



**Western Cape
Government**
Environmental Affairs and
Development Planning

BETTER TOGETHER.

Report on the implementation of the Western Cape Estuary Management Programme



March 2021

Document Description

Report on the implementation of the Western Cape Estuary Management Programme

Approved as satisfactorily addressing the Programme Performance Indicator and meeting the Annual Performance Plan 2020/21 target 5.3.2 for the implementation of the Western Cape Estuary Management Programme

KAREN SHIPPEY

CHIEF DIRECTOR

ENVIRONMENTAL SUSTAINABILITY

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

Date: 25 March 2021

CONTENTS

1. Introduction	5
1.1 Purpose of the report	5
1.2 Estuaries of the Western Cape.....	5
1.3 Threats to estuaries	6
1.4 State of Estuaries in the Western Cape	8
1.5 Estuaries and Climate Change Risks	10
1.6 Legal and institutional framework	10
1.7 Provincial Coastal Management Programme	15
2. Development and implementation of the Estuaries Programme	16
2.1 Introduction	16
2.2 Programme implementation	16
2.3 Taking EMPs forward into implementation.....	33
2.4 The Estuary Management Framework and Implementation Strategy Project (EMFIS).....	35
2.5 Estuary Management Plans and Mouth Management Plans development outside of the EMFIS project	38
2.6 Mouth Management Plans and artificial breaching.....	39
2.7 Estuaries Advisory Forum Workshop	39
2.8 Estuaries Task Team meetings and support	40
2.9 Estuary Monitoring Workshops	41
2.10 Support to Estuary Advisory Forums	41
3. Challenges and opportunities in the Estuary Management Programme	49
3.1 Challenges.....	49
3.2 Opportunities and priorities for 2021/22.....	51
3.3 EMFIS Priority Actions	52
4. Conclusion	55
5. References	56

List of Tables:

- Table 1: Summary of threats to estuaries and biodiversity
- Table 2: Summary of Estuaries per District Municipal Area in the Western Cape Province (SANBI 2019)
- Table 3: PCMP Programme targets for estuary management and associated priority areas
- Table 4: Updated EMPs and Estuary Advisory Forums
- Table 5: List of New priority EMPs developed & Estuary Advisory Forum establishment
- Table 6: Mouth Management Plans
- Table 7: Priority estuaries – summary showing individual and combined priorities
- Table 8: Estuary Advisory Forums in the Western Cape
- Table 9: Strategic estuarine management priorities requiring action
- Table 10: Estuary Advisory Forums in the Western Cape
- Table 11: Strategic estuarine management priorities requiring action

List of Figures:

- Figure 1: Illustrative representation of the definition of an estuary including the lateral boundary of the Estuarine Functional Zone (EFZ) (WCG 2019, EMFIS)
- Figure 2: Map of estuaries in the Western Cape (Source: EMFIS, NBA 2018)
- Figure 3: Map of micro-estuaries in the Western Cape (Source: EMFIS, NBA 2018)
- Figure 4: The Estuarine Health Status of the 54 estuaries in the Western Cape as reported in the NBA of 2011 and 2018 (adapted from Van Niekerk and Turpie, 2012 and SANBI, 2018)
- Figure 5: Summary of Legislative Jurisdiction in the Coastal Zone (adapted from Goble et al. 2014)
- Figure 6: The Coastal Zone of South Africa (from DEA and RHDHV, 2017)
- Figure 7: Overview of the legal landscape governing the protection and sustainable use of the coastal marine environment in South Africa. (Taljaard, S. et. al, 2019)
- Figure 8: Vision, Mission and Priority Areas of the Provincial Coastal Management Programme

“estuary” means a body of surface water—

- (a) that is permanently or periodically open to the sea;**
- (b) in which a rise and fall of the water level as a result of the tides is measurable at spring tides when the body of surface water is open to the sea; or**
- (c) in respect of which the salinity is higher than fresh water as a result of the influence of the sea, and where there is a salinity gradient between the tidal reach and the mouth of the body of surface water;**

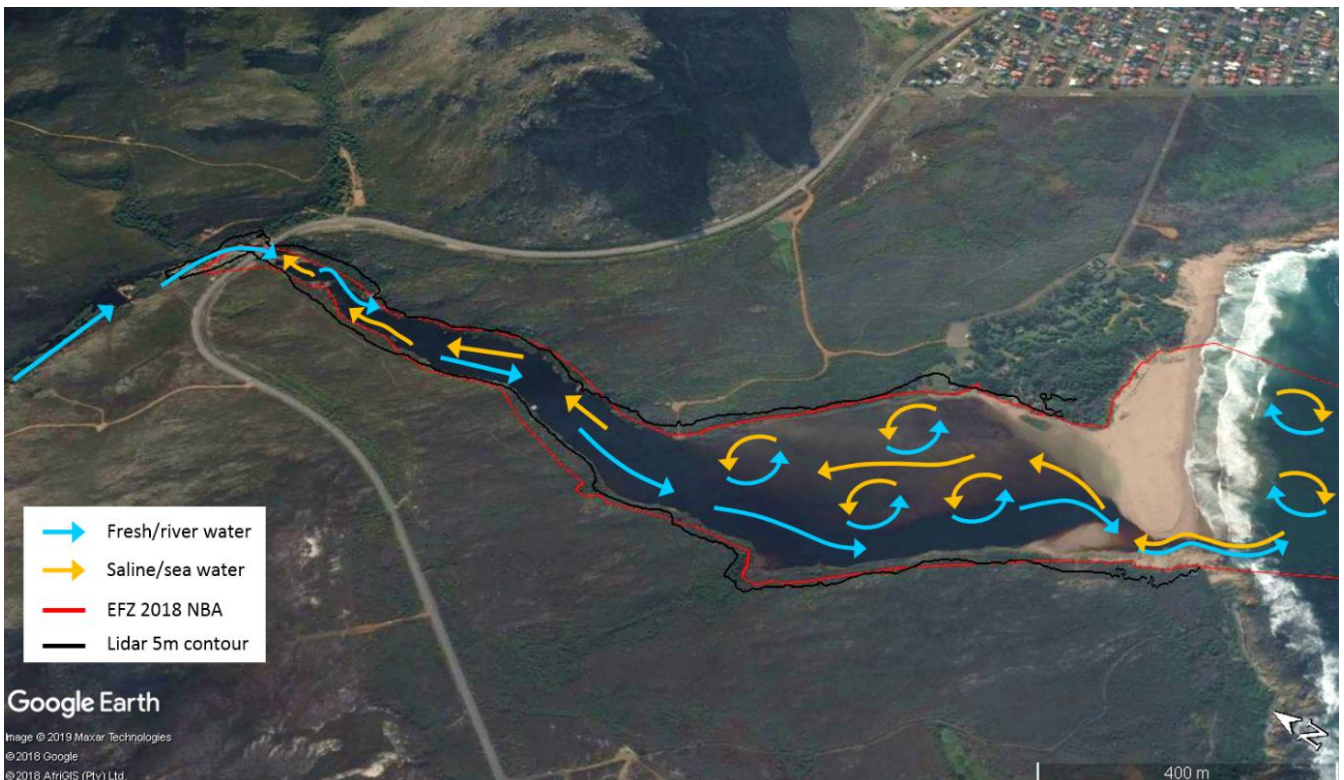


Figure 1. Illustrative representation of the definition of an estuary including the lateral boundary of the Estuarine Functional Zone (EFZ) (WCG 2019, EMFIS)

1. Introduction

1.1 Purpose of the report

The purpose of this report is to provide an overview on the progress of the Department's response to its mandates in respect of estuary management as designated Provincial lead agency for coastal management under the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008) (NEM: ICMA) and the National Estuarine Management Protocol, 2013 (GN 341 of 10 May 2013) ("NEMP") and in terms of the Provincial Coastal Management Programme, 2016. This progress is linked to ongoing support from the Nature Conservation Entity in the Western Cape, CapeNature, and partners involved in estuary management.

1.2 Estuaries of the Western Cape

The Western Cape Province, with over 1000km of coastline, stretches from the Sout (Noord) estuary in the north, to the Bloukrans estuary in the east, and is home to over one tenth of the national population. The Province's coastal environment is characterized by unique, diverse, and beautiful natural habitats, as well as a wide variety of communities and industries from all sectors of the economy, which are dependent on coastal resources for their livelihoods. The Western Cape has 54 estuaries, and an additional 38 micro-estuaries, according to the National Biodiversity Assessment 2018 (NBA, 2019), which range from micro systems to large complex systems. Please see map of estuaries and micro-estuaries indicated in Figure 2 and Figure 3, respectively.

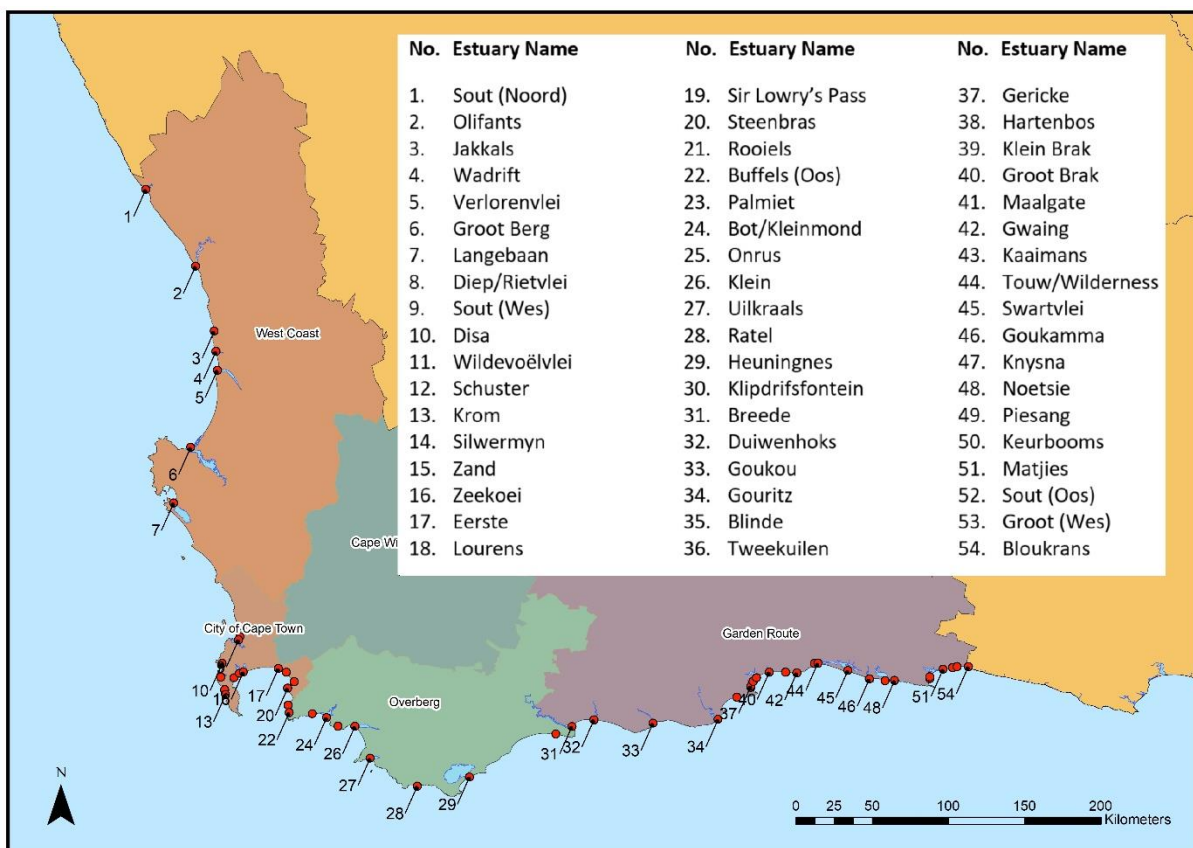


Figure 2. Map of estuaries in the Western Cape (Source: EMFIS, NBA 2018)

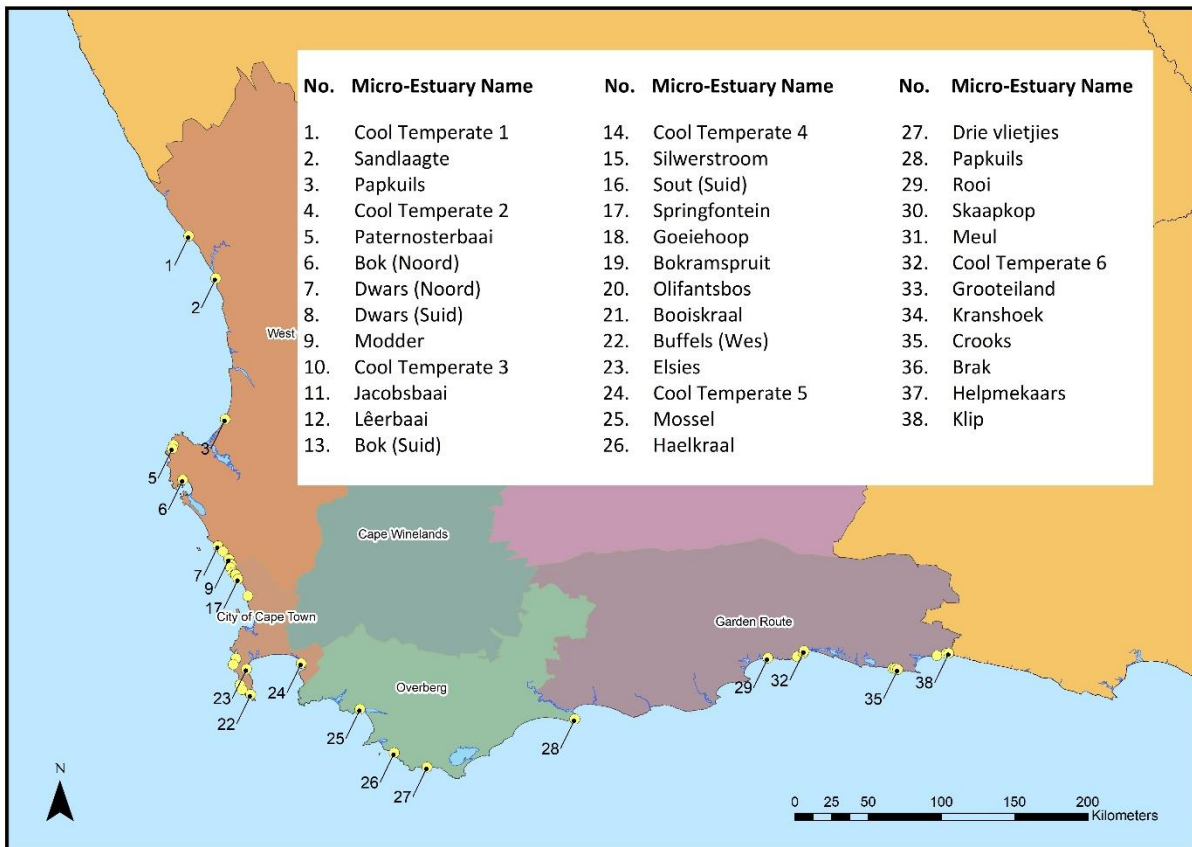


Figure 3. Map of micro-estuaries in the Western Cape (Source: EMFIS, NBA 2018)

1.3 Threats to estuaries

According to the NBA 2018, the following key pressures are being felt on estuaries within South Africa. The below is quoted from the NBA 2018:

- A third of freshwater flow no longer reaches the coast, with present inflows reduced from 36 900 to 24 800 x10⁶ m³/a placing 20% of estuaries under severe flow modification pressure.
- Pollution pressure increased, with 33% of estuaries are under severe pollution pressure (e.g. wastewater discharges into estuaries and headwaters totalling about 840 million litres per day).
- Over 3 730 t/annum of fish is caught in South African estuaries, 58 % by illegal gillnetting. In all, 21% of systems are severely impacted by overfishing.
- Severe habitat modification pressures are obvious in 29% of South African estuaries, with agriculture (in the form of croplands) responsible for 10% change in land cover, and urban expansion about 4% change.
- Small-scale and unregulated mining of sand, diamonds and heavy minerals have caused permanent habitat destruction in 12% of estuaries.
- About 15% of estuarine mouths are artificially manipulated, representing more than 60% of the South African estuarine extent.
- Invasive terrestrial vegetation has infested about a third of the country's estuaries, with 6% of systems being highly invaded. Aquatic invasive plant species occur in 8% of estuaries in the country.

- Alien or extralimital (translocated) fish occur in 25 % of South Africa's estuaries.

The Western Cape State of Biodiversity 2017 and State of the Coast report the influx of people to coastal areas has been on the rise over the past decades. This results in associated increases in pressure on coastal ecosystems including estuaries. The threats to estuarine systems are summarised in Table 1 below.

