



BUFFALO CITY
METROPOLITAN MUNICIPALITY

BUFFALO CITY METROPOLITAN MUNICIPALITY
**COASTAL MANAGEMENT
PROGRAMME 2024**



This report is a reviewed and updated version of the 2014 Coastal Management Programme for the BuffaloCity Municipality



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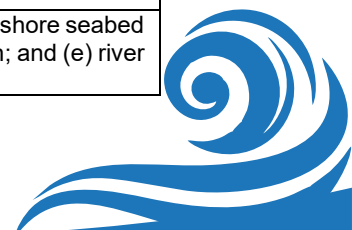
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ACRONYMS

4IR	Fourth Industrial Revolution
BCMDA	Buffalo City Development Agency
BCMM	Buffalo City Metropolitan Municipality
BLMC	Biodiversity Land Management Class
CBA	Critical Biodiversity Area
CBD	Central Business District
CES	Coastal and Environmental Services
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMP	Coastal Management Programme
CMP	Coastal Management Programme
DEA	National Department of Environmental Affairs
DEDEAT	Eastern Cape Department of Economic Development, Environmental Affairs & Tourism
DFFE	Department of Forestry, Fisheries, and the Environment
DWS	Department of Water & Sanitation
DWAF	National Department of Water Affairs and Forestry (now DWA)EC
ECA	Environment Conservation Act
ECBCP	Eastern Cape Biodiversity Conservation Plan
ECCMP	Eastern Cape Coastal Management Programme
EIP	Environmental Implementation Plan
ELIDZ	East London Industrial Development Zone
ELNCR	East London Coast Nature Reserve
GDP	Gross Domestic Product
GVA	Gross Value Added
ICM	Integrated Coastal Management
IDP	Integrated Development Plan
IEM & SD	Integrated Environmental Management and Sustainable Development Unit
IEMP	Integrated Environmental Management Plan
IGR	Intergovernmental Relations
IWMP	Integrated Waste Management Plan
LUMS	Land Use Management System
MCC	Municipal Coastal Committee
MLRA	Marine Living Resources Act
MOSS	Metropolitan Open Space System
MPA	Marine Protected Area
NBF	National Biodiversity Framework
NBMM	Nelson Mandela Bay Metropolitan Municipality
NCMP	National Coastal Management Programme
NEM: AQA	National Environmental Management: Air Quality Act
NEM:BA	National Environmental Management: Biodiversity Act
NEM: ICMA	National Environmental Management: Integrated Coastal Management Act
NEM: PAA	National Environmental Management: Protected Areas Act
NEM: WA	National Environmental Management: Waste Act
NEMA	National Environmental Management Act
NEMPr	National Estuarine Management Protocol
NHRA	National Heritage Resources Act
NPAES	National Protected Area Expansion Strategy
NRM	Natural Resources Management division of the Department of Environmental Affairs
NWMS	National Waste Management Strategy
PAMP	Protected Area Management Plan
RMA	Responsible Management Authority
SAMSA	South African Maritime Safety Authority
SANBI	South African National Biodiversity Institute
SDF	Spatial Development Framework
SDP	Spatial Development Plan
SFA	Spatial Focus Areas
SPLUMA	Spatial Planning and Land Use Management Act
WESSA	Wildlife and Environment Society South Africa
WG 7 O&C	Working Group 7 Oceans & Coast

GLOSSARY TERMS

Admiralty reserve	Means any strip of land adjoining the inland side of the high-water mark which, when the NEM: ICMA took effect, was state land reserved or designated on an official plan, deed of grant, title deed or other document evidencing title or land-use rights as admiralty reserve, government reserve, beach reserve, coastal forest reserve or other similar reserve.
Biodiversity Act	Means the National Environmental Management: Biodiversity Act (10 of 2004).
Coastal access land	Means land designated as coastal access land in terms of section 18(1), read with section 26 of the NEM: ICMA.
Coastal activities	Means activities listed or specified in terms of Chapter 5 of the National Environmental Management Act which take place (a) in the coastal zone; or (b) outside the coastal zone but have or are likely to have a direct impact on the coastal zone.
Blue Economy	Blue Economy is sustainable use of ocean resources for economic growth, improved livelihoods, and jobs, while preserving the health of ecosystems.
Coastal environment	Means the environment within the coastal zone.
Coastal management	Includes - (a) the regulation, management, protection, conservation and rehabilitation of the coastal environment; (b) the regulation and management of the use and development of the coastal zone and coastal resources; (c) monitoring and enforcing compliance with laws and policies that regulate human activities within the coastal zone; and (d) planning in connection with the activities referred to in paragraphs (a), (b) and (c).
Coastal management line	Means a line determined by an MEC in accordance with section 25 to demarcate an area within which development may be prohibited or controlled to achieve the objects of the NEM: ICMA or coastal management objectives.
Coastal management objective	Means a clearly defined objective established by a coastal management programme for a specific area within the coastal zone which coastal management must be directed at achieving.
Coastal Management Programme	Means the national or a provincial or municipal coastal management programme established in terms of Chapter 6 of the NEM: ICMA.
Coastal planning scheme	Means a scheme that— (a) reserves defined areas within the coastal zone to be used exclusively or mainly for a specified purpose; and (b) prohibits or restricts any use of these areas in conflict with the terms of the scheme.
Coastal protected area	Means a protected area that is situated wholly or partially within the coastal zone and that is managed by, or on behalf of, an organ of state, but excludes any part of such a protected area that has been excised from the coastal zone in terms of Section 22 of the NEM: ICMA.
Coastal protection zone	Means the coastal protection zone contemplated in Section 16 of the NEM: ICMA.
Coastal public property	Means coastal public property referred to in Section 7 of the NEM: ICMA.
Coastal resources	Means any part of - (a) the cultural heritage of the Republic within the coastal zone, including shell middens and traditional fish traps; or (b) the coastal environment that is of actual or potential benefit to humans.
Coastal waters	Means - (a) the internal waters, territorial waters, exclusive economic zone, and continental shelf of the Republic referred to in Sections 3, 4, 7 and 8 of the Maritime Zones Act (15 of 1994), respectively; and (b) an estuary.
Coastal wetland	Means - (a) any wetland in the coastal zone; and (b) includes - (i) land adjacent to coastal waters that is regularly or periodically inundated by water, salt marshes, mangrove areas, inter-tidal sand and mud flats, marshes, and minor coastal streams regardless of whether they are of a saline, freshwater or brackish nature; and (ii) the water, the subsoil and substrata beneath, and bed and banks of, any such wetland.
Coastal zone	Means the area comprising coastal public property, the coastal protection zone, coastal access land, coastal protected areas, the seashore, and coastal waters, and includes any aspect of the environment on, in, under and above such area.
Competent authority	Means a competent authority identified in terms of Section 24C of the National Environmental Management Act.
Cultural heritage	Means any place or object of aesthetic, architectural, historical, scientific, social, or spiritual value or significance.
Development	In relation to a place, means any process initiated by a person to change the use, physical nature or appearance of that place, and includes - (a) the construction, erection, alteration, demolition or removal of a structure or building; (b) a process to rezone, subdivide or consolidate land; (c) changes to the existing or natural topography of the coastal zone; and (d) the destruction or removal of indigenous or protected vegetation.
Dynamic coastal processes	Means all natural processes continually reshaping the shoreline and near shore seabed and includes - (a) wind action; (b) wave action; (c) currents; (d) tidal action; and (e) river flows.



