not being received by management on time and consequently some basic needs had been neglected. The funds from MCM were secured via the contract between ECPB and MCM and thus far had been used to purchase capital equipment.

Processes

BOUNDARY DEMARCATION (33%)

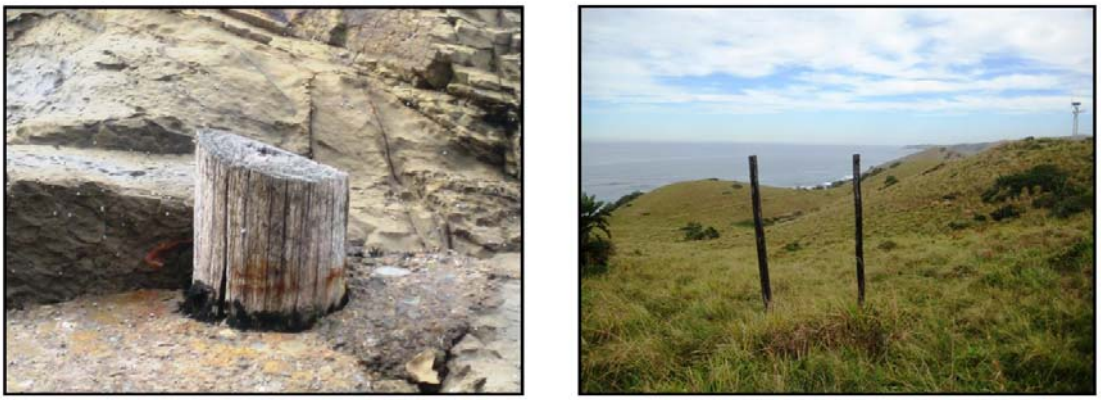


Figure 7.2: Remains of vandalised MPA signs at Hluleka Nature Reserve

Fences ran along the boundaries of the nature reserve up until the shoreline. Signs were placed on the coastal boundaries of the MPA but were vandalised and eventually removed (refer to figure 7.2). There was a sign board at the entrance of the reserve with a map of the MPA and several other signs indicating that the area is a MPA and a no-take zone (No-take zone sign was provided in Xhosa).

PATROL AND ENFORCEMENT (25%)

The main compliance issue in the MPA was the removal of mussels, limpets and crayfish by the locals. Foot patrols were undertaken daily by field rangers. The rangers however, did not have the capacity to enforce the MLRA and therefore could not effectively implement enforcement mechanisms. Any poachers that were caught were driven to the police station along with any evidence. There was an arrangement with the local Chief in which local poachers, caught for the first time, would be taken to the Chief to be dealt with, and if caught for a second time they would be taken to the police.

MONITORING (27%)

There was no comprehensive system to monitor progress on conservation objectives and to facilitate adaptive management. Monitoring of fish stocks had commenced and invertebrate

monitoring had been planned but not yet implemented at the time of the assessment. There was no monitoring of social conditions or MPA management effectiveness.

PUBLIC EDUCATION AND AWARENESS (42%)

There was no planned education programme for the MPA. Four community liaison officers had been appointed for the region to interact with communities and raise awareness for conservation in general. None of the local communities around Hluleka had been adequately engaged in awareness programmes; however two members of the community were taking part in the MPA Management Training Course during the time of the assessment. Awareness about the designation of the MPA was raised by field rangers on patrols; however their knowledge regarding the MPA was limited. There were no available brochures specific to the MPA. The DEA Marine Recreational Activity Information brochure was available in the reserve but it was only produced in English and thus did not adequately facilitate the raising of local awareness. There was one sign that provided information in English about the MPA and its role and benefits and there were several signs in English indicating that the area was a MPA and signs in Xhosa indicating that the MPA was a no-take area.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (47%)

The management authority did recognise that positive relations with local communities were important; however actions taken up until the assessment had been ineffective for the most part. A local liaison committee did exist, however, the community representatives did not adequately represent the community and did not pass on enough information to the communities. There was a land claim that still needed to be settled and the general outlook expressed by the community was that the authority had 'taken their (marine) resources'. There was mixed support in the local community for the MPA and staff. Local chiefs had worked out an enforcement arrangement with the staff at the MPA while some community members were opposed to the MPA and did not support the staff. There is no co-management of the MPA.

Local stakeholders (Chiefs, South African Police Service and municipality) interacted with Eastern Cape Parks Board through a stakeholder forum. The forum met monthly however not all the stakeholders consistently attended meetings and information exchange and communication was hindered as a result.

Improvements

- *A budget had been allocated for the management of the MPA.*
- *There was sufficient basic equipment available to conduct management functions.*
- *One staff member was in the process of completing the MPA Management Training Course.*

Weaknesses

- *There was no MPA management plan being implemented.*

- *No MPA specific regulations existed.*
- *There was no permanent reserve manager.*
- *There were no designated FCOs on the staff.*
- *Staff lacked the basic understanding of MPA theory and the applicable legislation.*
- *Most staff members lacked basic skills required for operations in MPAs.*
- *There were no skippers limiting sea-going abilities.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *Interpretative signs for raising awareness about the MPA need to be erected.*
- *Education programs and workshops need to be designed and must target the affected communities and resource users.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*

7.4 PONDOLAND MPA

7.4.1 Context

The Pondoland MPA is the largest MPA in South Africa. The MPA consists of 90km of rocky and sandy shoreline between the Mzamba and Mzimvubu rivers. It extends approximately 10 nautical miles offshore to the 1000m isobath and incorporates large subtidal reefs with many endemic species. In addition, some of the most pristine estuaries in South Africa are located along this shoreline.

The MPA is situated within the Natal coastal bioregion; however there are elements of both sub-tropical and warm-temperate ecosystems indicating that the environment contained within the MPA is part of a transition zone. The MPA supports a high diversity of marine biota. It is a critical area for the maintenance of many over-exploited linefish species, some of which spawn in the area. It is also important for the recovery and protection of intertidal invertebrates that were previously harvested.

The area adjacent to the central section of the MPA is sparsely populated and there is a low level of marine resource use. The areas adjacent to the northern and southern sections are more densely populated with several access nodes to the MPA. Mussels, crayfish and linefish are more heavily exploited in these areas. Local communities are opposed to the no-take status of sections of the shoreline which incorporate their traditional harvesting areas (Sunde and Isaacs 2008). These communities have little income and are dependant on intertidal and coastal resources as a source of primary protein (Sunde and Isaacs 2008). Despite the no-take status, communities continue to harvest invertebrates.

Recreational and commercial boat based poaching does occur in offshore sections of the MPA, however some sections have not been affected by these activities due to their remoteness and far distance from popular launch sites. Another potential threat to the resources in the MPA is the gill netting activity in the Mtentu river estuary (a restricted zone) which could escalate. Potential land based threats include the titanium mining activities

between the Mzamba and Sikombe rivers and the proposed realignment of the N2 closer to the coast which would increase accessibility to the MPA.

ECPB manages a central section of the MPA between the Mtentu and Lupatana Rivers. Approximately half of this area lies adjacent to the Mkambati Nature Reserve. The offshore component of this section of the MPA is entirely no-take, while there are two inshore no-take zones adjacent to the Mkambati Nature Reserve, extending between the Mtentu river mouth and Mgwegwe north, and between Mgwegwe south and the Msikaba river mouth. The tidal portions of the Mtentu and Msikaba estuaries are included in the MPA and are restricted zones.

The legal framework, MPA design and management planning components of this section apply to the MPA as a whole, while the management system section applies to the ECPB managed area of the MPA (with the exception of the monitoring system). Vuyani Mapiya (manager at Mkambati Nature Reserve) and Bruce Mann (ORI) were consulted.

7.4.2 Legal framework

Mkambati MPA, which includes 11.5km of coastline, was proclaimed under the MLRA in 2000 as an entirely no-take zone. It was de-proclaimed and then incorporated into the Pondoland MPA which was proclaimed in 2004. The shoreline at Mgwegwe was opened to fishing activities due to the popularity of the area with tourists for recreational fishing. The proclamation defines the boundaries and zones of the MPA and provides the following objectives for the MPA:

- Protect and conserve marine ecosystems and populations of marine species;
- Protect the reproductive capacity of commercially important species of fish, including shellfish, rock lobster and traditional linefish and to allow their populations to recover;
- Promote eco-tourism within the Marine Protected Area

Regulations for fishing, scientific research, SCUBA diving and the use of vessels in the MPA are provided in the proclamation.

7.4.3 MPA design

MPA DESIGN (67%)

The offshore component of the MPA was divided into three zones: controlled Zone One in the north (offshore area between the Mzamba and Sikombe rivers), the Central Restricted Zone (offshore area between the Sikombe and Mboyti rivers), and controlled Zone Two in the south (offshore area between the Mboyti and Mzimvubu rivers). The offshore controlled zones created a buffer around the large central restricted zone.

The inshore component consisted of four restricted zones which included the intertidal zone and coastal waters to a depth of 10m (refer to figure 3.2). There was a lack of adequate consultation with local Chiefs and fishers in the establishment of the inshore zones, and

consequently the local stakeholders were opposed to the current zonation (Sunde and Isaacs 2008).

Critical areas for the maintenance of the ecological integrity of the MPA were incorporated in the MPA but not all were afforded extra protection within restricted zones. The size and shape of the MPA and the design, consisting of a large core protection zone with buffer areas, was viewed as adequate to achieve conservation objectives.

7.4.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (75%)

A management plan was developed for the MPA in 2006 but ECPB were not involved in the planning process and the plan was not fully implemented. An independent consultant in collaboration with WWF and ECPB Scientific Services and Conservation was in the process of revising the plan. The original plan reflected the objectives for the MPA provided in the proclamation and clearly indicated restricted and allowable activities in the MPA.

PLAN IMPLEMENTATION AND ADEQUACY (33%)

Priorities were not clearly indicated and could be perceived differently. There were no specific management actions prescribed in the plan and it did not facilitate resource allocation adequately. The manager found few aspects of the plan useful for management but acknowledged that the plan was in the process of revision.

SOCIO-ECONOMIC CONSIDERATIONS (33%)

Some local stakeholders were not adequately involved in the compilation of the management plan and the local culture and traditional practices were afforded little consideration in the plan itself.

PLAN CONTEXT (54%)

The plan did incorporate biophysical and socio-economic information, but to a limited extent and there was much scope for improvement. There was inadequate information regarding social conditions and resource use for planning purposes and further monitoring and research is still required in these areas. Information on biophysical conditions was partially adequate and an inventory of biological resources was formulated in 2003. No formal threat analysis was conducted; however threats were identified and addressed in the plan.

7.4.5 Management system

Input

STAFF NUMBER (59%)

The number of staff members was below the optimal number for critical management activities. There was a total of 13 EC Parks staff members dedicated to the management of the Nature Reserve and MPA. The team consisted of

- 1 reserve manager;
- 1 nature conservator;
- 1 principle field ranger;
- 2 senior field rangers, and
- 8 field rangers.

STAFF SKILLS (46%)

The reserve manger and two rangers were busy completing the MPA management training course. More than half of the staff members understood the role and function of the MPA and had been made aware of the resources in the MPA (fish identification training) and the value of protecting these. Very few members had a basic understanding of the relevant legislation. Other than this, there were no staff members trained or skilled in areas required for MPA management. Furthermore there were no dedicated FCOs, therefore limiting enforcement capacity. Critical skills development areas included:

- Marine compliance and enforcement
- MPA theory
- Swimming
- Skippers training
- Radio operators course
- Boat maintenance

There was a very low turnover of staff and all key positions had been committed for more than five years, however it was indicated at the time of the assessment that the reserve manager was to be reassigned to an inland reserve.

EQUIPMENT (76%)

The availability of equipment did not constrain the achievement of major management objectives. A new boat had recently been supplied for the MPA. There was sufficient basic equipment for onshore and offshore compliance operations (offshore limited by lack of a skipper), administration and transport. More radios to enable communication during operations, night sights for night operations, and diving gear (assuming diving training is

provided) were required. Maintenance of equipment was taking place in accordance with maintenance schedules to a satisfactory standard.

INFRASTRUCTURE (63%)

There are two office blocks in the reserve that are both adequate for management purposes. The road to the Nature Reserve is a dirt track that is most suitably accessed by four-wheel drive vehicles or at least with vehicles with high ground clearance. Four-wheel vehicles drives are needed for most of the roads within the reserve. There was one potential launch site at the Msikaba River that was identified. It was indicated that an education or interpretative centre was required. Maintenance of most of the facilities was taking place to a satisfactory standard but could be improved on in some areas.

BUDGET (67%)

The MPA is jointly funded by MCM and ECPB. Currently the budget is sufficient for critical management needs. The funds from MCM were secured via the contract between ECPB and MCM and had been used to purchase capital equipment.

Processes

BOUNDARY DEMARCATION (33%)

The zones along the shoreline at Mkambati were legally defined but not adequately demarcated. Beacons and arrows have been established at the various boundaries but there were no signs to indicate what the beacons represented. The signs adjacent to the MPA were old, rundown and outdated. There was no interpretative signage along the coast indicating that the area was an MPA and specifying the regulations applicable to the area.

PATROL AND ENFORCEMENT (33%)

The rangers did not have the capacity to enforce the MLRA and therefore could not effectively implement enforcement mechanisms. Averages of 18 foot patrols along the coast were undertaken each month.

MONITORING (55%)

There had been some monitoring in the MPA but results have not yet been utilised in adaptive management. The revision and subsequent implementation of the management plan is expected to improve this. The monitoring activities that have been conducted include:

- Resource use and activities in the MPA were recorded during patrols and patrol forms are filled out and sent to ORI. Workshops were conducted by ORI to aid the staff in fish identification.
- A catch and release monitoring system for offshore reef fish had been implemented in the restricted and controlled offshore zones of the MPA.

- Launch site registers at Port Edward and Mboyti were collected by ORI.
- Aerial surveys had been used to monitor angling effort.

There was no monitoring programme for socio-economic conditions or overall MPA management effectiveness being implemented.

PUBLIC EDUCATION AND AWARENESS (17%)

There was no planned education programme for the MPA. Two members of the community were taking part in the MPA Management Course at the time of the assessment and ad-hoc visits to communities were made by staff members, but few local communities had been reached. Awareness about the designation of the MPA was raised by field rangers on patrols; however their knowledge regarding the MPA was limited. There were no brochures specific to the MPA provided and the DEAT Marine Recreational Activity Information brochure was not available at the reserve. There was one sign at the entrance that provides information in English about the MPA but no interpretive signs are established at the visitor access nodes or along the coast.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (47%)

The management authority did recognise that positive relations with local communities were important and some actions had been taken. ECPB liaised with the Mkambati Land Trust representatives regarding terrestrial issues through a co-management committee. There had been no equivalent committee established for the MPA and community involvement in MPA management had not been meaningful in the past. However efforts had been made by the reserve manager to meet with local communities on average, twice a month. The training of two of the community members in MPA management may assist with effective and meaningful community involvement in future. Limited benefits such as involvement in tourism programmes (there was a fly fishing programme and horse trail but these are no longer operational) and employment had been offered to the communities by the MPA.