Table 1: Summary of threats to estuaries and biodiversity

Threats to estuaries			
Threats	Drivers	Causes/Sources	Consequences
Flow modification	Increased population, increase demand for water supplies	Decreases: direct abstraction, development of major dam, cumulative effects of smaller dams	Closure of mouth in estuaries that are normally open to the sea; Prolonged mouth closure in temporarily open/closed estuaries; altered physical conditions, effects on biota e.g. Loss of nursery function
		Increases: Inter basin transfer schemes, waste water treatment works, hardening of catchment	Prolonged mouth opening in temporarily open/closed estuaries; altered physical conditions, effects on biota
Pollution	Increased population, increase demand for water supplies	Municipal wastewater; Industrial wastewater; Storm water runoff (including solid waste); and Agricultural runoff (increased nutrients, suspended solids, herbicides and pesticides).	Input of pollutants into estuaries, such as nutrients, microbial, heavy metals, litter; Decline in water quality; impacts on estuarine biota (e.g. fish kills); and human health hazards
Exploitation of living resources	In fish: Increased population, increase demand for food supplies	Over-fishing and illegal gill netting, increased fishing demands	Recruitment failure in some fish species; direct decline of fish stocks associated impacts on estuarine and marine ecosystems
	In invertebrates: Increased angling activities	Demand for fishing bait	Impact on target and other organisms and associated habitats e.g. heavily harvested species, such as <i>Callinassa kraussi</i>

Threats to estuaries			
Threats	Drivers	Causes/Sources	Consequences
			and <i>Upogepia africana</i>
Land-use and development	Increased population, increase with increased coastal development	Inappropriate land-use and development in and around an estuary, i.e. in the estuarine functional zone	Habitat degradation, or loss within an estuary; altered tidal flows and sediment loading; impacts on estuarine biota; loss of aesthetic value of estuary
Estuary mouth manipulation	Increased public pressure to avert negative impacts such as loss to property	Inappropriate development in the estuarine functional zone, Prolonged mouth closure linked to reduction in flow, increased back-flooding on low-lying developments	Artificial breaching, channelization, diversion of mouth direction; Change in the type of estuary, e.g. from temporarily open to permanently open; impacts on physical parameters and biota
Emerging threats			
Aquaculture and Mariculture	Increased population, increase demand for food supplies	Inappropriate practices in freshwater aquaculture and marine aquaculture or mariculture	Increased habitat loss; increased pollution to the river and or estuary; decline in water quality; impacts on biota e.g. spread of disease
Desalination plants	Increased population, increase demand for water supplies	Poorly located desalination plants; discharge of brine	Increased habitat loss; increased pollution to the river and or estuary; decline in water quality
Invasive alien species	Increased population, increase demand for food supplies	Predatory fish species causing a barrier to upstream migration (e.g. Catfish), habitat altering species causing changes in sediment structure and/or water clarity (e.g. Carp)	Recruitment failure, e.g. eels and freshwater mullet. Changes in community structure due to habitat changes

1.4 State of Estuaries in the Western Cape

Table 2 below summarises the number of estuaries in each District Municipal Area in the Western Cape. Western Cape estuaries comprise 21% of the total national estuary coverage.

Table 2: Summary of Estuaries per District Municipal Area in the Western Cape Province (SANBI 2019)

District Municipality	Number of Estuaries	Number of Micro-estuaries
West Coast	7	13
City of Cape Town	13	11
Overberg	11	4
Garden Route	22	10
Total	54	38

Figure 4, below, highlights the Estuary Health status of the 54 estuaries located in the Western Cape assessed in the 2011 and 2018 National Biodiversity Assessments. Noting that 3 estuaries have moved into the Poor category, however, a positive shift from Fair to Good and Good to Excellent has been recorded for the rest of the estuaries, indicating that there has been an overall improvement in estuary health condition in the Western Cape.

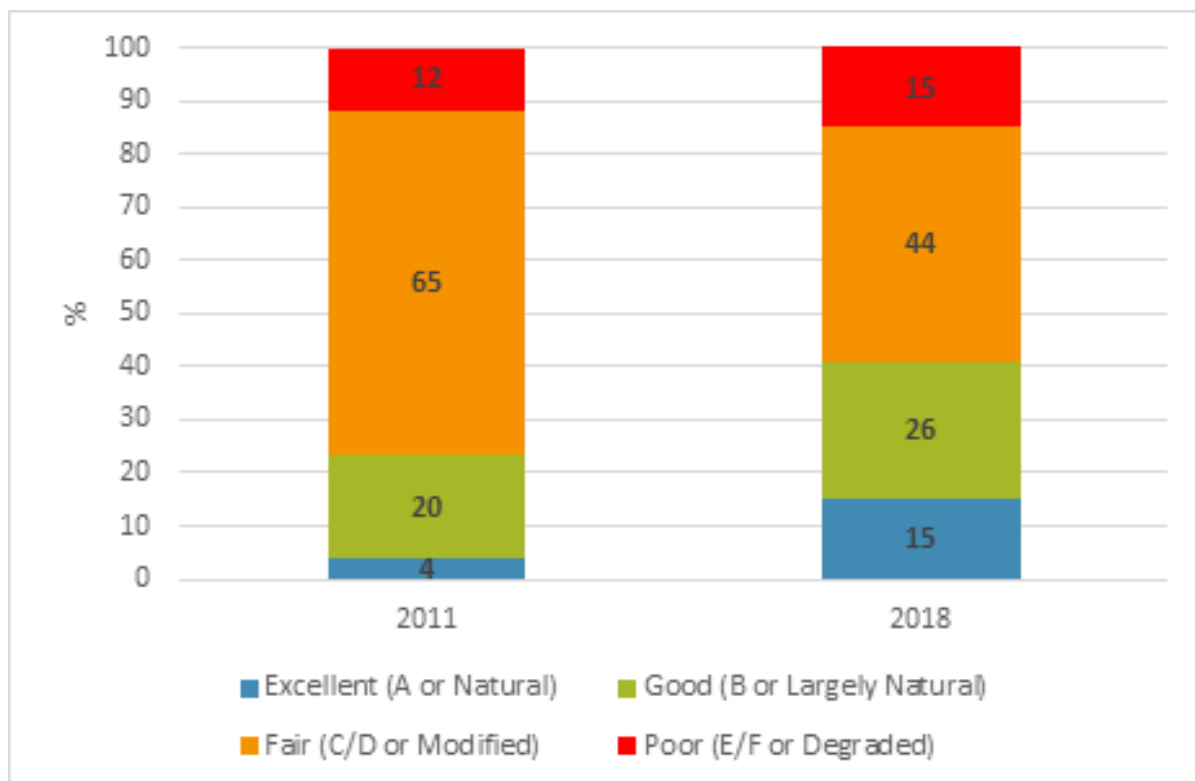


Figure 4. The Estuarine Health Status of the 54 estuaries in the Western Cape as reported in the NBA of 2011 and 2018 (adapted from Van Niekerk and Turpie, 2012 and SANBI, 2018)

1.5 Estuaries and Climate Change Risks

South Africa's third National Communication under the United Nations Framework Convention on Climate Change indicates that climate change could have significant impacts on estuary structure and functioning. Anticipated changes in precipitation and run-off will cause (i) modification in the extent of saline water intrusions; (ii) change in the frequency and duration of mouth closures; (iii) decrease or increase in nutrient fluxes; (iv) changes in the magnitude and frequency of floods and related sediment deposition/ erosion cycles. Increase storminess and flooding will increase the occurrence of disasters at a number of systems, for example, Great Brak, Wilderness and Swartvlei. Other anticipated impacts include changes in the dilution or flushing of pollutants, rising water temperatures, and associated changes in estuarine biota.

Climate change and sea level rise will increase the pressure on management agencies to implement assisted (and often premature) estuary mouth breaching, as increasingly properties will be below the anticipated flood levels. The responses of humans to sea level rise may take the form of actions destructive to estuaries, such as armouring the coastline with berms or dykes that will prevent biological systems from adjusting naturally (e.g. inland retreat of wetland). Climate change will therefore not only increase the risks to estuary ecosystems, but also to the human communities and associated infrastructures and a property. Estuarine management is therefore also likely to become more complex and conflicted over time.

The Department is currently contributing to the drafting of a proposal to the Green Climate Fund for a large-scale project looking at coastal resilience, adaptation and restoration in the coastal environment (including estuaries).

The Department of Water and Sanitation ("DWS") undertook the Determination of Water Resource Classification (WRC) and Resource Quality Objectives (RQO) project in 2016 for the Breede-Gouritz Water Area and gazetted the final WRC and RQOs in November 2020. The Department and CapeNature have participated in this project and provided inputs relating to importance of estuaries and the need to ensure adequate water provision for estuaries in the Western Cape. A climate change scenario was tabled and discussed. This scenario had far reaching impacts on the environment and all users, and it was noted as being extreme. The change over time needs to be critically monitored by all concerned.

The DWS is currently undertaking a Water Resource Classification and Resource Quality Objective project for the Berg Water Management Area. The Department and CapeNature are participating in this project and have provided inputs. The final WRC and RQOs have not been gazetted yet for the Berg Water Management Area.

1.6 Legal and institutional framework

1.6.1 Responsible management authorities for estuary management

The National Department is responsible for the development of National legislation and protocols to govern estuary management, as specified in Section 33 and 34 of the NEM: ICMA. Following extensive engagements, since 2016, the DEFF published/gazetted the

amendments to the NEMP on 26 June 2020 for public comment. The history regarding these required changes are highlighted in the following sub-section. The Department and CapeNature provided their comments on the proposed amendments for DEFF's consideration. The finalized amended NEMP is expected to be published in the second or third quarter of 2021/22. In addition to the legislative changes, the Working Group 8 (National Coastal Committee) meeting re-established the National Estuary Task Team which will focus on solving implementation challenges at a National level.

The proposed amendments indicate that the Provincial Environmental Departments will be the designated Responsible Management Authority (RMA) for all estuaries that were previously indicated as a local or district municipal responsibility in the 2013 NEMP. As this Department is the Provincial lead agency for coastal management, it therefore must provide for co-ordinated estuary management between the different spheres of government i.e., National, Province and Municipalities as well as undertake the development, implementation and approval of relevant Estuary Management Plans in accordance with the proposed amendments to the NEMP.

The Department and CapeNature work closely together in the development and implementation of the Western Estuary Management Programme in partnership with the National Department of Environment, Forestry and Fisheries (DEFF): Oceans and Coasts, South African National Parks, Department of Water and Sanitation, Catchment Management Agencies, Municipalities, South African Maritime Safety Authority, Non-Government Organisations, Estuary Advisory Forums and other stakeholders. The estuary management landscape is complex and dynamic and requires adaptive management.

1.6.2 Involvement of municipalities in estuary management

Section 94 of the NEM: ICMA provides for co-ordination of actions between province and municipalities (s. 94 of NEM: ICMA).

The cooperation of Municipalities in the Western Cape Estuary Management Programme is enabled through the *developmental duties of municipalities* (section 153 of Constitution) wherein municipalities are required to participate in national and provincial development programmes. Further, section 154 provides for the co-operative governance in that national government and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.

The Supreme Court of Appeal judgement in *Abbott v Overstrand Municipality (99/2015)[2016] ZASCA 68 (22 May 2016)* ("the Abbott judgment"), has resulted in some Municipalities indicating that they now view estuarine management as a responsibility of Provincial and National Government, as opposed to a municipal function.

The Constitution of South Africa indicates various functions/roles and responsibilities (listed in Part B of Schedules 4 and 5) that find application within estuarine and coastal management, for example, air pollution; building regulations; local tourism; municipal planning; municipal health services; pontoons, ferries, jetties, piers and matters related thereto; storm water management systems in built-up areas; cleansing; control of public nuisances; fencing and

fences; local amenities; beaches and amusement facilities; public places; local sport facilities; municipal parks and recreation; traffic and parking; and noise pollution. All these functions are in some way related and relevant to the execution of duties and responsibilities within, or adjacent to, the estuarine environment.

The legal framework for implementation of estuary management functions includes all spheres of government and is illustrated in Figure 5 below. Furthermore, the complexity of the legal landscape of the marine and coastal environment, as well as the legislative boundaries which influences estuary management, is depicted in Figure 6 and 7 respectively.

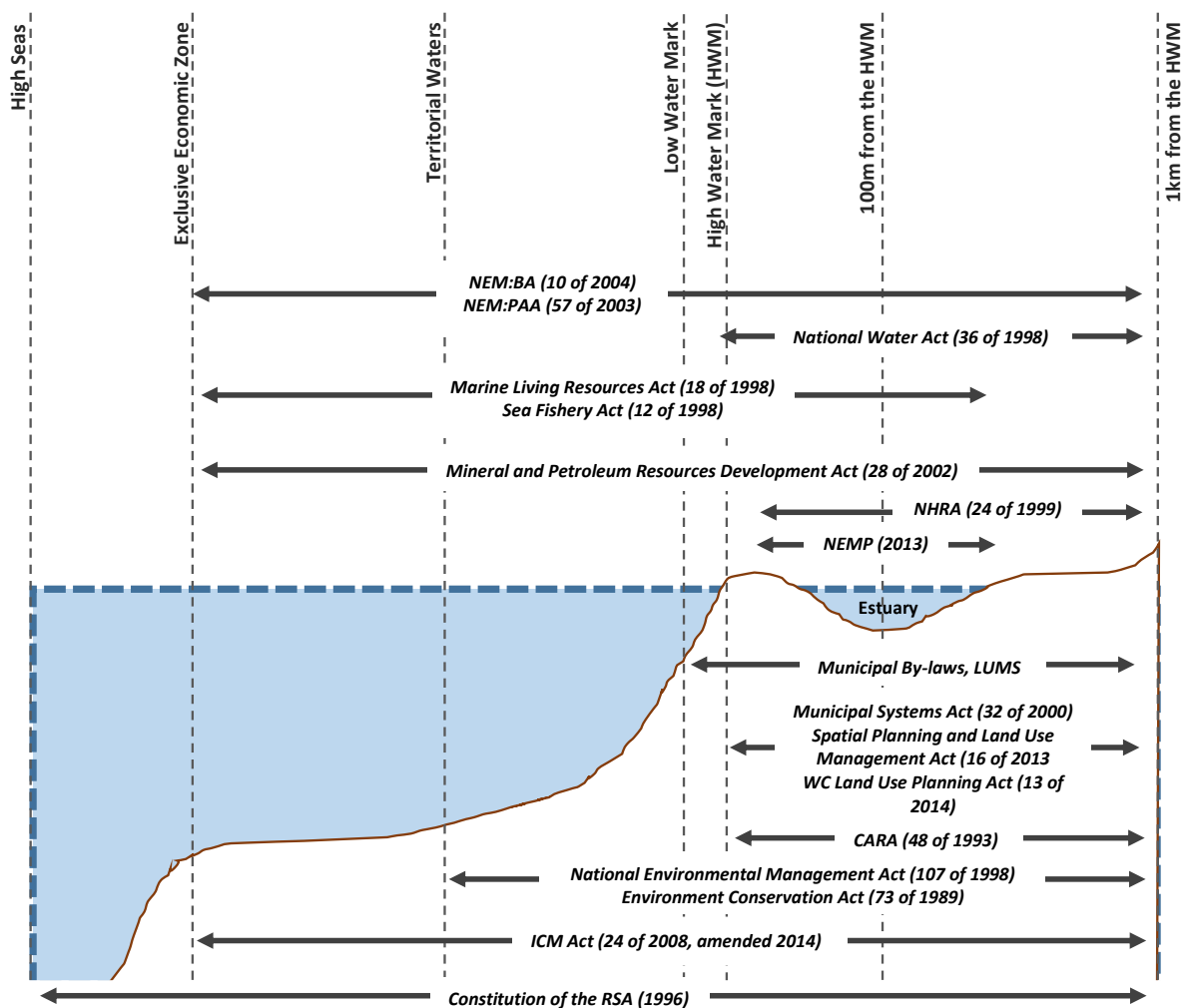


Figure 5: Summary of Legislative Jurisdiction in the Coastal Zone (adapted from Goble et al. 2014)