Effluent	Means - (a) any liquid discharged into the coastal environment as waste, and includes any substance dissolved or suspended in the liquid; or (b) liquid which is a different temperature from the body of water into which it is being discharged.
Environment	Means environment as defined in the National Environmental Management Act.
Environmental authorisation	Means an authorisation granted in respect of coastal activities by a competent authority in terms of Chapter 5 of the National Environmental Management Act.
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.
Exclusive economic zone	Means the exclusive economic zone of the Republic, referred to in section 7 of the Maritime Zones Act (15 of 1994).
Gazette	When used in relation to - (a) the Minister, means the Government Gazette; (b) the MEC, means the Provincial Gazette; and (c) a municipality, means the Provincial Gazette of the province in which the municipality is situated.
Harbour	Means a harbour proclaimed in terms of any law and managed by an organ of state.
High-water mark	Means the highest line reached by coastal waters, but excluding any line reached because of - (a) exceptional or abnormal weather or sea conditions; or (b) an estuary being closed to the sea.
Littoral active zone	Means any land forming part of, or adjacent to, the seashore that is - (a) unstable and dynamic because of natural processes; and (b) characterised by dunes, beaches, sand bars and other landforms composed of unconsolidated sand, pebbles or other such material which is either unvegetated or only partially vegetated.
Local community	Means any community of people living, or having rights or interests, in a distinct geographical area within the coastal zone.
Low-water mark	Means the lowest line to which coastal waters recede during spring tides.
Marine Living Resources Act	Means the Marine Living Resources Act (18 of 1998).
MEC	Means the member of the Executive Council of a coastal province who is responsible for the designated provincial lead agency in terms of the NEM: ICMA.
Minister	Means the Minister responsible for environmental affairs.
Municipality	Means (a) a metropolitan, district or local municipality established in terms of the Local Government: Municipal Structures Act (117 of 1998); or (b) in relation to the implementation of a provision of the NEM: ICMA in an area which falls within both a local municipality and a district municipality, means - (i) the district municipality; or (ii) the local municipality, if the district municipality, by agreement with the local municipality, has assigned the implementation of that provision in that area to the local municipality.
Municipal Systems Act	Means the Local Government: Municipal Systems Act (32 of 2000).
National Environmental Management Act	Means the National Environmental Management Act (107 of 1998).
National estuarine management protocol	Means the national protocol concerning the management of estuaries contemplated in Section 33 of the NEM: ICMA.
National Water Act	Means the National Water Act (36 of 1998).
Oceans Economy	Economy that relies on the ocean as an input to the production process or which by geographic location, takes place on or under the ocean.
Organ of state	Has the meaning assigned to it in Section 239 of the Constitution.
Pollution	has the meaning assigned to it in Section 1 of the National Environmental Management Act.
Port	Means a port as defined in the National Ports Act (12 of 2005).
Protected area	Means a protected area referred to in section 9 of the Protected Areas Act.
Protected Areas Act	Means the National Environmental Management: Protected Areas Act (57 of 2003).
Provincial lead agency	Means a provincial organ of state designated by the Premier of the province in terms of Section 38 of the NEM: ICMA as the lead agency for coastal management in the province.
Sea	Means (a) the high seas; (b) all coastal waters; and (c) land regularly or permanently submerged by sea water, including - (i) the bed, subsoil, and substrata beneath those waters; and land flooded by sea water which subsequently becomes part of the bed of coastal waters, including the substrata beneath such land.
Seashore	Subject to Section 26 of the NEM: ICMA, means the area between the low-water mark and the high-water mark.
Special management area	Means an area declared as such in terms of Section 23 of the NEM: ICMA.
Waste	Means any substance, whether or not that substance can be re-used, recycled or recovered- (i) that is surplus, unwanted, rejected, discarded, abandoned or disposed of; (ii) that the generator has no further use of, for the purposes of production,

	reprocessing or consumption; and (iii) that is discharged or deposited in a manner that may detrimentally impact on the environment.
Wetland	Means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

EXECUTIVE SUMMARY

Introduction

Building on the foundations of the first coastal management programme, which was developed in 2014, this program examines the achievements, challenges, and emerging issues that must be addressed to ensure efficient management of the Metro's coastal zone. Within the Buffalo City Metropolitan Municipality, all new coastal protection and management issues (for example with regards to climate change risk and vulnerability, contribution of informal sector to pollution, inadequate sewage system, lack of solid waste transfer stations, safety and security along the coast, oceans economy and issue of approved mining projects) are incorporated into the municipality's coastal management programme.

This Coastal Management Programme (CMP) comprises a reviewed and updated coastal protection and management plan for the Metro that complies with the provisions of current national and provincial policy frameworks and is intended to guide and inform the Buffalo City Metropolitan Municipality in addressing its specific coastal zone management issues, risks, and opportunities.

The primary aim of the Buffalo City Metropolitan Municipality (BCMM) CMP is to achieve the goal of integrated coastal management, which is defined in the National Coastal Management Programme (2014) as follows:

“The overall goal of Integrated Coastal Management is to improve the quality of life of human communities who depend on coastal resources while maintaining the biological diversity and productivity of coastal ecosystems. . . .”

Defining the Coastal Zone

The National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008) (NEM: ICMA) defines the coastal zone as the area comprising coastal public property, the coastal protection zone, coastal access land and coastal protected areas, the seashore, coastal waters, and the exclusive economic zone and includes any aspect of the environment on, in, under and above such area. The eight relevant boundaries of these areas are defined under the Maritime Zones Act, NEM: ICMA and National Environmental Management Act (Act No. 107 of 1998) (NEMA). Different spheres of government have different roles and responsibilities in respect of the delineation and management of these different coastal zone areas.