No representative stakeholder forum had been established. There was regular communication between ECPB and most stakeholders, however, it was not on a planned or scheduled programme. Information was shared amongst stakeholders to a limited extent as there was no strategy for information sharing, and the involvement of stakeholders in management was not adequate.

Improvements

- *A budget had been allocated for the management of the MPA.*
- *A boat had been supplied to the MPA.*
- *There was sufficient basic equipment available to conduct management functions.*
- *Two staff members were in the process of completing the MPA Management Training Course.*
- *Staff had a basic understanding of MPA theory and marine resources.*
- *A management plan had been prepared and was in the process of revision.*

- *There has been monitoring of resource use, offshore reef fish and launch site registers.*

Weaknesses

- *There were no designated FCOs for the MPA.*
- *Staff lacked a basic understanding of the applicable legislation.*
- *Most staff members lacked basic skills required for operations in MPAs.*
- *There were no skippers thereby limiting sea-going capacity.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*
- *Interpretative signs for raising awareness about the MPA need to be erected.*
- *Education programs and workshops need to be designed and must target the affected communities and resource users.*
- *There needs to be meaningful engagement with local stakeholders using varied methods according to the community characteristics.*

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Chapter 8: KwaZulu-Natal

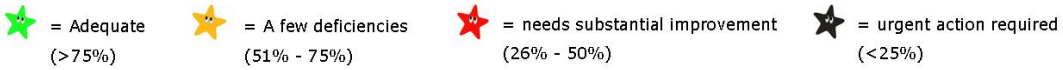
EZEMVELO
KZN WILDLIFE
Conservation, Partnerships & Ecotourism

iSimangaliso
Wetland Park

CHAPTER 8. KWAZULU-NATAL

8.1 KWAZULU-NATAL OVERVIEW

Table 8.1: Overview of management of MPAs in KwaZulu-Natal



Criteria	TF	AS	iSimangaliso
MPA Design			
MPA Management Plan			
Existence of plan, objectives and regulations			
Plan implementation and adequacy	N/A		
Socio-economic considerations	N/A		
Plan context	N/A		
Management System			
Input			
Staff Number			
Staff Skills and Training			
Equipment			
Infrastructure			
Budget			
Processes			
Boundary demarcation			
Patrol and enforcement			
Monitoring			
Public education and awareness			
Interactions with communities and stakeholders			

8.2 TRAFALGAR MPA

8.2.1 Context

The Trafalgar MPA is situated on the south coast of KwaZulu-Natal between Marina Beach and Mpenjati. Approximately one third of the MPA is situated adjacent to the Mpenjati Nature Reserve. The MPA's coastline is 4.8km and it extends one nautical mile offshore from the high water mark. Habitats represented in the MPA include sandy beaches, rocky platforms and subtidal sandy benthos and reefs. The area was initially declared as a marine reserve in 1979 to protect marine fossil deposits. The beaches in the MPA are popular with tourists and locals for swimming and bathing and recreational shore angling.

Sam Ndlovu (District Conservation Officer), George Nair (Cluster Manager) and Jennifer Olbers (Scientific Services) from EKZN Wildlife were consulted for this MPA.

8.2.2 Legal and organisational framework

The Trafalgar MPA was promulgated under the MLRA in 2000. There are no specific objectives and regulations provided for the MPA under the MLRA, however the proclamation indicates that recreational shore angling and recreational boat angling and spearfishing activities, restricted to a list of bony and cartilaginous fish species, are permitted activities. The protection of the fossils is not a listed objective for the MPA and there are no regulations relating to the fossils directly under the MLRA. The objectives that apply to the MPA are the broad objectives provided under section 43 of the MLRA i.e. to protect fauna and flora and the physical features on which they depend, or to facilitate fisheries management, or to diminish conflict arising from competing uses.

8.2.3 MPA design

MPA DESIGN (33%)

The MPA design was viewed as inadequate in terms of protecting marine living resources as only a small portion was adequately preserved due to the MPA's size and zoning as a controlled zone. Furthermore the MPA incorporated only a portion of the fossil deposits which extend as far as the Umtamvuna River and several kilometers inland. There was no user zonation within the MPA but this was not necessary due to its size and the lack of user conflicts.

8.2.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (25%)

There was no management plan being implemented for the Trafalgar MPA. A survey report on the fossil deposits in the MPA has been used to guide management and formulate operational plans. The report indicated that the objective of the MPA was to protect the fossil

deposits. There was a lack of specific agreed objectives for the MPA under the MLRA and there were no regulations applicable to the current perceived objective to protect marine fossils. Permitted fishing activities were defined in the proclamation.

8.2.5 Management system

Input

STAFF NUMBER (100%)

It was indicated that the number of staff was optimal for management purposes. There was one District Conservation Officer and eight field rangers that were responsible for the reserve, MPA and coastal district (South Broom to Umtamvuna).

STAFF SKILLS (71%)

All of the staff understood the function of the MPA and were aware of the fossils in the MPA, while half had an adequate understanding of the applicable legislation. The continuity of staff was high and most of the team had been committed for more than five years. The manager had taken part in the MPA Management Training course and had a skipper licence. All staff members were FCOs. Areas in which skills development was required include:

- swimming;
- additional skipper;
- diving;
- beach driving;
- report writing, and
- communication and interaction with the public.

EQUIPMENT (98%)

There was sufficient equipment for onshore, offshore and night compliance operations. There were enough radios and a designated cell phone to enable effective communication. The administrative equipment and vehicles were adequate and there was one set of diving gear available. It was indicated that one of the motors on the boat were in need of replacement and a new camera was required.

INFRASTRUCTURE (94%)

The MPA had sufficient infrastructure for management purposes. There were four offices, a permit office and an education centre within the Mpenjati Reserve. There were seven access points to the MPA, three of which were controlled, and several private pathways from nearby houses. There were no slipways within the MPA, however, boats could be launched at the near slipways at Glenmore and Ramsgate.

BUDGET (100%)

The available funds from MCM and EKZNW were sufficient for all management activities. The funds from MCM had been secured through a contract between the two organisations and had been used for capital expenses, maintenance and operational costs.

Processes

BOUNDARY DEMARCATION (100%)

The boundaries of the MPA were demarcated with poles, and signs with arrows. Maps and GPS co-ordinates were placed at both ends of the beach and at the main access points.

PATROL AND ENFORCEMENT (92%)

The main compliance issues in the MPA included fishing without permits and the possession of undersized fish. The staff members had the capacity to enforce the MLRA in the MPA and enforcement mechanisms were being implemented effectively. The only noted hinderance to implementing enforcement mechanisms was the poor report writing and communication skills of some staff members. Enforcement activities consisted of 16 day foot patrols and eight night patrols per month. Extra patrols were conducted during the three months of the year when the fossils were not buried in sand. There were not many issues with offshore compliance as the area was not a fishing hotspot due to rough conditions.

MONITORING AND ADAPTIVE MANAGEMENT (39%)

There were no comprehensive monitoring systems or research programmes implemented at Trafalgar MPA. However scientific services staff were available to advise management when necessary. Long term monitoring of intertidal invertebrates and rocky/coral reefs has been implemented along the KwaZulu-Natal coast by EKZN Wildlife. Launch site registers are kept and resource use (CPUE data and fish size) forms are filled out on patrols and sent to ORI. The achievement of management goals are assessed on a monthly basis. There was no monitoring of fossil conditions and socio-economic conditions.

PUBLIC EDUCATION AND AWARENESS (83%)

The cluster manager was involved in monthly training sessions with local subsistence fishers. School groups were taken around the MPA, shown fossils and taught about the MPA and marine resources. There was an education centre within the Mpenjati Reserve with interpretive material on marine living resources. Signs had been erected at six of the seven access points that indicate the layout and the importance and purpose of the MPA (for the fossils and intertidal invertebrates). However these signs referred to the MPA as a 'Marine Reserve'. Interpretative material has been produced for anglers (tide tables, fishing

regulations, and measures) and distributed to tackle shops in the area. The signs and interpretive material were all in English.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (93%)

The management authority acknowledged that positive relations with local communities were critical. There was good cooperation between residents adjacent to the MPA and EKZNW and seven honorary rangers lived in the vicinity of the MPA. There was a low tolerance for illegal activities within the community and illegal incidents were reported.

EKZNW attended the monthly meetings of committees for subsistence line fishing and mussel harvesting, quarterly meetings with a recreational fishing forum and met regularly with the municipality. Presentations were made by EKZNW at meetings and discussions were held. The contact between EKZNW and tourism operators (horse riding and beach walkers) was limited to regulatory and administrative matters.

Improvements

- *A budget has been allocated for the management of the MPA.*
- *There is adequate equipment available to conduct management functions.*
- *A boat has been supplied the MPA and there is a skipper.*
- *Staff have a basic understanding of MPA theory.*
- *New interpretative signs have been erected (although the still read 'marine reserve').*
- *Education programs and workshops which raise awareness in school groups and target the affected communities and resource users have been implemented.*
- *Management has made specific efforts and initiated processes to meaningfully engage with local stakeholders.*

Weaknesses

- *There is no management plan.*
- *Some staff are still lacking basic MPA-related skills and sufficient report writing skills.*
- *A comprehensive management effectiveness monitoring program needs to be designed and implemented.*

8.3 ALIWAL SHOAL MPA

8.3.1 Context

Aliwal Shoal is a 5km long offshore reef composed of fossilised sandstone that ranges in depth from nine to 27 meters. It is situated 5km offshore from the Umkomaas River mouth. The Aliwal Shoal MPA incorporates the Aliwal Shoal and two wrecks in two core restricted zones, which are surrounded by a controlled zone. The MPA extends 18.3km along the coast between the Umkomaas and Mzimayi River mouths, and 7km offshore.

The inner edge of the warm Agulhas current runs along the Aliwal Shoal providing conditions for a rich diversity of tropical marine biota consisting of hard and soft corals, turtles and reef fish, as well as whale sharks, tiger sharks, hammerhead sharks and large congregations of ragged tooth sharks. The protection of the Aliwal Shoal is important for research, for the conservation of fish species (as it contains breeding and nursery areas) and for tourism activities as it is a popular dive site,

The area is utilised by divers, ski boat fishers, charter fishers, spear fishers, rock and surf fishers and commercial fishers. Conflicts have arisen between divers and fishermen, charter and commercial fishers and ski-boat fishers and the diving community partaking in tiger shark chumming. The marine environment and resources are threatened by overexploitation, polluted estuaries and development in the coastal zone.

Paul Buchel (District Conservation Officer), George Nair (Cluster Manager) and Jennifer Olbers (Scientific Services) were consulted for this MPA.

8.3.2 Legal and organisational framework

The Aliwal Shoal MPA was proclaimed under the MLRA in 2004. The objectives provided for the MPA are to:

- Protect and conserve the marine ecosystem and populations of marine species in and around the Aliwal Shoal
- To reduce user-conflicts over the use of the Aliwal Shoal
- To promote eco-tourism within the MPA

The co-ordinates for the boundaries of the MPA and its zones and regulations for activities in the zones, vessel use and SCUBA diving are provided in the schedule.

It was indicated by EKZN Wildlife that regulations to control the number of boats and divers allowed on the shoal at any one time was needed. The SCUBA diver permit system could not be effectively implemented as divers could not keep their permits on them while engaging in activities in the MPA and it was suggested that a more user friendly plastic card system be established.

8.3.3 MPA design

MPA DESIGN (58%)

The Aliwal Shoal and the two wrecks were fully incorporated in the MPA and afforded extra protection; however the Protea Banks, which are important for the protection of deep water species and sharks, were not included in the MPA. EKZNW indicated that there was not a sufficient buffer zone around the core areas and suggested that the restricted area be expanded and that shore fishing should be prohibited. There was a zoning system implemented to keep fishers off the Aliwal Shoal and Produce wreck which are popular dive sites. There were difficulties in ensuring compliance by fishers as there was no offshore demarcation of the restricted zone.

8.3.4 MPA Management Plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (83%)

There was a MPA management plan being partially implemented. The objectives and regulations set out specifically for this MPA under the MLRA were reflected in the management plan. It was indicated that some of the activity regulations included in the plan were not gazetted and therefore not legally enforceable.

PLAN IMPLEMENTATION AND ADEQUACY (75%)

The management plan indicated priorities, described specific management actions to be taken and facilitated resource allocation. The manager indicated that the plan was inadequate in its current form as stakeholders were opposed to many aspects of it and therefore it needed to be updated. Information on the management plan regarding the boundaries of the MPA also needed to be updated as the boundaries have changed since the last plan was drawn.

SOCIO-ECONOMIC CONSIDERATIONS (50%)

Stakeholders were not all effectively engaged in the planning process and were opposed to some aspects of the plan. The local stakeholders were made aware of planning processes but their ideas were seldom incorporated due to conflicting objectives.

PLAN CONTEXT (75%)

Biophysical and socio-economic information were used and cited in the management plan. The information made available to management regarding resource use and condition, socio-economic factors and biological inventories was partially adequate for planning purposes. Threats were identified on an ongoing basis.

8.3.5 Management system

Input

STAFF NUMBER (45%)

There was a District Conservation Officer and four field rangers based at Aliwal Shoal MPA. The number of staff members was inadequate for critical management activities and an additional three rangers for offshore enforcement particularly were required. The District Conservation Officer was supported by honorary rangers for offshore compliance.

STAFF SKILLS (25%)

All staff members were FCOs and Peace Officers. The District Conservation Officer had trained as a skipper, radio operator, diver and a MPA manager, and had been working in the area for 14 years. The field rangers were lacking basic knowledge of the MPA's roles and functions, marine resources and the applicable legislation. Furthermore, field rangers lacked critical skills such as swimming and skippering that were essential in this MPA given its offshore restricted zone and high level of offshore activity. Some critical skills development areas identified include:

- swimming;
- seamanship;
- diving;
- basic boat handling skills;
- boat maintenance, and
- beach driving

EQUIPMENT (95%)

There was sufficient equipment to enable onshore and offshore compliance and monitoring operations, communication, administrative duties and transport. Maintenance of equipment was conducted in accordance with the relevant maintenance schedules and were done so to a high standard.

INFRASTRUCTURE (75%)

The infrastructure and facilities were adequate for management purposes. At the time of the assessment there was a permit office with an educational section in Umkomaas. Staff accommodation, boat storage facilities and equipment storage facilities were located in Park Rynie. There were two legal boat launch sites in the MPA and four unregistered sites. There were many access points (including vehicle access points) to the shore which severely hindered compliance and monitoring operations. Maintenance of infrastructure was taking place to a satisfactory standard.