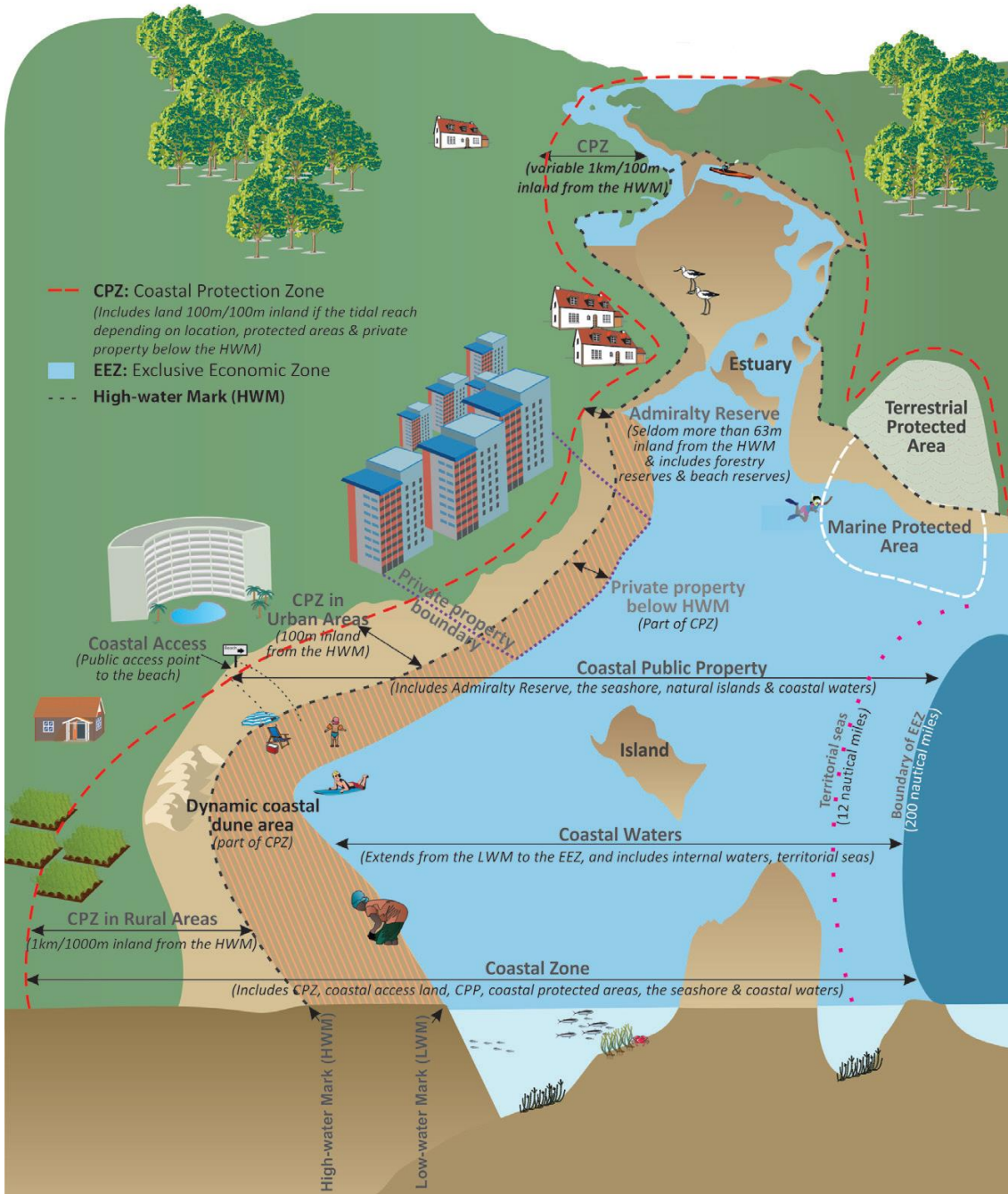


Figure 6: The Coastal Zone of South Africa (from DEA and RHDHV, 2017)

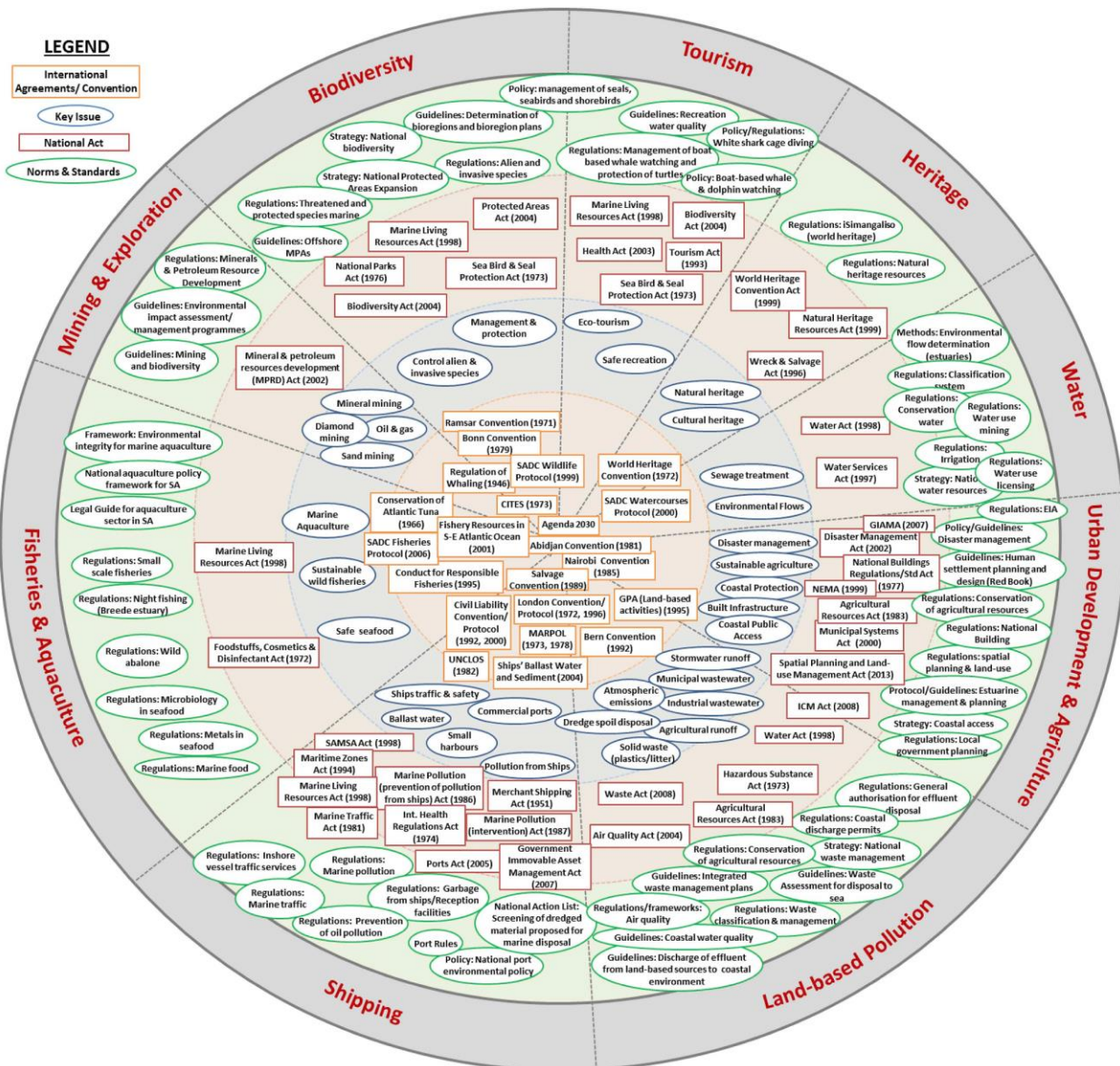


Figure 7. Overview of the legal landscape governing the protection and sustainable use of the coastal marine environment in South Africa. (Taljaard, S. et. al, 2019)

The RMAs are tasked in the NEMP to oversee the overall coordination and ensure that all organs of state are fulfilling their respective functions under the relevant EMP. In essence, these are therefore the only functions which would be additional to the functions listed in parts B of Schedules 4 and 5 of the Constitution which are assigned to Municipalities through the NEMP.

Thus, for example, in respect of the artificial breaching of estuary mouths, DEA&DP maintains that this is a local government function in terms of the Constitution and the Disaster Management Act, 2002 (Act No 57 of 2002). In almost all cases, estuary mouths are breached only to avoid flooding and/or to protect human life which is thus seen as directly relating to the function of disaster management and risk reduction. The breaching of estuaries comprises the movement of large volumes of sand which is a listed activity (Activity 19 of Listing Notice 1, GN R.983 of June 2014) in terms of Environmental Impact Assessment

Regulations. The breaching activity can only be undertaken on the basis of an authorisation and in terms of an approved Maintenance Management Plan.

Section 154(1) of the Constitution clearly places an obligation on National and Provincial Governments to support and strengthen the capacity of Municipalities to perform their functions and in furtherance of this objective DEA&DP will enter into Implementation Protocols with Municipalities for the implementation of these functions, as provided in the Intergovernmental Relations Framework Act, 2005 (Act No. 13 of 2005), where these are required. It is important to note that the mandates assigned to the local sphere of government in terms of the Constitution, the NEM: ICMA and all other relevant legislation are still in effect until such time it is repealed or amended by the legislature. A draft Implementation Protocol has been developed by the Department, through the partnership of the D: B&CM and the Directorate: Environmental Governance, for Municipal engagement purposes and ultimately for signature where agreed.

In support of enabling implementation at ground level, the Department is continuing the support to municipalities in the co-ordination of implementation, development of EMPs and reporting. The Department looks forward to the finalisation of the NEMP in order that EMPs can be approved and implemented through IGRFA Implementation Protocols where required.

The development of an Implementation Protocol (IP), in terms of the Inter-Governmental Relations Framework Act, provided an opportunity for the Mossel Bay Municipality to review their role in estuary management and provide comments on the proposed IP. The Department awaits comments on the IP. Should Municipalities not have capacity or appetite for the implementation of the Estuary Management Plans, the Department will take on that role to ensure that the estuaries are appropriately managed.

1.7 Provincial Coastal Management Programme

Adopted in March 2016, the Western Cape Provincial Coastal Management Programme (PCMP) sets out priorities, see figure 8, for coastal management in the Western Cape and provides a five-year prioritised programme of implementation for 2015/16 to 2020/21 financial years. The PCMP and its Priority Area 7: Estuaries Management are aligned to the national environmental sector and provincial long and medium-term strategies and enable a coordinated strategic and operational response to the implementation of the legal mandate and roles and responsibilities of the Province.

The PCMP will be reviewed in 2021/22 and thus the estuary management component will be reviewed and updated to ensure that the priority activities as indicated in the Estuary Management Framework and Implementation Strategy are included and appropriate budget allocated. The proposed priority activities were presented to the Western Cape Estuaries Task Team for initial inputs and comments. Further engagements on the proposed activities will be combined with the PCMP stakeholder engagement process to streamline processes. The proposed priority activities are included as **Annexure A**.



Figure 8: Vision, Mission and Priority Areas of the Provincial Coastal Management Programme

2. Development and implementation of the Estuaries Programme

2.1 Introduction

Priority Area 7 focused on the requirements of the NEMP (Government Gazette Notice R341 of 2013) and proposed the development and implementation of a Provincial Estuarine Management Framework and Implementation Strategy that would prioritise the development of Estuarine Management Plans (EMPs), provide provincial direction for the establishment and operation of Estuary Advisory Forums (EAFs), ensure that priority habitats associated with estuaries are protected through the expansion of Marine Protected Areas, where appropriate, and coordinate estuarine management research. The CMP also prioritised water quality improvement interventions for the Berg, Breede and Olifants estuaries through the establishment of a monitoring and reporting system. Further, establishment of learning and work creation opportunities associated with the management and monitoring of estuaries were prioritised.

2.2 Programme implementation

Table 3 presents a detailed progress report on the implementation of estuary management targets of the PCMP.

Table 3: PCMP Programme targets for estuary management and associated priority areas

Implementation Strategy	Output Indicators	Time Frame	Status
1. Coastal Management Objective: Develop and implement a provincial estuarine management programme			
<p>1.1 Develop an Estuarine Management Framework and Implementation Strategy</p>	<p>1.1.1 Estuarine Management Implementation Strategy document prepared</p> <p>1.1.2 Institutional framework for EMPs developed</p> <p>1.1.3 Regulations for estuarine management drafted</p>	<p>2017/18</p> <p>2017/18</p> <p>2017/18</p>	<p>1.1.1 2017/18 & 2018/19:</p> <p>In Process:</p> <p>The draft Implementation Strategy has been developed to address key concerns raised by DEA and distributed for inputs.</p> <p>2019/20 financial year: Completed</p> <p>Estuarine Management Framework Implementation Strategy has been developed and documents finalised in October 2019.</p> <p>1.1.2 2017/18:</p> <p>In Process:</p> <p>Workshop with EAF stakeholders held 6-9 March 2018.</p> <p>2018/19: Final deliverable in process.</p> <p>2019/20 financial year: Completed</p> <p>1.1.3 2017/18 & 2018/19:</p> <p>In Process:</p> <p>Bylaws are being drafted and the Biodiversity Bill provides an enabling clause to develop regulations to manage estuaries.</p> <p>2019/20 financial year: Completed</p> <p>Draft bylaw was delivered through the EMFIS project. This bylaw is being refined (to include Admission of Guilt fines) and is</p>

Implementation Strategy	Output Indicators	Time Frame	Status
	<p>1.1.4 Estuarine management capacity building materials developed</p> <p>1.1.5 Facilitate and support the development of EMPs to be undertaken by relevant management authorities</p>	<p>2017/18</p> <p>On-going</p>	<p>underway with the support of the D: ELSS.</p> <p>1.1.4 2017/18 & 2018/19:</p> <p>In Process: Draft products in progress; with inputs from stakeholders.</p> <p>2019/20 financial year: Completed Brochures developed, and capacity building material provided.</p> <p>1.1.5 2017/18</p> <p>In Process</p> <p>16 EMPs updated (6 finalised) and 17 new SAR developed in accordance with legislative provisions and extensive public participation processes. Authorities meetings were convened with relevant authorities.</p> <p>2018/19: In Process:</p> <p>14 of the 16 updated EMPs have been finalised and 17 New EMPs (and associated SAR) have been developed in accordance with legislative provisions and extensive public participation processes, including authorities' meetings were convened.</p> <p>2019/20 financial year: Completed</p> <p>33 EMPs developed through the EMFIS. Ongoing engagements with relevant management authorities regarding the development of new EMPs.</p> <p>2020/21: Ongoing engagements with the responsible management authorities regarding the development of new EMPs through various platforms and directly. Support provided to City of Cape Town and SANParks.</p>

Implementation Strategy	Output Indicators	Time Frame	Status
1.2 Development and implementation of the Breede River EMP	1.2.1 Submission by the MEC to the National Minister to request approval of Breede River EMP	2016/17	1.2.1. 2017/18 and 2018/19: Completed: Breede River EMP submitted to National Minister for approval.
	1.2.2 Approval of Breede River EMP by the National Minister	2016/17	1.2.2. 2017/18: Delayed; as per 1.2.1 above. Awaiting feedback from DEA. 2018/19: Completed: The Breede EMP was approved by the National Minister in July 2018.
	1.2.3 Institutional arrangements for the implementation and monitoring of the EMP established	2017/18	1.2.3. 2017/18: Delayed; as per 1.2.1 above. Awaiting feedback from DEA 2018/19: In Process: Draft template for EMP implementation and monitoring has been developed. Institutional arrangements are also in process. 2019/20 financial year: In Process The Department has gone out on tender for a service provider to assist with the finalisation of institutional arrangements and implementation of the Breede EMP. Progress in this respect is envisaged to be included in the planning during the upcoming PCMP review process. 2020/21 financial year: In Process Service provider appointed in November 2020 to assist with the refinement of the institutional framework for Breede River Estuary Advisory Forum (BREAF) and optimising the value and use of the Breede River estuary in the context of the Cost Benefit Analysis (CBA) and the Estuary Management Plan. Project implementation is

