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**DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT**

NO. 533

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**NATIONAL ENVIRONMENTAL MANAGEMENT: INTEGRATED COASTAL MANAGEMENT****ACT, 2008 (ACT NO. 24 OF 2008)****THE NATIONAL ESTUARINE MANAGEMENT PROTOCOL**

I, Barbara Dallas Creecy, the Minister of Forestry, Fisheries and the Environment, hereby publish the National Estuarine Management Protocol in terms of section 33(2) of the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008), as set out in the Schedule hereto, for implementation.



**BARBARA DALLAS CREECY**  
**MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT**

**SCHEDULE****National Estuarine Management Protocol****TABLE OF CONTENTS**

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## GLOSSARY OF TERMS

the Department	national Department responsible for environmental affairs, forestry and fisheries
EMP	Estuarine Management Plan
EFZ	Estuarine Functional Zone
ICM Act	National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)
IDP	Integrated Development Plan
municipality	municipality has the same meaning assigned to it in section 1 of the ICM Act, unless the context indicates otherwise
MCC	Municipal Coastal Committee
MLRA	Marine Living Resources Act, 1998 (Act No. 18 of 1998)
NBA	National Biodiversity Assessment
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEMPAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
the Protocol	National Estuarine Management Protocol
NPA	National Ports Authority
PCC	Provincial Coastal Committee
SAHRA	South African Heritage Resources Agency
SAR	Situation Assessment Report
SDF	Spatial Development Framework

### 1. INTRODUCTION

South Africa has about 300 functional estuaries<sup>1</sup> that are distributed throughout a ± 3200 km coastline. Estuaries are characterised by high biodiversity and productivity and provide a range of environmental and socio-economic benefits. Examples include flood control, providing raw material for subsistence (building material) and nursery areas for juvenile fish. In South Africa, estuaries

<sup>1</sup>As defined in the ICM Act.

also provide shelter along an otherwise exposed coastline that has few natural embayments, therefore they often serve as nodes for habitation and development. Most South African estuaries have been altered from their pristine state due to human disturbances.

According to the NBA (of 2018), South Africa has 290 estuaries and 42 micro-estuaries that have been classified into 22 estuarine ecosystem types and 3 micro-estuary types. The estuarine realm in South Africa was found to be most modified of all the realms, both for the number of ecosystem types (86% threatened) and for area (99% threatened). More than 63% of South Africa's estuarine area is heavily modified with important ecological processes under severe pressure which reduces productivity, food security, fisheries livelihoods, property values and recreational enjoyment. Estuaries are under-protected in South Africa with only 18% of ecosystem types and 1% of estuarine area Well Protected.

The estuarine ecosystem threat status and under-protection emphasises the need for strategic interventions across multiple sectors to restore estuarine health and protect benefits to people. It is recommended in the NBA that in order to "... avoid further compromising of the benefits of these ecosystems, Strategic Estuarine Management Plans – including freshwater allocation, fish resource use, water quality management and land-use planning – should be developed and implemented in a coordinated, cross-sectoral manner."

Estuarine management is complex because estuaries are subjected to influences from marine, riverine and terrestrial ecosystems. Therefore, estuaries require integrated cross-sectorial planning and management as they include stakeholders that are involved in land use planning, management of freshwater and marine resources. Estuarine management is thus a dynamic process that requires careful planning and implementation of management decisions, through development and implementation of a National Estuarine Management Protocol ("**the Protocol**"), as set out below.

## 2. PURPOSE OF THE PROTOCOL

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The National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008) (“**the ICM Act**”) which was promulgated in December 2009, requires estuaries of the Republic to be managed in a co-ordinated and efficient manner, in accordance with a National Estuarine Management Protocol (“the Protocol”). Section 33(2) of the ICM Act empowers the Minister responsible for Environmental Affairs with the concurrence of the Minister responsible for Water Affairs to publish a Protocol that will provide guidance for the management of estuaries through the development and implementation of estuarine management plans (EMPs). The EMPs seek to achieve greater harmony between ecological processes and human activities while accommodating orderly and balanced estuarine resource utilisation.