The NEM: ICMA makes provision for the boundaries of different coastal areas within the overall coastal zone to be declared.



Coastal Management

The coastal management issues identified in the 2014 BCMM Coastal Management Programme have been reviewed and updated through a process of engagement with municipal officials, key stakeholders and through the review of local, regional, and provincial reports, plans, policies, and programmes.

These include:

Issue 1: Coordination of coastal management activities and functions

Ecological processes and biodiversity are interconnected, and human activities across different domains can impact coastal planning and implementation programs. Cooperation and cross-sectoral planning are crucial for addressing this interdependence. Effective communication between government agencies, traditional leaders, academic institutions, NGOs, and the commercial sector is essential for efficient coastal management. Tools like SPLUMA and Marine Spatial Planning facilitate cross-sectoral planning. Addressing accountability and increasing participation by all relevant stakeholders is essential for enhancing integrated coastal management structures. Barriers to improving coastal environment management include lack of funding, capacity, alignment with other plans, and disaster management strategies.

Issue 2: Pressure for coastal shoreline development

Habitat loss along the land-sea interface is primarily caused by coastal development, which can weaken ecosystem resilience and increase infrastructure failure in natural disasters and climate change. Factors like dunes stabilization, decreased freshwater flow, and sand mining contribute to this issue. Beaches like Eastern Beach are disappearing, posing threats to human lives and endemic species. To maintain the balance between built and natural habitats, developers must avoid linear development and expand existing towns without compromising natural areas.

Issue 3: Habitat Transformation and Degradation

The coastal and estuarine environments, renowned for their beauty and recreational opportunities, are under significant development pressure due to existing settlements. This pressure leads to habitat degradation through vegetation removal, bank stabilization, and estuarine sand winning. Strict controls are needed to mitigate future impacts.

Issue 4: Coastal vulnerability: adaptation and resilience

BCMM acknowledges the need for environmentally sustainable development in the metropolitan region. The municipality faces challenges from storms, flash floods, and sea level rise, which damage infrastructure and negatively impact beaches. To address these issues, rehabilitation of ecological infrastructure is necessary, and strategies to curb damage from natural hazards must be developed. Sustainable development should occur behind coastal management lines, avoid ribbon development, ensure sufficient freshwater flow, restore degraded dunes, and use soft engineering solutions instead of hard structures. The Municipality needs to initiate discussions about delineating coastal management lines and conduct sea level rise studies to project vulnerability areas. Climate change exacerbates these pressures, causing damage to coastal ecosystems, flood events, and recreational facilities.

Issue 5: Pollution and Sanitation

The Buffalo River estuary in BCMM is severely impacted by human activities, including solid waste management, sanitation pollution, and urban stormwater pollution. Poor waste disposal can lead to environmental degradation, polluting water sources and habitats. Inadequate sewage treatment systems and stormwater run-off from urban areas also contribute to pollution. Intensive agriculture and the informal sector also contribute to pollution within the municipal coastline. Long-term monitoring and assessment programs are needed to address these issues.

Issue 6: Protection of Estuaries

The BCMM area's 22 estuaries are crucial for reducing urban effluents and pollutants, sustaining coastal fisheries, and protecting settlements from storm surges and floods. However, they face pressures like pollution, overfishing, inappropriate land use, invasive species, solid waste, and insufficient sewage systems. Data on river input, bathymetry, sediment structure, mouth condition, and water quality must be collected to understand the ecosystem's vulnerability. Currently, estuaries receive minimal protection, requiring multi-intervention to prevent further decline. This includes protecting freshwater, restoring water quality, reducing fishing effort, and avoiding mining, infrastructure development, and crops.

Issue 7: Public Access, Amenities and Awareness

The management of coastal accesses can offer education and recreation for those unable to afford commercial entertainment. However, increased public access during peak holiday seasons puts pressure on the biophysical environment. Many public facilities are poorly maintained and cannot handle seasonal influxes. Addressing universal access to beaches, auditing existing access, and addressing user conflicts is crucial. Additionally, providing services at access points, such as lifeguards and emergency services, is essential.

Issue 8: Building a sense of Custodianship.

The coast is a shared resource amongst all citizens of the municipal area. Promoting the protection and management of the coast through building a sense of custodianship amongst relevant stakeholders and the public is therefore important.

Issue 9: Education and Training Opportunities

Owing to the fact that the BCMM coast is generally highly functional and contains a diversity of natural habitats and species, and is used recreationally, the coast presents an opportunity to be used as an education and training asset. The development of education centres that utilize coastal assets for learning experiences should be explored. Such initiatives would help to build awareness of the coast as a shared and valuable resource and would also provide a platform for upskilling and training in coastal management.

Issue 10: Inadequate Enforcement

The sustainable management of coastal resources in the BCMM faces threats due to inadequate capacity to monitor long-term activities and enforce existing regulations. Residents are being notified about illegal jetties, which stretch 20-30 meters into the estuary. The usage of amusement boats and barges has increased, potentially extending jetty construction. Jetties must be approved in line with the Sea Shore Act, which may limit the size, length, and materials used in construction.



Issue 11: Threats to Species Diversity

Threats to the diversity of species within the coastal zone exist. These include development pressure and invasion and competition by alien species which may place extreme pressures on rare and endemic species which occur in this region of the province. Indicators have been identified and designed to report on the status of biodiversity as well as the pressures threatening the biodiversity in the BCMM. These indicators will assist managers to monitor changes in trends over time and implement mitigatory measures where necessary to ensure the long-term protection of biodiversity.

Issue 12: Natural Resource Utilisation

The exploitation of coastal resources, including living and non-living resources like sand mining, is exceeding their regenerative capacity, leading to local depletion. The long-term environmental implications of mining are not well-defined and validated, causing physical habitat to change and pressure on species and ecosystems. The land cover changes dataset only captures direct impacts, while indirect impacts like pollution migration and induced impacts are not quantified. Inadequacy enforcement capacity limits compliance with regulations and restricts successful coastal management.








Issue 13:

The Oceans/Blue Economy is a recent field of study that focuses on economic activities based on the sea, such as maritime tourism, transport, energy, and aquaculture. This field presents an opportunity for the BCMM as it is currently facing socio-economic and built-environment issues relating to the demographics, social standards, and fragmented settlements. To ensure sustained economic growth and inclusive socio-economic development, an integrated strategic response is needed, including increased efficiency and innovation. The Eastern Cape Oceans Economy Strategic Roadmap outlines potential areas for implementation, including revitalization of coastal villages, aquaculture, East London Beach Front development, and marine aquaculture expansion amongst others.