BUDGET (67%)

The budget was sufficient for the current management activities but will need to be increased if additional rangers are employed. The funding is provided by EKZNW and MCM. The MCM budget is used for capital expenses, maintenance and operations.

Processes

BOUNDARY DEMARCATION (67%)

Figure 8.1: Aliwal Shoal MPA sign at the entrance to the Ethekwini launch site in Umkomaas

There were no beacons or buoys demarcating the restricted offshore areas. There was a new sign at one of the launching sites with maps, GPS coordinates, indications of legal launch sites and regulations for the different zones. The sign was bold and easy to interpret (refer to figure 8.1). There were plans to erect a sign at the Park Rynie slipway. These signs should be placed at all launch sites in the MPA and those near to the MPA.

PATROL AND ENFORCEMENT (67%)

The main compliance issues in the MPA were fishing without permits, harvesting of invertebrates, beach driving, exceeding bag limits and the possession of undersized fish. The diver permit system was not enforced due to practicality issues with the paper permits. The staff were all designated FCOs, had sufficient resources to enforce the MLRA and effective enforcement mechanisms existed. There were however, some deficiencies in staff skills, particularly offshore skills, which were limiting the implementation of some enforcement mechanisms. The enforcement activities consisted of daily foot and vehicle patrols along a 40km stretch of the coastal district in which the MPA was included, daily inspections at both the legal launch sites in the MPA and at known hotpots for illegal activity, responses to reports of illegal activity and six boat patrols per month depending on sea conditions.

MONITORING AND ADAPTIVE MANAGEMENT (69%)

There was monitoring of certain species and ecosystems within the MPA but no comprehensive monitoring system has been implemented. Monitoring activities consisted of:

- Intertidal invertebrates;
- offshore rocky/coral reefs, and
- resource use.

Research needs had been identified by management and research was being conducted to fill these needs. Research projects included:

- Movement and behaviour of tiger sharks, and
- effects of chumming on tiger sharks

PUBLIC EDUCATION AND AWARENESS (67%)

There was no planned education program specific to the MPA however a few awareness campaigns, such as the annual coastal clean-up and displays by honorary officers, had been conducted. There was a range of brochures available at the permit office and they were distributed to tackle shops and dive shops and on patrols. There is a booklet on Aliwal Shoal, providing information on the biology of the area, ancient sandstone formations, wrecks, the MPA regulations and boundaries, and the importance of the MPA. These booklets are bold, colourful and easy to interpret; however they are only produced in English. Other brochures include pocket tide tables, SASSI booklets on seafood choices and the DEAT Marine Recreational Activity Information brochure. The sign boards are well designed, however more are required in the vicinity.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (73%)

EKZNW acknowledged that relationships with local communities were critical and actions had been taken to establish these relationships. Meetings had been held with the charter boat owners and the local diving community, volunteers from the surrounding areas were involved in the coastal clean-up and a liaison forum for Aliwal Shoal has been established. The communities adjacent to the MPA had a low tolerance for illegal activities and reported activities to the authority and most of the community supported the MPAs staff. Benefits from the MPA go mostly to locals as the Aliwal Shoal is a major diving attraction.

There was a planned communication programme being implemented with various stakeholders through the Aliwal Shoal MPA Liaison Forum, SAPPI Forum, South Coast Fishing Forum (quarterly meetings), and meetings with MCM. Other than this, there was regular contact between the authority and the main stakeholders on the beach and at sea. Information did move between stakeholders, however it was indicated that improvement in information exchange was required especially with the diving community.

Strengths

- *A budget has been allocated for the management of the MPA.*
- *There was adequate equipment and infrastructure available to conduct management functions.*
- *A boat has been supplied to the MPA and there is a skipper.*
- *New interpretative signs have been erected.*
- *A permit office with interpretative displays and several brochures specific to the MPA has been developed.*
- *Education programs and workshops which raise awareness in school groups and target the affected communities and resource users were implemented.*
- *Management has made specific efforts and initiated processes to meaningfully engage with local stakeholders.*
- *There is monitoring of certain species and ecosystems.*

Weaknesses

- *There is a management plan however it is inadequate in its current form as stakeholders were not effectively engaged in the planning process.*
- *Activity regulations need gazetting.*
- *Staff lacked a basic understanding of MPA theory and the applicable legislation.*
- *Most staff members lacked basic skills required for operations in MPAs.*
- *A comprehensive management effectiveness monitoring program with results to be used in adaptive management needs to be designed and implemented.*

8.4 iSIMANGALISO WETLAND PARK MPAs

8.4.1 Context

The St Lucia and Maputaland MPAs are contiguous MPAs situated within the iSimangaliso Wetland Park in northern KwaZulu-Natal. The coastline of the Park is 190km long and the two MPAs collectively make up about 145km of this- extending between the border of Mozambique and South Africa to a point one kilometre south of Cape Vidal. A southern marine section of the Park extending between the points one kilometre south of Cape Vidal to Maphelane has not been declared as an MPA under the MLRA but is managed holistically with the MPAs as one of the marine sections of the Park. This assessment will focus on the MPAs currently declared under the MLRA in a collective manner, but brief descriptions of different aspects of management in the excluded southern section will be included, as this section has been proposed as an extension area for the MPA.

The MPAs are of international and national significance. Both MPAs are included in a World Heritage Site and the turtle beaches and coral reefs of Tongaland have been declared a Ramsar site. The MPAs are situated within the Delgoa coastal bioregion which ends at Cape Vidal, and are influenced by the warm Agulhas current which flows southwards from the

tropics. The MPAs extend three nautical miles offshore and include the most southern extension of coral reefs in South Africa, submarine canyons which support the Coelacanth, subtidal rocky reefs, long sandy beaches and rocky shores.

The MPAs are important for marine conservation as they contain a high diversity of marine species, form sanctuaries for breeding populations of endemic fish species and are important nesting areas for loggerhead and leatherback turtles. The MPAs are popular recreational fishing and diving destinations and have immense economic potential through tourism. There is a world renowned turtle monitoring programme being implemented, and a considerable amount of research has been conducted within the MPAs.

The areas included in the MPAs are also of importance to traditional fishers and inter-tidal harvesters living in and around the Park. There is a history of distrust between the communities and conservation authorities due to the displacement of communities from their lands and the restriction of access to marine resources. The iSimangaliso Wetland Park has been to date, subject to 14 land claims, nine of which have been settled. The slow settlement of land claims and the history of distrust between the communities and conservation authorities present a considerable challenge for management in developing positive relations with local communities.

Threats to the marine environment and resources included:

- Overexploitation of intertidal invertebrates;
- Deep and vertical jigging;
- Recreational angling;
- Illegal development in the coastal zone, and
- Too many divers disturbing and damaging the reefs.

The iSimangaliso Wetland Park Authority are responsible for the general management of the Park and have contracted EKZNW to manage the conservation aspects of the Park. Thus both organisations are involved in the management of the MPAs. Peter Hartley, Bronwyn James and Nerosha Govender from iSimangaliso Authority; Johan Gerber, Anton James, Leonard Zulu, Terrence Shozi, July Ngubane and Jennifer Olbers from EKZN Wildlife; and Bruce Mann from ORI were consulted for these MPAs.

8.4.2 Legal and organisational framework

The St Lucia MPA (initially declared in 1968) and the Maputaland MPA (initially declared in 1974) were declared under the MLRA in 2000. The coordinates of the boundaries and zones within were provided in the proclamation.

iSimangaliso Wetland Park was declared a WHS in Government Notice No. 4477 in November 2000 (named Greater St Lucia Wetland Park initially). St Lucia and Maputaland MPAs are contained within iSimangaliso Wetland Park and thus have dual designation under the MLRA and the WHCA.

The proposed zones in the Integrated Management Plan (IMP) are compatible with the existing zones regarding the use of marine living resources; however different names and two additional zone types were introduced in the IMP. This zonation pattern contains descriptions of the inherent characteristics of the zones, purposes of the zones and lists extensively all the permissible and non-permissible activities. It was indicated that this zonation pattern was still to be reviewed after comments were received from EKZNW scientific services.

Management authorities reported that the combined use of the NEM:PAA, the WHCA and the MLRA was effective for management purposes as weaknesses and gaps in the MLRA were addressed in the other legislation. It was indicated that more clarity regarding the conditions of subsistence permits was required as there had been difficulties in enforcing these.

8.4.3 MPA design

MPA DESIGN (75%)

Most critical habitats were included within the boundaries of the MPAs, however because the deep canyons are located on the offshore boundary of the MPAs, it was suggested that the boundaries be extended further offshore so to provide effective protection for these habitats. In addition, the Delgoa bioregion break is located at Cape Vidal and the extension of the MPA to include the southern portion of the Park, would offer increased protection to a section of the Natal bioregion, the transition area between the two bioregions and the estuary. The size of the MPA was adequate for maintaining ecological processes. Critical areas included within the MPAs were afforded extra protection through the zonation of the MPAs under the MLRA.

8.4.4 MPA management plan

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS (75%)

The iSimangaliso Wetland Park was managed as one integrated system. The iSimangaliso Authority was required to develop an IMP for the Park. At the time of the assessment, an IMP had been drafted and Conservation Operation Plans for the marine section of the Park were drawn up using the IMP as a guide. The objectives for the Park as a whole differ to those under the MLRA for the MPAs. No site specific objectives for the MPAs were provided in the proclamation under the MLRA, however specific and relevant objectives had been provided in the IMP. The IMP clearly defined the allowable and restricted activities in the different zones in the MPAs.

PLAN IMPLEMENTATION AND ADEQUACY (100%)

The iSimangaliso Authority clearly set out priorities for the Park Operations and Conservation Management and facilitated the development of action plans and resource allocation by providing key objectives, key actions and time frames. The desired future was clearly articulated in the IMP and could be used as a decision making reference point. The conservation operation plan provided adequate direction on management actions to be taken and clearly indicated priorities necessary to facilitate the allocation of resources. The conservation operation plan was useful to managers and fully adequate in its current form.

SOCIO-ECONOMIC CONSIDERATIONS (100%)

The iSimangaliso Authority was required to 'liaise with and be sensitive to the needs of communities living in or near World Heritage Sites' under the WHCA. Furthermore the objectives of the Park as a whole explicitly took into consideration socio-economic factors.

All identified stakeholders were engaged in the planning process. Processes were initiated to build capacity amongst stakeholders to facilitate meaningful engagement in future. Local ideas were considered and worked with during the planning process. Specific aspects of the IMP address socio-economic issues. The strategic planning framework within the IMP sets out a key objective 'to work towards the secure, wise and sustainable use of natural resources'. It also provides that key actions to achieving this goal should include the 'development of community-based natural resource use policies that include regulation and monitoring in consultation with the relevant resource user groups' and the 'involvement of resource users in policy development, monitoring and management of exploited resources'.

PLAN CONTEXT (92%)

The IMP incorporated and explicitly cited both biological and socio-economic information. The information available regarding the conditions of biological resources, resource inventories and socio-economic conditions was reported as adequate for planning purposes. Resource use was recorded to a limited degree but more understanding of the resource users and their needs was required for planning purposes. A threat analysis was conducted and actions to address the threats were described.

8.4.5 Management system

Input

STAFF NUMBER (75%)

EKZNW – Operational conservation management

The marine section of the Park is divided into a north and south cluster, which were each overseen by cluster managers, and managed from five management stations located at

Bhanga Nek, Sodwana, Cape Vidal, St Lucia and Mapelane. Each station has a designated conservation manager and field staff. The Bhanga Nek, Sodwana and Cape Vidal stations were located within the MPAs. There were six field rangers at Bhanga Nek, eight at Sodwana and six at Cape Vidal.

The total number of staff was viewed as adequate for most critical management activities at Bhanga Nek and Cape Vidal, however it was noted that the Sodwana node was in need of a further four field rangers due to the high activity level within the MPA.

Southern excluded section

There are seven staff members under the conservation manager at Mapelane and 15 under the conservation manager at St Lucia.

STAFF SKILLS (91%)

It was indicated that the staff had satisfactory skills and training to conduct present and likely future duties. The field rangers received in-house training regarding the role and function of the MPAs, its resources and the applicable legislation from the conservation managers at their stations. There were qualified skippers at two of the stations within the MPA and a member from the Bhanga Nek station was undergoing skippers training. All of the staff are designated FCOs but were awaiting the issue of their FCO cards. All were Peace Officers, competent swimmers and could use a GPS. The following training needs were identified:

- SCUBA divers
- Additional skippers
- EMI training for the conservation managers
- Radio operators tickets

Southern excluded section

The staff members have sufficient skills and training to conduct present and likely future duties. There were skippers at both stations and a diver at St Lucia.

EQUIPMENT (78%)

The availability of equipment did not constrain critical management operations. Maintenance of equipment was taking place in accordance with the relevant maintenance schedules to a satisfactory standard. There was an on site workshop for basic maintenance of vehicles.

All three stations within the MPA had sufficient sea-going boats (however, use was limited at Bhanga Nek due to current lack of skipper), vehicles, radios and basic enforcement equipment for field rangers. Identified needs included:

- Night vision equipment for night operations
- Binoculars
- Spotting scope
- Snorkelling and diving equipment to assist in monitoring

Southern excluded section

A boat is going to be acquired and based at St Lucia for offshore enforcement in this section. There is one set of diving gear available at St. Lucia. Other than this the available and needed equipment listed above applies.

INFRASTRUCTURE (89%)

The facilities for visitors to the MPAs were regarded as fully adequate for current levels of visitation. The infrastructure was adequate for most management purposes; however it was noted that the office at Cape Vidal was in need of an upgrade and that a boat storage facility was required at Bhanga Nek. There were adequate facilities for staff accommodation in the areas near to the management stations and there were launch sites available for management to use. In addition, there were boat storage facilities and a workshop.

There are two access points to St Lucia MPA, one at Cape Vidal and one at Sodwana, both are tarred and controlled with booms. There was also guard house facilities that lead to the public launch sites. Permits were required to use the access points at Mbibi, Bhanga Nek and the Kosi Bay estuary. There were two launch concessions in the Maputaland MPA at the time of the visit.

BUDGET (67%)

The budget allocated by MCM was regarded as adequate for most MPA management needs. It covered the costs of administration, operation, training and education, meetings, maintenance and capital purchases associated with the MPA. It however did not cover the costs of staff salaries, which was covered by EKZNW.