Implementation Strategy	Output Indicators	Time Frame	Status
			on track and expected completion in August 2021.
1.3 The finalisation of priority EMPs (15 from CAPE)	1.3.1 Fifteen (15) priority EMPs approved by the MEC	2017/18	<p>1.3.1. 2017/18: Potential delays relating to legal mandate issues, however delivery of final draft EMPs is on track.</p> <p>2018/19: In process:</p> <p>These EMPs have been finalised but not approved by the MEC, due to the current legal challenges as highlighted in the previous financial year. The Department is working on Implementation Protocol/s with Responsible Management Authorities. Following this, the approval process may begin.</p> <p>2019/20 financial year: In Process</p> <p>The 15 priority Draft EMPs have been finalised, however due to the proposed changes planned for the NEMP, as a result of the Abbot Judgement, no EMPs have been submitted to the MEC for approval. Engagements are planned for the new financial year to be undertaken systematically with specific RMAs for development of Implementation Protocol/s and the handover of EMPs in preparation for approval process.</p> <p>2020/21 financial year: In Process</p> <p>Engagements were undertaken with relevant municipal, CapeNature and SANParks officials to raise the need to undertake the final approval processes, as specified in the NEMP, in preparation for the submission of the EMPs for approval. Preparatory work including the drafting of notices and adverts have been concluded, however vetting by</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>legal services is still underway. There has been a delay in the final advertising process as the Dept. was advised that the current amendment process for the NEMP must be finalised before the advertising of the EMPs can take place.</p>
<p>1.4 Develop EMPs for the remaining estuaries on a prioritised basis</p>	<p>1.4.1 Seventeen (17) priority EMPs approved by the MEC/Relevant Approval Authority</p>	<p>2018/19</p>	<p>1.4.1. 2017/18: Potential delays relating to legal mandate issues, however planning for development of final draft EMPs is on track.</p> <p>2018/19: In Process:</p> <p>These new EMPs will be finalised in 2019. Legal mandate issues as a result of the Abbott court judgement has resulted in a delay in final delivery. The Department is working on Implementation Protocol/s with Responsible Management Authorities. Following this, the approval process may begin.</p> <p>2019/20 financial year: In Process</p> <p>The 17 priority Draft EMPs have been finalised and delivered as part of the EMFIS project. However due to the proposed changes planned for the NEMP, as a result of the Abbot Judgement, no EMPs have been submitted to the MEC/RMA for approval. Engagements are planned for the new financial year to be undertaken systematically with specific RMAs for development of Implementation Protocol/s and the handover of EMPs in preparation for approval process.</p> <p>2020/21 financial year: In Process</p> <p>Engagements were undertaken with relevant municipal, CapeNature and SANParks</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>officials to raise the need to undertake the final approval processes, as specified in the NEMP, in preparation for the submission of the EMPs for approval. Preparatory work including the drafting of notices and adverts have been concluded, however vetting by legal services is still underway. There has been a delay in the final advertising process as the Dept. was advised that the current amendment process for the NEMP must be finalised before the advertising of the EMPs can take place.</p>
<p>1.5 Develop Mouth Management Plans for prioritised estuaries</p>	<p>1.5.1 Ten (10) priority Mouth Management Plans developed</p>	<p>2017/18</p>	<p>1.5.1. 2017/18: See table 7 of the Implementation of the WC Estuary Management Programme 17/18 Report for a detailed breakdown.</p> <p>2018/19: In Process:</p> <p>All 10 MMPs have been developed. Final amendments are being made to 4 MMPs whilst 6 MMPs have been finalised.</p> <p>2019/20 financial year: Completed</p> <p>Ten (10) MMPs have been developed as part of the deliverables for the EMFIS project and can be utilised to inform environmental decision making for activities in the estuary space, specifically around mouth management. Additionally, Mossel Bay Municipality developed a MMP for the Hartenbos River and CapeNature developed a MMP for the Heuningnes River.</p> <p>Under the Guidance of CapeNature, the approval for emergency breaching of the Uilkraal Estuary mouth in November 2019 was processed to ensure ecosystem function</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>while reducing the impact on surrounding infrastructure.</p> <p>During the 2020/21 reporting period, under the guidance of CapeNature, approval for the emergency breach of the Bot Estuary (DEFF approval) and the Heuningness Estuary (Disaster Management Act) to ensure ecosystem function while reducing the impact on surrounding infrastructure. The Klein Estuary opened naturally (MMP objective). The Great Brak estuary was breached in accordance with the approved MMP in November 2020. The Klein Brak estuary was breached due to emergency flooding scenario after thorough consultation with specialists and relevant authorities.</p>
2. Coastal Management Objective: Ensure that priority habitats associated with estuaries are protected			
<p>2.1 Expand MPAs in the Western Cape PAES including priority estuaries where appropriate</p>	<p>2.1.1 Western Cape PAES identifies priority estuaries as part of the strategy</p> <p>2.1.2 Identified priority estuaries are proclaimed as MPAs</p>	<p>2016/17</p> <p>2020/21</p>	<p>2.1.1. 2017/18 & 2018/19: Completed</p> <p>Priorities included in the WC PAES. The estuaries highlighted and prioritised in the WCPAES include: Olifants, Verlorenvlei, Groot Berg, Klein, Bot/Kleinmond, Uilkraals, Heuningness, Goukou, Goukamma, Keurbooms and Breede.</p> <p>2.1.2. 2017/18: In Process: Identification has occurred, but proclamation will be beyond direct control of the Department.</p> <p>2018/19: In Process:</p> <p>Investigation underway to determine the best legal mechanism for protection of priority estuaries through partnerships with CapeNature and Birdlife SA.</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>2019/20 financial year: In Process</p> <p>An authorities meeting was conducted in October 2019 to discuss the formal protection of 13 priority estuaries, namely:</p> <ul style="list-style-type: none"> ○ Olifants River Estuary ○ Verlorenvlei River Estuary ○ Berg River Estuary ○ Rooiels River Estuary ○ Palmiet River Estuary ○ Bot-Kleinmond estuarine system ○ Klein River Estuary ○ Uilkraals River Estuary ○ Heuningnes River Estuary ○ Breede River Estuary ○ Goukou River Estuary ○ Goukamma River Estuary ○ Keurbooms River Estuary <p>The process flow and appropriate legal mechanisms to be undertaken to ensure protection was also discussed. Thus far the Olifants River Estuary has been prioritised for action by CapeNature and will follow due process in the new financial year. Additionally, the Goukamma River Estuary MPA boundary extension is awaiting approval by the National Minister.</p> <p>During the 2020/21 financial year, CapeNature has engaged with NDPWI with regards to the transfer of land to CapeNature to manage as part of the Olifants Protected Area. This objective will be included in the upcoming PCMP review process.</p>
2.2 Include priority biodiversity habitats associated with estuaries into the Western Cape Provincial Spatial Biodiversity Plan	2.2.1 The finalised Western Cape Provincial Spatial Biodiversity Plan includes priority estuary habitats	2016/17	<p>2.2.1. 2017/18 & 2018/19:</p> <p>Completed.</p> <p>Biodiversity Spatial Plan completed and includes priority estuary habitats.</p>

Implementation Strategy	Output Indicators	Time Frame	Status
3. Coastal Management Objective: Coordinate estuarine management research			
<p>3.1 Engage research partners and direct estuary management research to address Western Cape priorities</p>	<p>3.1.1 Research report on the economic and social value of estuaries</p> <p>3.1.2 Ecological Classification and Reserve Determination for priority estuaries established</p>	<p>2018/19</p> <p>2019/20</p>	<p>3.1.1 2017/18: Ongoing</p> <p>Breede River Cost Benefit Analysis under Green Economy completed.</p> <p>2018/19: Ongoing:</p> <p>A Berg Estuary Valuation Study in procurement planning phase and will be managed by the D: PCM.</p> <p>2019/20: Ongoing</p> <p>The Berg Estuary Valuation Study is underway and aims to provide an updated understanding of the ecological functioning, intrinsic, cultural and socio-economic value of the Berg Estuary and the potential costs of maintaining or enhancing these benefits through protection of habitat and environmental flows, taking the socio-economic and climatic context of the region into account.</p> <p>Furthermore, the NBA 2018 was released for publication in October 2019 and included an updated assessment of the economic and social value of estuary and coastal environments.</p> <p>2020/21: Ongoing</p> <p>The Berg Estuary Valuation Study concluded in March 2021. The process will be taken forward in the review of the PCMP in collaboration with the Directorate Pollution and Chemicals Management.</p> <p>3.1.2 2017/18: In Process:</p> <p>Departmental and CapeNature engagement through Berg and Breede-Gouritz Classification and RQO processes. Need</p>

Implementation Strategy	Output Indicators	Time Frame	Status
	<p>3.1.3 Flood-lines for priority estuaries in the Western Cape determined</p>	<p>2020/21</p>	<p>established to motivate for review of Olifants-Doring classification to address flow requirements of estuaries.</p> <p>2018/19: In Process:</p> <p>DEAD&DP and CapeNature provide technical inputs and guidance to the DWS project: Breede Gourits Water Resource Classification and Resource Quality Objectives. DWS has gazetted the information for comment. The DWS is currently undertaking the Berg Catchment Water Resource Classification and Resource Quality Objectives. CapeNature and the Department will be engaging in this project to ensure that priority estuaries receive adequate attention.</p> <p>2019/20 financial year: In Process</p> <p>The Department held additional engagements with DWS on the Breede – Gouritz WRC and RQO project and its alignment with the NBA 2018. The final Breede Gouritz and Berg WRC and RQOs have not yet been gazetted.</p> <p>2020/21 financial year: In Process</p> <p>The final Breede-Gouritz WRC and RQOs have been gazetted. The final Berg-Olifants WRC and RQOs are yet to be gazetted.</p> <p>3.1.3 In Process</p> <p>2017/18: Breede Flood line completed in 2017. (Berg flood line completed in 2014)</p> <p>2018/19: In Process:</p> <p>Prioritisation of estuaries requiring flood line determination forms part of the EMFIS.</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>2019/20 financial year: In Process</p> <p>A service provider was appointed to conduct a flood line assessment study for the Klein and Great Brak estuaries. This project is expected to conclude in the 2020/21 financial year.</p> <p>2020/21 financial year: In Process</p> <p>The flood line determinations for the Klein Brak and Great Brak estuaries are expected to conclude on 30 March 2021. Updated bathymetry was procured for the two estuaries and was provided to the flood line project team in November 2020. The project spatial information will be included on the Departmental Coastal Viewer.</p>
<p>4. Coastal Management Objective: Expand and effectively manage a system of coastal protected areas</p>			
<p>1.1 Explore the designation of Special Management Areas (SMAs) in terms of the ICM Act for prioritised areas</p>	<p>1.1.1 Feasibility report on the establishment of SMAs for identified priority areas</p>	<p>2017/18</p>	<p>1.1.1 In Process</p> <p>The designation of SMAs is a mandate of the national Minister of Environmental Affairs. For the reporting year 2017/18 the National Department Environmental Affairs have developed a concept document for the development of a National Guideline on the requirements for the declaration of a Special Management Area under the National Environmental Management Act. The guideline will be used by Stakeholders to assist in identifying qualifying sites for SMAs and contain the process for declaration as an SMA. The DEA&DP will continue to support the National DEA during this process.</p> <p>The National Department Environmental Affairs initiated the</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>development of the National Guideline for the Declaration of the Special Management Areas during the 18/19 financial year. A Terms of reference for the project had been developed and the project was advertised in the tender bulletin, however after a mid-term review by DEA, it was decided to undertake the development and testing of the SMA tool internally before the development of a National Guideline.</p> <p>In Process:</p> <p>During the 2019/20 financial year, the National Department Environmental Affairs undertook a Special Management Areas Pilot Investigation in three coastal provinces where the potential area/s for SMA declaration were assessed. For the Western Cape the Olifants River Estuary in the Matzikamma Municipality is being considered as one of the pilot sites. During the last quarter of the financial year an initial engagement to discuss the project was held with relevant Provincial and Local stakeholders in the Matzikamma Municipality. National DEA O&C is compiling a report with recommendations for the pilot site and will initiate the project once the site has been chosen.</p> <p>2020/21 Financial Year</p> <p>The National DEFF investigated during the 2020/21 financial year, which included Olifants River and other sites from the other provinces. Hamburg in the Eastern Cape was selected as a site for the pilot project for SMA designation. Consultations in the province have been undertaken and reports have been produced and the next step will be a submission to the Minister. The DEA&DP will engage further with DEFF on the</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			outcomes of the project and determine whether the outcomes can be implemented within the W.C. The DEA&DP will review the project for possible inclusion in the next PCMP.
1.2 Identify and implement mechanisms for appropriate protection status of priority areas including expansion of MPAs as identified in the Western Cape Protected Area Expansion Strategy (PAES)	<p>1.2.1 Expansion of no-take/exclusion zones within existing Betty’s Bay, Goukamma and Robberg MPAs through proclamation</p> <p>1.2.2 Expansion of priority MPAs through the proclamation of Keurbooms Estuary, Goukou (MPA), De Mond (Heuningnes), Bot River Estuary, Verlorenvlei and part of Olifant’s estuary</p>	<p>2016/17</p> <p>2020/21</p>	<p>1.2.1 In Process</p> <p>Public participation process lead by DEA O&C was initiated in October 2017. In addition to the prescribed advertisements in newspapers, CapeNature and DEA hosted specific public participation workshops at each MPA during the public participation process. Written comments were sent to DEA O&C by stakeholders. The Comments were assessed by a panel of DEA and CapeNature officials in December 2017. A follow up session took place in February 2018. The proposed maps and regulation documents are being finalised at present.</p> <p>Financial year 18/19:</p> <p>The final publication submission is being prepared for national Minister’s sign-off.</p> <p>Financial year 2019/20:</p> <p>CapeNature and the Department is currently awaiting National Minister’s sign-off.</p> <p>Financial year 2020/21:</p> <p>CapeNature and DEFF finalised all MPA maps and coordinates as well as provided information for the public comment's reports for each MPA. The declaration will be processed in 2021.</p> <p>1.2.2 In Process</p> <p>During the 16/17 financial year CapeNature has identified priority estuaries in need of conservation which have been included in the WCPAES. CapeNature to follow consultation process with DEA,</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>DWS and DMR through the Joint Planning Task Team (JPTT) CapeNature to clarify the process of transferring the management mandate of specific waterbodies to the appropriate provincial departments. Property portfolios needs to be created for each land parcel associated with these water bodies to identify the status of the land. CapeNature will undertake a full costing related to the transfer and management of the identified land parcels and waterbodies prior to actioning the transfer. CapeNature will then identify the appropriate conservation tool (MPA, NEMPA or SMA) and management mechanisms for the priority estuaries, e.g. partnerships. Further to this, partners who can assist with resources will also be identified.</p> <p>Financial year 2017/18 and 18/19:</p> <p>An investigation is underway to determine the best legal mechanism for protection of priority estuaries through partnerships with CapeNature and Birdlife SA. Consideration of legal instruments that would be best suited to protect the estuary include, Marine Protected Areas, Provincial Protected Areas, Special Management Areas, Stewardships amongst others. The estuaries highlighted and prioritised in the WCPAES and part of this investigation include: Olifants, Verlorenvlei, Groot Berg, Klein, Bot/Kleinmond, Uilkraals, Heuningness, Goukou, Goukamma, Keurbooms and Breede.</p> <p>2019/20 financial year: In Process</p> <p>An authorities meeting, facilitated by Dir: Biodiversity & Coastal Management and convened with the assistance of Birdlife Africa held in October 2019 to discuss the proposed formal protection of</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>the identified 12 priority estuaries for WC. The formalisation of the Olifant's Estuary Protected Area has been prioritised for action by CapeNature.</p> <p>2020/2021 financial year: In process</p> <p>CapeNature implemented ongoing monitoring as prescribed. Engagement took place between CapeNature and Department of Public works towards an agreement to manage the specific parcels of land included in the Protected Area planning process for the Olifants Estuary.</p>
<p>5. Coastal Management Objective: Implement pollution control and waste management measures in order to prevent, minimise and strictly control harmful discharges into coastal ecosystems</p>			
1.1 Mapping of point and diffuse sources of pollution in partnership with the relevant National Environmental Affairs and / or Water and Sanitation departments for prioritised estuaries	<p>1.1.1 Specialised database developed for the Berg estuary indicating point and diffuse sources of pollution</p> <p>1.1.2 Specialised database developed for the Breede estuary indicating point and diffuse sources of pollution</p>	<p>2016/17</p> <p>2016/17</p>	<p>1.1.1 Ongoing: 1.1.1 Ongoing:</p> <p>1.1.1 Ongoing:</p> <p>Directorate Pollution Management oversees this database.</p> <p>1.1.2 Ongoing:</p> <p>Directorate Pollution Management oversees this database</p>
1.2 Monitoring of selected pollution sites in prioritised estuaries	<p>1.2.1 Monitoring report for Berg River estuary</p> <p>1.2.2 Monitoring report for Breede River estuary</p> <p>1.2.3 Monitoring report for the Olifants River estuary</p>	<p>2016/17 & annually</p> <p>2016/17 & annually</p> <p>2017/18 & annually</p>	<p>1.2.1 Completed and ongoing</p> <p>1.2.2 Completed and ongoing</p> <p>1.2.3 Not Achieved Due to budget cuts the Directorate Pollution Management reprioritised projects and thus were not able to undertake this project.</p>
1.3 Coordinate disaster risk reduction and management response for pollution incidents for coastal areas and estuaries across	1.3.1 The national strategy for disaster risk reduction and management response for pollution incidents implemented in the	2017/18	<p>1.3.1 Ongoing</p> <p>Continuous collaboration between the DEA&DP, CapeNature and relevant National and Provincial</p>

