



**COASTAL ACTION PLAN 5:  
CONSUMPTIVE RESOURCE MANAGEMENT**

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# 1. INTRODUCTION

Commercial, recreational and subsistence user groups exploit consumptive resources along the coastline and through their cumulative affects target a range of marine and terrestrial species including plants & algae, invertebrates as well as vertebrates. Improved regulation and monitoring of these activities is required to ensure the sustainability of the coastal resources. Harvesting activities are widespread along the BCM coastline due to the wide range of target species, and regulation of activities and enforcement is therefore labour intensive. It is widely recognized that there is insufficient capacity for effective enforcement along the South African coastline and illegal poaching of high value marine resources such as abalone stretches the already limited capacity of the regulating officials even further, reducing their ability to undertake their routine regulation and enforcement functions on a daily basis (See section 2.1.1).

In order to improve the management of consumptive resources along the BCM coastline a well coordinated and integrated approach is needed. The BCM CMU should facilitate this by ensuring coordination between all regulatory departments and ensuring they fulfill a monitoring and reporting role within their areas of jurisdiction, and assisting with enforcement of legislation where empowered to do so.

This Coastal Action Plan aims to achieve some of the goals of Theme D: Natural Resource Management of the White Paper for Sustainable Coastal Development. It outlines some of the actions required to develop and facilitate an integrated and coordinated management approach to coastal resource use using the existing capacity for enforcement, through community involvement, education and shared responsibility as well as through additional capacity recommendations.

## 1.1 LAYOUT OF THIS REPORT

### **Objectives**

This section outlines the overall objectives of this Action Plan and provides a table of the priority ratings of the impacts on the consumptive resources identified during the Baseline study.

### **Institutional and legal frameworks**

This section outlines the current level of institutional involvement and capacity of all relevant government departments of consumptive resources as well as the relevant legislation.

### **Coastal resource management strategy**

This section outlines the actions recommended for the monitoring and regulation of recreational and subsistence resource use. Guidelines for resource use are discussed along with governance of these coastal resources through cooperative management.

### **Key performance indicators**

This section outlines the key performance indicators for the establishment of forums, coastal patrols, enforcement, monitoring, public awareness as well as a summary of the actions to improve resource use in accordance with development.



## **1.2 OBJECTIVES THIS ACTION PLAN**

The following objectives for this action plan were identified during a workshop involving key role players in coastal zone management.

- 1. To ensure sustainable use of consumptive resources**
- 2. To ensure long-term monitoring of consumptive resource use in the coastal zone**
- 3. To improve regulation of recreational & subsistence resource use**
- 4. To coordinate management, monitoring and regulation of coastal resource use within the BCM**
- 5. To promote community & public involvement in regulation & monitoring of resource use and management**
- 6. To promote management and utilization of coastal resources which optimizes the long-term benefits for all**
- 7. To improve management of heavily exploited resources**



**Table 1.1:** Consumptive resource issues identified during the Baseline Phase and their priority ranking. Locations of relevant management recommendations are listed in the left hand column.

THEME	CAUSE	PRIORITY	RELEVANT MANAGEMENT RECOMMENDATIONS SECTION
THEME A: GOVERNANCE & CAPACITY BUILDING;  THEME B: OUR NATIONAL ASSET	General lack of public awareness of rules, regulations & legislation	H	Section 3.1.1
	Poor compliance and enforcement of legislation e.g. NEMA	H	Section 3.1.2
	Lack of compliance and enforcement of fishing and boating activities in the marine environment	M	Section 3.1.2
	Increased seasonal access & utilization	M	Section 3.1.2
	Poor management & security at public sites	M	Section 3.1.2; Section 3.1.4
	Increased pressure on rocky shore biota due to population growth and urban expansion	M	Section 3.1.1; Section 3.1.2
THEME D: NATURAL RESOURCE MANAGEMENT	Over utilization of intertidal living resources	M	Section 3.1.1
	Wetland areas used for grazing	M	Section 3.1.1
	Legal & illegal sand winning operations	M	Section 3.1.1
	Fuel-wood harvesting	M	Section 3.1.1
	Over utilization of marine living resources (fish & invertebrates)	M	Section 3.1.1; Section 3.1.2
	Intertidal seaweed harvesting	L	Section 3.1.1; Section 3.1.2
	Clearing of indigenous riparian vegetation	M	Section 3.1.1
	Hunting and snaring	H	Section 3.1.1
	Illegal use of marine resources & over harvesting	H	Section 3.1.1; Section 3.1.2
	Increasing recreational & subsistence resource use (bait & consumptive)	H	Section 3.1.1; Section 3.1.2
	Expectation for greater resource use by poor coastal communities	M	Section 3.1.1; Section 3.1.2
	Illegal use of estuarine resources (e.g. gillnetting etc)	M	Section 3.1.1; Section 3.1.2; CAP 2
	Recreational/subsistence use of resources (consumptive & non-consumptive)	M	Section 3.1.1; Section 3.1.2
	Unsustainable harvesting of forest resources	M	Section 3.1.1
Utilization of resources within state nature reserves	M	Section 3.1.1;	