Priority Areas and Goals for Coastal Management

The nine Priority Areas of the Eastern Cape Coastal Management Programme (2014) are adopted here for structuring of the BCMM Coastal Management Programme with Oceans Economy as an additional priority area. Locally relevant goals, objectives, and indicators have been developed for the BCMM context.



PRIORITY AREA	GOAL
Cooperative Governance 	A. Assure the MCC is operating as intended including participation of traditional leaders from coastal villages.
	B. Promote local government objectives through participation in the Provincial, National Coastal Committee and MINTEC Working Group 7 through elevation of priority areas from MCC to WG7.
	C. Formation of partnership agreements with other departments within BCMM, organs of state and other stakeholders for the implementation of coastal management priorities.
Coastal Planning & Development 	A. To maintain an appropriate balance between coastal conservation and development.
	D. To promote coastal tourism, leisure, and recreational developments in suitable (including in conservation areas) that optimize the value of their coastal location, take the upliftment of coastal communities into account, and occur in an aesthetically and ecologically sustainable manner.
Coastal Vulnerability: Adaptation & Resilience 	A. To proactively address climate change related risks to people, property, and economic activities in coastal areas from coastal erosion, flooding and inundation in all planning and development control functions.
	B. Review and maintain integrity of MOSS areas in the coastal zone as a buffer to coastal climate change impacts and to sustain coastal biodiversity under climate change conditions.
	C. Prepare detailed management plans to define the municipal response to climate related risks, disaster, and damage in the coastal zone.
Land and marine based sources of pollution. 	A. To implement pollution control and waste management measures to ensure the maintenance of water quality that meets desired water quality and legal requirements within estuaries and near shore coastal environments.
	B. To manage polluting activities to ensure that they have minimal adverse impact on the health of coastal communities, ecosystems, and people's use of coastal resources.
Estuaries 	A. To manage and protect estuarine ecos within the municipal jurisdiction.
Facilitation of coastal access 	A. Ensure that the public has physical access to the sea and the shoreline <i>via</i> suitably located and serviced access points.
	B. The BCMM shall provide public access at appropriate locations along the coast and shall ensure that these are safe for all members of the public to use.
	C. Identify suitable areas for new public launch sites
Awareness education, training, capacity building and information 	A. To promote public awareness about the coast (instill a sense of ownership of the coast), coastal regulations, and train coastal management and other stakeholders to ensure effective coastal planning and management
	B. Launch and maintain a public coastal information sharing portal.
	C. Establish a coastal es hand knowledge building programme.



PRIORITY AREA	GOAL
<p>Compliance monitoring & enforcement</p> 	<p>A. To ensure that the municipality complies with coastal / environmental legislation and mandated functions.</p>
<p>Natural Resource Management</p> 	<p>A. To maintain the diversity, health and productivity of coastal processes and ecosystems.</p> <p>B. To manage a system of coastal protected areas.</p> <p>C. To rehabilitate damaged or degraded coastal ecosystems and habitats.</p> <p>D. To monitor implementation of the Coastal Management Programme and requirements.</p> <p>E. To preserve, protect and promote historical and cultural resources and activities of the coast.</p>
<p>Ocean Economy</p> 	<p>A. Develop BCMM Oceans Economy strategy, establish and operate an Oceans Economy management capacity with the goal of ensuring that the strategic plan is implemented effectively and efficiently.</p> <p>B. Secure new implementation resources and investments into oceans economy.</p> <p>C. Accelerate and unleash catalytic projects in a staged strategy focused on Blue Growth.</p>



The background features a large, abstract graphic of a wave. The wave is composed of several overlapping, curved bands in various shades of blue, ranging from a very dark navy blue to a light sky blue. The wave starts on the left side, curves upwards and then downwards, creating a sense of movement and depth. The text is placed within the dark blue area of the wave.

CHAPTER 1

INTRODUCTION & BACKGROUND

CHAPTER 1: INTRODUCTION & BACKGROUND

1.1 INTRODUCTION

The Buffalo City Metropolitan Municipality seek to fulfil its obligations under Sections 48 and 49 of the National Environmental Management: Integrated Coastal Management Amendment Act No. 24 of 2008, as amended by Integrated Coastal Management Act No. 36 of 2014, (NEM: ICMA) to develop and review a Coastal Management Programme (CMP). Building on the foundations of the first CMP, which was developed in 2014, this program examines the achievements, challenges, and emerging issues that must be addressed to ensure efficient management of the Metro's coastal zone. The NEM: ICMA recognizes the coastal zone as “*a unique part of the environment in which biophysical, economic, social and institutional considerations interconnect in a manner that requires a dedicated and integrated management approach*”. In addition to the prescriptions of the NEM: ICMA, this CMP has been prepared in alignment with the following key policies and plans, while this list is not exhaustive.

- The National CMP (Department of Environmental, 2014)
- Integrated Development Framework, 2022
- BCMM Spatial Development Framework, 2020
- The draft National CMP (Department of Forestry, Fisheries & the Environment, 2023)
- The Eastern Cape Provincial CMP (Eastern Cape Department of Economic Development, Environmental Affairs and Tourism, 2014).
- The core principles of integrated coastal management (various sources including peer-reviewed journals, legislation, local and international policy).
- The User-friendly Guide to the NEM: ICMA (2017)
- The White Paper for Sustainable Coastal Development in South Africa (Department of Environmental Affairs and Tourism, 2000)
- Eastern Cape Biodiversity Conservation Plan (2019)
- Protected Area Management Plan: East London Coast Nature Reserve (2019-2029)
- Eastern Cape Public Launch Sites (2016)
- Environmental authorisations for coastal activities



1.2 BACKGROUND

Coastal zones throughout the world have been among the most heavily exploited areas through exposure to the unprecedented levels of human pressure and recurring effects of climate change (Department of Environmental Affairs, 2014 & Areia *et al.*, 2023). The pressure exerted on the coastal areas have resulted in substantial hazardous processes, making communities highly vulnerable to coastal risks, and challenging the current coastal management procedures and policies. To curb these effects, Buffalo City Metropolitan Municipality produced its first Coastal Zone Management Plan (CZMP) in 2005 which seeks to improve the management of coastal areas within the BCMM and promote sustainable development and natural resource conservation.