Implementation Strategy	Output Indicators	Time Frame	Status
relevant spheres of government	Western Cape Province (oil spill contingency, sewage spills and load shedding and WWTW)		<p>Departments to enable a coherent response to any incident along the WC coastline. While coordinated response to marine pollution is the domain of national DEA, the DEA&DP Biodiversity and Coastal and Pollution Management Directorates provide inputs to contingency and response plans and support DEA in responding to pollution incidents e.g., the plastic “nurdle” pollution spill incident, the effects of which have been experienced along our southern coast.</p> <p>2020/2021 Financial year:</p> <p>The D: B&CM are participating in the JOC dealing with the nurdles spill response. The JOC is led by SAMSA and meet fortnightly. The officials provided input into media statements issued by SAMSA, are members of the Environmental Sub-committee which sits on a weekly basis and deals with resolving clean-up challenges. Letters of support were issued to the clean-up team, Spill Tech, for assistance with coastal access as well as guiding ORV driving. Officials supported and participated in the stakeholder engagement workshop and provided guidance regarding approach. Over 13 000 kg of nurdles have been recovered by Spill Tech thus far. Work is being undertaken by P&I associated to locate and recover containers lost at sea.</p>
6. Coastal Management Objective: Develop and implement water quality improvement programmes for prioritised coastal areas			
2.1 Review of existing Estuarine Management Plans (EMPs) to identify priorities for water quality improvement	2.1.1 Report on the priority water quality interventions identified from 17 reviewed EMPs	2018/19	<p>2.1.1 In Process</p> <p>The 17 EMPs have been reviewed and a prioritised list of estuaries have been identified that would require water quality intervention strategies. The appropriate protocols for water quality</p>

Implementation Strategy	Output Indicators	Time Frame	Status
			<p>monitoring have been workshopped with stakeholders and training was provided by DEA&DP in partnership with CapeNature during this 18/19 financial year. The practical training workshops were conducted by specialists in the Garden Route and Overberg Regions and included the participation of stakeholders from all the Districts including W. Coast.</p> <p>2019/20 financial year: Completed:</p> <p>The Report on the priority water quality interventions identified from reviewed Estuary Management Plans (EMPs) has been developed. This report will inform planning interventions for the upcoming PCMP Review.</p>
2.2 Facilitate the implementation of identified water quality improvement interventions	2.2.1 Three water quality improvement interventions facilitated	2020/21	2.2.1 The Department's Directorate: Pollution and Chemical Management and this Directorate: Biodiversity and Coastal Management have undertaken interventions related to those indicated in the above-mentioned report. These include: the Klein Brak sediment study which undertook sampling and analysis of sediment to understand potential contamination and sources of contamination; the co-ordinated investigations of pollution incidents in the Meulen, Blinde and Gericke (Bayview) estuaries; the Berg estuary valuation study; engaging with Department of Agriculture regarding agricultural practices in the Klein brak estuarine environment. Further water quality improvement interventions will be undertaken in the future years. Furthermore, the Berg River Implementation and Breede Implementation Programmes continue and include water quality monitoring interventions.

2.3 Taking EMPs forward into implementation.

2.3.1 Advertising EMPs for comment

During 2020/21, the Department liaised with relevant municipalities and CapeNature to assess whether they would support the Department to taking the EMPs through the final public participation step in preparation for approval. This process would entail:

- publishing the relevant EMPs in the government gazette for 30 days;
- placing adverts in newspapers for 30 days and raising awareness through emails, notices on websites, social media;
- sending letters to relevant organs of state/authorities notifying them of the availability of the EMP for comment; and
- placing EMPs on website for interested parties to access

CapeNature and a number of municipalities indicated that the Department could take the EMPs through this process. 19 EMPs were identified and the gazette notice was prepared (See Annexure B). The targeted EMPs are included in the below list:

West Coast District	Overberg District	Garden Route District
Olifants	Bot/Kleinmond	Goukou
Jakkalsvlei	Klein	Gouritz
Verlorenvlei	Uilkraals	Gwaing
Berg	Heuningnes	Kaaimans
	Rooiels	Maalgate
	Palmiet	Piesang
	Klipdriffontein	Goukamma
		Keurbooms

Following the above-mentioned engagement, this Department sought legal vetting of the gazette notice from the Department of the Premier (DotP). The DotP advised that the current NEMP (2013) does not have an enabling provision that would allow the Department to publish the gazette notice. Thus, the Department has pended this process until the amendments of the NEMP are finalized. SANParks has indicated that they will be reviewing their EMPs and developing new EMPs, and taking these through the final public participation, approval process and appending to their Protected Area Management Plans.

2.3.2 The Breede River EMP

The Department as the designated RMA has appointed a service provider to undertake the re-establishment of the Breede River Estuary Advisory Forum and priority activities indicated in the approved EMP. The first project steering committee is taking place on the 17th March and will detail the stakeholder engagement processes as well as the planned activities. It is expected that the BREAF should be re-established within the first quarter of the 2021/22 cycle. Initial stakeholder engagement has shown that there is a prevalence of mistrust and misunderstanding of government amongst local stakeholders.

2.4 The Estuary Management Framework and Implementation Strategy Project (EMFIS)

The Department, with co-funding from DEFF, entered into a contract with a service provider to undertake the development of an Estuary Management Framework and Implementation Strategy (EMFIS) for the Western Cape. The contract commenced on 4 December 2015 and was completed in October 2019.

EMFIS deliverables included:

2.4.1 Updated Estuarine Management Plans (EMPs)

The EMFIS project delivered 16 updated EMPs and SARs for priority estuaries in the Western Cape. The below table outlines these estuaries, the Responsible Management Authority (according to the 2013 NEMP), the status of EMP development, and the status of Estuary Advisory Forum establishment.

Table 4: Updated EMPs and Estuary Advisory Forums

Estuary Name	Responsible Management Authority (RMA) as per the NEMP	Status	Estuary Advisory Forum
Olifants	CapeNature	Completed	Operational & functioning
Groot Berg	CapeNature	Completed	Operational & functioning
Verlorenvlei	CapeNature	Completed	Operational & functioning
Diep	City of Cape Town	Completed	Operational & functioning
Zandvlei	City of Cape Town	Completed	Operational & functioning
Bot / Kleinmond	CapeNature	Completed	Operational & functioning
Klein	CapeNature	Completed	Operational & functioning
Uilkraals	CapeNature	Completed	Operational & functioning
Heuningnes	CapeNature	Completed	Operational & functioning
Breede	DEA&DP	Completed	Will be formally reestablished in 2021.
Goukou	CapeNature	Completed	Operational & functioning
Gouritz	Garden Route District Municipality	Completed	Operational & functioning
Knysna	SANParks	Completed	Operational & functioning
Groot Brak	Mossel Bay	Completed	Operational & functioning
Klein Brak	Mossel Bay	Completed	Operational & functioning
Keurbooms	CapeNature	Completed	Operational & functioning

2.4.2 New priority Estuarine Management Plans

The EMFIS project delivered 17 new EMPs and SARs for priority estuaries in the Western Cape. The below table outlines these estuaries, the Responsible Management Authority (according to the NEMP), the status of EMP development, and the status of Estuary Advisory Forum establishment.

Table 5: List of New priority EMPs developed & Estuary Advisory Forum establishment

Estuary Name	Responsible Management Authority	Local Municipality	Status	Estuary Advisory Forum
Sout (West)	Matzikamma Municipality	Matzikama Municipality	Completed	Not yet established
Jakkalsvlei	Cedeberg Municipality / CapeNature	Cederberg Municipality	Completed	Not yet established
Wadrift	Cedarberg Municipality	Cedarberg Municipality	Completed	Not yet established
Rooiels	CapeNature	Overstrand Municipality	Completed	Not yet established
Buffels	Overstrand Municipality	Overstrand Municipality	Completed	Not yet established
Ratel	SANParks	Cape Agulhas Municipality	Completed	Not yet established
Palmiet	CapeNature	Overstrand Municipality	Completed	Not yet established
Duiwenhoks	Hessequa Municipality	Hessequa Municipality	Completed	Not yet established
Blinde	Mossel Bay Municipality	Mossel Bay Municipality	Completed	Not yet established
Klipdriftfontein	CapeNature	Cape Agulhas Municipality	Completed	Not yet established
Maalgate	George Municipality	George Municipality	Completed	Not yet established
Gwaing	George Municipality	George Municipality	Completed	Not yet established
Piesang	Bitou Municipality	Bitou Municipality	Completed	Joint sitting with the Keurbooms EAF.
Kaaimans	George Municipality	George Municipality	Completed	Not yet established
Groot (Wes)	SANParks	Bitou Municipality	Completed	Not yet established
Sout (East)	SANParks	Bitou Municipality	Completed	Not yet established
Matjies	Bitou Municipality	Bitou Municipality	Completed	Not yet established

2.4.3 Mouth Management Plans (MMPs)

Twelve priority MMPs were submitted to the department. These MMPs, developed for specific estuaries in the Western Cape, are highlighted in the below table.

Table 6: Mouth Management Plans

Estuary name	Status	Local Municipality	Identified RMA
MMPs associated with updated EMPs			
Verlorenvlei	Completed	Cederberg	CapeNature
Bot / Kleinmond	Completed	Overstrand	Cape Nature
Klein	Completed	Overstrand	CapeNature
Uilkraals	Completed	Overstrand	Cape Nature
Onrus	Completed	Overstrand	Overstrand
Groot Brak	Completed	Mossel Bay	Mossel Bay
Klein Brak	Completed	Mossel Bay	Mossel Bay
MMPs associated with new EMPs			
Kaaimans	Completed	George	George
Piesang	Completed	Bitou	Bitou
Wadrift	Completed	Cederberg	Cedarberg
Goukamma	Completed	Knysna	CapeNature
Jakkalsvlei	Completed	Cedarberg	Cedarberg / CapeNature

2.4.4 Estuarine Management Framework

The Estuary Management Strategic Framework is a critical part of reaching the CMP Priority 7 goal “Co-ordinated and integrated estuarine management which optimises the ecological, social and economic value of these systems on an equitable and sustainable basis”. There are several components included in the Strategic Framework including best practices, legislative environment, prioritisation, an implementation plan to name a few. A key part of the framework includes an Implementation Plan and a Decision Support/Prioritisation tool.

The Framework tool has been used in the development of the new EMPs and has provided assistance with prioritisation of interventions. It comprises a number of indicators on ecological and societal factors.

Table 7: Priority estuaries – summary showing individual and combined priorities

Estuaries	Combined Priority Scores	Freshwater Priorities	Fishery Priorities	Population Size Priorities	Health Risk Priorities	Cooperative Governance Priorities	Conservation Priorities
Eerste	5	1		1	1	1	1
Goukou	5	1	1	1	1		1
Knysna	5		1	1	1	1	1
Berg (Groot)	4		1	1	1		1
Bot/Kleinmond	4		1	1	1		1
Gourits	4	1	1	1			1
Keurbooms/Bitou	4	1	1	1			1
Lourens	4			1	1	1	1
Rietvlei/Diep	4		1	1	1		1
Sand	4		1	1	1		1
Swartvlei	4		1	1	1		1
Wilderness	4		1	1	1		1
Gericke	3	1			1	1	
Houtbaai	3	1		1	1		
Palmiet	3				1	1	1
Piesang	3	1		1			1
Tweekuilen	3	1			1	1	
Verlorenvlei	3	1				1	1
Zeekoe	3	1		1	1		
Breede	2		1				1
Duiwenhoks	2	1	1				
Heuningnes	2		1				1
Jakkelsvlei	2	1			1	1	
Kaaimans	2	1					1
Klein	2		1				1
Klein Brak	2		1				1
Klipdriftfontein	2					1	1
Noetsie	2					1	1
Olifants	2		1				1
Rooiels	2					1	1
Silvermine	2	1		1			

Estuaries	Combined Priority Scores	Freshwater Priorities	Fishery Priorities	Population Size Priorities	Health Risk Priorities	Cooperative Governance Priorities	Conservation Priorities
Sir Lowry's Pass	2				1	1	
Sout	2	1				1	
Uilkraals	2	1					1
Wadrift/Langdrift	2	1				1	
Blinde	1					1	
Bloukrans	1					1	
Bokramspruit	1	1					
Buffels (oos)	1					1	
Goukamma	1						1
Groot (wes)	1						1
Hartenbos	1				1		
Krom	1						1
Maalgate	1	1					
Matjies	1					1	
Onrus	1	1					
Ratel	1						1
Sout (Oos)	1						1
Sout (Wes)	1	1					
Steenbras	1	1					

2.4.5 Key supporting documentation

A number of important guidelines and institutional frameworks have been developed through the EMFIS project in order to assist with implementation. These include:

- An Institutional framework for Estuary Advisory Forums;
- Best practice guidelines for management of watercraft use, erosion, dune management, structures in the littoral active zone and accretion.
- Draft Bylaw dealing with watercraft use in estuaries
- Awareness raising material.

2.5 Estuary Management Plans and Mouth Management Plans development outside of the EMFIS project

The EMFIS project has developed EMPs for 33 estuaries, however, there are a total of 54 "significant" estuaries in the Western Cape. The NEMP requires that all estuaries are managed according to an EMP and thus there is a need to develop EMPs, or an approach to enabling grouping of similar smaller systems, for the rest of the Western Cape estuaries. There are a number of organisations and spheres of government that are currently involved with estuary management and that are drafting EMPs/MMPs or have drafted EMPs/MMPs.

The Hartenbos Estuary Management Plan and Mouth Management Plan was drafted by consultants appointed by the Mossel Bay Municipality. The Department approved the Mouth Management Plan as a Maintenance Management Plan for artificial breaching of the Hartenbos estuary.

The Members of the Onrus EAF through consultation with the Overstrand Municipality have drafted an Estuary Management Plan for the Onrus estuary. This EMP will need to be taken through the final public participation and approval process by either this Department or through agreement with the Overstrand Municipality, on a prioritised basis.

The MMP for the Groot (Wes) is being undertaken by SANParks. The SANParks in Garden Route District updated their Protected Area Management Plan (PAMP) and will be considering EMPs, as lower level plans/annexures to their PAMP, for the estuaries under their jurisdiction including the Knysna, Touw, Swartvlei, Sout (Oos), Noetzie and Bloukrans estuaries. This work will be undertaken over a five-ten-year period.

The City of Cape Town is undertaking the development of a number of EMPs for the smaller systems and will be considering clustering these into one or more EMPs. The CSIR has indicated that they will be able to advise/support the City in this process.

2.6 Mouth Management Plans and artificial breaching

The artificial breaching of estuary mouths, where required, is co-ordinated and implemented through Mouth Management Plans (MMP). A Maintenance and Management Plan approval is required from the competent authority, in accordance with the NEMA EIA regulations, when Activity 19 of Listing Notice 3 is triggered. The current implementation and development of Mouth Management Plans is highlighted below.

The Great Brak estuary MMP and Maintenance Management Plan was followed, and the mouth was artificially breached in November 2020. The mouth did not stay open for very long due to the limited water availability from the Wolwedans dam and limited flow in the catchment. Concerning sand build up in the mouth area may necessitate removal to aid scouring during next breaching event. Engagement with DWS is ongoing to ensure that more water is released for breaching events.

The Klein Brak estuary mouth closed for an extended period and concerns were raised by the community and the Mossel Bay Disaster Risk Management section after water levels started rising. A series of breaching committees were held to discuss whether the estuary required breaching and ultimately resulted in the decision to artificially breach the mouth, at the highest water level, to avoid a flooding disaster. The breach took place in September 2020.

Heuningness estuary mouth was breached due to high water levels and appropriate conditions being met. CapeNature consulted with the Disaster Risk Management in this process. Authorisation for this breach was obtained through DRM.

2.7 Estuaries Advisory Forum Workshop

Mainstreaming estuarine management involves the processes by which societies, businesses and governments can be brought to recognise the full functions, services and benefits derived from ecosystems and the natural environment and then to act to give these values appropriate effect in decision making. This can also be achieved through communication, education, awareness and participation of stakeholders in processes that builds capacity within EAF structures and ensures wise use of estuarine goods and services.

The Department recognises and acknowledges the role and contributions made by the respective EAFs towards estuary management in the Province. The progress and strides made would not have been possible without the commitment and efforts by these EAFs. It is therefore crucial for the EAFs to fulfill their current role to maintain momentum and ensure continued support and participation with the implementation of Estuarine Management Plans (EMPs). Inherent to the project is for the Department to identify issues and concerns by the relevant stakeholder groups as well setting the scene for the way forward.

Invitations were extended to chairpersons of Estuarine Advisory Forums (EAFs) and Estuary Managers or their nominated representatives in the Western Cape to attend a webinar held on 12 March 2021 on the MStTeams platform. The webinar aimed at capacitating relevant stakeholders, chairpersons and RMAs in the roles and responsibilities, functioning and implementation of EAFs.

The Estuary Management and Monitoring Courses were not undertaken in the 2020/21 cycle due to the Covid 19 pandemic and associated lockdown regulations preventing gathering of people. The Nelson Mandela University, however, has published a number of useful lectures on their Youtube channel which deals with estuary management. These lectures are freely available to the public.