## **2. CURRENT INSTITUTIONAL & LEGAL FRAMEWORK**

### **2.1 RESPONSIBLE AUTHORITIES**

#### **2.1.1 MARINE & COASTAL MANAGEMENT**

The Marine & Coastal Management branch of the national Department of Environmental Affairs and Tourism is responsible for the management of the marine living resources and their associated habitats in terms of the Marine Living Resources Act (18 of 1998). The Eastern Cape provincial Marine and Coastal Management office is located in East London.

These offices house the following senior management positions:

1. Provincial Manager, with an area of jurisdiction stretching between Stilbaai in the Western Cape to Mzamba in the Eastern Cape;
2. Regional Manager, with an area of jurisdiction stretching between the Fish and Kei Rivers and the
3. Station Manager.

In addition it has 2 senior inspectors and one general assistant as well as administrative staff.

In the past decisions regarding resource management, such as subsistence exemptions, have been undertaken on a national level by MCM. However there has recently been a move to involve provincial authorities through the Provincial Coastal Committee when making these decisions, due to their local knowledge and experience with the local resource base. Currently the institutional arrangements for this are being developed, and this is a positive step forward in coordinating management with lower tiers of government and should be encouraged in future coastal management initiatives.

The East London MCM office is solely responsible for enforcement of the MLRA and compliance monitoring along the coastline between Mzamba and Fish River. These activities are undertaken by the two senior inspectors and the general assistant within the BCM area and generally involves the inspection of commercial quotas in the harbour; inspections of fish processing facilities in East London and enforcement of bag limits. They currently also regulate activities within the two marine conservation areas within the BCM. They do not, however, play a major role in monitoring and enforcement on estuaries. This is largely undertaken by the BCM Marine Services division. Currently no powers have been delegated to the provincial Department of Economic Affairs, Environment and Tourism or the Buffalo City Municipality.

Marine and coastal management currently has sufficient equipment, including 2 sea worthy boats, an estuarine boat, and several off-road vehicles, to undertake their duties but are currently under capacitated to fulfill their enforcement function effectively.

#### **2.1.2 EASTERN CAPE PARKS BOARD**

The newly established Eastern Cape Parks Board (ECPB) plays an important role in the coastal zone through the management of the coastal state forests. These coastal state forests are located on the primary dune cordon and border the dynamic dune system and high water mark. These state forests stretch along approximately 40km of the 68km coastline (59%). Although the ECPB have not been delegated task pertaining to enforcement of the Marine Living Resources Act they are in a good position to assist with regulation and enforcement,



provided an agreement is reached with MCM and there is sufficient delegation of financial resources.

### 2.1.3 BUFFALO CITY MUNICIPALITY

#### Marine Services

The Marine Services division of the Buffalo City Municipality is responsible for enforcement and regulation of coastal activities on a local level. They currently have two river control officers and four reserve rangers who undertake these tasks along the coastline, including the estuaries. The proposed structure of the Coastal Management Unit maintains the same number of positions but aims to allocate responsibilities more effectively. It is envisaged that the Coastal Conservation Officer will primarily be responsible for management and enforcement along the coastline while the Estuarine Conservation Officer will manage the estuarine environments. Each officer will have two rangers to assist in undertaking their tasks. All these positions will be able to undertake routine enforcement and monitoring patrols along the coastal zone.