Integrated coastal management seeks to augment the benefits provided by the coastal zone and to reduce the impacts of activities upon resources and on the environment. With the change in the policy context for coastal management in the country, the National Environmental Management: Integrated Coastal Management Act was promulgated in 2009. The NEM: ICMA gave a legal basis for the development of CMPs at across the spheres of government in South Africa. As such, the National Coastal Management Programme (NCMP) and Eastern Cape Provincial Coastal Management Programme (ECCMP) were developed in 2014 to guide coastal management activities at a national and provincial level. The CMPs seek to enforce coastal protection and proper management of emerging issues (for example with regards to climate change risk and pressure for coastal development) and incorporate them in the new Coastal Management Programme. The 2024 Coastal Management Programme (CMP) therefore comprises a reviewed and updated coastal protection and management plan for the Buffalo City Metropolitan Municipality that complies with the provisions of current national and provincial policy frameworks and is intended to guide and inform the Buffalo City Metropolitan Municipality in addressing its specific coastal zone management issues, risks, and opportunities.

The 2005 Coastal Zone Management Plan (CZMP) represents the starting point for the cycle of integrated coastal management (ICM) in the Buffalo City Municipality. Subsequently, the 2014 CMP (prepared by Future Works) was then developed which marked the change from CZMP to CMP to demonstrate a long-term managed diversification of multiple projects intended to produce outcomes (including resources, timelines, and quality attributes) in alignment with the national requirements. This 2024 BCMM CMP then builds its strengths and successes of the coastal zone protection and management approaches and plans contained in the 2014 CMP. It also comprises a reviewed and updated coastal protection and management plan that complies with the provisions of current national and provincial policy frameworks and is intended to guide and inform the Municipality in addressing its specific coastal zone management issues, risks, and opportunities.

The 2024 CMP review process represents the second review of the programme and therefore, also the completion of the second cycle of ICM implementation and review. The starting point for the cycle of integrated coastal management within the BCMM (steps 1 to 8 in Figure 1) began with the development of the Coastal Zone Management Plan (CZMP) in 2005 which was changed from coastal management plan to programme in 2014. The 2024 CMP review process represents the first review of the programme and the completion of the second cycle of ICM implementation

and review. The CMP review and updating process therefore commences in Step 9 in Figure 1, and includes the completion of Steps 10, and 1 to 6.

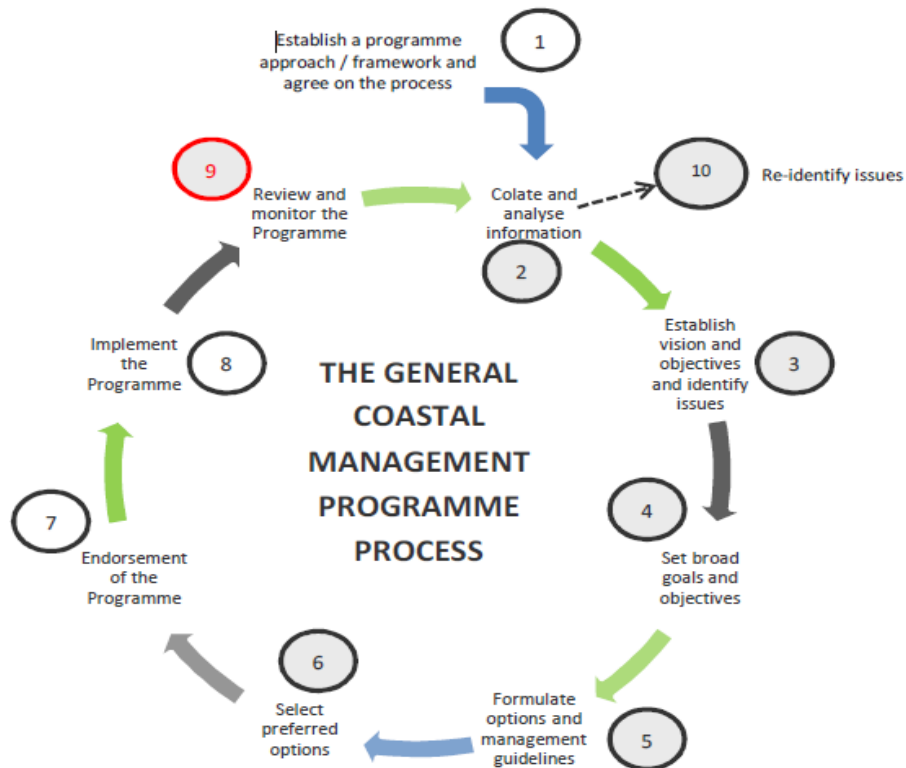


Figure 1: The Coastal Management Programme development process (Source: DEA, 2012)

1.3 INTEGRATED COASTAL MANAGEMENT IN CONTEXT

1.3.1 International, National & Provincial Policy Context for the BCMM CMP

- The International Context

The United Nations Member States voted to adopt the 2030 Agenda for Sustainable Development in 2015. The 17 Sustainable Development Goals (SDGs) are an urgent call for action by all countries and are part of a global partnership. They recognize that ending poverty and other deprivations must be done in conjunction with strategies that improve health and education, reduce inequality and spur economic growth, all while working to preserve our oceans and coasts. Both the SDGs and South Africa's coastal policy (starting with the Green Paper for Sustainable Coastal Development) have their roots in the 1992 Earth Summit in Rio de Janeiro, Brazil, where more than 178 countries adopted Agenda 21, a comprehensive plan of action to build a global partnership for sustainable development to improve human lives and protect the environment. Additionally, the 2002 World Summit on Sustainable Development in South Africa included the Plan of Implementation to build on Agenda 21 and the Millennium Declaration, and to affirm the global community's commitments to poverty eradication and the environment.

- **The National & Provincial Context**

The NEM: ICMA clarifies the role of the State (i.e., government) in the coastal environment. It focuses on setting out procedures for defining and spatially delineating coastal assets, regulating human activities and development in the coastal zone, facilitating the management of estuaries (in accordance with the National Estuarine Management Protocol), establishing institutional structures for coordinated coastal management, regulating marine and coastal pollution (including effluent disposal into the coastal zone) and enforcement of the Act.

The NEM: ICMA stipulates that coastal protection and management must be directed by a National Coastal Management Programme (NCMP), provincial coastal management programmes (PCMP) and local coastal management programmes. A national CMP must first be established, followed by provincial CMPs that needs to be consistent with the national CMP, and then municipal CMPs need to be established to be consistent with both the provincial and national CMPs. This hierarchical relationship allows for the development of a strategic and overarching national CMP followed by CMPs that include increasing levels of local management detail. This arrangement accommodates management responses that are sensitive to the natural, social, and economic differences along the South African coastline.