2.8 Estuaries Task Team meetings and support

The Western Cape Estuaries Task Team/Sub-Committee under the auspices of the Western Cape Provincial Coastal Committee (PCC) is functioning and met twice in the 2020/21 cycle.

The Western Cape Estuaries Task Team/Sub-Committee continues to:

- Provide a forum for the various stakeholders to co-ordinate and jointly plan management strategies for estuaries. This would assist the province in preventing mutually incompatible activities and promoting sustainable development of the coast for the benefit of its citizens;
- Provide a forum to discuss development proposals that could impact on the ecological functioning of an estuary and advise the authorities of any possible impact;
- Foster formal links between the Local, District and Provincial spheres of government regarding estuaries management. This will result in improved dialogue on the many national and provincial activities that impact on coastal management; and
- Allow stakeholders in the province to play a role in decision-making regarding the selection and implementation of nationally and provincially funded estuaries research and management projects.

Based on the outcomes of a trilateral meeting that was hosted between this Department, CapeNature and the Garden Route District Municipality, a Garden Route Estuary Task Team was established under the Garden Route Municipal Coastal Committee. The aim of this forum is to provide a platform for regional co-ordination, assistance with implementation challenges, shared learning and technical inputs from specialists. The forum has met twice in 2020/21 cycle. Terms of Reference have been established and there is active participation by authorities and stakeholders in the region.

The National Working Group 8, which fulfils the National Coastal Committee role, recommended that a National Estuary Task Team be established to guide estuary management in the country and to assist with resolving implementation challenges. This Task Team has been established and has met once in the 2020/21 cycle. Terms of Reference have been finalized and part of the work of the Task Team is to provide input into the National Estuary Management Strategy as well as to co-ordinate monitoring of estuaries in the country.

2.9 Estuary Monitoring Workshops

Unfortunately, a monitoring workshop was not undertaken in the 2020/21 year due to the Covid 19 pandemic and the lockdown regulations limiting gatherings. The importance of undertaking this training necessitates that one be planned for the 2021/22 year, in order that any new monitors be brought up to speed with methodologies and/or a refresher be provided for existing monitors dealing with estuary water quality monitoring.

2.10 Support to Estuary Advisory Forums

2.10.1 Estuary Advisory Forum Meetings

The professional staff of the coastal management team are deployed to each Estuary Advisory Forum to provide support and to represent the Province at the meetings. Where attendance is not possible due to clashes or capacity constraints, the Department sends written feedback to the EAF chairperson/secretary. The Department works closely with CapeNature and has an agreement to have representation at all EAFs shared between the two organisations. In some instances where there is no chair available, the Department or CapeNature temporarily set into this role for continuity of EAFs. Due to the Covid 19 pandemic, in person meetings were not readily undertaken due to the regulations preventing gatherings. MTeams and Zoom meetings were tried at a number of EAFs and proved quite successful for most of the participants. Due to the ease of virtual meetings and travelling time saving, government officials participation improved, and feedback was more readily available. It is suggested that these virtual meetings continue and/or hybrid meetings are undertaken to ensure that this momentum is not lost.

Table 8 lists the active Estuary Advisory Forums that have been established and the meetings attended by the coastal management team.

Table 8: Estuary Advisory Forums in the Western Cape

Estuary Advisory Forum
Zandvlei
Diep/Rietvlei
Breede Estuary (to be revived in 2020)
Olifants Estuary
Verlorenvlei Estuary
Berg Estuary
Bot/Kleinmond Estuary
Klein Estuary
Uilkraals Estuary
Onrus Estuary
Heuningnes Estuary

Estuary Advisory Forum
Goukou Estuary
Gouritz Estuary
Hartenbos Estuary
Klein Brak Estuary
Groot Brak Estuary
Goukamma Estuary
Touws and Swartvlei
Knysna Estuary
Keurbooms Estuary (Piesang recently added to the Keurbooms)

Due to the Covid 19 pandemic and the lockdown regulations limiting gatherings, a number of EAFs did not host meetings as frequently as usual, did not meet at all or used virtual meeting options like MSTeams/Zoom platforms to engage.

It was noted that where virtual meetings were hosted, there was a better attendance of authorities at these meetings due to the ease of joining these meetings and the saving of traveling time. The Department would like to encourage that virtual meetings continue or a hybrid meeting, where some members meet in person and some join virtually, take place going forward.

2.10.2 Key issues addressed and raised at Estuary Advisory Forums

The following section captures some of the issues raised at EAFs in 2020/21. Some of these points do not necessarily speak directly to the priorities identified in the EMPs and this is an area where work is required. The agendas of the EAFs need to be reflecting the priority actions from the EMPs and focus their energy on implementing these actions. The below points therefore need to be put into the above-mentioned context.

Olifants River EAF

The EAF is functioning and is chaired by CapeNature.

Key matters raised at the Olifants EAF include:

- Olifants estuary protected area - prioritised by CapeNature for declaration. PPP to be done this year and community co-managed protected area development will be facilitated;
- Threats of prospecting and further mining of the north bank of river.

Verlorenvlei EAF

The Verlorenvlei EAF is functioning and is chaired by CapeNature. It has been poorly attended in the last few years and CapeNature is embarking on a new stakeholder identification process to revitalise the VEAf.

Key matters raised at the Verlorenvlei EAF include:

- CapeNature is the authority for the Ramsar Site and will be conducting a METT assessment.
- Verlorenvlei estuary is part of the Protected Area Expansion Strategy;
- Very low water levels in the estuary;
- Threat of prospecting and mining in the Moutonshoek;
- Alleged illegal abstraction of water from river negatively affecting base flows and ecological processes;
- Dedicated estuarine person required to coordinate estuarine duties at the estuary;
- Alleged Illegal damming by riparian landowners;
- Possible problems with reeds obstructing base flow and possible risk of flooding;
- Run-off from agricultural processes (pesticides, fertilizers, etc.);
- Impact of agricultural practises on riparian zone and fish populations;
- Proximity of waste disposal site to the estuary;
- Uncontrolled grazing of cattle and goats;
- Delays in the promulgation of Coastal Management Lines (setbacks); and
- Birdlife South Africa's involvement and the establishment of a conservancy.

Berg River EAF

The EAF is chaired by a non-government person and supported by CapeNature. It is well attended and supported by the Berg river municipality.

Key matters raised at the Berg EAF include:

- CapeNature appointed rangers to assist with estuary management in the Berg estuary;
- Berg estuary part of the Protected Area Expansion Strategy and PPP for declaration to take place soon;
- Berg estuary Ramsar application is awaiting approval;
- Berg river boating bylaw updated;
- Berg River Improvement project continuing in the estuary;
- Dredging in the estuary and impact thereof – CWDP application; Dumping at sea application;
- Public launch sites and the management thereof;
- Birdlife project looking at erosion and habitat restoration;
- Zonation and EMP to be approved by the RMA, CapeNature urgently;
- Illegal launching from non-proclaimed public launch site;
- Illegal gill netting and fishing;
- Risk of pollution by industries around the river;
- Occupation and abuse of derelict buildings;
- Management issue surrounding the proclaimed fishing harbour;

Bot/ Kleinmond EAF

The EAF is chaired by CapeNature and the meetings are well attended with discussion mainly directed at EMP and MMP process while also focussing on zonation and access.

Key matters raised at this EAF were:

- CapeNature in process of preparing EMP and MMP for approval and adoption;
- Zonation plan to be updated;
- Public Launch Site operational plans need to be approved;
- Access to Die Eiland an issue;
- Access to Sonesta being facilitated by the Department;

Onrus EAF

The EAF is chaired by a local resident and the meetings are well attended. CapeNature and Overstrand Municipality participate in the meeting.

Key matters raised at the Onrus EAF:

- The Local Authority, identified as the RMA as per the current NEMP, is not actively taking up this responsibility; EMP was not formally adopted due to the lack of appetite for estuary management by the Overstrand Municipality; The Department will need to formally engage the Overstrand Municipality in terms of signing an Implementation Protocol or will need to take up this function;
- Alien vegetation with focus on reed management plan approved;
- Monitoring data being collected.

Klein River EAF

The EAF for the Klein Estuary is functioning well. The participants are very knowledgeable which results in good debates and constructive engagement.

Key matters raised at the Klein River EAF were:

- CapeNature is taking the EMP and MMP through the approval and adoption process;
- Zonation plan will be updated accordingly;
- Klein estuary part of the Protected Areas Expansion strategy;
- Operation Plans for public launch sites are in draft.

Uilkraals River EAF

The EAF is chaired by CapeNature and has limited representation.

Key matters raised at this EAF include:

- CapeNature is the RMA and will need to take the EMP and MMP through the approval and adoption process;
- Emergency breaching of the Uilkraals estuary took place in November 2019;
- Uilkraals is part of the Protected Area Expansion Strategy for the Province.

Heuningnes River EAF

The EAF is chaired by CapeNature and has limited representation due to it falling within a CapeNature De Mond Nature reserve and bordering large farms with few stakeholders.

Key matters that were raised include:

- EMP and MMP to be formally approved and adopted by CapeNature;
- CapeNature awaiting proclamation of World Heritage Site extension;
- Pollution of the system arising from agricultural activities in the wetlands catchment area as well as Bredasdorp WWTW;
- Recreational and coastal development pressures are increasing;
- The use of two, three and four wheeled off-road vehicles is an increasing problem on the beach and coastal dunes;
- Mouth management – breaching event took place in September 2020.

Goukou river EAF

The PAAC/EAF is functional, CapeNature in the chairperson role as the Goukou falls in a protected and thus CapeNature is the RMA.

Key matters raised at this EAF include:

- Pollution concerns in the upper reaches;
- Water quality monitoring improving;
- More capacity required to improve compliance and enforcement related to boating in the Goukou;
- Ongoing pressure to launch and use jetskis in the estuary;
- A number of illegal developments have established within the estuary functional zone and investigations are underway;
- The need for Alien invasive vegetation clearing including the water hyacinth problem and eradication process.

Gouritz River EAF

The EAF is functional with a local resident co-chairing the meeting with the Garden Route District Municipality (GRDM). GRDM is also performing the secretariat duties.

Key matters raised at this EAF include:

- Mossel Bay Municipality is not present at the meeting;
- Management of slipway is an issue – no-one there to manage the site besides during peak season;
- Coastal access point proposal at the bridge area under investigation;
- Some water quality monitoring (E Coli and Faecal coliforms) being done by Garden Route district municipality;
- EMP update following PP is being undertaken by Garden Route District Municipality;
- Boating by-law and zonation;
- Fisheries compliance and enforcement is a major concern.

Hartenbos River EAF

The EAF is functional with a local resident chairing the meeting and Mossel Bay performing the secretariat duties.

Key matters raised at this EAF include:

- Impact of large amount of treated effluent entering the Hartenbos estuary from the Regional waste water treatment works; Large impact on the functioning of the system;
- MMP approved for the breaching of the Hartenbos estuary mouth to deal with potential flooding of a sewage pump station and residential property; Requests have been made for artificial breaching for poor water quality;
- EMP and MMP have been drafted for the Mossel Bay Municipality;
- Water quality issues remain a problem;
- Stormwater pipes and other point sources are being investigated;
- Limited water quality monitoring is being conducted by Mossel Bay Municipality; and Garden Route District Municipality; Partnership with NMU research.

Klein Brak River EAF

The EAF is functional with a local resident chairing the meeting and Mossel Bay performing the secretariat duties.

Key matters raised at this EAF include:

- Structures in the water body are to be removed by relevant authorities;
- Sediment sampling study undertaken to ascertain whether or not there was sludge dumped in the estuary, confirming that this occurred.
- Limited water quality monitoring and reporting is being done by Garden Route DM (E coli and Faecal coliforms)
- Salinity/DO/Temperature is being monitored by Mossel Bay Municipality in limited area;
- Bait collection is ongoing;
- Compliance and enforcement by DEFF is limited;
- Lack of attendance by certain government departments;
- DWS permanent probe measuring salinity, depth, temperature and conductivity has been installed.

Groot Brak River EAF

The EAF is functional with a local resident chairing the meeting and Mossel Bay performing the secretariat duties.

Key matters raised at this EAF include:

- Mouth management is a key concern; Specialist workshops held to discuss the mouth management at the estuary;
- DWS and Mossel Bay municipality are managing the implementation of the current MMP;

- Pollution hotspots have been raised as a concern – sites have been identified and Garden Route DM monitoring covers these sites;
- Limited water quality monitoring and reporting is being done by Garden Route DM (E coli and Faecal coliforms);
- EAF requested the setting up a bait sanctuary which will be informed by an invertebrate study being conducted by DEFF;
- Structures in the water body are to be removed by relevant authorities.

Goukamma River EAF

The EAF is functional with CapeNature chairing the meeting and performing the secretariat function. The estuary is within the Goukamma Nature reserve and thus CapeNature is the RMA.

Key matters raised at this EAF include:

- MPA to be extended and is awaiting sign off from the Minister of Environmental Affairs;
- Alien invasive control is a key concern in the area;
- Mouth Management Plan has been drafted and presented to the EAF;
- EMP has been aligned to the requirements of the NEMP;
- PAMP is being developed and the EMP will tie into the PAMP process;
- Illegal development in the EFZ is under criminal investigation;
- Monitoring of water quality has begun;
- Concerns regarding water quality due to the agricultural practices;
- Abstraction in the upper reaches and application for more abstraction is a concern;
- Rehabilitation underway after the fires, reserve was closed to the public for a lengthy period.

Knysna PAAC

The PAAC/EAF is functional with SANParks chairing the meeting as the estuary is within a National Protected environment and the Garden Route National Park, and SANParks is therefore the RMA.

Key matters raised at this EAF include:

- Huge pollution issues in Knysna estuary; WWTW and storm water management are not being adequately managed;
- Garden Route enforcement operation was active in this area with a focus on the alien invasives and pollution matters;
- Lack of responsibility in the resolution of the pollution issues by Knysna municipality;
- New Water quality monitoring stations set up by private entity together with SANParks;
- Lack of boating, fishing and bait collection enforcement an issue;
- SANParks has decided to collapse the EAF and these issues into an agenda item on the Park Forum.

Touw/Swartvlei PAAC

Key matters raised at this EAF include:

- Mouth management process ongoing – trimming of berm and prep channels when SAWS warnings issued;
- Water quality concerns at the parking area at the beach – being attended to by the George Municipality;
- Direct engagement taking place between SANParks and stakeholders.

Keurbooms and Piesang Estuaries EAF

The EAF is functional with a CapeNature chairing, Bitou Municipality assisting with secretariat. The estuary is partly within the Keurbooms Nature reserve and thus CapeNature is the RMA.

Key matters raised at this EAF include:

- Bitou river bylaw is in place but enforcement needs to be improved;
- Zonation is to be discussed and finalised;
- Alleged illegal activities in the catchment – small dam construction;
- Water use and abstraction of water issues in the Bitou and Keurbooms;
- Alien vegetation clearing occurring in the upper reaches;
- DWS monitoring – permanent probe has been installed;
- Water quality monitoring is being undertaken on a regular basis, however, there is a need to co-ordinate between CapeNature, DEFF and BGCMA;
- Expansion of protected area and setting up of a conservancy/stewardship area.

Zandvlei estuary (did not have meeting in 2020/21)

Key matters concerning this EAF include:

- The lack of meetings in 2020/21 is concerning;
- There are regular infrastructure issues which result in sewage spills entering the estuary;
- Upgrading of infrastructure is critical for the reduction in the frequency of these incidents.
- Another challenge is the litter and the overflow of the litter trap into the estuary.

Diep/Rietvlei estuary (did not have meeting in 2020/21)

Key matters concerning this EAF include:

- The lack of meetings in 2020/21 is concerning;
- The erosion of banks is being addressed;
- Serious pollution from the WWTW, catchment, informal settlements and industrial area is a concern and has resulted in the closure of sections of the estuary to recreational users;
- The Department's Pollution and Chemicals section has been liaising with the COCT to improve water quality in the estuary;
- Land invasions is an issue which the CoCT is addressing.