More specifically, in terms of section 33 of the ICM Act the purpose of the national estuarine management protocol is to:

- (a) Determine a strategic vision and objectives for achieving effective integrated management of estuaries;
- (b) Set standards for the management of estuaries;
- (c) Establish procedures or provide guidance regarding how estuaries must be managed and how the management responsibilities are to be exercised by different organs of state and other parties;
- (d) Establish minimum requirements for estuarine management plans;
- (e) Identify who must prepare estuarine management plans and the process to be followed in doing so; and
- (f) Specify the process for reviewing estuarine management plans to ensure that they comply with the requirements of the ICM Act.

### 3. STRATEGIC VISION AND OBJECTIVES

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#### 3.1 VISION

The national vision for estuarine management is as follows:

*The estuaries of South Africa are managed in a sustainable way that benefits the current and future generations.*

#### 3.2 OBJECTIVES

In order to recognise and effectively manage the unique environmental, economic, and social aspects of each estuary, it is important to establish strategic objectives. The strategic objectives for effective integrated management of estuaries include:

- 3.2.1 To conserve, manage and enhance sustainable economic and social use without compromising the ecological integrity and functioning of estuarine ecosystems;
- 3.2.2 To maintain and/or restore the ecological integrity of South African estuaries by ensuring that the ecological interactions between adjacent estuaries; between estuaries and their catchments; and between estuaries and other ecosystems, are maintained;
- 3.2.3 To manage estuaries co-operatively through all spheres of government; and to engage the private sector/ entities and civil society in estuarine management;
- 3.2.4 To protect a representative sample of estuaries (such protection could range from partial protection to full protection) in order to achieve overall estuarine biodiversity targets as determined by the 2018 National Biodiversity Assessment and the subsequent updates;
- 3.2.5 To promote awareness, education and training that relate to the importance, value and management of South African estuaries; and
- 3.2.6 To minimise the potential detrimental impacts of predicted climate change through a precautionary approach to development in and around estuaries and with regard to the utilisation of estuarine habitat and resources.

#### 4. STANDARDS FOR ESTUARINE MANAGEMENT

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To ensure the effective implementation of a strategic vision and objectives, it is important that these translate into meaningful management standards. The following management standards are applicable:

- 4.1 Estuarine management must aim at best practice in terms of use, management and protection of estuaries based on principles of ecological sustainability and co-operative governance;
- 4.2 Estuary management planning must consider the predicted impacts of climate change and management of potential disasters including pollution events;
- 4.3 Integration of land use planning and natural resource management outcomes with estuarine management outcomes must be promoted;
- 4.4 Management actions should be based on sound scientific evidence and where lacking, the precautionary approach should prevail;
- 4.5 An estuary must be managed to avoid, minimise or mitigate significant negative impacts that include but are not limited to reduced water flows and loss of habitat or species;
- 4.6 An estuary must be maintained in its ecological category as determined in the most recent NBA and subsequent updates in order to meet biodiversity targets, and to take into account the recommended extent of protection and recommended ecological health category; and
- 4.7 The classification and setting of the Ecological Reserve and Resource Quality Objectives (RQO) of an estuary must take into account the current ecological health status, recommended extent of protection and recommended ecological category in order to meet the biodiversity targets as set in the most recent NBA and the subsequent updates.



## 5. RESPONSIBLE MANAGEMENT AUTHORITY FOR DEVELOPING ESTUARINE MANAGEMENT PLANS

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Generally, most estuarine systems occur within the boundaries of a single municipality<sup>2</sup>, and some occur totally or partly within areas that are currently protected or are likely to be protected in future. Local government generally has closer involvement with activities happening within and around estuaries than the other spheres of government, and it is the local people that usually benefit most from the goods and services that estuaries provide. The Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000) requires all municipalities to develop and implement IDPs that promote participation of communities and liaison with other spheres of government.