According to the NCMP (DEA, 2014), CMPs are arguably the most powerful integrating instruments in the NEM: ICMA toolbox. The NCMP defines CMPs as *"...policy directives for the management of the coastal zone, inclusive of strategies and plans for the effective implementation of the NEM:ICMA that enables organs of state to plan accordingly, to set a course for the environmental future of a nation by addressing the resolution of current management problems and user-conflicts (due to the wide variety of activities and uses of the coast), as well as the long-term development and management of the coastline. CMPs also play the vital role of bringing together the various spheres and sectors of government, private sector activities and community activities on the coast for the effective implementation of NEM: ICMA over a projected period. This is achieved by ensuring that the development and use of natural resources in the coastal zone is done with the best interests of the public and economy, while being ecologically sustainable"*.

At the higher level, there are several delivery imperatives that govern the key focus of work for the various sectors of National Government. In terms of the coastal component for the environmental sector, the CMP seeks to contribute to the related outcomes of these agreements to contribute to the overall achievement of targets and give effect to commitments of government.

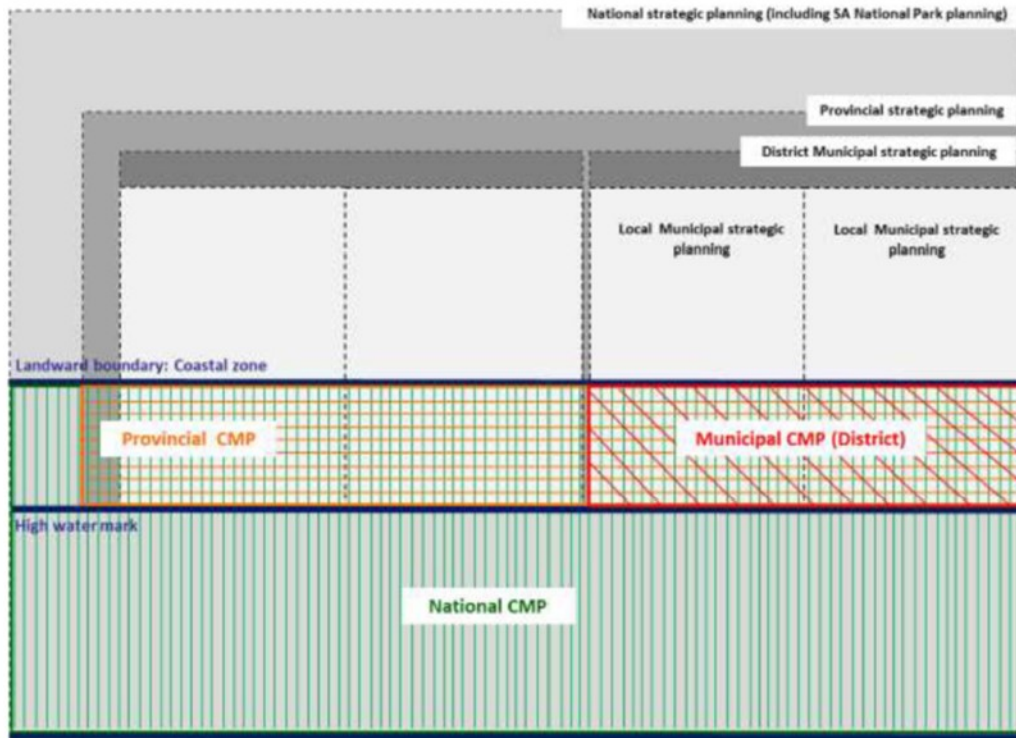


Figure 2: Conceptual illustration depicting the context of coastal management programmes in relation to national, provincial, and municipal strategic planning (source: DEA, 2014)

- ***The Municipal Context***

Municipal CMPs must be prepared at district and metropolitan municipality scale and must address planning and implementation in the coastal zone¹ 500m the high-water mark. Schedule 4-part B and schedule 5-part B of the Constitution state that local government is responsible for the management of the Pontoons, ferries, jetties, piers and harbours, beaches and municipal park and recreation excluding the regulation of international and national shipping and matters related thereto to the extent set out in section 155 (6) (a) and (7). Provincial CMPs address planning and implementation in the coastal zone within the provincial boundary from the high-water mark to the landward boundary. Coastal and marine waters seawards of the high-water mark are managed in terms of the NCMP.

¹ The Coastal Zone is defined in the NEM: ICMA as including coastal public property, coastal protection zones, coastal access land, coastal waters, coastal protected areas, special management areas, and coastal management lines. Not all these components of the coastal zone fall within the municipal jurisdiction to delineate or manage.

- ***The constitution of South Africa***

The Constitution is the supreme law of the land. South Africa's environmental management regime is underpinned by the environmental right in Section 24 of the Constitution (environment) with the following provisions:

24. Everyone has the right—

- a) to an environment that is not harmful to their health or wellbeing; and
- b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that—
 - i. prevent pollution and ecological degradation.
 - ii. promote conservation; and
 - iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

These provisions are in line with NEM: ICMA Act objectives as they promote integration of social, economic, and environmental factors into land-use/town planning decisions which forms part of coastal management.

Other National legislation that has implications for conservation and sustainable use (despite not having those explicit purposes) include:

- The Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) (SPLUMA)-
SPLUMA ensures equity in the application of land use management systems and spatial development planning, make provisions for the efficient and sustainable use of land, and address historical imbalances. This will help to promote the preservation of the coastal environment and the sustainable use of its resources.
- The Marine Spatial Planning Act, 2018 (Act No. 16 of 2018)-
The Marine Spatial Planning Act has implications for conservation planning; encourages cooperation and the appropriate use of the ocean as well as the sustainable development and management of the ocean and its resources.
- The Broad-based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)-
The B-BBEE Act empowers rural communities by providing access to economic activities, land, infrastructure, ownership, and skills, thereby levelling the economic playing field between black and white South Africans.
- *Delivery of the Outcome 10 Outputs*

The National Government has agreed to concentrate its efforts on 12 outcomes. Every outcome has a finite set of measurable outcomes. Every output has a set of related actions that go hand in hand with achieving the goals and producing the desired result. The majority of the 12 outcomes, which represent delivery plans for the government's priorities, involve many partners from outside the government as well as all branches of government.

With four main outputs, Outcome 10 for the environmental sector aims to guarantee that natural resources and environmental assets are well-protected and continuously improved.