Processes

BOUNDARY DEMARCATION (67%)

The GPS co-ordinates of the boundaries of the MPA were provided in the proclamation and demarcated by numbered beacons in the field. The signs were however outdated and still referred to the area as a 'Marine Reserve'. Furthermore, adequate maps and GPS co-ordinates indicating zones and regulations were not provided on signs at the public launch sites. However, it was noted that there were plans to update and improve the signs once the IMP had been approved.

PATROL AND ENFORCEMENT (75%)

The staff members had sufficient capacity and resources to enforce the MLRA and enforcement mechanisms were being implemented effectively; however it was reported that fines issued to visitors to the area were being ignored. The enforcement activities included

day and night foot and vehicle patrols on the shore, boat patrols, entrance and exit inspections, launch site inspections and responses to reports.

Compliance issues in the MPAs included:

- a lack of control over subsistence fishing at Mbibi (need to have temporal limitations and bag limits);
- fishing without permits (subsistence and recreational);
- exceeding bag limits and keeping undersized fish;
- fishermen coming from Mozambique to fish in MPA by boat, and
- driving on the beach (mostly by tourists).

Weaknesses in the patrol and enforcement activities included:

- lack of enforcement of SCUBA diver permits, and
- poor offshore enforcement and a lack of offshore enforcement at night.

MONITORING AND ADAPTIVE MANAGEMENT (78%)

There was monitoring of the conservation managers' achievement of goals and annual reports were written, but no comprehensive monitoring programme to evaluate the achievement of conservation goals (to be used for adaptive management) has yet been implemented. There was however extensive monitoring being conducted within the MPAs.

Field rangers recorded fish CPUE and catch sizes, mussels CPUE and subsistence fishers CPUE during patrols and were also involved in turtle monitoring and seabird monitoring. The following monitoring projects were being conducted in the MPAs:

- rocky shore monitoring
- rock and coral reef monitoring
- turtle nesting (the monitoring has been run for over 40 years and is of national and international importance)
- surf zone fish monitoring and tagging

In addition, launch site registers were kept at all launch sites and diver statistics at Sodwana Bay were recorded.

There was a substantial amount of research being conducted within the MPA. The current projects investigated various aspects of certain species, ecosystems and resource use such as:

- Mussels
- Coelacanth ecosystem
- Leatherback and loggerhead turtle nesting ecology
- Reef processes and connectivity
- Rocky shores
- Subsistence fisheries (traditional knowledge and harvest sustainability)

A monitoring programme for socio-economic conditions was still to be developed. The IMP set out explicit processes for monitoring, review and adjustment of plans.

PUBLIC EDUCATION AND AWARENESS (83%)

A planned education programme was being implemented to raise awareness about the marine section of the park and most of the stakeholders had been reached in one form or another. This programme involved:

- The MCM-iSimangaliso Marine Environmental Education Programme aimed at disadvantaged school groups;
- Presentations;
- Awareness displays;
- Eco-Schools programme;
- Fish counts during marine week;
- Adult environmental education programme (subsistence fishers and staff);
- School visits, and
- Pamphlet distribution (tide charts, MLRA regulations, skippers info and the iSimangaliso News in isiZulu and English).

There were sign boards at popular access nodes providing general information on various marine ecosystems and MPAs, however there were a lack of interpretive information sign boards specific to these MPAs.

INTERACTION WITH STAKEHOLDERS AND COMMUNITIES (87%)

The conservation staff were faced with a formidable challenge in establishing working relationships with local communities due to the history of distrust of communities for authorities and unsettled land claims. It was reported that there was a mixed tolerance for illegal activities within the communities (those with subsistence rights were said to report illegal activities while some of those without rights tolerated of illegal activities) and growing support for conservation staff with some opposition that could be overcome through the involvement of communities in conservation. Specific efforts had been made by the staff of the marine section to liaise with local communities through monthly meetings held with subsistence fishers and harvesters. Efforts to raise awareness and facilitate capacity building in local communities are continuously made through the distribution of English and isiZulu versions of the iSimangaliso News to local communities.

The conservation staff interacted regularly with different stakeholders such as fishing charters, SCUBA diving businesses, subsistence fishers and harvesters and anglers. The relevant stakeholders are involved in operational planning during the peak seasons. Information sharing is achieved through the use of signs, iSimangaliso NewsFlash and emails.

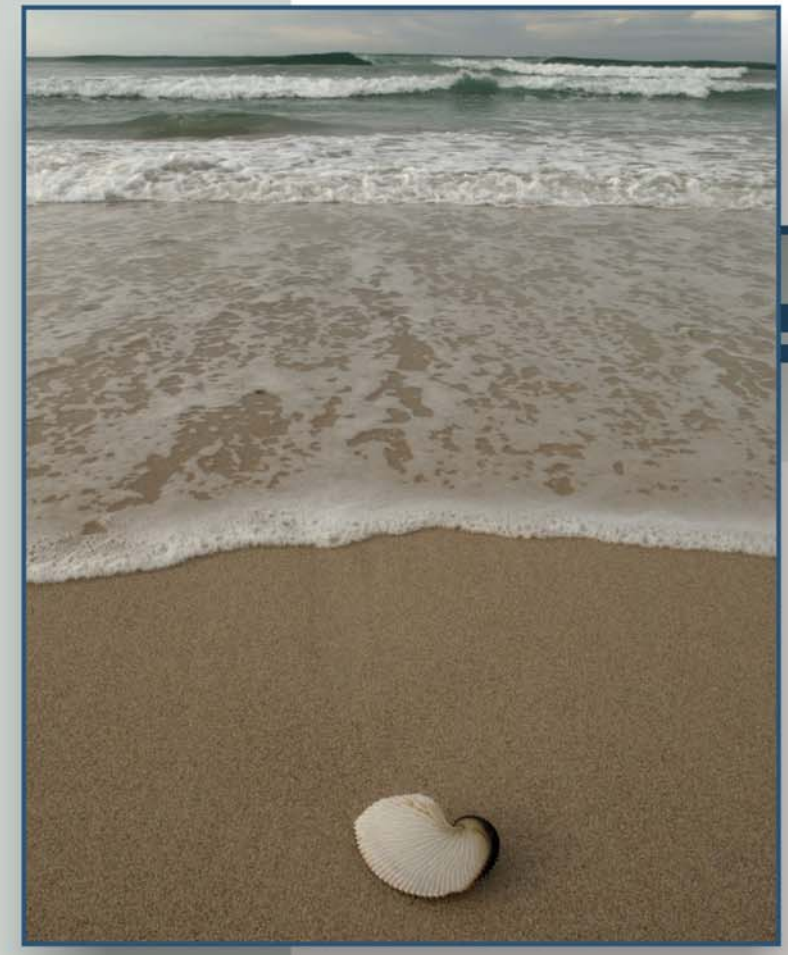
Improvements

- *A budget has been allocated for the management of the MPA.*
- *There is adequate equipment and infrastructure available to conduct management functions.*
- *An additional boat has been supplied and there are four skippers with sea-going capacity.*
- *Zonation patterns described under the MLRA and the WHCA are compatible.*
- *The IMP was viewed as adequate by all the managers as was the conservation operational plan.*
- *Socio-economic factors were afforded much consideration in the IMP.*
- *There are sufficient numbers of staff at two of the three management stations.*
- *Staff have sufficient skills and training.*
- *Education programs and workshops which raise awareness in school groups and target the affected communities and resource users have been implemented.*
- *Management has made specific efforts and initiated processes to meaningfully engage with local stakeholders.*
- *There is extensive monitoring and research of certain species, ecosystems and resource use.*

Weaknesses

- *Sign boards with maps, GPS co-ordinates and information specific to the MPAs need to be erected with the correct terminology*
- *A comprehensive management effectiveness monitoring program with results to be used in adaptive management needs to be designed and implemented.*

Chapter 9: Discussion



CHAPTER 9. DISCUSSION

9.1 LEGAL FRAMEWORK

DEFINING MPAs

It is essential to establish a common understanding for what is meant by the term 'MPA' so to guide MPA management and provide for an accurate measure on the achievement of targets. There is currently no definition for MPAs in the MLRA; however this deficiency is being addressed in the review process which is currently underway. The terminology for the various zonation categories needs to be reviewed and standardized and properly defined.

MPA OBJECTIVES

There have been several noted benefits stemming from the fact that the MLRA governs both fisheries and marine conservation (Lemm & Attwood 2003); however it has been suggested that this limits the conceptualization of the purpose and benefits of MPAs to fisheries management (Sunde & Isaacs 2008). Section 43 of the MLRA stipulates that MPAs may be declared by the Minister to protect marine species and the environment on which they depend, to facilitate fisheries management, and to diminish any conflict arising from competing uses in the area. This reflects the international consensus that MPAs can have varied objectives; however the objectives provided in the South African context have a narrower focus than that provided by the IUCN, as no reference is made to the conservation of cultural values or historical features. This could have consequences for customising MPA objectives and management plans to different areas. Furthermore the MLRA does not explicitly state that conservation is the primary objective of MPAs, as has been suggested by international instruments and authors (Kelleher, CBD), which could lead to confusion in their application.

There has been much criticism of the MLRA in that it restricts management actions to those that are required for preventing 'adverse effects' to marine living resources. The managers of the MPAs with dual designation all indicated that the NEM:PAA allowed for better control and management of non-consumptive activities within the MPAs. The MLRA is currently undergoing a process of revision in which the addition of a fourth objective for MPAs, to manage non-consumptive activities, is being considered. The addition of this objective should effectively provide the Minister with the power to regulate all activities and their cumulative effects in MPAs. Other secondary purposes for MPAs that need to be recognized include research, education, subsistence activities, recreational activities and tourism.

In 2000, 19 MPAs were declared in Government Notice 21948. There were no specific objectives provided for each MPA and only permitted activities under section 43(2) were listed. Given that MPAs can accomplish a broad range of objectives, it is essential that objectives are defined for the network of MPAs as well as the individual MPAs so to guide the MPA design and management intent and actions. The proclamations of the five MPAs since 2000 have specified objectives and regulations for the respective MPAs. It is therefore recommended that an updated Government Gazette is published which clearly defines each of the MPAs specific objectives and also indicates the GPS co-ordinates of each MPA.

PERMITS AND FEES

Lemm and Attwood (2003) identified the need to review the MLRA such that fees for all commercial activities and some recreational activities in MPAs may be charged and contributed to the management of the MPA. The lack of regulation of activities other than fishing in MPAs, and the lack of a permit system for these activities were also identified as weaknesses in the MLRA (Lemm & Attwood 2003).

All three of these issues have been dealt with to a limited extent through the introduction of permits for recreational SCUBA diving in MPAs in 2007 and the annual permits for boat-based whale watching and white shark cage diving in 2008. The application process and penalties for contraventions are provided in the regulations drawn up for each activity, and the fees payable in respect of permits are listed in Government Notice No. 397 of 2009. The fees paid for these permits contribute to the MLRF from which funds for the management of MPAs are allocated.

MANAGEMENT PLANS

The following deficiencies were identified as weaknesses in the legislation in previous assessments (1997 and 2003):

- legislation did not include a requirement to develop statutory management plans, and
- legislation did not provide a standardised format for management plans.

The regulations for MPAs declared from 2004 onwards require that management plans be implemented within six months from the date of commencement of the regulations, however, no standardised format is provided. The requirement to develop management plans and the contents of those plans should be specified in the Act and not just the regulations.

DELEGATION OF RESPONSIBILITIES AMONG INSTITUTIONS

The promulgation of the NEM:PAA has improved the co-ordination of MPA management by facilitating the delegation of management responsibilities to conservation agencies managing terrestrial protected areas adjacent to MPAs. This legislation has led to the formalization of MPA management within conservation agencies through the signing of management agreements with MCM. Furthermore the NEM:PAA facilitates the integrated management of the coastal and marine environments and recognises that the systems are interlinked as is envisaged by the NEM:ICMA.

PUBLIC INVOLVEMENT

There is no requirement in the MLRA to ensure public involvement in decisions pertaining to MPAs; however administrative actions performed under the MLRA have to be in accordance with the section 2 principles of NEMA which require that:

> '(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured',

'(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes all forms of knowledge, including traditional and ordinary knowledge',

While the requirement to manage MPAs in accordance with the Section 2 principles of NEMA does provide a means to ensure that the interests of communities and other interested parties are accounted for, there is still a lack of guidance as to how these factors will be considered and incorporated in MPA designation and management. The MLRA should explicitly require processes for:

- consultation with stakeholders in the declaration of MPAs;
- stakeholder capacity building;
- protection of civil rights of stakeholders affected by MPA related decisions;
- the identification of stakeholders;
- the establishment of a forum/committee for each MPA comprising of representatives of all stakeholders.

OTHER NOTED DEFICIENCIES:

With respect to the guidelines provided by Young (2006) for a suitable legislative framework for MPAs, there are several deficiencies in South Africa's legal framework relevant to MPAs. There is a lack of detailed processes for the following:

- identifying and declaring MPAs;
- decommissioning MPAs;
- research, monitoring and review of MPAs
- the ability to develop statutory zoning plans.

MANAGERS SUGGESTIONS:

- Compile a guidebook of the applicable legislation in simple language so to aid with interpretation;
- Define 'adverse effect';
- The flexibility of regulations should be increased to allow for more adaptive practical spatial management;
- Ban diving in Sardinia Bay and Betty's Bay;
- Implement a water-proof card system for SCUBA diving permits;
- Increase the admission of guilt fines to create a greater deterrence;
- Raise the profile of poaching beyond that of a 'petty crime';
- Provide greater control over vessel access to MPAs, and
- Reinstate the Green Court.

9.2 INSTITUTIONAL FRAMEWORK

There have been substantial improvements in the institutional frameworks supporting MPA management. Permanent positions have been established within MCM to advise and oversee the management of MPAs at a national scale.

MANAGEMENT AGREEMENTS

The co-ordinated approach to MPA management was facilitated through the signing of management agreements between MCM and the various conservation agencies. The management agreements have clarified the relationship and roles of the different authorities, facilitated communication and information exchange through the quarterly and annual reporting requirements and provided for the allocation of funds for MPA management from the MLRF. Furthermore the agreements indicate that the management of MPAs is not limited to enforcement activities but includes education, monitoring and stakeholder engagement.

The most recent agreement signed between SANParks and MCM contains a comprehensive activity-responsibility table for the Table Mountain National Park MPA in the annex. Similar tables have to be drawn up for all the MPAs to which this agreement applies. This table clarifies responsibilities and procedures for the issuing of permits and exemptions, water quality issues, harbour management, planning, educational visits and training. Similar tables should be established for all the MPAs.

COMMUNICATION AND INFORMATION EXCHANGE

Other than the required quarterly reports, there is no strategy for regular communication and information exchange between conservation agencies and MCM. It was found that the managers who were most satisfied with communication were those that were proactive in initiating relationships and lines of communication with MCM. Communication at an institutional level should be improved by including a requirement to meet quarterly to discuss the reports (as has been required in the SANParks and City of Cape Town contracts).