Considering the above and taking into account sections 33, 34, 45, 47 and 49 of the ICM Act (dealing with the Estuarine Management Protocol, Estuarine Management Plans and Coastal Management Programmes), the following authorities are responsible for the development of EMPs and coordination of the implementation process:

- 5.1 Where an estuary falls within the boundary of a municipality, the provincial environmental department must develop an EMP in consultation with affected municipalities and the relevant national government departments.
- 5.2 Where an estuary crosses the boundaries between provinces, the Department must develop an EMP in consultation with the Provincial Lead Agencies for the ICM Act and other relevant organs of state.
- 5.3 Where an estuary is within a protected area or is identified as part of a protected area expansion strategy, the management authority responsible for the protected area must develop an EMP in consultation with relevant government departments. Where there is an estuary which crossed the boundary of a protected area, the protected area management authority must work together with other relevant government departments or agencies to develop a co-ordinated estuarine management plan.
- 5.4 Where an estuary falls wholly or partially within a harbour, the Department must develop an EMP in consultation with the NPA or other managing organs of state for a harbour and relevant municipalities.
- 5.5 Where an estuary crosses a state boundary, the Department in collaboration with the responsible authority of the affected state/s must develop the EMP in consultation with relevant government departments of the affected states.

To promote the successful development and implementation of estuarine management plans:

- (a) The Provincial Lead Agencies for the ICM Act must, as part of the provincial coastal management programme, and national protected areas management authorities must, identify a priority list of estuaries, which would inform a phased approach for the development of EMPs over a period of years. This list should focus on those estuaries that

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<sup>2</sup> As defined in the ICM Act.

need conservation and effective management and be informed by the national priority list identified in the 2018 National Biodiversity Assessment and subsequent updates. Consideration should be given, in appropriate circumstances, as to whether certain estuaries can be clustered or grouped together for the purpose of developing one EMP as opposed to an EMP for every single estuary. Factors which may be considered in assessing the feasibility of this could include, location, size, ecosystem similarities, similar user profiles and challenges and similar role players and stakeholders.

- (b) If a Provincial Lead Agency for the ICM Act enters into an agreement with a municipality in terms of section 156(4) of the Constitution, 1996, to give the function for developing an EMP to that municipality, they must inform the Department where such agreements have been entered into.
- (c) The Department may, within available resources, provide technical and management support to capacitate a municipality, where there has been agreement between the province and a municipality to develop an EMP, if and when such need arises. This will depend on the importance of that particular estuary in meeting biodiversity targets and the strategic objectives of the Department.
- (d) In order to develop sound EMPs, scientific information generated through robust research is critical. The departments responsible for science, technology and innovation, as well as agriculture, forestry, water affairs, environmental affairs and other relevant departments will play a crucial role in supporting research to address issues of uncertainties in estuaries, like Climate Change, and providing guidance in the development of appropriate policies for better management of estuaries.
- (e) The identified responsible management authority to develop the EMP needs to budget accordingly for the development of these plans.
- (f) Private entities and non-government organisations can play a supporting role in the development of an EMP by supporting the responsible management authority.

## **6. MINIMUM REQUIREMENTS FOR AN ESTUARINE MANAGEMENT PLAN**

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Although each EMP will have specific and differing targets and indicators, the following components shall be included in all EMPs:

- 6.1 An executive summary of the Situation Assessment Report (SAR) that highlights the key information that would inform and/or influence the management decisions within the estuary;