Table 1: Outcome delivery outputs (Source: Department of Planning, monitoring & evaluation)

OUTPUTS	SUB-OUTPUTS
1. Enhanced quality and quantity of water resources	<ul style="list-style-type: none"> • Water demand • Water resource protection • Regulation of water quality
2. Reduced greenhouse gas emissions, climate change & improved air/atmospheric quality	<ul style="list-style-type: none"> • Reduction in emission of CO₂ • Reduction of atmospheric pollutants • Renewable energy deployment • Adapting to the impacts of climate change • Energy efficiency
3. Sustainable environment	<ul style="list-style-type: none"> • Restoration and rehabilitation of degraded ecosystems • Deforestation & forest management • Less and better managed waste • Management of environmental impacts from mining and related activities • Sustainable land use management
4. Protected biodiversity	<ul style="list-style-type: none"> • Expansion of the conservation estate • Reduced climate change impacts on biodiversity • Protected ecosystem and species • Valuing the ecosystem services • Protection of agricultural land

From a coastal management perspective, both the NEM: ICMA as well as the CMP are focused on providing contributions to each key output and sub-outputs that are critical to the delivery. Table 1 provides an illustration of the key areas that the CMP will contribute to the Outcome 10 outputs and sub-outputs: The National Environmental Management: Integrated Coastal Management Act (NEM: ICMA) (Act 24 of 2008) is intended to provide the policy platform guiding the protection, management and use of the coast and coastal resources. It promotes participatory management of the coast and recognizes that a ‘command and control’ or ‘top down’ form of management is neither appropriate nor useful in the context of coastal protection. The NEM: ICMA contains a variety of tools that can be used to ensure that the coastal zone is conserved, development is conducted in an environmentally sustainable manner, and enforcement of coastal management rules and regulations is undertaken.

1.3.2 Local Policy Context for the BCMM CMP

1.3.2.1 Local Policy and Plan Informants

The key local (BCMM) policy and plan informants to the 2024 BCMM Coastal Management Programme include:

1. Wetland Identification Report, 2020
2. Climate Risk & Vulnerability Assessment, 2020
3. Integrated Environmental Management Plan, 2014
4. Climate Change Strategy, 2014
5. Invasive Alien Species Monitoring, Control and Eradication Plan, 2019
6. Mapping of Vulnerable Coastal Areas, 2019
7. Environmental Education and Public Awareness Strategy, 2020
8. State of the Environment Report, 2014
9. Conservation and Municipal Open Space Systems, 2008
10. BCMM Local Action for Biodiversity (Wetlands Report), 2017
11. Coastal Management Plan, 2014

1.3.2.2 BCMM Integrated Environmental Management Plan

The Coastal Management Programme (CMP) is part of Buffalo City Metropolitan Municipality's Integrated Environmental Management Plan (IEMP), which outlines the municipality's environmental policy, vision, goals, and objectives.

Goal 3 of the IEMP (pro-actively protect and manage the natural environment as ecological infrastructure that provides fundamental life supporting ecosystem services in the municipal area, and a buffer for climate related risks and impacts) includes as one the associated objectives or actions, the Preparation of a Coastal Management Programme (Objective 3E).

The BCMM IEMP makes the following statements of commitment to environmental protection and management:

“Buffalo City Metropolitan Municipality is committed to developing a sustainable city, consistent with national policy and legislation, and Local Agenda 21 Principles, and as reflected in the Integrated Development Plan of the municipality.

Within its legislated or delegated roles and responsibilities, and with respect to its own activities and operations and the activities of others operating within its area of jurisdiction, the Buffalo City Metropolitan Municipality's commitments with respect to environmental protection and management are:

- *To recognise the role of the natural environment as a supplier of life-supporting ecosystem goods and services and proactively seeking to protect and manage this 'ecological infrastructure'.*
- *To continuously develop and deepen the municipality's understanding of the functioning, role and appropriate forms of protection and management of the natural environment in supporting quality of life, buffering climate change related risks and hazards, supplying ecosystem services that support municipal service delivery and infrastructure, and provide economic and sustainable livelihood opportunities.*
- *To develop an understanding of the risks posed by climate change and to implement a locally appropriate climate change mitigation and adaptation response.*
- *To set environmental performance targets, monitor environmental performance and adjust the targets in line with changing national, regional, and local priorities.*
- *To strive to continually improve the environmental performance of the municipality.*
- *At a minimum to meet, if not exceed the environmental requirements and standards set by applicable national and regional policy, laws, regulations, strategies, and plans, in the conducting of all municipal functions.*
- *To promote and pursue the development of a sustainable city in line with Local Agenda 21.*
- *To minimise and avoid environmental degradation and pollution, and to rehabilitate / remediate such environmental degradation and pollution where it cannot be avoided.*
- *To conserve renewable and non-renewable resources and promote the conservation of biodiversity.*
- *To adopt a participatory approach to environmental performance target setting, environmental policy and plan development, and implementation of environmental protection and management activities in the municipal area.*



- *To communicate in a transparent manner the details concerning the environmental performance of the Buffalo City Metropolitan Municipality. “*

The following eight Environmental Management Principles are specified in the IEMP and are to be used as a guide for all municipal decisions and activities in support of a sustainable development approach:

1. **The natural environment as infrastructure:** The natural environment supplies key ecosystem services on which the municipality and local residents depend. The management of the natural environment should be seen as necessary to the sustained operation of, and management of risks to, built infrastructure and settlement in the municipal area.
2. **The natural environment as a resource:** The natural environment offers opportunities for enhancing human health, well-being and safety, job creation and the growth of the local and regional economy (particularly the Green Economy).
3. **Prioritises reducing risks and scarcities:** Scarcities and risks associated with water, energy, food, biodiversity, and climate change must be prioritised as Environmental Management interventions.
4. **Promotes self-sufficiency and resilience:** Environmental Management must strive to improve the capacity of the municipality to produce its own food, water, energy, and local jobs in the formal and informal economy, produce and supply green products and services, thereby improving economic, social, and environmental resilience through reduced import dependencies.
5. **Participative and builds knowledge and capacity:** Environmental Management requires continuous participation, collaboration, production and sharing of knowledge and building of capacity amongst a wide range of government, private, parastatal and civil society stakeholders.
6. **Integrated approach:** Environmental Management principles and approaches must be integrated into all aspects of the municipality’s functions.
7. **Supports legislative and policy frameworks:** Environmental Management must be directed towards supporting and strengthening achievement of local, regional, and national biodiversity conservation targets, and compliance with all other environmental legislation and policy.
8. **The Municipality Leads by Example:** The Buffalo City Metropolitan Municipality must address its own environmental management performance to ensure that it sets an example for private business and individuals in the municipal area to take their own action. The IDP makes specific mention of the need for the municipality to comply with national legislative requirements regarding environmental management. The IEMP, and all plans developed in accordance therewith, are therefore to be incorporated into the BCMM Integrated Development Plan (IDP), and where relevant also the municipal Spatial Development Framework (SDF).