Information exchange between MCM and the conservation agencies and MCM and MPA managers needs improvement. This may be facilitated by the development and maintenance of a website and databases that can be accessed by agencies and managers. A database detailing permit applications, current permits in MPAs and permit conditions would be beneficial as several managers indicated that they were rarely informed of permit application processes and permits issued in their MPAs (permit holders are required to inform managers of visits but often do not). Furthermore most managers indicated that an increase in the frequency of on-site visits by MCM would facilitate a better understanding by MCM of the management issues in the MPA and potentially improve relationships between the authorities.

CONSERVATION AUTHORITIES

The overall state of management varied between the agencies. This variation could be attributed to the history and experience of the agency in managing marine areas and the internal support units that were available to MPA managers. The profile of MPA management has been raised within organisations through the formalization of MPA management within

the organisations and through the appointment of dedicated marine coordinators and researchers. CapeNature and ECPB are however still lacking these dedicated marine posts. The levels of satisfaction regarding communication and information exchange indicated by the managers varied within the agencies. As with the previous section, this may be a reflection on the managers' communication efficiency and not that of the communication and information exchange strategies of the authority. It is recommended that strategies for communication (monthly reporting and quarterly meetings) and information exchange (databases and networks) be established within each of the authorities.

9.3 MPA DESIGN

There were several MPAs in which critical areas for the maintenance of the ecological integrity of the system were excluded or not afforded sufficient protection in the MPA, or where there was insufficient stakeholder involvement in the design of the MPA and the zonation. This has resulting in much dissatisfaction and in most cases non-compliance in many of the MPAs. The design and zonation of these MPAs should be reviewed in consultation with scientists and local stakeholders. Furthermore, the function of MPAs needs to be broadened (as indicated in the above legal framework section) so to provide the managers with the authority to manage all activities in the MPA and essentially their cumulative impacts.

9.4 MPA PLANS AND PLANNING PROCESSES

There has been a significant increase in the number of MPAs with management plans since the 2003 assessment. Most of the managers indicated that the plans were in need of improvement as they were not fully adequate. It must be noted that despite these criticisms, the formulation of management plans is a significant progress for MPA management in South Africa and it is recognised that the initial plans are essentially a step in the right direction.

A management plan is a tool to guide the development of operational plans by managers and a reference point for decision making. The active involvement of the MPA manager in the planning process is crucial to ensure that the plan is of use to the manager and that the objectives set are realistic for the available management capabilities. Most of the plans developed for South Africa's MPAs have been done so by independent parties. It was generally noted that where managers were not involved in the planning process, the plans were of little use to them. This may be due to the fact that the generic language used in most management plans may be interpreted differently by the planner and the manager and, without active engagement between the two, the intent and strength of the plan may be lost.

The interests of resource users and communities influence the performance of MPAs and thus should play a role in shaping the development and management of MPAs (Beaumont 1997, Kelleher 1999, Pomeroy *et al.* 2006). A major weakness identified in a number of the plans was the limited meaningful involvement of affected local communities in the planning process. This may be attributed to the limited knowledge regarding local communities and consequently a lack of understanding of how to meaningfully engage with them.

It is essential to consider that each location has unique social characteristics. Therefore, the diversity of coastal people and communities, especially in relation to their livelihood strategies, needs to be understood when planning and managing MPAs (Pomeroy *et al.* 2006). This understanding can only come from effective, meaningful engagement with all affected communities (IUCN 1994). Different strategies may need to be employed based on the social characteristics in an area. Some areas may require the active involvement of stakeholders in all aspects of the MPA from planning to implementation and management, while for others a more passive level of participation may be appropriate (IUCN 1994). A socio-economic assessment should be conducted prior to planning so to gain an understanding of the characteristics of the local communities, as well as the factors that influence those communities. This understanding should facilitate effective participation procedures during planning.

Furthermore, it was indicated by several managers that plans lacked specificity with regard to prioritizing management issues encountered at the MPAs and that they did not provide adequate guidance for designing operational plans and allocating management resources. This suggested that the management approaches incorporated in the plan had not been sufficiently customized to the MPAs and the management capabilities. The extent to which plans can be customized to an area is dependent on the availability of biological, social and governance information. Most MPA managers indicated that the information base for one or more of these aspects was not fully adequate for planning purposes. Data bases, that incorporate the results of monitoring and any research conducted in the MPA, should be developed and maintained for each MPA and made available to planners.

9.5 MANAGEMENT SYSTEMS

9.5.1 Input

A major deficiency highlighted in the 2003 assessment was the lack of a MPA specific training course and the poor level of understanding of MPA issues harbored by many personnel working in MPAs. This has been rectified to a degree by the development and delivery of the MPA Management Training Course. Despite the fact that staff members did not all participate in the course, it was reported that staff at many of the MPAs now had a basic level of understanding of MPA purpose, marine ecology and the relevant legislation. There was an indication that the knowledge gained by individuals in the course has been shared in some instances, thereby benefiting the team as a whole.

Working in the marine environment requires a specialized set of skills. Currently there is a shortage of staff with sufficient marine related skills. The most frequently identified skills deficiencies were those of skipper skills, seamanship and boat maintenance. There are no specific courses that can develop these skills and most often they can only be acquired with experience. It is recommended that exchange programmes or mentorship programmes be initiated so to aid in the development of these skills. Other skills deficiencies that were identified included public relations skills, swimming, diving and data management.

Most of the MPAs have sufficient equipment for management purposes. Few of the MPAs had equipment deficiencies and the most common deficiencies included night vision equipment for night surveillance operations and proactive equipment such as radar systems. Most MPAs now have sufficient equipment for offshore management operations.

The infrastructure at most of the MPAs was not constraining critical management activities; however there were two MPAs in which inadequate facilities severely constrained management (Hluleka MPA had no electricity or phone line at the office, Bird Island MPA was in need of a slipway, new jetty and maintenance of facilities on the Island).

A major improvement for MPA management in South Africa has been the allocation of funds from the MLRF for MPA management. In most cases these funds were contributing mainly to operational costs and capital purchases. It was indicated by most managers that an increase to the funding, either through the MLRF or from an external source, was required to improve management procedures and particularly staffing issues.

9.5.2 Processes

Boundary demarcation

The adequacy of boundary demarcation varied considerably between MPAs. There should be tall standardised beacons on the boundaries and signage, which provide maps, GPS co-ordinates (listed) and an indication of where the reader is relative to the MPA. This information also needs to be located at all launch sites used to access the MPA and at other major access points. Additional measures that could aid with ensuring the awareness of MPA boundaries include the mapping of MPAs on GPS programmes and navigation charts. The use of pencil buoys should also be investigated at Aliwal Shoal MPA.

Patrol and Enforcement

The levels of enforcement required at different MPAs varied considerably based on the levels of organised crime (e.g abalone poachers) and the proximity of subsistence populations. There have been substantial improvements in the enforcement procedures in several of the MPAs. These improvements can be attributed to the development of management plans, the training of staff and the acquisition of equipment. Issues highlighted at the other MPAs were related to staff shortages, skipper availability, writing skills of staff and varied levels of tolerance by staff for illegal activities. A major deficiency regarding enforcement procedures in the Eastern Cape Parks MPAs was the lack of designated fishery control officers. Most MPA managers indicated that the judicial system was 'failing them' through the lack of acknowledgement by the system of the seriousness of poaching and the low penalties for contraventions. It was suggested that Green Courts should be re-established.

Monitoring and Adaptive Management

The implementation of comprehensive programmes for monitoring management effectiveness is lacking in South Africa's MPAs. There has been a considerable amount of monitoring of certain species, ecosystems, resource use, the achievement of managers goals and abiotic characteristics but not one MPA monitoring system has incorporated all of the crucial elements identified in guidelines to evaluating management effectiveness. Once again, it is important to note that despite the deficiencies, there has been a substantial

improvement in the monitoring of various attributes of MPAs. Several agencies have been involved in developing monitoring programmes (ORI, SANBI, SAEON and the various conservation agencies). The increased awareness of the importance of monitoring for MPA management and the associate efforts is another step forward for MPA management.

The importance of evaluating management effectiveness has been recognised increasingly internationally (Himes 2007) due to concerns raised that protected areas around the world were not achieving their objectives (Stolton *et al*. 2007). In addition, it has been reasoned that the evaluation of management effectiveness is essential for strengthening management practices and conservation efforts through adaptive management (Pomeroy *et al*. 2004). As a result, several effectiveness evaluation guides and reports on evaluations have been produced. The guide *'How is your MPA Doing'* produced by Pomeroy *et al*. (2006) sets out biophysical, socio-economic and governance indicators and describes the procedures and types of assessments required to evaluated these. It is recommended that a similar system with uniform standards and procedures be developed for South Africa's MPAs. The development of such a system must involve social scientists, biologists and MPA managers.

Public Education and Awareness

Education specific to MPAs is critical for building public support and facilitating compliance. The communities adjacent to MPAs who are affected by the MPA need to receive the most attention regarding education so as to build their capacity, to facilitate effective engagement, and to develop relationships based on understanding and trust. The education programmes in South Africa's MPAs most often target school groups only. These programmes are essential for educating children and instilling and passion for the environment and conservation in the next generation; however adult programmes, especially those targeting resource users, are equally important. Programmes need to be designed for adults and customized based on the group type and education level.

Sign boards and brochures are important for raising the awareness of the general public. Few MPAs had sufficient awareness materials. Each MPA should have a brochure specific to the MPA as well as the DEA Marine Recreational Activities Information brochure available to hand out on patrols and at tackle shops and information centres. Signboards with information regarding the purpose of the MPA and interesting information specific to the MPA should be erected at key access points.

Furthermore it has been reported that recreational fishermen who exceed bag limits or keep undersized fish continue to repeatedly claim ignorance regarding the MLRA regulations and also that the regulations are not provided to them when purchasing permits. It should be mandatory to provide the regulations as an attachment to the permit, and a website containing the information provided in the DEAT Marine Recreational Activities Information brochure should be designed for fishermen.

Interaction with Stakeholders and Communities

Stakeholder forums or committees that met on a regular basis had been established in most of the MPAs. However few of the managers indicated that the forums contained a representative group of stakeholders that were all able to participate. In most instances it was local communities that were dependent on the resources in the MPAs, which were

poorly represented or did not have the capacity to participate meaningfully within these groups.

As indicated in the planning section, the effective engagement with local communities is dependant on the level of understanding held by the authority for the communities and their interests in the MPAs, as well as on the extent to which procedures are customized to the different groups. While all authorities acknowledged that the development of positive relationships with local communities was critical, few had established these positive relationships. This was due to the variability in the community types adjacent to the different MPAs. Where there were affluent communities relationship building was generally easier and positive relationships had been established, whereas in areas where communities were dependent on the resources in MPAs, relationship building was generally challenging and positive relationships had not been established.

The management organisations managing MPAs which are perceived as negatively impacting on the livelihoods of local communities should initiate studies to determine the community dynamics and the extent to which resources are used by the communities. After developing this understanding, capacity building and interactive procedures should be designed to allow for meaningful communication. Few of the management organisations facing these challenges had initiated these processes.

9.6 CONCLUSION

MPA management in South Africa has come a long way since the assessment in 2003; however there are still serious gaps that need to be addressed. The most notable steps forward include the coordination and formalization of MPA management through the signing of agreements, the drafting of management plans, the development of the MPA Management Training Course, the allocation of budgets for MPA management and the acquisition of equipment for MPAs. Areas that weaken MPA management and require attention include the lack of specific legislated objectives for MPAs, the lack of a comprehensive national monitoring programme and adaptive management, and the insufficient involvement of stakeholders in MPA design, planning and management.

References:

Agardy, T.M. (1994) Advances in marine conservation: the role of marine protected areas. *Trends of Ecology and Evolution*, Vol.9. pg 267-270.

Attwood, C.G., B.Q. Mann, J. Beaumont and J.M. Harris (1997) Review of the state of marine protected areas in South Africa. South African Journal of Marine Science Vol.18. pg.341-368

Attwood C.L., C.L. Moloney, J. Stenton-Dozey, L.F. Jackson, A.E.F. Heydorn and T.A. Probyn (2000) Conservation of Marine Biodiversity in South Africa. *Marine Biodiversity Status Report, March 2000*

Ballantine, W.J. and T.J. Langlois (2008) Marine Reserves: the needs for systems *Hydrobiologia.* Vol. 606. pg.35–44

Beaumont, J. (1997) Community participation in the establishment and management of marine protected areas: a review of selected international experience. *South African Journal of Marine Science*. Vol.18 pg.333-340.

Bewana, A. (2009) A re-assessment of the State of Marine Protected Areas Management in South Africa. MSc: Conservation Biology. University of Cape Town.

Charles, A., and L. Wilson (2009) Human dimensions of Marine Protected Areas. *ICES Journal of Marine Science*, Vol.66. pg. 6–15.

Christie, P., B.J. McCay, M.L. Miller, C. Lowe, A.T. White, R. Stoffle, D.L. Fluharty, L.T. McManus, R. Chuenpagdee, C. Pomeroy, D.O. Suman, B.G. Blount, D. Huppert, R.L.V. Eisma, E. Oracion, K. Lowry, R.B. Pollnac (2003) Toward developing a complete understanding: A social science research agenda for marine protected Areas. *Fisheries.* Vol. 28. No. 12. pg. 22-26

Clark, C.W. (1996). Marine reserves and the precautionary management of fisheries. *Ecological Applications,* Vol. 6. No. 2. pg.369 - 370.

Department of Environmental Affairs and Tourism (2006a) *South Africa Environment Outlook. A report on the state of the environment.* Department of Environmental Affairs and Tourism, Pretoria. 371pp.

Department of Environmental Affairs and Tourism (2006b) South Africa's Third National Report to the Convention on Biological Diversity

Department of Environmental Affairs and Tourism (2009) South Africa's Fourth National Report to the Convention on Biological Diversity

Gell, F.R. and C.M. Roberts (2003) Benefits beyond boundaries: the fishery effects of marine reserves. *Trends in Ecology and Evolution.* Vol. 18 No. 9. pg. 448-455

Himes, A.H. (2007) Performance indicators in MPA management: Using questionnaires to analyze stakeholder preferences. Ocean & Coastal Management Vol. 50. pg.329-351.

Hockey, P.A.R. and G.M. Branch (1997) Criteria, Objectives and Methodology for Evaluating Marine Protected Areas in South Africa. South African Journal of Marine Science Vol.18. pg.369-383

Hockings, M., S. Stolton and N. Dudley (2000) Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas. IUCN, Gland, Switzerland and Cambridge, UK

IUCN (2004) Managing Marine Protected Areas: A Toolkit for the Western Indian Ocean. IUCN Eastern African Regional Programme, Nairobi, Kenya

IUCN World Commission on Protected Areas (IUCN-WCPA) (2008) *Establishing Marine Protected Area Networks—Making It Happen.* Washington, D.C.: IUCN-WCPA, National Oceanic and Atmospheric Administration and The Nature Conservancy.