- 6.2 A geographical description and a map of the estuary based on the Estuarine Functional Zone (EFZ) clearly identifying the boundaries of the system. Any deviation from the EFZ should be motivated for;
- 6.3 The local vision and objectives that give effect to the strategic vision and objectives of the protocol;
- 6.4 A list of management objectives and activities, that at minimum addresses the following: conservation and utilisation of living and non-living resources (taking into account the priority biodiversity list in the 2018 National Biodiversity Assessment and subsequent updates), social issues, land-use and infrastructure planning and development, water quality and quantity, climate change, education and awareness; compliance and enforcement, and any other activities that will be required to maintain and or improve the condition of the estuary;
- 6.5 Details of intended spatial zonation of the estuary specifying activities that may or may not take place in different sections of the estuary, and indicating:
  - (a) which organs of state will need to be consulted given the type of zonation that is proposed; and
  - (b) which organs of state will need to enact the relevant laws to implement the proposed zonation (for example, if a no-fishing zone is proposed then either the relevant department or departments responsible for fisheries and protected areas will be required to consider declaring a closed area or a protected area, respectively);
- 6.6 A detailed integrated monitoring plan with a list of performance indicators for gauging the progress with respect to achieving the objectives of the EMP; and
- 6.7 Details of the institutional capacity and arrangements required for managing different elements of the EMP, taking into account different departmental mandates.

An EMP must be in line with the National Coastal Management Programme, and where applicable, the Provincial Coastal Management Programme and the Municipal Coastal Management Programme. Where the estuary is located in a protected area, the estuarine management plan must be developed in line with the requirements for the protected area's management plan.

## **7. PROCEDURE FOR DEVELOPING AN ESTUARINE MANAGEMENT PLAN**

The development of an estuarine management plan should follow a three-step process that involves a scoping phase, an objective setting phase and the development of the implementation plan.

### **7.1 SCOPING PHASE**

This phase involves collating and evaluating available information about the estuary that can assist with establishing the status of the estuary and inform management planning. Generally, such information is available in the form of maps and reports from various government agencies and

research institutions. It is imperative that local knowledge is considered during this phase. The information should be collated in the form of a Situation Assessment Report (SAR). The SAR should also highlight any major information gaps and the recommendation to address these. At minimum, the SAR must:

- 7.1.1 Describe legislative instruments that are currently applicable to the effective management of the estuary, including existing and planned management strategies/plans (i.e. catchment management strategies, IDP, SDF, Coastal Management Programmes, etc.) and their relevance to the proposed management of the estuary;
- 7.1.2 Provide a detailed understanding of the structure (abiotic and biotic components), functioning and state of the estuary, including the underlying processes and drivers. This should also include the Reserve for the estuary if it has been determined (or identify the need for determining a reserve) and estimate the present ecological state of the estuary where possible. This should be done by using the Estuarine Health Index as applied in Ecological Water Requirement Methods – Department of Water Affairs and Forestry, 2008 or subsequent versions of Estuarine Health Index that are approved by the department responsible for water affairs. This is a standardised approach for estimating the degree of modification of an estuary from its reference state to present;
- 7.1.3 Describe in a socio-economic context (demographic, economic profile, etc.) and the level/s of dependence of local communities on the estuary. This will include assessment of the opportunities and constraints within the ecological system (including potential carrying capacity for activities), taking into account its current and recommended ecological state and limits of acceptable change where available; and
- 7.1.4 Identify the goods and services or human use activities and their impacts or potential impacts on the present ecological state of the estuary.

## **7.2 OBJECTIVE SETTING PHASE**

The SAR provides a good basis for setting a realistic and achievable vision and list of objectives for a particular estuarine system; based on limits of acceptable change and carrying capacity, current/potential goods and services provided by the estuary, current/potential threats, opportunities and constraints that the socio-ecological system provides. Effective governance arrangements must be proposed, within the ambit of existing legislation and mandates that are in line with the strategic vision and objectives stipulated in the Protocol. The objectives should generally be qualitative statements of the values defined in the local vision. The objectives should consider among others:

- (i) the conservation and utilisation of living resources (taking into account the priority conservation list of estuaries identified in the 2018 National Biodiversity Assessment and subsequent updates.) and non-living resources;
- (ii) social issues;
- (iii) management of water quality and quantity;
- (iv) land use and infrastructure planning and development;
- (v) climate change;
- (vi) education and awareness; and
- (vii) compliance and enforcement.