It has also been proposed that an Access Point Control System be initiated in the BCM (See ICZMP). This system would ensure strict regulation and enforcement at popular coastal and estuarine access points and assist in fulfilling a monitoring role. However, the viability of this initiative needs to be investigated and funds obtained to initiate it.

### 2.1.4 DEPARTMENT OF WATER AFFAIRS AND FORESTRY

Although the coastal State Forests are proclaimed under the National Forests Act, the management of these reserves has been delegated to the Eastern Cape Parks Board.

## 2.2 RELEVANT LEGISLATION

### 2.2.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (107 OF 1998)

NEMA sets out a long list of guiding principles for environmental management. Two of them are particularly relevant to the coast; namely:

- 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 environment is held in public trust for the people, the *beneficial use of environmental resources* must serve the public interest and the environment must be protected as the people's common heritage

### 2.2.2 MARINE LIVING RESOURCES ACT 18 OF 1998

MLRA is the chief statute dealing with conservation and management of marine living resources. The objects of MLRA are as follows:

- to provide for the conservation of marine ecosystem,
- to provide for long-term sustainable utilization of marine living resources;
- to provide for the orderly access to exploitation, utilization and protection of certain marine living resources; and



- to provide for the exercise of control over marine living resource in a fair and equitable manner to the benefit of all citizens of South Africa.

MLRA does not impose any responsibilities to the municipality, however, it is possible that parts of MLRA may be delegated to a municipality, such as enforcement duties if fishery control officers have been appointed in BCM. BCM is also obliged to consider the conservation principles contained in MLRA, i.e. it must ensure that development and mining activities (e.g. sand mining) do not negatively impact on the bordering marine environment e.g. encroachment; water run off etc.

### 2.2.3 NATIONAL FORESTS ACT 84 OF 1998

Important features of the National Forests Act are that it recognised the need to balance the protection of the environment through sustainable land use with the economic needs of the country, the need to redefine the role of government, the need to address the unfair distribution of forests and their benefit to society, and the need to distinguish between natural forests and plantations (although both fall within the definition 'forest'). The Act will be an important component of the management of coastal forests and plantations.

In the Eastern Cape, indigenous forests occur along the coast and on the Amatole and Transkei mountain ranges where they have been significantly depleted. The heavy exploitation of South African indigenous forests in the past has led to the 'administration of indigenous forests' being recognised in the Constitution as being a matter for concurrent national and provincial jurisdiction. The National Forest Act deals with these concerns by providing a conservation and management framework which rests on a foundation of sustainable forestry management.

### 2.2.4 NATIONAL SPATIAL BIODIVERSITY ASSESSMENT (2004) – MARINE COMPONENT

These extracts have been taken from the Amatole ICZMP prepared by Arcus Gibb.

South Africa's first NSBA includes a spatial assessment of the conservation status of selected marine biodiversity patterns (Lombard *et al.* 2004). The assessment is limited in that it addresses only intertidal (species and habitats) and subtidal (abiotic sediments) components that are immobile and can be mapped on a national scale; it excludes fish (one of the most threatened marine components), birds, reefs and the water column.

The report identifies the top 10 biodiversity crises in the marine environment which require immediate intervention and crisis management (Lombard *et al.* 2004). These are summarised as follows:

- Fishing pressures and effort must be reduced;
- Access points to the coast must be limited and if possible reduced;
- Future arrival of invasive alien species must be prevented;
- Abalone poaching must be stopped and the species afforded protection through reserves and a CITES<sup>1</sup> listing
- Mining on the west coast (diamonds, oil, gas) must be countered and guided with good research on its possible impacts;

<sup>1</sup> CITES Convention for the International Trade in Endangered Species



- Research into an ecosystem approach to fisheries management must be expanded to address (i) by-catch side effects (ii) indirect habitat modification and destruction (iii) indirect impacts on other system components (iv) improved fishing practices;
- Areas for offshore MPAs (shelf and deep water) need to be identified;
- A complete investigation into the impacts of pollution is required (sewage and stormwater);
- Mariculture industries need strict regulation since they can pose a serious threat to biodiversity;
- Coastal development needs to be strictly controlled.