Jameson, S.C., M.H. Tupper and J.M. Ridley (2002) The three screen doors: can marine 'protected' areas be effective? *Marine Pollution Bulletin*. Vol.44. pg. 1177-1183

Kelleher, G. (1999) *Guidelines for Marine Protected Areas*. IUCN, Gland, Switzerland and Cambridge, UK.

Lemm, S. and C. Attwood (2003) State of Marine Protected Area Management in South Africa. WWF-SA. Cape Town

Lombard, A.T., T. Strauss, J. Harris, K. Sink, C. Attwood, and L. Hutchings (2004) *South African National Spatial Biodiversity Assessment 2004: Technical Report. Volume 4: Marine Component.* Pretoria: South African National Biodiversity Institute.

Martin. K., M.A. Samoliys, A.K. Hurd, I. Meliane and C.G. Lundin (2006) Experiences in the use of Marine Protected Areas with Fisheries Management Objectives – A Review of Case Studies. Produced for the FAO Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations. FAO Fisheries Report No. 825

Pomeroy, R.S., M.B. Mascia, and R.B. Pollanc (2006) Marine Protected Areas: The Social Dimension. Produced for the FAO Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations. FAO Fisheries Report No. 825

Salm, V.M., J.R. Clark and E. Siirila (2000) Marine and Coastal Protected Areas: A guide for planners and managers. IUCN. Washington DC.

Sunde, J. and M. Isaacs (2008) Marine Conservation and Coastal Communities: Who Carries the Costs? A Study of Marine Protected Areas and Their Impact on Traditional Small-scale Fishing Communities in South Africa. International Collective in Support of Fishworkers. Chennai, India

UNEP-WCMC (2008) State of the world's protected areas: an annual review of global conservation progress. UNEP-WCMC, Cambridge.

Young, T.R. (2006) The Legal Framework for MPAs and Successes and Failures in their Incorporation into National Legislation. Produced for the FAO Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations. FAO Fisheries Report No. 825

Guides used for Questionnaire and Scoring System:

AIDEnvironment, National Institute for Coastal and Marine Management/Rijksinstituut voor Kust en Zee (RIKZ), Coastal Zone Management Centre, the Netherlands (2004). Integrated Marine and Coastal Area Management (IMCAM) approaches for implementing the Convention on Biological Diversity. Montreal, Canada: Secretariat of the Convention on Biological Diversity. (CBD Technical Series no. 14).

Hockings, M., S. Stolton and N. Dudley (2000) Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas. IUCN, Gland, Switzerland and Cambridge, UK

Kelleher, G. and R. Kenchington (1992) Guidelines for Establishing Marine Protected Areas. Gland, Switzerland; World Conservation Union (IUCN)

Laffoley, D. d'A., (ed.) (2008). Towards Networks of Marine Protected Areas. The MPA Plan of Action for IUCN's World Commission on Protected Areas. IUCN WCPA, Gland, Switzerland. 28 pp.

Lemm, S. and C. Attwood (2003) State of Marine Protected Area Management in South Africa. WWF-SA. Cape Town

Pomeroy, R.S., J.E. Parks and L.M. Watson (2004) How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness. IUCN, Gland, Switzerland and Cambridge, UK.

Stern, M.J. (2006) Measuring Conservation Effectiveness in the Marine Environment: A Review of Evaluation Techniques & Recommendations for Moving Forward. The Nature Conservancy.

Stolton, S., M. Hockings, N.Dudley, K. MacKinnon, T. Whitten and F. Leverington (2007) *The Management Effectiveness Tracking Tool. Reporting Progress at Protected Area Sites: Second Edition*. WWF International, Gland, Switzerland.

APPENDICES

Appendix A : Questions addressed to Managers

1. BACKGROUND AND CONTEXT

1.1 Name of MPA:

1.2 Management Authority:

1.3 Location:

1.4 Date of establishment:

1.5 Designation (IUCN category, World heritage site, Ramsar site):

1.6 Reason for designation:

1.7 Contact information and website (if any):

1.8 Size of marine protected area (ha):

1.9 Brief Description of the primary habitats represented in the MPA:

1.10 Stakeholder groups:

1.11 **GLOBAL SIGNIFICANCE**

a) Is it declared under international convention (Ramsar, WHC)?

b) Is it part of a recognized international programme (e.g. Birdlife's important bird areas)?

c) Endemic threatened species

d) Globally threatened species

1.12 **NATIONAL SIGNIFICANCE**

a) Cultural, spiritual and historical importance

b) Social and economic benefits through environmental services – water supplies and quality, fish nursery grounds, protect coastal communities against storms

c) Recreational – visitor numbers, fees and permit applications

d) Unique sites for research and education

1.13 **THREATS**

a) Identify all resource conflicts and indicate for the severity in terms of their impact on resources (e.g. tourist activities, local community resource use)

b) Are there any intrusive land uses adjacent to the MPA?

c) List any external threats (e.g. Climate change, Pollution) and indicate the severity in terms of their impact on resources

2. LEGAL AND INSTITUTIONAL FRAMEWORK

PROTECTED AREA LEGISLATION AND POLICY

2.1 Are there sufficient legal mechanisms in place to control inappropriate activities?

2.2 Are there policies that would assist you in the management of your MPA? (e.g. would clearly defined procedures for dealing with research activities or tourist program activities assist you?) If so, please suggest some priority issues that need policies.

2.3 Please list any documents that are relevant to the management of your MPA

2.4 Are you familiar with:

a) Marine Living Resources Act 1998 (Section 43) Government Notice Number R1111 and the applicable proclamation and regulations for your MPA

b) National Environmental Management: Protected Areas Act 2004

c) National Environmental Management Act :Control of vehicles in the coastal zone

d) National Environmental Management Act 1998 (NEMA)

e) National Environmental Management: Integrated Coastal Zone Management Act

f) National Environmental Management: Biodiversity Act 2004

g) World Heritage Convention Act 1999

h) National Heritage Resources Act 1999

i) Sea Birds and Seals Protection Act 1973

2.5 Are all the legislative requirements regarding MPAs being implemented in your MPA?

a) If not, what is not being implemented?

b) Why is it not being implemented?

2.6 Can you provide a breakdown of breaches of legislation that occurred during 2006, 2007 & 2008 in your MPA (i.e. numbers of breaches under each specific section of the legislation);

a) Is there a database you can refer to that outlines details of breaches for your MPA?

b) Is this database easily accessible to you?

2.7 What changes to the Marine Living Resources Act would improve your ability to manage your MPA?

2.8 If the MPA, or parts of the MPA, is declared under legislation other than the Marine Living Resources Act, are there any differences between the declared boundaries of the MPA gazetted under the MLRA and the boundaries under the other legislation?

2.9 What value do you see in having marine areas declared under legislation other than the Marine Living Resources Act? Or do you think it makes day-to-day management of the area more difficult?

ORGANISATIONAL STRUCTURE AND PROCEDURES

2.10 Does your agency consider management of your MPA a high priority? (why?)

2.11 If management issues arise, is there a formal process to address these issues?

2.12 Is there a section or person in your agency that specifically deals with MPA issues?

2.13 Do you think there is adequate communication within your agency?

2.14 Do you think there is adequate exchange of information within your agency?

2.15 Who makes strategic decisions on the management of the MPA? (What is the process?)

2.16 Who do you report to in your agency?

RELATIONS WITH MCM

2.17 What assistance does MCM provide you to assist in the management of the MPA?

2.18 Do you think your management agency and MCM have the same ideas of how MPA's should be managed (why)?

2.19 How are MPA management issues conveyed to MCM to enable desired outcomes?

2.20 Is this process working effectively?

2.21 Do you think there is adequate exchange of information between your agency and MCM regarding MPA issues?

2.22 Do you think there is adequate communication between you and MCM regarding MPA issues?

2.23 Do you think there is adequate communication between your agency and MCM regarding MPA issues?

2.24 Overall, what changes, if any, would you make to improve processes between yourself, your agency and MCM to improve management of your MPA?

PERMIT PROCEDURES

2.25 When a permit (excluding fishing permits) is issued for a person to conduct activities (e.g. research) in your MPA, are you consulted during the assessment of the permit? (Do you think you should be consulted?)

2.26 Is there a database that you can refer to that will provide information on what current permits (excluding fishing permits) have been issued in your MPA?

2.27 Are you formally notified when a permit (excluding fishing permits) is issued in your MPA?

2.28 How do you manage/conduct compliance of permit holders (excluding fishing) in your MPA?

2.29 How are applications for permits (excluding fishing permits) dealt with in your MPA?

3. MPA DESIGN

3.1 Are areas critical for the maintenance of the ecological integrity of the MPA included within the boundaries (i.e. Nursery areas, spawning sites, seasonal habitats, refuges)?

3.2 Is the size and shape of the protected area adequate to achieve the conservation objectives? (i.e. can sustain ecological processes and buffer interior from edge effects)?

3.3 Is there a visitor use zoning system indicating position and nature of operation and visitor infrastructure?

3.4 Do you think the zoning is adequate to manage all activities occurring in your MPA or are there certain activities that need to be dealt with more adequately under the zoning? (If so, how would you change the zoning?)

3.5 Is it outlined under the legislation what activities can occur in each zone?

3.6 Are there any requirements in the zones that are difficult to enforce?

3.7 What is the most difficult to enforce?

3.8 How would you suggest that this may be improved?

4. MANAGEMENT PLANNING

Existence of Plan, Objectives and Regulations

4.1 Is there an approved management plan specific to your MPA (compliant with relevant legislation) and is it being implemented?

4.2 Are there clear, agreed protected area objectives?

4.3 Are the objectives an appropriate response to the issues at the MPA?

4.4 Are allowable and restricted activities clearly defined for the MPA?

Plan Implementation and Adequacy

4.5 Does the plan provide adequate direction on management actions that should be taken?

4.6 Are priorities clearly indicated in the plan so to facilitate the allocation of resources?

4.7 Is this management plan useful to you in its current form? If not, how would you improve it?

4.8 Does the plan act as a decision framework for addressing new issues and opportunities that arise?

Socio-Economic Considerations

4.9 Does the planning process allow adequate consultation with key stakeholders in the compilation of the management plan?

4.10 Is the local culture, including traditional practices, social systems, cultural features, historic sites and monuments, considered in the planning process?

4.11 Do stakeholders/community have meaningful input to management decisions?

Planning Context

4.12 Does the management plan incorporate both biophysical and socio-economic information in the planning process?

4.13 For each category of information below please rate it as: insufficient for planning purposes (0), partially adequate (2) or entirely adequate (4)

a) Resource use (extraction, harvest, visitor statistics)

b) Social conditions (neighbouring or other relevant stakeholders)

c) Biophysical conditions

d) inventory of biological resources

e) Have threats been analyzed and management actions prioritized in accordance?

5. MANAGEMENT SYSTEM

INPUT

Staff Number

5.1 Is the current number of staff adequate to enable effective management of the MPA? (If not, how many staff do you think are needed?)

5.2 What is the staff structure and reporting arrangements?

5.3 If there is an adjacent terrestrial reserve to your MPA, do you have staff specifically designated for the management of the MPA or do staff manage both the marine and terrestrial protected areas?

5.4 Do you think it is more effective having staff specifically designated to the management of the MPA or having combined marine/terrestrial staff? (Why?)

	Number of staff members
Total number of staff members	
Function	
Research/monitoring	
Planning	
Maintenance	
Education and extension	
Law enforcement	

Staff Skills and Training

5.5 What percentage of your staff is well trained enough to carry out present and likely future duties?

5.6 What level of continuity of key people is there? (key roles committed for how many years?)

5.7 Do staff generally understand the role and function of MPA's?

5.8 Are staff aware of the natural/cultural resources in the MPA and their value?

5.9 What percentage of staff has an understanding of legislation and management policies?

	Number of staff members
Skills and training	
Skippers	
Commercial Diver Training Class IV 30m	
Commercial Diver Training - Class IV 30m Supervisor	
Safety at Sea	
Swimming	
Radio Operators Ticket	
Compliance & Control	
Peace Officer Training	
Fisheries Control Officer Training	
First Aid Level 1	
First Aid Level 3	
Computer Literacy - MS Suite	
ARC - View GIS Training	
GPS Training	
Certificate In Marine Protected Area Management	

5.10 Do you think that if you or your current staff received additional training/qualifications that your ability to manage the MPA would improve? (If so, what sort of training?)

5.11 Does your agency provide you and your staff any training that is specific to MPA management?

5.12 Did you or your staff, during study at Technikon or University, have access to any courses that were specific to MPA management?

Funds

	Budget Allocation
The site total annual budget allocation	
Expenditure type:	
Salaries	
Capital	
Maintenance and operations	
Source of funds	
Main budget allocation	
Revenue earned from fees	
Grants from outside bodies	

5.13 Is the current budget sufficient?

5.14 Is the budget secure (% of budget secure for how long)?

Infrastructure

5.15 Are your visitor facilities adequate for current levels of visitation?

5.16 Is there adequate infrastructure for management purposes? (If not what additional infrastructure do you think is needed?)

5.17 Is infrastructure adequately maintained?

	Number in your MPA	Adequacy*
Access points		
Public Launch sites		
Non-public launch sites		
Education centre		
Staff areas		
Guard house		
Offices		
Accommodation (specify type)		
Other		

* Score 0 = constrain achievement of major objectives, 1 = constrain achievement of some objectives, 2 = do not constrain achievement of major objectives, 3 = fully adequate and aid in achievement of major objectives

Equipment

5.18 Is there adequate equipment for management purposes?

5.19 Is equipment adequately maintained?

5.20 What equipment do you believe you still need to enable effective management of the MPA and why do you need this additional equipment?