3. Challenges and opportunities in the Estuary Management Programme

3.1 Challenges

The following highlights the key current challenges in estuary management. While the Department's Programme aims to address many of these challenges, it is important to note them in the current capacity shortfall and significant departmental legal mandates for estuary management:

- *Disaggregated legal mandates for natural resource management:* While environmental management and nature conservation are concurrent mandates of provincial and national governments, the critical determinant of estuarine health are the flow quantity and qualities of freshwater into these systems which is the mandate of the Department of Water and Sanitation. A significant impact to estuary management results from land and water use in the catchments as well as agricultural use and municipal and industrial effluents. The regulation of Marine Living Resources, often the cause of much stakeholder concerns, is the mandate of the Department of Agriculture, Forestry and Fisheries. The land use planning and management within the EFZ is largely a municipal competence with Provincial Government being able to intervene on matters of provincial interest. Due to the above disaggregation, the co-ordination of mandates for the development and implementation of Estuary Management Plans by Relevant Management Authorities is a significant challenge.
- *Ensuring adequate input to current DWS Classification and Resource Quality Objective (RQO) processes and implementation plans.* The process of developing the implementation plan for the gazetted RQOs (Breede Gouritz) is under way and provides further opportunities to ensure appropriate flow and quality requirements majority of estuaries in the Province. Previous Classification and RQO processes in the Olifants-Doring Water Management Area have not appropriately included ecological flow requirements for many of the smaller estuaries and this needs to be rectified in the process that has just been commissioned by the DWS.
- *Lack of socio-economic value orientation:* Estuaries are significant assets which provide for local economic development through tourism, recreation, and fisheries as well as a host of other provisioning, regulating, supporting and cultural ecosystem services. A significant re-orientation of land use decision-making and municipal functions is required to safeguard and optimise to the value that estuaries provide.
- *Implications of climate change:* The 2018 NBA indicates that estuary ecosystems are highly vulnerable to the impacts of climate change. Estuarine management therefore needs to be cognisant of current and emerging risks and should seek to limit vulnerability and build resilience in affected ecosystems and communities. South Africa's coastal communities and in particular those communities living in and around estuarine environments are becoming increasingly vulnerable to flooding events due to the increased frequency and severity of adverse weather conditions, both of a meteorological and oceanographic nature. The impact of a flood event is often exacerbated by inappropriate development within estuarine floodplains and in upstream catchments, which cause estuary siltation

and more frequent mouth closures. Global climate change and the associated incremental rise of sea level is likely to further elevate the risks associated with estuary flooding. The Department is systematically addressing priorities for flood line determination and Coastal Management Lines, however Municipal land use planning and decision-making and provincial environmental decision-making must enable improved resilience of human settlement and infrastructure.

- *Uptake of EMPs and MMPs by municipalities and integration into IDPs and SDFs:* The unfortunate consequence of the Abbott judgment is that some municipalities are of the view that they are not responsible for the drafting or implementing of EMPs or providing for the coordination functions for implementation of the EMP or any other estuarine management function, even though they have always managed estuaries in the past (e.g., provide for planning and land use management, disaster management, waste water treatment and mouth management/breaching where necessary); they derive income from them and estuarine management and same involves many other local government functions and is thus not isolated. The NEMP requires the coordination of various mandates in the interest of cooperative governance in implementation of the EMP.
- *Water quality concerns and associated risks:* A number of estuaries within the Western Cape are experiencing water quality concerns as a result of failing waste water treatment works, industrial inputs and elevated temperatures. Risks associated with the water quality include fish kills as well as risks to human health through recreational and other uses of estuaries which impacts significantly the tourism economy of small coastal towns. Further collaboration with our Pollution and Chemicals management colleagues will enable investigation and prevention of further water quality deterioration.
- *Capacity constraints within government to perform estuary management functions:* Estuarine management is a complex and dynamic environment that requires dedicated personnel to understand, coordinate and to perform management functions. The expectancy of organs of state to second staff with limited or no knowledge in the field of estuary management is not only short-sighted but holds inherent dangers for that organ of state. Furthermore, decisions taken need to be communicated to stakeholders to prevent unnecessary administrative procedures. Experience has shown that where estuarine management efforts have been successful are instances where funds have allocated to fund post(s) to champion and coordinate estuary management or where experienced officials or members of the public are dedicated to drive EMP implementation processes.
- *Raising awareness & capacity of Estuary Advisory Forums:* Innovation in the way we manage our resources is crucial to the sustainable management of the resource. Ways and means need to be explored to harness the public commitment to estuary management. The functioning and cooperation of EAFs is an example of partnership and shared responsibility between government and civil society to manage our resources effectively. Advocating voluntary compliance and responsibility can alleviate pressure on decreasing government funds.

- *Limited staff complement dedicated to estuary management* within the Department has resulted in limited effectiveness in estuary management across the Western Cape. The Organisational Design project was concluded in 2019 and the outcome indicated that a number of positions are required and should be funded as this would put the Department in a position to have a major positive impact on estuary management in the Province and secure ecological infrastructure benefits into the future. Funding for these positions has not been secured.

3.2 Opportunities and priorities for 2021/22

The Department elaborated on the priorities for 2021/22 and the medium term in implementing the mandate for estuary management in the Western Cape, the following is highlighted for the upcoming financial year, within the budget provided:

- CapeNature has improved their capacity in the marine and coastal realm at a landscape level, which provides some additional support to estuary management at a more localised level. Development of a governance tool for CapeNature staff use has been developed and provides practical direction for reserve managers. Harnessing this capacity and prioritising the approval of EMPs is a key priority.
- As the Department is the RMA for the Breede estuary, the D: B&CM is taking the EMP into implementation and one of the key activities required for the successful implementation is the re-establishment of the Breede Estuary Advisory Forum. In addition, the D: B&CM has secured limited funding and will be able to implement identified priority actions highlighted in the EMP. Extensive stakeholder engagement is critical to ensure buy-in and effective implementation. Some of the actions have already been completed, for example the Cost Benefit Analysis for the management of the Breede Estuary in 2018 and the Breede River Estuary floodline determination completed in 2017.
- In terms of the implementation of the NEMP and the roles and responsibilities for estuary management, the Department will be concluding the development of the IP and having planned engagements for the purpose of signing off the IPs. Further engagements with municipalities, following the gazetting of the NEMP, will aid in cementing the way forward.
- The Department and CapeNature will continue to provide opportunities for capacity building in estuary management and monitoring through partnerships with DWS, DEA, DAFF, Municipalities, NGOs and universities. Events are being planned with partners for the 2021/22 financial year.
- The EMFIS project developed guidelines and awareness raising products and these deliverables are being shared and communicated with all stakeholders via website, stakeholder platforms and directly. The distribution of this awareness raising information is critical for the improved understanding of estuaries and estuary management by all stakeholders involved in this space. It is critical to increase understanding of estuarine processes and build capacity of members of the public involved in Estuary Advisory Forums to ensure adequate and informed participation. Further workshops are key to ensuring the knowledge and experience transfer.

- The EAFs need to develop proper and representative participation of local communities. This will ensure that the whole community is involved in the discussions that take place at the EAFs and that all perspectives are considered in discussions.
- MStTeams and Zoom meetings were tried at a number of EAFs and proved quite successful for most of the participants. Due to the ease of virtual meetings and travelling time saving, government officials participation improved, and feedback was more readily available. It is suggested that these virtual meetings continue and/or hybrid meetings are undertaken to ensure that this momentum is not lost.
- Strengthening partnerships with local implementers (Municipalities and Conservation Agencies) and South African Maritime Safety Authority aids in moving towards safer recreational areas.
- The NBA 2018 has been published in 2019 and provides technical information related to the state of the estuaries in the Western Cape. The additional information will prove to be very useful in terms of the biodiversity inputs into the Estuary Management Programme and Coastal Management Programme updates planned for the 2021/22 and directs focus areas for research.

3.3 EMFIS Priority Actions

A prioritisation exercise undertaken as part of the EMFIS development process identified strategic estuarine management priorities that the WCG needs to address. These are presented in Table 9.

Table 9: Strategic estuarine management priorities requiring action

	Strategic Management Priorities	Concerns	Actions
1	Freshwater supply to estuaries	<p>The majority of estuaries in the Western Cape are receiving sub-optimal water flows from the catchment. The 2018 NBA notes that 1/3 of fresh water no longer meets the coast (SANBI 2019). More pressure on catchment flows is anticipated, with current water resource plans showing increasing abstraction for most systems. There is currently insufficient strategic investment into managing catchments and associated rivers for estuarine health.</p> <p>The 2018 NBA also calls for DWS to determine ecological water requirements and classification for all estuaries</p>	<p>The magnitude of the problem indicates that a dedicated hydrologist is required to champion catchment management specifically for estuary requirements. This person could also address environmental flows for river ecology as the two are interlinked. There is an ongoing need to influence catchment management activities (by CMAs), RDM processes, monitoring agricultural activities, EIAs, IAP management, pollution discharge permits etc.</p>

	Strategic Management Priorities	Concerns	Actions
		within 5 years and the implementation flow requirements within 2 years of their classification (SANBI 2019).	
2	Fisheries and invertebrate harvesting management	<p>Policing of fisheries and invertebrate harvesting is not occurring at an intensity commensurate with harvesting pressure, leading to over-exploitation.</p> <p>The 2018 NBA notes an increase in the volume of fish caught and fishing pressure and also note that the integrity of estuarine protected areas in being eroded by both sanctioned and unlawful fishing with fishing pressure five times higher inside than outside restricted areas (SANBI 2019).</p>	<p>DEA&DP needs to make a case in intergovernmental structures in order to reduce pressure on invertebrate and fish living resources. This will require collection of related information that will substantiate the case – e.g. level of DEFF monitoring and reporting, evidence of dwindling stocks, scientific advice regarding appropriate estuarine management.</p> <p>DEA&DP should also support the proposed prohibition on fishing at night in all estuaries. There is a role here for the estuarine scientist.</p>
3	Controlling habitat transformation	Impacts associated with habitat modification, as detailed in the 2018 NBA, include erosion/deposition, changes in flow velocity, habitat loss, reduced tidal prism, smothering of habitats, excessive sedimentation, increased mouth closure, increased turbidity, reduced primary production, inundation of both alien and terrestrial plants, reduced connectivity, increased vulnerability to climate change, contamination and associated poor water quality (SANBI 2019).	DEA&DP needs to carefully consider proposed development and strive to curb inappropriate development in the EFZ. DEA&DP should also engage with relevant national and provincial departments as well as Local government in respect to reducing impacts within this zone from agricultural, mining, recreational and other activities. This also includes influencing both water abstraction as well as discharge. Salt marsh and seagrass habitats require greater protection and all effort must be made to respond to emerging alien species ¹ .
4	Managing health risks	Policing and management of water quality in estuaries is not occurring at an intensity commensurate with pollution pressures, leading to health threats, compromised ecological functioning and possible litigation liabilities.	As in freshwater supplies above. Additional actors include the National Department of Health (DOH) and the National Department of Water and Sanitation (DWS) which have water quality monitoring and health risk management mandates.

¹ These issues are responded to in individual EMPs where relevant

	Strategic Management Priorities	Concerns	Actions
5	Promoting cooperative governance and management capacity / resourcing (including adequate funding)	The widespread degradation in estuary habitat indicates that land use controls and management is not occurring at sufficient levels to curb degradation trends in estuaries. The implication is that the cooperative governance required to coordinate actions between government departments and tiers is not occurring at an adequate level. Nor is the current level of funding for estuarine management (and coordination) sufficient to secure estuarine health and associated user benefits.	<p>A strong capacity building and facilitation role is required to influence municipalities, in terms of land use planning and enforcing legislation.</p> <p>Furthermore, provincial estuary rangers could supplement municipal law enforcement as necessary.</p> <p>The municipal facilitator, estuary rangers, hydrologist and scientist should also influence other government departments which have responsibilities to fulfil. The WCG needs to promote enhanced investment in estuary management. This includes supporting RMAs to unlock management funding and should ensure funding is adequate to provide an effective supporting and coordinating role at a provincial level.</p>
6	Meeting biodiversity conservation objectives	The need to expand the protected areas network is considerable, with serious financial implications. Given the economic outlook for the foreseeable future, it is highly unlikely that the WCG will be able to access large budgets for acquisition and formal protection.	<p>DEA&DP will need to focus on leveraging more effective estuary management by all tiers of government and non-profit organisations.</p> <p>Prioritisation will be necessary.</p> <p>Again, the proposed provincial estuary management team is likely to be the most cost-effective means to champion estuary conservation, including exploring opportunities for partnerships with NGOs and international organisations.</p>
7	Awareness and capacity building	Most of the responsible agencies are under-capacitated in terms of estuary management, and estuary users are uninformed of the consequences of their actions.	DEA&DP and CapeNature can implement outreach to the public and senior officials. Municipalities should be empowered and supported to undertake awareness raising locally – e.g. maintaining signage.

The detailed Implementation Plan was presented to the Western Cape Estuaries Task Team and may be adjusted according to inputs received, emerging risk and new information. The Final Implementation Plan will form a Priority Area of the Provincial Coastal Management Programme.

4. Conclusion

The development and implementation of the Western Cape Estuaries Management Programme has a significant scope within a challenging legal and institutional context. The implementation of the programme is restricted due to current budgetary and capacity constraints. The DEFF being on the cusp of gazetting the NEMP amendments, the stage is set for the Department, together with its partners, to take the next steps in implementation. Of paramount importance, is the issue of resourcing of Provincial and local government to ensure that RMA functions as envisaged in the NEMP are to be properly executed.

The Western Cape province has been fortunate in the past through the partnership with and leveraging funds from DEFF to develop the estuary framework and implementation strategy. Exploration of funding partnerships and funding mechanisms is critical to fill large gaps in funding within the Department.

The Department has been supporting Estuary Advisory Forums since their inception. The network of partnerships has been of great benefit to the Estuary Programme. The experience and expertise these EAFs provide to RMA is invaluable. This is even more so in light of the limited amount of monitoring initiatives (biophysical & social) currently in place. Capacity building of EAF is critical to ensure that local stakeholders are kept informed of the role of EAFs.

An organisational design (OD) process was undertaken for the Directorate: Biodiversity and Coastal Management which assessed the legal mandate, strategic response and appropriate resourcing and institutional change process required to respond effectively to the role of Provincial lead agency in terms of ICMA. The products emerging from the OD have been concluded, however the process has been pended due to the budget implications of the proposed new structures. This is critical to addressing the expanded mandate for estuary management of the department, given the amendments to the NEMP with the provincial lead agency being the relevant management authority for all estuaries previously allocated as a municipal responsibility. Without the appropriate human resources being put in place to ensure effective management of estuaries and harnessing of ecosystem services, it will not be possible to effectively managing the potential risk to the environment and public resources.

In conclusion, the Western Cape is fortunate to have these complex, dynamic, and valuable ecological assets known as estuaries. Concerted effort needs to be undertaken to secure financing and capacity for the successful roll out of the Implementation Plan.

5. References

- Turner, A.A. (ed) 2017, **Western Cape Province State of Biodiversity**. CapeNature Scientific Services, Stellenbosch.
- Biggs, R., Schlüter, M., Biggs, D., Bohensky, E.L., BurnSilver, S., Cundill, G., Dakos, V., Daw, T.M., Evans, L.S., Kotschy, K., Leitch, A.M., Meek, C., Quinlan, A., Raudsepp- Hearne, C., Robards, M.D., Schoon, M.L., Schultz, L. and West, P.C. (2012). Toward Principles for Enhancing the Resilience of Ecosystem Services. **Annual Review of Environment and Resources** 37:421–448.
- Department of Environmental Affairs (2014). **South Africa’s National Coastal Management Programme**. Available from: www.gov.za/documents/download.php?f=213557
- Department of Environmental Affairs [DEA] and Royal HaskoningDHV [RHDHV] (2017). Updated User-friendly Guide to the Integrated Coastal Management Act. Cape Town. Available from: https://www.environment.gov.za/sites/default/files/reports/updateduserfriendlyguide_SAICMAAct.pdf
- Goble, B.J., Lewis, M., Hill, T.R. and Phillips, M. (2014). Coastal management in South Africa: Historical perspectives and setting the stage of a new era. **Ocean & Coastal Management** 91: 32-40.
- Lamberth, S.J and Turpie, K.J. (2003). **The role of estuaries in South African fisheries: economic importance and management implication**. WRC Report No. 756/2/03. Water Research Commission, Pretoria, South Africa.
- Mander, M. (2001). The value of estuaries. In Breen, C. and McKenzie, M. (eds.) **Managing estuaries in South Africa: An introduction**, pp 2-9. Scottsville: Institute of Natural Resources.
- Mander, M., Diederichs, N., Blignaut, C., Ham, C. and Wolf, T. (2015). **Growing the Green Economy through Leveraging Investment into Natural Capital in the Western Cape Province**. Report produced for the Eco-Invest initiative of the Western Cape Department of Environmental Affairs and Development Planning, Cape Town.
- Moore, L. and Breetzke, T., (2013). **State of Environment Outlook Report for the Western Cape Province: Oceans and Coasts Chapter**. Western Cape Department of Environmental Affairs & Development Planning, Cape Town. Available from: https://www.westerncape.gov.za/eadp/sites/default/files/your-resourcelibrary/WCSOER_04_Oceans.pdf (accessed 13 June 2016).
- South African National Biodiversity Institute (SANBI) (2019). **National Biodiversity Assessment 2018: The status of South Africa’s ecosystems and biodiversity**. Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria. pp. 1–214.
- Stockholm Resilience Centre, 2016. [Online] <http://www.stockholmresilience.org/research/research-news/2015-02-19-what-is-resilience>.
- Taljaard, S., van Niekerk, L. and Weerts, S. P. (2019). The legal landscape governing South Africa’s coastal marine environment
Helping with the ‘horrendogram’. **Ocean and Coastal Management** 178, 104801
- Turpie, J and Clark, B. (2007). **C.A.P.E. Estuaries Conservation Plan**. Report produced for Cape Nature, Cape Town.
- Turpie JK, Adams JB, Joubert A, Harrison TD, Colloty BM, Maree RC, Whitfield AK, Wooldridge TH, Lamberth SJ, Taljaard S and van Niekerk L (2002). Assessment of the conservation priority status of South African estuaries for use in management and water allocation. **Water SA** 28: 191-206.
- Turpie, J.K., Wilson, G. and Van Niekerk, L. (2012). **National Biodiversity Assessment 2011: National Estuary Biodiversity Plan for South Africa**. Anchor Environmental Consulting, Cape Town. Report produced for the Council for Scientific and Industrial Research and the South African National Biodiversity Institute.
- Van Niekerk, L. and Turpie, J.K. (eds) (2012). **South African National Biodiversity Assessment 2011: Technical Report. Volume 3: Estuary Component**. CSIR Report Number CSIR/NRE/ECOS/ER/2011/0045/B. Council for Scientific and Industrial Research, Stellenbosch.