A spatial evaluation of existing marine protected areas (MPAs) showed that although 23% of the coastline is included in MPAs, only 9% occurs in no-take areas (i.e. is fully protected). In addition the 23% is not evenly distributed among bioregions and is therefore not representative of South Africa's coastal marine biodiversity. In the offshore environment < 1% of the country's Exclusive Economic Zone falls within MPAs and of this < 0.2% is no-take (Lombard *et al.* 2004).



### **3. COASTAL RESOURCE MANAGEMENT STRATEGY**

#### **3.1 INTRODUCTION**

The overall management of marine and coastal consumptive resources is comprised of four main aspects, namely;

1. Enforcement of legislation
2. Monitoring of resource use
3. Research projects
4. Public education and awareness

In order to ensure sustainable management of the consumptive marine and coastal resources, a management strategy which encompasses all four aspects is required. Although Marine and Coastal Management are responsible for undertaking these functions (for marine resources) on a national level, due to capacity constraints the implementation of these aspects on a local or even provincial level is poor. In order to ensure the sustainability of resource use, consumptive resource management requires a fully integrated approach between all spheres of government. Although management decisions will always be undertaken on a national level, with the future involvement of provincial authorities, resource monitoring, research and enforcement are not likely to be implemented successfully on a local scale. In reality it is the local municipalities who are in the best position to implement such programs due to the smaller size of the geographic area they manage. This is not to say that local authorities should be involved in decision making roles but should rather be encouraged to develop and implement compliance and resource monitoring programs in collaboration with provincial and national role players. In doing so local municipalities will ensure the sustainable management of coastal resources, which in turn will ensure the economic and ecological sustainability of the resource base at a local scale.

As the local authority BCM should strive to manage these resources through regular interaction and coordination with other departments, and take the lead in coordinating the management of coastal resources within the BCM coastal boundary through the Coastal Management Unit (CMU).

In order to improve compliance and enforcement of legislation increased capacity is required to patrol the coastline. Currently all departments lack capacity, and even the proposed BCM CMU will not be able to undertake this responsibility. In order to improve compliance and monitoring an Access Point Control system was proposed in the ICZMP. This system should be implemented in order to achieve the objectives of this action plan. However, several additional actions are required and are outlined below.

##### **3.1.1 SUSTAINABLE USE OF CONSUMPTIVE RESOURCES**

In order to achieve this objective ongoing research and monitoring of resource use is required, as well as an active public education and awareness programme. Research projects have been undertaken within the BCM by the East London Museum in recent years, but currently there are no active programmes running. Past research projects by the EL Museum involved the qualification and quantification of marine resource use and take-off. This data provides a baseline or reference condition for future comparisons at specific sites along the coastline. Additional research projects have been undertaken by Rhodes University, but have covered a larger study area of which the BCM is only a small component. As a result the outcomes of



these research projects have not been truly reflective of the situation within the BCM. This is due to the variable catches and species compositions along other areas of the coastline which outweigh the situation prevalent along the small stretch of BCM coastline. Research projects specific to the BCM coastline need to be initiated and ongoing resource use monitoring programmes implemented. The BCM CMU need to take the initiative in encouraging research institutions such as the East London Museum; Rhodes University and the University of Transkei to undertake research projects within the BCM and assist in identifying and obtaining funding sources for research projects. Resource use monitoring programmes should also be developed through the implementation of a coastal ranger/guard initiative in which the rangers/ guards are appropriately trained to enforce the legislation and undertake catch inspections and collect the required data for long term monitoring.

The following actions are recommended to ensure sustainable use of consumptive coastal resources:

1. Define management roles and responsibilities for specific coastal resources and geographic areas
2. Regular interaction and coordination by the BCM CMU with research institutions to assist in identifying key areas in need of further research.
3. Identification of funding sources for ongoing research projects.
4. Identify resources which may be suitable for the development of small scale commercial fisheries and implement baseline research projects on these resources.
5. Identify all subsistence and community groups utilizing coastal resources either illegally or legally
6. Engage with subsistence of community groups to encourage and promote voluntary participation in developing resource management strategies which will provide long-term solutions to problems arising from to exploitation of consumptive resources.
7. Promote community based natural resource management (CBNRM) through the establishment of community and estuary management forums
8. Instill a sense of ownership and promote shared responsibility for coastal resource use in community and estuary management forums
9. Educate the public as to the long-term benefits and potential opportunities of sustainable resource use
10. Identify and promote suitable alternative non-consumptive income and job creation opportunities for rural coastal communities
11. Investigate possible funding sources or public-private partnerships for the establishment of alternative livelihood opportunities in rural coastal communities.
12. Maintain ongoing communication with rural communities and foster CBNRM initiatives in coastal communities
13. Develop sustainable resource utilization guidelines and set limits for sustainable use in conjunction with local users
14. Implement a resource use monitoring initiative which collects information on the extraction of consumptive coastal resources within the coastal zone.
15. Develop a central database for the storage and analysis of resource monitoring data for BCM.
16. Develop a reporting and communication strategy for sharing of resource use information with all role players (MCM; DEAET; ADM; DWAF; Working Groups etc) involved in coastal management as well as the public sector.
17. Coordinate with MCM to ensure circulation of the monthly activities report prepared by them.
18. Promote public awareness and education through the development of an active awareness campaign.



19. Develop a schools awareness programme which educates pupils as to the value of the coast and the importance of sustainable management of consumptive resources.
20. Encourage and facilitate the development of Estuary Management Forums (EMF) on all estuaries which will play an active role in resource monitoring and management.
21. Encourage and assist EMF's with the development of Estuary Management Plans.
22. Identify activities (such as sand winning) which may have a detrimental effect on the environment in the coastal zone and require special management attention.
23. Coordinate with the relevant authorities to develop management protocols for these activities and identify ways in which BCM may be of assistance.
24. Identify areas in which coastal resources are depleted/degraded and develop and implement management plans for these areas
25. Identify resources lacking formal protection status and identify possible areas for incorporation/extension into the protected area network

### **3.1.2 MONITORING AND REGULATING RECREATIONAL & SUBSISTENCE RESOURCE USE**

Monitoring and regulating both recreational and subsistence resource use is essential for achieving sustainable use of the consumptive resources. It is not only increased enforcement and regulation which is required to maintain sustainable levels of resource utilization but also long-term monitoring. The implementation of the proposed access point control system outlined in the ICZMP will allow a high level of regulation along large sections of the BCM coastline with minimal capacity and skills requirements and can be used as the basis for the implementation of an ongoing monitoring program. The viability of the proposed strategy needs to be investigated and possible sources of funding need to be identified to assist in the initiation and management of this system.

The following actions are recommended:

1. Undertake a viability study for the Access Point Control strategy and identify additional financial and capacity resources required.
2. Advertise and promote the MCM honorary Coastal Ranger program
3. Develop a BCM coastal ranger program with detailed training course and encourage participation of coastal management forums (e.g. estuary management forums, ski-boat clubs etc)
4. Prepare a business plan for the Access Point Control strategy.
5. Coordinate with MCM to identify funding opportunities and capacity to facilitate implementation of the strategy.
6. Ensure appropriate training of all existing coastal rangers so that they have a good knowledge of the coastal issues and overall management approach, as well as being empowered to enforce the relevant coastal legislation.
7. Develop a long-term resource monitoring strategy with detailed programs for high priority resources
8. Establish a local database to monitor resource utilization trends
9. Develop catch return/resource use datasheets to be used by coastal rangers and train the rangers to undertake the required tasks for monitoring.
10. Assist in information dissemination to recreational user groups through coastal rangers, and distribution of information brochures.
11. Coordinate with MCM and identify all subsistence fishers who have been issued subsistence exemptions.
12. Promote open and participatory management and monitoring programs for subsistence fisheries



13. Identify resources targeted by subsistence user groups and rural communities and initiate ongoing monitoring programs
14. Assist in monitoring subsistence groups and identify any problems that might arise.