	Number	Quality*
COMPLIANCE EQUIPMENT		
Hand-held radios		
Marine Base Station & Aerial		
Binoculars		
Night Sights		
Cell phone		
Handcuffs (lockable)		
Copy of MLRA ACT & Regulations		
Pepper Spray		
First aid kits (Trauma kits)		
First aid kits (Patrol kits)		
Torches		
Spotlight (1 000 000 candle power)		
GPS - handheld		
Compliance Control Fisheries Cards		
Evidence bags		
Spotting Scope (min 60 x magnification)		
Digital camera with zoom capabilities		
VEHICLES & EQUIPMENT		
Motorcycles		
4x4 Vehicle		
Winch		
Wide set of tyres		
Base radio		
BOAT & EQUIPMENT		
Sea going boat		
Engines		
Integrated Radar System		
VHF (Marine)Boat		
Large mounted battery operated spotlight		
Set of hard copy charts		
Video camera with waterproof housing		
Digital still camera with waterproof housing		
SNORKEL & SCUBA DIVING EQUIPMENT		
Sets of soft gear: Mask, Snorkel, Fins, Wet suit, Weight Belt & weights, Gloves, Booties, computer, knife, torch		

	Number	Quality*
Sets of hard gear: Dive Cylinders, First Stage Set, Second Stage set, Dive gauges, Dive compass, Buoyancy Control Vest		
Bouy and reel		
Alpa Flag		
Oxygen cylinder		
Compressor		
GENERAL EQUIPMENT		
Laptop		
Relevant MPA signage		

* Score 0 = constrain achievement of major objectives, 1 = constrain achievement of some objectives, 2 = do not constrain achievement of major objectives, 3 = fully adequate and aid in achievement of major objectives

PROCESSES

Boundary Demarcation

5.21 Is the boundary known and appropriately demarcated (marked with signboards, beacons or fences)?

5.22 Is there any **signage** indicating that the area is an MPA?

Patrol and Enforcement

5.23 Can staff sufficiently enforce marine protected area rules (capacity)?

5.24 Are there clearly defined enforcement procedures and are they being implemented?

5.25 Are mechanisms sufficient to control unsustainable human activities (e.g. poaching)? What is the extent of enforcement coverage?

5.26 Describe the enforcement activities?

5.27 Provide an estimate of the:

a) number of patrols undertaken

b) number of prosecutions instigated

Monitoring and adaptive management

5.28 Is there a system to monitor and evaluate progress on conservation objectives, with results to be used in adaptive management?

5.29 Does this system monitor:

a) Resource inventories

b) Resource conditions

c) Resource use

d) Management effectiveness

e) Socio-economic conditions of local communities

5.30 Is there a comprehensive research programme relevant to management needs?

5.31 Is there an established schedule and process for periodic review and updating of the management plan?

5.32 Have threats been reduced?

5.33 Have resource conditions improved?

5.34 Are the available management mechanisms working to control both illegal and legitimate access and use?

5.35 Have resource use conflicts been reduced?

5.36 Provide an estimate of the:

a) Number of researchers

b) Extent of area surveyed in research programme

Public education and awareness

5.37 Are there any educational programmes occurring to make the local community and general public aware of your MPA, whether run by your agency or outside of your agency?

5.38 Do these programmes reach the appropriate user groups (stakeholders)?

5.39 Are there any interpretative **brochures** about your MPA that you provide for the public?

5.40 What interpretative material do you think you need to improve local community and tourist awareness in your MPA?

Interaction with stakeholders and communities

5.41 What is the conservation authorities' view on the importance of positive relations with local communities and associated efforts?

5.42 Are there any legal arrangements with local communities?

5.43 Is there open communication between local stakeholders and MPA managers?

5.44 What is the degree of information sharing between managers and stakeholders?

5.45 How consistent is the involvement of stakeholders?

5.46 Is there co-operation between the conservation authority and tourism operators in the MPA?

5.47 Are the stakeholders/community satisfied with the process and outputs of the MPA?

5.48 Do stakeholders/community feel that they are able to effectively participate in management decisions?

5.49 Is the MPA providing economic benefits to the local communities, and are these benefits distributed equitably?

5.50 What is the community's level of tolerance of illegal extractive activities?

5.51 Does the local community support your MPA's staff and the conservation programme?

Appendix B : Questions addressed to Authorities

ORGANISATIONAL STRUCTURE AND MANDATE

1. How is your agency structured? (CEO – Park managers)
2. What is the mandate of your agency?
3. What agreement do you have with DEAT?
4. What agreement do you have with MCM?
5. Does your agency consider the management of MPAs a high priority?
6. Do you think there is adequate communication within your agency regarding MPA issues? (How is communication facilitated – e.g. monthly meetings/reports)
7. Do you think there is adequate exchange of information within your agency regarding MPA issues? (How is information exchange facilitated – e.g. monthly meetings/newsletters)
8. When a permit (excluding fishing permits) is issued for a person to conduct activities (e.g. research) in your MPA, are you consulted during the assessment of the permit? (Do you think you should be consulted?)
9. How are applications for permits (excluding fishing permits) dealt with in your agency?
10. Is there a database that you can refer to that will provide information on what current permits (excluding fishing permits) have been issued in MPAs?

RELATIONS WITH MCM

11. What assistance does MCM provide you to assist in the management of MPAs?
12. How are MPA management issues conveyed to MCM to enable desired outcomes?
13. Is this process working effectively?
14. Overall, what changes, if any, would you make to improve processes between your agency and MCM to improve management of MPAs?
15. Do you think your agency and MCM have the same ideas of how MPA's should be managed?
16. Do you think there is adequate exchange of information between your agency and MCM regarding MPA issues?
17. Do you think there is adequate communication between your agency and MCM regarding MPA issues?
18. How often do you meet with MCM? (Is it scheduled/ad hoc?)
19. Who do you deal with in MCM?

LEGISLATION

20. Are there policies that would assist you in the management of your MPA? (e.g. would clearly defined procedures for dealing with research activities or tourist program activities assist you?) If so, please suggest some priority issues that need policies.
21. What changes to the Marine Living Resources Act would improve your ability to manage your MPA?

MANAGEMENT PLANNING

22. Does the planning process allow adequate consultation with key stakeholders in the compilation of the management plan? (how does this happen?)
23. Is the local culture, including traditional practices, social systems, cultural features, historic sites and monuments, considered in the planning process?
24. Do the stakeholders/community have meaningful input to management decisions?
25. Do the management plans incorporate both biophysical and socio-economic information in the planning process?

STAFF

26. Does your agency provide any training that is specific to MPA management?
27. What level of continuity of MPA managers is there? (Committed for how many years?)

FUNDS

28. What is the total annual budget for MPA management?
29. Who provides this budget?
30. Is the current budget sufficient?
31. Is the budget secure (% of budget secure for how long)?
32. How is the budget allocated between MPAs and on what basis?

PROCESSES

33. Is there a system to monitor and evaluate progress on conservation objectives, with results to be used in adaptive management?
34. Does this system monitor:
    a) Resource inventories
    b) Resource conditions
    c) Resource use
    d) Management effectiveness
    e) Socio-economic conditions of local communities

35. Is there a comprehensive research programme relevant to management needs?
36. Are there any educational programmes occurring to make the local community and general public aware of MPAs, whether run by your agency or outside of your agency?
37. Do these programmes reach the appropriate user groups (stakeholders)?
38. What is your agency's view on the importance of positive relations with local communities and associated efforts?

PROGRESS

39. Have the following aspects improved since the last management assessment in 2003? (if so, how?) (assign a score - 0- worsened, 1- stayed the same, 2- improved slightly, 3 - improved significantly)
    a) Legal status
    b) Regulations
    c) Management planning
    d) Law enforcement
    e) Boundary demarcation
40. If fees (entry fees - tourism, fines) are applied, do they help marine protected area management?
41. Was staff training adequate to fulfil the present management needs and anticipated future management needs?
42. Have threats been reduced?
43. Have resource conditions improved?
44. Are the available management mechanisms working to control both illegal and legitimate access and use?
45. Have resource use conflicts been reduced?

Appendix C : Scoring System

ORGANISATIONAL STRUCTURE AND PROCEDURES
If management issues arise, is there a formal process to address these issues?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate
Do you think there is adequate communication within your agency?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate
Do you think there is adequate exchange of information within your agency?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate
RELATIONS WITH MCM
Is the process to address management issues working effectively?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate
Do you think there is adequate exchange of information between your agency and MCM regarding MPA issues?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate
Do you think there is adequate communication between you and MCM regarding MPA issues?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate
Do you think there is adequate communication between your agency and MCM regarding MPA issues?
▪ Urgent action required ▪ Needs substantial improvement ▪ A few deficiencies ▪ Adequate

MPA DESIGN	12
Are areas critical for the maintenance of the ecological integrity of the MPA included within the boundaries (i.e. Nursery areas, spawning sites, seasonal habitats, refuges)?	
▪ Some critical areas are excluded from MPA	0
▪ All critical areas are partially incorporated in the MPA	1
▪ All critical areas are fully incorporated in the MPA	2
▪ All critical areas are afforded extra protection within the MPA	3
Is the size and shape of the protected area adequate to achieve the conservation objectives? (i.e. can sustain ecological processes and buffer interior from edge effects)?	
▪ Design inadequate and as a result achievement of major management objectives is impossible.	0
▪ Design inadequate and as a result achievement of major management objectives is constrained.	1
▪ Design is not significantly constraining the achievement of objectives, but there is a strategy to improve design	2
▪ Reserve design features are particularly aiding achievement of objectives	3
Is there a visitor use zoning system indicating position and nature of operation and visitor infrastructure?	
▪ No zoning plans have been developed	0
▪ Zoning plans have been developed from biological data only	1
▪ Zoning plans have been created based on the activities and user conflicts with clear action plans for enforcement	2
▪ Activities have been zoned where needed and critical zones for protection have been identified through scientific sampling and set aside for special protection with clear plans for surveillance and enforcement	3
Do you think the zoning is adequate to manage all activities occurring in your MPA or are there certain activities that need to be dealt with more adequately under the zoning? (If so, how would you change the zoning?)	
▪ Zoning inadequate	0
▪ Zoning only adequate for a few activities occurring in MPA	1
▪ Zoning adequate for majority of activities occurring in MPA	2
▪ Zoning adequate for all activities occurring in MPA	3

EXISTENCE OF PLAN, OBJECTIVES AND REGULATIONS	12
Is there an approved management plan specific to your MPA (compliant with relevant legislation) and is it being implemented?	
▪ No plan exists	0
▪ Being prepared, not yet implemented	1
▪ Exists, but only partially implemented	2
▪ Approved plan exists and is being implemented	3
Are there clear, agreed protected area objectives?	
▪ No firm objectives have been agreed for the marine protected area	0
▪ The marine protected area has agreed objectives but these are not included in the plan specifically	1
▪ The marine protected area has agreed objectives but these are only partially implemented	2

▪ The marine protected area has agreed objectives and is managed to meet these objectives	3
Are the objectives an appropriate response to the issues at the MPA?	
▪ Objectives are incompatible with issues at the MPA	0
▪ Responses to issues at the MPA are not an explicit objective, but compatible (too broad)	1
▪ Responses to issues at the MPA are not primary objectives	2
▪ Responses to issues at the MPA are a primary and explicit objective	3
Are allowable and restricted activities clearly defined for the MPA?	
▪ Not clearly defined	0
▪ Partially defined, but with some issues not addressed	1
▪ Clearly defined, enforcement authority unclear	2
▪ Clearly defined and legally enforceable	3
PLAN IMPLEMENTATION AND ADEQUACY	**12**
▪ Does the plan provide adequate direction on management actions that should be taken?	
▪ No indication of priorities in the plan	0
▪ Priorities not clearly indicated but can be inferred	1
▪ Priorities indicated, but unclear actions to address them	2
▪ Clear priorities indicated with clear action plan	3
Are priorities clearly indicated in the plan so to facilitate the allocation of management resources?	
▪ No indication of priorities in the plan	0
▪ Priorities not clearly indicated but can be inferred	1
▪ Priorities indicated, but unclear how to allocate resources	2
▪ Clear priorities indicated and facilitate resource allocation	3
Is this management plan useful to you in its current form? If not, how would you improve it?	
▪ Plan is inadequate in its current form	0
▪ Few aspects of the plan are adequate	1
▪ Most aspects of the plan are adequate	2
▪ Plan is useful and fully adequate in its current form	3
Does the plan act as a decision framework for addressing new issues and opportunities that arise?	
▪ Plan focuses on present issues and actions rather than desired future	0
▪ Desired future not clearly articulated but can be inferred	1
▪ Desired future is clearly articulated	2
▪ Desired future is clearly and explicitly articulated as a decision making reference point	3
SOCIO-ECONOMIC CONSIDERATIONS	**12**
Does the planning process allow adequate consultation with key stakeholders in the compilation of the management plan?	
▪ Some groups are invited while others are excluded	0
▪ No stakeholders are engaged in planning processes	1
▪ All are invited although some groups do not have the capacity to actively engage	2

▪ Only those stakeholders who express interest are engaged in planning processes, though all are invited	3
▪ All identified stakeholders are actively engaged in planning processes	4
Is the local culture, including traditional practices, social systems, cultural features, historic sites and monuments, considered in the planning process?	
▪ No consideration	0
▪ Some consideration	2
▪ Specific aspects of management or strategic plans address socioeconomic issues and clear regulations have been developed	4
Do stakeholders/community have meaningful input to management decisions?	
▪ Local stakeholders play no role in planning	0
▪ Local stakeholders are informed about planning processes, but seldom have real input into planning processes	1
▪ Local stakeholders are informed about planning processes, local ideas incorporated half the time	2
▪ Local stakeholders frequently contribute directly to planning processes	3
▪ Local stakeholders contribute directly to all major planning processes	4
PLANNING CONTEXT	**12**
Does the management plan incorporate both biophysical and socio-economic information in planning process?	
▪ No scientific information was available for management planning	0
▪ Scientific information was consulted but is not explicitly connected to the management plan	1
▪ Only biophysical scientific information has been incorporated in the management planning process (and cited in management plan)	2
▪ Threats identified and prioritized, some addressed through management actions	3
▪ Both biophysical and socio-economic information was used in the planning process and explicitly cited in the management plan	4
For each category of information below please rate it as: insufficient for planning purposes (0), partially adequate (2), entirely adequate (4). Average score out of 4	
▪ Resource use (extraction, harvest, visitor statistics)	0 - 4
▪ Social conditions (neighboring or other relevant stakeholders)	0 - 4
▪ Biophysical conditions	0 - 4
▪ inventory of biological resources	0 - 4
Have threats been analyzed and management actions prioritized in accordance?	
▪ No threat analyses	0
▪ Threat analyses begun	1
▪ Threats identified and prioritized, no management act	2
▪ Threats identified and prioritized, some addressed through management actions	3
▪ Threat analyses prepared; threats identified, prioritized, and addressed through management actions	4

STAFF NUMBER	**8**
Is the current number of staff adequate to enable effective management of the MPA? (If not, how many staff do you think are needed?)	
▪ No field staff	0