The local vision and objectives must be aligned with the strategic vision and objectives of the Protocol. This must be demonstrated by stating the relevant strategic objectives of the Protocol that are relevant to the estuary, together with the related local objective/s that will give effect to them.

## **8. PUBLIC PARTICIPATION PROCESS**

- (1) The responsible management authority developing an EMP must actively engage all the relevant stakeholders including government department, non-government organizations and civil society in the development and implementation of the EMP.
- (2) An estuarine management plan must be subjected to a public participation process as required by section 53 of the ICM Act.

## **9. APPROVAL AND INTEGRATION OF AN ESTUARINE MANAGEMENT PLAN**

### **9.1 Approval of an EMP**

- (1) Once the responsible management authority has given due consideration to any comments received during the public participation process, it must obtain formal approval for the EMP as follows:
  - (a) Where an EMP has been developed by a Provincial Lead Agency for the ICM Act, a provincial conservation agency, a provincial environmental department, municipality by agreement with the province, the EMP must be submitted to the

MEC responsible for environmental affairs in the relevant Province for approval;  
and

- (b) Where an EMP has been developed by the Department or a National Conservation Agency, the EMP must be submitted to the Minister responsible for environmental affairs for approval.

## 9.2 Integration of an EMP

Once approved by the relevant approval authority, the EMP shall, to ensure effective implementation of the EMP, be integrated as follows:

- (1) Where an EMP has been developed by a municipality as a result of an agreement with the province, it must be incorporated into the broader Municipal Coastal Management programme as required in section 49 of the ICM Act or as part of IDPs as required by the Local Government: Municipal Systems Act, 2000.
- (2) Where an EMP has been developed by the Provincial Lead Agent, provincial environmental department or provincial conservation agency, the EMP must be incorporated into the Provincial Coastal Management Programme.
- (3) Where an EMP has been developed by a protected area's management authority, the EMP must be integrated into that protected area's management plan as contemplated in section 39 of NEMPAA.
- (4) Where an EMP has been developed by the Department, the EMP must be incorporated into the National Coastal Management Programme.

## 10. REVIEW OF ESTUARINE MANAGEMENT PLANS

It is also necessary to review monitoring data to assess effectiveness of the EMP in meeting its management targets. EMPs must be reviewed by the responsible management authority that developed the plan at least every 5 years from the date it was adopted (if possible in line with IDP, Coastal Management Programme and SDF cycle), but may also be reviewed at any other time. Such review shall include assessment of:

- (a) The effectiveness of the EMP and success with meeting its objectives, taking into consideration information from monitoring during the preceding years;
- (b) Environmental changes (if any) at a local or a wider scale that could affect the estuarine resources or the implementation of the EMP; or

- (c) Changes (if any) to legislation, land-use planning, goals or policies that may require the EMP to be amended.

Based on these findings, it may be necessary to amend an EMP, even to the extent of revising its objectives. Following such review, the responsible management authority shall either modify or re-endorse the EMP and shall engage in public participation in terms of section 8 of the Protocol, before the amended EMP can be approved in terms of the approval and adoption process outlined above in section 9 of the Protocol.

## **11. INSTITUTIONAL STRUCTURES AND ARRANGEMENTS**

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Effective institutional structures and arrangements are crucial support elements for the successful implementation and co-ordination of actions in terms of the Protocol and the subsequent estuary management plans. Chapter 5 of the ICM Act details the institutional arrangements that would, once implemented, contribute to co-operative coastal governance in South Africa. These arrangements are made at national, provincial and municipal levels and the embodiment of co-operative coastal governance is vested in coastal committees. No new institutional arrangements are proposed by the Protocol. The Provincial and Municipal coastal committees shall serve as the forums for monitoring the implementation of EMPs and reporting of progress and achievements related to estuarine management. Any existing and/or planned individual estuary forums can be regarded as informal additional advisory bodies for facilitating the implementation of the project plans identified in the EMPs and to foster continuous stakeholder engagement.