### **3.1.3 STRATEGY AND GUIDELINES FOR RESOURCE USE**

The national office of Marine and Coastal Management is responsible for marine resource management decisions. However, there has been a recent move toward involving provincial authorities in these decisions through the Provincial Coastal Committee. This should be encouraged as provincial and local coastal managers often have on the ground experience with regards to local resources. The BCM can therefore not play an active role in developing strategies and guidelines for resource use, but must they ensure participate in the Provincial Coastal Committee and Marine Working Group until the BCM CMU implements the Coastal Working Group. The following actions are recommended:

1. Regular attendance of the BCM CMU representative at Provincial Coastal Committee meetings
2. Regular attendance of the BCM CMU at Marine Working Group/ Coastal Working Group meetings
3. Active and regular coordination with provincial lead agents in coastal zone management.
4. Identification of areas in which the BCM CMU can assist provincial and national lead agents in developing resource use guidelines on a local level.
5. Ensure ongoing interaction with community/subsistence/estuarine management forums and allow participation in developing resource use guidelines on a local level

### **3.1.4 COOPEATIVE GOVERNANVCE FOR MANAGEMENT OF COASTAL RESOURCE**

BCM can assist MCM with management of the marine living resources by increasing their capacity for enforcement, and monitoring of activities within the BCM coastal zone. This will be most effectively implemented through the Access Point Control strategy recommended in the ICZMP. In addition, the coordination of coastal patrols by rangers not permanently stationed at access point to prevent overlap or neglect of certain coastal areas must be ensured through coordination between ECPB, MCM and BCM. In order to assist MCM in coastal management the following actions are recommended:

1. Undertake an audit of all rangers from all departments currently available to undertake coastal patrols within the BCM coastal zone
2. Coordinate with MCM, ECPB and BCM to develop an appropriate zoning scheme for undertaking coastal patrols
3. Develop a schedule for undertaking coastal patrols taking into account all rangers from all departments
4. Develop a reporting and communication strategy for storage, management and dissemination of all coastal resource use information (fines issues; quantities removed etc.)
5. Initiate the actions required to implement the Access Point Control System
6. Identify additional financial resources to increase the capacity of BCM to undertake roving ranger patrols along estuaries and the coastline



## 4. KEY PERFORMANCE INDICATORS

In order to monitor the implementation of these actions (Table 4.1) the following key performance indicators have been identified:

### 1. Community and/or estuary management forums established

This indicator reports on the number of public/community management forums which are currently active in the BCM coastal zone and how many have been established recently. Key to this indicator is the number of forums which the BCM CMU actively participate in order to promote shared responsibility for coastal resource management of the BCM coastline

- Number of community management forums established
- Number of estuary management forums established

### 2. Honorary Rangers

This indicator reports on the number of MCM or BCM honorary rangers who have received appropriate environmental and coastal training to assist in coastal resource monitoring. This indicator should be limited to those rangers who are resident in the BCM.

- Number of honorary MCM rangers/km BCM coastline
- Number of honorary BCM rangers/km of BCM coastline

### 3. Coastal patrols

This indicator reports on the frequency of patrols undertaken by rangers from all coastal role playing departments, but excludes rangers at permanent stations.

- Number of patrols undertaken on estuaries/month
- Number of patrols undertaken along the coastline/month
- Number of boat based patrols/month
- 

### 4. Capacity for enforcement of coastal resource use

This reports on the number of existing permanent ranger/inspector positions within the BCM area between all coastal role playing departments.

- Number of rangers trained/year
- Number of BCM rangers/km coastline
- Number of BCM rangers appointed/year
- Number of Access Point Guard positions
- Number of ECBP forest rangers empowered in MLRA
- Number of MCM inspectors/coastal rangers stationed within BCM

### 5. Resource monitoring & research

This indicator reports on the number of research programmes and capacity for long-term monitoring in the BCM

- Number of ongoing research projects
- Number of funding applications for research projects submitted
- Number of coastal rangers/guards trained to fulfill resource monitoring functions



- Number of catch return datasheets submitted to BCM CMU
- Number and types of resources harvested within BCM
- Quantities of catches landed of all resources

#### **6. Enforcement**

This indicator reports on the number of fines issues for resource use transgressions

- Number of fines issued per month
- Number of convictions per year

#### **7. Public education & awareness**

This indicator aims to reports on the level of active involvement the CMU has with the general public as well local schools

- Number of public open days organized by the CMU for coastal awareness/year
- Number of schools education training programmes facilitated by the CMU/year
- Number of schools projects held/year
- Number of calls received on the environmental hotline/year



**Table 4.1:** Summary of actions to be undertaken to improve consumptive resource use in the BCM coastal Zone in accordance with Theme D of the White Paper for Sustainable Coastal Development