▪ Inadequate for critical management activities	1
▪ Below optimal number for critical management activities	2
▪ Optimal for most critical activities	3
▪ Staff numbers optimal/adequate for all management activities	4
Are staff allocated to fulfil the following roles? no (0), too few (2), adequate (4) - average out of 4	
▪ management	0 - 4
▪ enforcement	0 - 4
▪ monitoring	0 - 4
▪ planning	0 - 4
▪ education	0 - 4
▪ maintenance	0 - 4
▪ community liaison	0 - 4
STAFF SKILLS AND TRAINING	**24**
What percentage of your staff is well trained enough to carry out present and likely future duties?	
▪ Staff have not received specific training for their tasks	0
▪ 25% are well trained enough to carry out present and likely future duties	1
▪ 50% are well trained enough to carry out present and likely future duties	2
▪ 75% are well trained enough to carry out present and likely future duties	3
▪ 100% are well trained enough to carry out present and likely future duties	4
What level of continuity of key people is there? (key roles committed for how many years?)	
▪ High turnover (every year)	0
▪ One or more key positions committed for >2 years	1
▪ One or more key positions committed for >3 years	2
▪ All key positions committed for >3 years	3
▪ All key positions committed for >5 years	4
Does staff generally understand the role and function of MPA's?	
▪ 0-19	0
▪ 20-39	1
▪ 40-59	2
▪ 60-79	3
▪ 80-100	4
Are staff aware of the natural/cultural resources in the MPA and their value?	
▪ 0-19	0
▪ 20-39	1
▪ 40-59	2
▪ 60-79	3
▪ 80-100	4
What percentage of staff has an understanding of legislation and management policies?	
▪ 0-19	0
▪ 20-39	1
▪ 40-59	2
▪ 60-79	3
▪ 80-100	4

How many categories of skills and training are fulfilled? no (0), too few (2), adequate (4)- average out of 4	
▪ management	0 - 4
▪ FCO	0 - 4
▪ Skipper	0 - 4
▪ diving	0 - 4
▪ swimming	0 - 4
▪ communication	0 - 4
▪ Administrative duties	0 - 4
▪ peace officer	0 - 4
FUNDS	**6**
Is the current budget sufficient?	
▪ No budget	0
▪ Inadequate for basic needs	1
▪ Acceptable for most management activities	2
▪ Fully sufficient for all critical management activities	3
Is the budget secure (% of budget secure for how long)?	
▪ Budget not secure for this year	0
▪ Budget secure at 100% need this year	1
▪ 50% of budget secure on multi-year basis	2
▪ 100% of budget secure on multi-year basis	3
INFRASTRUCTURE	**12**
Are your visitor facilities adequate for current levels of visitation?	
▪ No visitor facilities or services	0
▪ Insufficient for current levels of visitation	1
▪ adequate for current levels of visitation but could be improved	2
▪ Visitor facilities and service infrastructure are excellent for current levels of visitation	3
Is there adequate infrastructure for management purposes? (If not what additional infrastructure do you think is needed?)	
▪ Facilities constrain the achievement of major objectives	0
▪ Inadequate facilities constrain the achievement of some management objectives	1
▪ Facilities do not constrain the achievement of major management objectives	2
▪ Management infrastructure and facilities are fully adequate and aid the achievement of management objectives	3
Is infrastructure adequately maintained?	
▪ There is no maintenance taking place	0
▪ There is a maintenance schedule, but maintenance is taking place to an unsatisfactory standard	1
▪ There is a maintenance schedule, and maintenance is taking place to and satisfactory standard	2
▪ There is an approved maintenance schedule that is being fully implemented to a high standard	3

Do you have the following infrastructure? (assign score 0 - 3 for adequacy in achieving management objectives) (average score out of 3)	
▪ Access points	0 - 3
▪ public launch sites	0 - 3
▪ non-public launch sites	0 - 3
▪ staff accommodation (where applicable)	0 - 3
▪ education centre	0 - 3
▪ offices	0 - 3

EQUIPMENT	**9**
Is there adequate equipment for management purposes?	
▪ Inadequate equipment constrains the achievement of major objectives	0
▪ Inadequate equipment constrains the achievement of some management objectives	1
▪ Equipment does not constrain the achievement of major management objectives	2
▪ Equipment is fully adequate and aids the achievement of management objectives	3
Is equipment adequately maintained?	
▪ There is no maintenance taking place	0
▪ There is a maintenance schedule, but maintenance is taking place to an unsatisfactory standard	1
▪ There is a maintenance schedule, and maintenance is taking place to and satisfactory standard	2
▪ There is an approved maintenance schedule that is being fully implemented to a high standard	3
Do you have equipment for critical activities? (inadequate (0) fully adequate(3)) (average out of 3)	
▪ communication (radios, cell phone)	0 - 3
▪ onshore compliance operations (binoculars, handcuffs, FCO cards, pepper spray, evidence bags)	0 - 3
▪ offshore compliance operations (boat and boat equip, GPS, cameras)	0 - 3
▪ night compliance operations (torches, night sights, spotlight)	0 - 3
▪ vehicles (4x4, quad bikes or motor cycles, winch)	0 - 3
▪ diving and snorkelling	0 - 3
▪ Admin (lap top, copy of MLRA and regs)	0 - 3

BOUNDARY DEMARCATION	**6**
Is the boundary known and appropriately demarcated (fenced or marked with signboards)?	
▪ Not legally defined, not demarcated in the field	0
▪ Legally defined, not demarcated in the field	1
▪ Legally defined, partially demarcated in the field	2
▪ Limits are legally defined and fully demarcated in the field (known by both managers and stakeholders)	3
Is there any interpretative signage indicating that the area is an MPA ?	
▪ No signs	0
▪ signs inadequately placed, or too few	1
▪ Signs old or difficult to interpret	2

▪ Signs well placed easy to interpret (Good map - where you are relative to MPA)	3
PATROL AND ENFORCEMENT	**12**
Can staff sufficiently enforce marine protected area rules (capacity)?	
▪ The staff have no effective capacity/resources to enforce MPA legislation and regulations	0
▪ There are major deficiencies in staff capacity/resources to enforce MPA legislation and regulations (e.g. lack of skills no patrol budget)	1
▪ The staff have acceptable capacity/resources to enforce MPA legislation and regulations but some deficiencies remain	2
▪ The staff have excellent capacity/resources to enforce marine protected area legislation and regulations	3
Are there clearly defined enforcement procedures and are they being implemented?	
▪ No enforcement mechanisms exist	0
▪ Mechanisms exist but major problems in implementation	1
▪ Mechanisms exist but there are some problems in implementation	2
▪ Enforcement mechanisms exist and are effectively being implemented	3
Are mechanisms sufficient to control unsustainable human activities (e.g. poaching)?	
▪ Not effective	0
▪ Major deficiencies	1
▪ Acceptable, but some deficiencies	2
▪ Excellent	3
What is the extent of enforcement coverage?	
▪ No effective enforcement	0
▪ Sporadic	1
▪ Consistent but not extensive	2
▪ Extensive and consistent monitoring, surveillance and control of access and compliance with regulations	3

MONITORING	**12**
Is there a system to monitor and evaluate progress on conservation objectives, with results to be used in adaptive management?	
▪ No monitoring of progress on conservation objectives	0
▪ Some sporadic monitoring, no overall strategy for adaptive management	1
▪ Implemented system, but results not used for management	2
▪ System regularly implemented to monitor progress on conservation objectives and results used in adaptive management	3
Does this system monitor: (no(0) partial (1.5) yes (3)) Average score out of 3	
▪ Resource inventories	0 - 3
▪ Resource conditions	0 - 3
▪ Resource use	0 - 3
▪ Management effectiveness	0 - 3
▪ Socio-economic conditions of local communities	0 - 3
Is there a comprehensive research programme relevant to management needs?	
▪ No research taking place	0
▪ Some ad hoc research, but research needs not identified by managers	1
▪ Considerable research but not driven by management	2
▪ Comprehensive research program relevant to management needs	3

PUBLIC EDUCATION AND AWARENESS	**12**
Are there any educational programmes occurring to make the local community and general public aware of your MPA, whether run by your agency or outside of your agency?	
▪ There is no education and awareness program	0
▪ There is a limited and ad hoc education and awareness program, but no overall planning for this component	1
▪ There is a planned education and awareness program but there are still serious gaps	2
▪ There is a planned and effective education and awareness program fully linked to the objectives and needs of the protected area	3
Do these programmes reach the appropriate user groups (stakeholders)?	
▪ None of the identified stakeholder groups are engaged in education programs	0
▪ Some groups have been reached while others are excluded	1
▪ Only those stakeholders who express interest are typically involved in education program, though all are invited	2
▪ All identified stakeholders are engaged in education programs	3
Are there any interpretative brochures about your MPA that you provide for the public?	
▪ No brochures available at the MPA	0
▪ Brochure for Park, incorporating section on MPA. English only.	1
▪ DEAT brochure available and/or MPA brochure in English	2
▪ Specific brochure for MPA available in different local languages	3
Are there any interpretative signs indicating that the area is an MPA and providing general information about the MPA?	
▪ No signs	0
▪ signs inadequately placed, or too few	1
▪ Signs old/vandalized or difficult to interpret	2
▪ Signs well placed easy to interpret	3
INTERACTION WITH STAKEHOLDERS AND COMMUNITIES	**18**
What is the conservation authorities' view on the importance of positive relations with local communities and associated efforts?	
▪ Not important	0
▪ Somewhat important, no specific management activities	1
▪ Very important, occasional efforts made in this respect	2
▪ Positive relationships with local communities are critical, specific efforts are made in this respect	3
Are there any legal arrangements with local communities?	
▪ No agreements exist	0
▪ No agreements exist, but co-management agreement is being prepared	1
▪ Co-management agreement exists, but is not being implemented	2
▪ Co-management agreement exists and is effectively being implemented	3
Is there open communication between local stakeholders and MPA managers?	
▪ No communication	0
▪ There is communication between managers and stakeholders but this is not a planned or scheduled program	1

▪ There is a planned communication program that is being used to build support for the MPA amongst relevant stakeholders but implementation is limited yet.	2
▪ There is a planned communication program that is being implemented to build support for the MPA amongst relevant stakeholders.	3
What is the degree of information sharing between managers and stakeholders?	
▪ Information is not readily shared amongst most stakeholders, no strategy has been developed to address this issue	0
▪ There are often problems in sharing information between different stakeholders, a strategy is being developed to try address this issue	1
▪ Although no specific strategy has been developed, information moves freely and effectively for the most part, but there are some time frustrations	2
▪ A strategy for information sharing has been developed and is implemented that allows information to flow freely and efficiently between on-site managers and the key stakeholders	3
How consistent is the involvement of stakeholders?	
▪ Stakeholders are rarely or never consulted	0
▪ Stakeholders are consulted as need or occasion rises	1
▪ Stakeholders are consulted regularly, but comments are not always explicitly responded to	2
▪ Stakeholders external to management entities are consulted at regular intervals, stakeholder comments are always responded to	3
Is there co-operation between the conservation authority and tourism operators in the MPA?	
▪ Little to no contact between management authority and tourism operators	0
▪ Contact confined mostly to regulatory and administrative matters	1
▪ Limited co-operation to enhance visitor experiences and conservation objectives	2
▪ Excellent co-operation	3

Appendix D : People Consulted

Person	Organisation	MPA
Alan Boyd	MCM	All
Risha Persad	MCM	All
Dennis Mostert	MCM	Sardinia Bay
Ashley Johnson	MCM	research
Melanie Cope	MCM	permits
Ane Oosthuizen	SANParks	All SANParks
Kyle Smith	SANParks	Tsitsikamma
Nick Hannekom	SANParks	Tsitsikamma
Pierre Nel	SANParks	West Coast National Park
Paul Sieben	SANParks	Table Mountain National Park
Owen Govender	SANParks	Tsitsikamma
Rob Milne	SANParks	Tsitsikamma
Anban Padayache	SANParks	Bird Island
Rhett Hiseman	CapeNature	All CapeNature
Terrence Coller	CapeNature	Betty's Bay
Ben Swanepoel	CapeNature	De Hoop
Jean du Plessis	CapeNature	Stilbaai
Keith Spencer	CapeNature	Goukamma
Henk Niewoud	CapeNature	Robberg
Zwai Kostuali	ECPB	All EC Parks
Jan Venter	ECPB	All EC Parks
Ntokozo Cele	ECPB	Dwesa-Cwebe and Hluleka
Vuyani Mapiya	ECPB	Pondoland
George Nair	EKZNW	Trafalgar and Aliwal Shoal
Jennifer Olbers	EKZNW	All EKZNW
Sam Ndlovu	EKZNW	Trafalgar
Paul Buchel	EKZNW	Aliwal Shoal
Terrence Shozi	EKZNW	iSimangaliso Wetland Park
Anton James	EKZNW	iSimangaliso Wetland Park
Johan Gerber	EKZNW	iSimangaliso Wetland Park
Leonard Zulu	EKZNW	iSimangaliso Wetland Park
Peter Hartley	iSimangaliso Wetland Park Authority	iSimangaliso Wetland Park
Bronwyn James	iSimangaliso Wetland Park Authority	iSimangaliso Wetland Park
Nerosha Govender	iSimangaliso Wetland Park Authority	iSimangaliso Wetland Park
Darryl Colenbrander	City of Cape Town	Helderberg
Peter Chadwick	WWF-SA	WWF and De Hoop
Colin Attwood	UCT	West Coast National Park, Table Mountain National Park, Betty's Bay, De Hoop

Person	Organisation	MPA
Paul Cowley	Rhodes University	Tsitsikamma
Bruce Mann	ORI	Pondoland, iSimangaliso Wetland Park
Malcolm Smale	Bayworld	Sardinia Bay
Peter Fielding	Fieldwork	MPA Management Training Course
Lawrence Sisitka	Independent	MPA Management Training Course
Maria Hauck	EEU	All
Serge Raemaekers	EEU	All

Appendix E : Marine Protected Area List

Marine Protected Area	Government Gazette Number	Government Notice Number	Date
Malgas Island MPA	21948	1429	2000
Marcus Island MPA	21948	1429	2000
Jutten Island MPA	21948	1429	2000
Langebaan Lagoon MPA	21948	1429	2000
Sixteen Mile Beach MPA	21948	1429	2000
Table Mountain National Park MPA	26431	695	2004
Helderberg MPA	21948	1429	2000
Betty's Bay MPA	21948	1429	2000
De Hoop MPA	21948	1429	2000
Stilbaai MPA	31517	1109	2008
Goukamma MPA	21948	1429	2000
Robberg MPA	21948	1429	2000
Tsitsikamma MPA	21948	1429	2000
Sardinia Bay MPA	21948	1429	2000
Bird Island MPA	26432	696	2004
Dwesa-Cwebe MPA	21948	1429	2000
Hluleka MPA	21948	1429	2000
Pondoland MPA	26430	694	2004
Trafalgar MPA	21948	1429	2000
Aliwal Shoal MPA	26433	697	2004
St Lucia MPA	21948	1429	2000
Maputaland MPA	21948	1429	2000