Van Niekerk, L., Thwala, N. and De Villiers, P. (2012). Estuarine Ecosystems. In Turner AA (Ed.). **Western Cape Province State of Biodiversity 2012**. CapeNature Scientific Services, Stellenbosch.

Van Niekerk, L., Adams, J.B., Lamberth, S.J., MacKay, C.F., Taljaard, S., Turpie, J.K., Weerts S.P. & Raimondo, D.C., 2019 (eds). **South African National Biodiversity Assessment 2018: Technical Report. Volume 3: Estuarine Realm**. CSIR report number CSIR/SPLA/EM/EXP/2019/0062/A. South African National Biodiversity Institute, Pretoria. Report Number: SANBI/NAT/NBA2018/2019/Vol3/A. <http://hdl.handle.net/20.500.12143/6373>

Water Research Commission (WRC), undated. **Introduction to Estuary Ecosystem Services** Available from: <http://www.wrc.org.za/Lists/Knowledge%20Hub%20Items/Attachments/9714/Estuary%20Ecosystem%20Services%20Report.pdf>.

Western Cape Government (WCG) (2016). **Western Cape Coastal Management Programme**. [Online] <https://www.westerncape.gov.za/eadp/sites/eadp.westerncape.gov.za/files/yourresourcelibrary/Western%20Cape%20Coastal%20Management%20Programme%202016.pdf>.

Annexure A:

Proposed Western Cape Estuary Management Programme Implementation Plan developed as part of the EMFIS project.

Activities	Output Indicators	Timeframe²	Responsibility
Objective 1: Champion & support implementation of estuarine management			
1.1 Recruit staff to champion, coordinate & support effective estuarine management across the province	1.1.1 Estuarine policy & partnerships staff in post	2020/21	DEA&DP
	1.1.2 Estuarine monitoring, evaluation & reporting (MER) staff in post	2020/21	DEA&DP
	1.1.3 Regional coordinators in post	2020/21	DEA&DP
1.2 Develop & disseminate tools, guidelines, model by-laws & training materials on estuarine management to municipalities	1.2.1 Municipal estuarine management guideline & training module developed & disseminated – addresses legislated mandates for estuarine management; includes best practice management guide for personal watercraft, kite surfing, camping, development in the littoral active zone, erosion and accretion management etc.	2021/22	DEA&DP estuarine policy & partnerships staff
	1.2.2 Develop model estuary protection & management by-law for municipalities	2021/22	DEA&DP estuarine policy & partnerships staff
	1.2.3 Research & develop sustainable estuarine management financing policy brief & guide, including user pays models & associated regulatory framework	2021/22	DEA&DP estuarine policy & partnerships staff
	1.2.4 Deliver estuarine management training to all Western Cape coastal municipalities	2022/23	DEA&DP regional coordinators
1.3 Promote co-operative governance	1.3.1 Strategic partnerships & high-level co-operative estuarine management protocol established with national departments & their agents (e.g.	Ongoing	DEA&DP estuarine policy & partnerships staff

² Timeframe proposed is indicative only and subject to change

Activities	Output Indicators	Timeframe ²	Responsibility
through strategic partnerships	DEFF, DWS, DALRRD, DPWI, DOH, SANParks, DMR ³ , BGCMA and CMAs) focussing on addressing key priorities		
	1.3.2 Strategic partnerships & high-level co-operative estuarine management protocol established with provincial departments (e.g. Development Planning, Chemical & Pollution Control)	Ongoing	DEA&DP estuarine policy & partnerships staff
	1.3.3 Strategic partnerships established with other actors (e.g. Birdlife, WWF, LBRCT, academia etc.)	Ongoing	DEA&DP estuarine policy & partnerships staff
	1.3.4 Co-operative governance promoted through annual reporting on estuarine management performance, regulatory compliance & emerging priorities to Working Group 8	Ongoing	DEA&DP MER staff, estuarine policy & partnerships staff
1.4 Support implementation of EMPs	1.4.1 RMAs appointed for all estuaries	2020/21	DEA&DP regional coordinators
	1.4.2 EMPs adopted by all RMAs (EMPs developed as part of the EMFIS project prioritised)	2020/21	DEA&DP regional coordinators support
	1.4.3 Adequate human resources & annual budgets allocated to implementation of EMPs	2020/21	DEA&DP regional coordinators provide support to RMAs
	1.4.4 Co-operative governance & relationship building is supported through six-monthly regional estuarine role-players meetings	Ongoing	DEA&DP regional coordinators
	1.4.5 Monthly electronic communications to regional estuary role-players	Ongoing	DEA&DP regional coordinators facilitate

³ Potential formal agreement to exclude mining from Western Cape estuaries

Activities	Output Indicators	Timeframe ²	Responsibility
	1.4.6 RMAs report annually on EMP implementation	Ongoing	DEA&DP regional coordinators support RMAs
	1.4.7 RMAs update their EMPs at least every 5 years using scalable EMP / prioritisation tools developed by DEA&DP	Ongoing	DEA&DP regional coordinators support RMAs, DEA&DP policy & partnerships staff support the use of DEA&DP tools
1.5 Support establishment of well-functioning functioning of EAFs	1.5.1. EAFs established for all estuaries in accordance with EAF institutional Framework in the EMFIS	2021/22	DEA&DP regional coordinators support RMAs
	1.5.2. EAFs meet regularly	Ongoing	DEA&DP regional coordinators support RMAs
1.6 WCG leads by example as an effective RMA	1.6.1. Coordinator in post for each estuary where WCG is RMA	2020/21	CapeNature
	1.6.2. Adequate budget allocated annually by WCG RMA for EMP implementation	Ongoing	CapeNature
	1.6.3. EMP annual management targets, monitoring & reporting requirements are met	Ongoing	CapeNature
	1.6.4. Prioritisation of management completed annually & EMPs comprehensively updated at least every 5 years	2024/5	CapeNature
Objective 2: Improve the formal protection status of estuaries			
2.1 Establish formal protection under NEMPAA ⁴ or WCBA ⁵ for all estuaries identified in the 2016 PAES	2.1.1 Ownership & protection status of all Western Cape estuaries (& underlying cadastrals) established	2020/21	DEA&DP estuarine policy & partnerships staff
	2.1.2 Relevant partners and stakeholders for the protected area application process identified	2020/21	Cape Nature

⁴ National Environmental Management Protected Areas Act (Act 57 of 2003).

⁵ Western Cape Biodiversity Act (Western Cape Biodiversity Bill was published for comment in May 2019).

Activities	Output Indicators	Timeframe ²	Responsibility
	2.1.3 Protected Areas declarations for Olifants, Verlorenvlei, Berg, Bot, Klein, Heuningnes (extension), Breede, Goukou (extension), Goukamma (extension), Keurbooms (extension), Uilkraals, Palmiet and Rooiels.	2024/25	Cape Nature
2.2 Update estuary protection priorities for next 5 years	2.2.1 Updated priority list of estuaries requiring formal protection as part of updated PAES / BSP	2024/25	CapeNature
Objective 3: Address high priority threats to estuaries			
3.1 Make the case for enhanced fisheries and invertebrate harvesting management / policing	3.1.1. Fisheries and invertebrate harvesting data collated & policy brief produced	2021/22	DEA&DP estuarine policy & partnerships staff
	3.1.2. Policy brief presented to Working Group 8 & strategic partners & has informed high-level co-operative estuarine management protocols (see Action 1.3)	2021/22	DEA&DP estuarine policy & partnerships staff
3.2 Fast-track delineation of CMLs, floodlines & development set-back lines	3.2.1. CMLs / floodlines / development set-back lines established for priority estuaries, including: Breede, Klein Brak, Groot Brak, Piesang, Keurbooms/Bitou, Swartvlei, Rietvlei/Diep, Houtbaai, Sand, Zeekoe, Lourens, Rooiels, Palmiet, Bot/Kleinmond, Klein, Uilkraals, Heuningnes, Guokou, Wilderness, Groot (Wes), Knysna.	2022/23	DEA&DP regional coordinators
	3.2.2. CMLs / floodlines incorporated in EMPs & municipal spatial development plans	2023/24	DEA&DP regional coordinators
	3.2.3. CMLs / floodlines / development set-back lines enforced in EIAs and development decision making	2023/24	DEA&DP regional coordinators in partnership with municipalities
3.3 Champion improved	3.3.1. Ecological classification & reserve determination needs for priority estuaries identified	2021/22	DEA&DP regional coordinators in

Activities	Output Indicators	Timeframe ²	Responsibility
freshwater supply to estuaries			partnership with DWS
	3.3.2. Ecological classification & reserve determination studies completed for priority estuaries	2022/23	DEA&DP regional coordinators
	3.3.3. Estuarine environmental flow requirements embedded in catchment allocations by CMAs / DWS	2023/24	DEA&DP estuarine policy & partnerships staff
3.4 Champion improved estuarine water quality & reduced health risks	3.4.1. Status of water quality monitoring & regulatory compliance with discharge permits evaluated at priority estuaries	2021/22	DEA&DP regional coordinators in partnership with DWS
	3.4.2. Where monitoring is inadequate or regulatory compliance inadequate, action is mobilised through strategic partnerships & co-operative estuarine management protocols	2021/22	DEA&DP estuarine policy & partnerships staff
Objective 4: Support improved regulatory compliance & policing of activities that impact estuaries			
4.1 Develop provincial compliance and enforcement strategy	4.1.1. Provincial compliance & enforcement strategy completed	2021/22	DEA&DP policy & partnerships staff
4.2 Enhance regulatory compliance & disaster/risk response capacity	4.2.1. Regional Coordinators track compliance with by-laws, provincial & national regulations – including waste discharge permits, ecological reserve requirements, resource use limits, CMLs, development set back lines and flood lines	Ongoing	DEA&DP regional coordinators
	4.2.2. Estuary rangers employed in high priority estuaries to increase local monitoring & enforcement capacity & support estuary-related disaster/risk response teams	2021/22	CapeNature
Objective 5: Implement provincial estuarine monitoring and reporting systems			

Activities	Output Indicators	Timeframe ²	Responsibility
5.1 Establish Western Cape estuaries MER in support of any National initiatives ⁶	5.1.1. Estuarine performance management system (scorecard) prepared & adopted	2021/22	DEA&DP MER staff
	5.1.2. State of estuaries data sources, data collection responsibilities, templates & systems, & data repositories identified & established	2021/22	DEA&DP MER staff
	5.1.3. Estuarine management & regulatory compliance data sources, data collection responsibilities, templates & systems, & data repositories identified & established	2021/22	DEA&DP MER staff
	5.1.4. Protocol for accessing, storing & analysing estuary data from multiple role-players developed	2021/22	DEA&DP MER staff
	5.1.5. Estuarine monitoring actions coordinated (including citizen science)	Ongoing	DEA&DP MER staff
	5.1.6. All data collected & evaluated annually; monitoring / data improvement needs identified	Ongoing	DEA&DP MER staff
	5.1.7. Estuarine management prioritisation tool updated annually based on monitoring data	Ongoing	DEA&DP MER staff
	5.1.8. Annual review meeting held to discuss estuary performance & prioritise actions	Ongoing	DEA&DP MER staff
	5.1.9. Publicly accessible estuary performance dashboard created & maintained	2022/23	DEA&DP MER staff
	5.1.10. State of estuaries report published biennially	Ongoing	DEA&DP MER staff
	5.1.11. State of estuaries reports disseminated to all relevant stakeholders & the public	Ongoing	DEA&DP MER staff
Objective 6: Foster social learning, new knowledge development & awareness raising			

⁶ SANBI proposed NBA estuaries management and monitoring register, DWS National Estuary Monitoring Programme and SANBI proposed up to date field survey of the biotic and abiotic components of estuaries

Activities	Output Indicators	Timeframe ²	Responsibility
6.1 Facilitate the estuarine management science-policy interface	6.1.1. Strategic partnerships with research institutions used to monitor & drive research that address estuarine management questions	Ongoing	DEA&DP policy & partnerships staff
	6.1.2. Regular information sharing & networking events bringing researchers, municipalities & estuarine managers together are facilitated (for example annual estuary management workshop/research day)	Ongoing	DEA&DP policy & partnerships staff
6.2 Build capacity & awareness amongst estuarine management agencies & users of estuary services	6.2.1. Capacity building, awareness raising & public outreach plan is prepared	2021/22	DEA&DP policy & partnerships staff
	6.2.2. Capacity of RMAs and senior municipal officials is enhanced through implementation of the plan	2024/25	DEA&DP regional coordinators
	6.2.3. Public understanding of estuarine value, resource use and management issues is improved through implementation of the plan	2024/25	DEA&DP regional coordinators
6.3 Support local awareness raising activities	6.3.1. Municipalities undertake their own awareness raising / outreach activities	Ongoing	DEA&DP regional coordinators support municipalities

Annexure B:

DRAFT ESTUARINE MANAGEMENT PLANS PUBLICATION NOTICE

Notice is hereby given to the public to comment on the draft Estuarine Management Plans (EMPs) for the estuaries listed below in terms of Section 34(1)(a) read in conjunction with Section 53(1)(c) of the National Environmental Management: Integrated Coastal Management Act, 2008(No. 24 of 2008) and in terms of the National Estuarine Management Protocol.

West Coast District	Overberg District	Garden Route District
Olifants	Bot/Kleinmond	Goukou
Jakkalsvlei	Klein	Gouritz
Verlorenvlei	Uilkraals	Gwaing
Berg	Heuningnes	Kaaimans
	Rooiels	Maalgate
	Palmiet	Piesang
	Klipdriffontein	Goukamma
		Keurbooms

Copies of the draft EMPs can be downloaded from the website at: <https://www.westerncape.gov.za/eadp/about-us/meet-chief-directorates/environmental-sustainability/biodiversity-and-coastal-management> or <https://www.capenature.co.za/contact-us/>

or can be obtained electronically upon request by e-mail to: coastal.enquiries@westerncape.gov.za or estuaries@capenature.co.za

Members of the public are invited to submit written representations on the draft plans within 30 (thirty) days after the publication of this notice in the *Gazette*. Written representations received after this time will not be considered.

All representations must be submitted in writing to:

CapeNature, Private Bag X29, Gatesville, 7766 or e-mailed to estuaries@capenature.co.za. Correspondence should be marked for the attention of Pierre de Villiers.

OR

The Department of Environmental Affairs and Development Planning, Directorate: Biodiversity and Coastal Management, Private Bag X9086, Cape Town, 8000 or e-mailed to coastal.enquiries@westerncape.gov.za. Correspondence should be marked for the attention of Caren George.

Enquiries:

CapeNature: Pierre de Villiers / Keith Spencer / Deon Geldenhuys on 087 087 8250

DEA&DP: Caren George: 021 483 2724 / Nyanisa Tshaya: 021 483 5093

Chief Directorate: Environmental Sustainability

Directorate: Biodiversity and Coastal Management

Western Cape Government Department of Environmental Affairs and Development
Planning

Private Bag X 9086

Cape Town, 8000

Tel: (021) 483 5126

Email: Marlene.Laros@westerncape.gov.za

www.westerncape.gov.za/eadp



**Western Cape
Government**

Environmental Affairs and
Development Planning

BETTER TOGETHER.