<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>PRIORITY</b>	<b>TIMEFRAME</b>
<b>SUSTAINABLE USE OF CONSUMPTIVE RESOURCES</b>			
Define management roles and responsibilities for specific coastal resources and geographic areas	BCM CMU; MCM; ECPB; DEAET	<i>CRITICAL</i>	<i>SHORT</i>
Regular interaction and coordination by the BCM CMU with research institutions to assist in identifying key areas in need of further research	BCM CMU	HIGH	ONGOING
Identification of funding sources for ongoing research projects	BCM CMU	HIGH	ONGOING
Identify resources which may be suitable for the development of small scale commercial fisheries and implement baseline research projects on these resources.	BCM CMU	Medium	Medium
Identify all subsistence and community groups utilizing coastal resources either illegally or legally	BCM CMU & MCM	Medium	Medium
Engage with subsistence of community groups to encourage and promote voluntary participation in developing resource management strategies which will provide long-term solutions to problems arising from to exploitation of consumptive resources.	BCM CMU	HIGH	Medium
Promote community based natural resource management (CBNRM) through the establishment of community and estuary management forums	BCM CMU	Medium	Medium
Instill a sense of ownership and promote shared responsibility for coastal resource use in community and estuary management forums	BCM CMU	Medium	Long
Educate the public as to the long-term benefits and potential opportunities of sustainable resource use	BCM CMU	Medium	Long



<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>PRIORITY</b>	<b>TIMEFRAME</b>
Identify and promote suitable alternative non-consumptive income and job creation opportunities for rural coastal communities	<b>BCM CMU</b>	<b>Medium</b>	<b>Long</b>
Investigate possible funding sources or public-private partnerships for the establishment of alternative livelihood opportunities in rural coastal communities	<b>BCM CMU</b>	<b>Medium</b>	<b>Long</b>
Maintain ongoing communication with rural communities and foster CBNRM initiatives in coastal communities	<b>BCM CMU</b>	<b>Low</b>	<b>ONGOING</b>
Develop sustainable resource utilization guidelines and set limits for sustainable use in conjunction with local users	<b>BCM CMU</b>	<b>Medium</b>	<b>SHORT</b>
Implement a resource use monitoring initiative which collects information on the extraction of consumptive coastal resources within the coastal zone.	<b>BCM CMU</b>	<b>CRITICAL</b>	<b>SHORT</b>
Develop a central database for the storage and analysis of resource monitoring data for BCM.	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Develop a reporting and communication strategy for sharing of resource use information with all role players (MCM; DEAET; ADM; DWAF; Working Groups etc) involved in coastal management as well as the public sector	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Coordinate with MCM to ensure circulation of the monthly activities report prepared by them.	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Promote public awareness and education through the development of an active awareness campaign	<b>BCM CMU</b>	<b>Medium</b>	<b>SHORT</b>
Develop a schools awareness programme which educates pupils as to the value of the coast and the importance of sustainable management of consumptive resources.	<b>BCM CMU</b>	<b>Medium</b>	<b>SHORT</b>
Encourage and facilitate the development of Estuary Management Forums (EMF) on all estuaries which will play an active role in resource monitoring and management.	<b>BCM CMU</b>	<b>HIGH</b>	<b>Medium</b>
Encourage and assist EMF's with the development of Estuary Management Plans	<b>BCM CMU</b>	<b>HIGH</b>	<b>Long</b>



<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>PRIORITY</b>	<b>TIMEFRAME</b>
Identify activities (such as sand winning) which may have a detrimental effect on the environment in the coastal zone and require special management attention.	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Coordinate with the relevant authorities to develop management protocols for these activities and identify ways in which BCM may be of assistance.	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Identify areas in which coastal resources are depleted/degraded and develop and implement management plans for these areas	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Identify resources lacking formal protection status and identify possible areas for incorporation/extension into the protected area network	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
<b>MONITORING AND REGULATING RECREATIONAL &amp; SUBSISTENCE RESOURCE USE</b>			
Undertake a viability study for the Access Point Control strategy and identify additional financial and capacity resources required.	<b>BCM CMU</b>	<b>HIGH</b>	<b>SHORT</b>
Advertise and promote the MCM honorary Coastal Ranger program	<b>BCM CMU</b>	<b>Medium</b>	<b>ONGOING</b>
Develop a BCM coastal ranger program with detailed training course and encourage participation of coastal management forums (e.g. estuary management forums, ski-boat clubs etc)	<b>BCM CMU</b>	<b>Medium</b>	<b>ONGOING</b>
Prepare a business plan for the Access Point Control strategy	<b>BCM CMU</b>	<b>HIGH</b>	<b>SHORT</b>
Coordinate with MCM to identify funding opportunities and capacity to facilitate implementation of the strategy.	<b>BCM CMU &amp; MCM</b>	<b>HIGH</b>	<b>SHORT</b>



<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>PRIORITY</b>	<b>TIMEFRAME</b>
Ensure appropriate training of all existing coastal rangers so that they have a good knowledge of the coastal issues and overall management approach, as well as being empowered to enforce the relevant coastal legislation	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Develop a long-term resource monitoring strategy with detailed programs for high priority resource	<b>BCM CMU &amp; MCM</b>	<b>Medium</b>	<b>Medium</b>
Establish a local database to monitor resource utilization trends	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Develop catch return/resource use datasheets to be used by coastal rangers and train the rangers to undertake the required tasks for monitoring.	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Assist in information dissemination to recreational user groups through coastal rangers, and distribution of information brochures.	<b>BCM CMU</b>	<b>Medium</b>	<b>ONGOING</b>
Coordinate with MCM and identify all subsistence fishers who have been issued subsistence exemptions.	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Promote open and participatory management and monitoring programs for subsistence fisheries	<b>BCM CMU &amp; MCM</b>	<b>Medium</b>	<b>Medium</b>
Identify resources targeted by subsistence user groups and rural communities and initiate ongoing monitoring programs	<b>BCM CMU</b>	<b>Medium</b>	<b>Medium</b>
Assist in monitoring subsistence groups and identify any problems that might arise.	<b>BCM CMU</b>	<b>Medium</b>	<b>ONGOING</b>
<b>STRATEGY AND GUIDELINES FOR RESOURCE USE</b>			
Regular attendance of the BCM CMU representative at Provincial Coastal Committee meetings	<b>BCM CMU</b>	<b>CRITICAL</b>	<b>ONGOING</b>
Regular attendance of the BCM CMU at Marine Working Group/ Coastal Working Group meetings	<b>BCM CMU</b>	<b>CRITICAL</b>	<b>ONGOING</b>
Active and regular coordination with provincial lead agents in coastal zone management.	<b>BCM CMU</b>	<b>CRITICAL</b>	<b>ONGOING</b>



<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>PRIORITY</b>	<b>TIMEFRAME</b>
Identification of areas in which the BCM CMU can assist provincial and national lead agents in developing resource use guidelines on a local level.	<b>BCM CMU</b>	<b>HIGH</b>	<b>SHORT</b>
Ensure ongoing interaction with community/subsistence/estuarine management forums and allow participation in developing resource use guidelines on a local level	<b>BCM CMU HIGH</b>	<b>HIGH</b>	<b>ONGOING</b>
<b>COOPERATIVE GOVERNANCE FOR MANAGEMENT OF COASTAL RESOURCE</b>			
Undertake an audit of all rangers from all departments currently available to undertake coastal patrols within the BCM coastal zone	<b>BCM CMU</b>	<b>HIGH</b>	<b>SHORT</b>
Coordinate with MCM, ECPB and BCM to develop an appropriate zoning scheme for undertaking coastal patrols	<b>BCM CMU</b>	<b>HIGH</b>	<b>SHORT</b>
Develop a schedule for undertaking coastal patrols taking into account all rangers from all departments	<b>BCM CMU</b>	<b>HIGH</b>	<b>SHORT</b>
Develop a reporting and communication strategy for storage, management and dissemination of all coastal resource use information (fines issues; quantities removed etc.)	<b>BCM CMU</b>	<b>HIGH</b>	<b>Medium</b>
Initiate the actions required to implement the Access Point Control System	<b>BCM CMU</b>	<b>HIGH</b>	<b>Medium</b>
Identify additional financial resources to increase the capacity of BCM to undertake roving ranger patrols along estuaries and the coastline	<b>BCM CMU</b>	<b>HIGH</b>	<b>Medium</b>





## **5. REFERENCES**

Arcus Gibb 2005

Lombard et al 2004