1.4 DEFINING THE COASTAL ZONE

1.4.1 Defining the areas that make up the Coastal Zone

The National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008) (NEM: ICMA) defines the coastal zone as the area comprising coastal public property, the coastal protection zone, coastal access land and coastal protected areas, the seashore, coastal waters, and the exclusive economic zone and includes any aspect of the environment on, in, under and above such area. The relevant boundaries of these areas are defined under the Maritime Zones Act (Act No. 15 of 1994), NEM: ICMA and National Environmental Management Act (Act No. 107 of 1998) (NEMA).

Different spheres of government have different roles and responsibilities in respect of the delineation and management of these different coastal zone areas. The NEM: ICMA defines the following geographical boundaries of coastal management units for provincial and municipal Coastal Management Programmes (CMPs):

Provincial CMP - Managing the coastal zone in the province (Section 46) of the NEM: ICMA, which may extend to 500m seaward of the High-Water Mark.

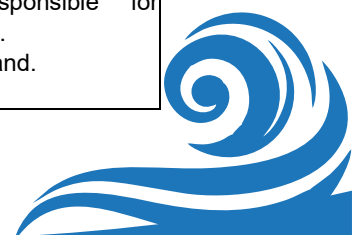
Municipal CMP - Managing the coastal zone or specific parts of the coastal zone in the municipality (Section 48) of the NEM: ICMA, which may extend to 500m seaward of the High-Water Mark.

The following table is an updated version from the National Coastal Management Programme (NCMP) (DEA, 2014) and presents the definition of each of the components of the coastal zone, as well as the responsibilities of different spheres of government for delineation of the different components of the coastal zone in terms of the NEM: ICMA, where relevant.

Table 2: Definition of Coastal Management Boundaries and Spheres of Government responsible for their delineation under the NEM: ICMA (adapted from: DEA, 2014).

Geographical Boundary		Description	
	Exclusive Economic Zone	an area of the ocean, generally extending 200 nautical miles (230 miles) beyond a nation's territorial sea, within which a coastal nation has jurisdiction over both living and non-living resources	
N E M : I C M A	High-watermark	means the highest line reached by coastal waters, but excluding any line reached as a result of— (a) exceptional or abnormal weather or sea conditions; or an estuary being closed to the sea;	May be changed by authority of the Minister in terms of the procedure described in Section 34 of the Land Survey Act (Act 8 and 1997).
	Seashore	subject to section 26, means the area between the low-water mark and the highwater mark;	National Minister.
	Admiralty reserve	means any strip of land adjoining the inland side of the high-water mark which, when this Act took effect, was	National Minister.

Geographical Boundary	Description	
	state land reserved or designated on an official plan, deed of grant, title deed or other document evidencing title or land use rights as “admiralty reserve”, “government reserve” “beach reserve”, “coastal forest reserve” or other similar reserve;	
Coastal accessland	means land designated as coastal accessland in terms of section 18 (1), read with section 26;	Municipality in accordance with section 29 of the NEM: ICMA by notice in the Gazette.
Coastal protected area	means a protected area that is situated wholly or partially within the coastal zone and that is managed by, or on behalf of, an organ of state, but excludes any part of such a protected area that has been excised from the coastal zone in terms of section 22.	Protected areas designed by provincial MEC or national Minister.
Coastal waters	means— (a) the internal waters, territorial waters, exclusive economic zone, and continental shelf of the Republic referred to in sections 3, 4, 7 and 8 of the Maritime Zones Act, 1994 (Act No.15 of 1994), respectively; and (b) an estuary;	An organ of state that is legally responsible for controlling or managing any activity on or in coastal waters, must control and manage that activity
Estuaries	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;	National Minister; SANBI.
Special management areas	means an area declared as such in terms of section 23.	The Minister may, after consultation with the MEC, by notice in the <i>Gazette</i> —
Coastal public property	Coastal public property consists of— (a) coastal waters; (b) land submerged by coastal waters, including— (i) land flooded by coastal waters which subsequently becomes part of the bed of coastal waters; and the substrata beneath such land; (c) any natural island within coastal waters; (d) the seashore, including— (i) the seashore of a natural or reclaimed island; and (ii) the seashore of reclaimed land; (e) subject to section 66A, any admiralty	The Minister may, by notice in the Gazette, declare in the manner contemplated in subsection (2) any state-owned land as coastal public property for the purposes set out in section 7A upon consultation with interested and affected parties; and (b) obtain the concurrence of the Minister, or of the MEC of the province, responsible for managing that state-owned land.



Geographical Boundary	Description	
		<p>reserve owned by the State; (f) any land owned or controlled by the State declared under section 8 to be coastal public property; (g) land reclaimed in terms of section 7C; or (h) any natural resources on or in any coastal public property of a category mentioned in paragraphs (a) to (g).</p>
		<p>The coastal protection zone consists of – Composition of coastal protection zone. — (1) Subject to subsection (2) and section 26, the coastal protection zone consists of— (a) land falling within an area declared in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), as a sensitive coastal area within which activities identified in terms of section 21 (1) of that Act may not be undertaken without an authorisation; (b) any part of the littoral active zone that is not coastal public property; (c) any coastal protected area, or part of such area, which is not coastal public property; (d) any land unit situated wholly or partially within one kilometre of the high-water mark which, when this Act came into force— (i) was zoned for agricultural or undetermined use; or (ii) was not zoned and was not part of a lawfully established township, urban area, or other human settlement; (e) any land unit not referred to in paragraph (d) that is situated wholly or partially within 100 metres of the highwater mark; (f) any coastal wetland, lake, lagoon, or dam which is situated wholly or partially within a land unit referred to in paragraph (d) (i) or (e); (fA) the part of a river which is situated within a land unit referred to in paragraph (d) (i) or (e); (g) any part of the seashore, which is not coastal public property, including all privately owned land below the high-water mark; (h) any admiralty reserve which is not coastal public property; or (i) any land adjacent to an area referred to in paragraphs (a) to (h) that would be inundated by a 1:100-year flood or storm event. [Subs. (1) amended by s. 12 (a) of Act No. 36 of 2014. Para. (i) substituted by s. 12 (d) of Act No. 36 of 2014.] (2) An area forming part of the coastal protection zone, except an area referred to in subsection (1) (g) or (h), may be excised from them</p> <p>Provincial MEC (Executive Council of a coastal province who is responsible for the designated provincial lead agency) in accordance with section 28 of the NEM: ICMA by notice in the Gazette.</p>



Geographical Boundary		Description	
		coastal protection zone in terms of section 26.	
		Coastal Management line means a line determined by an MEC in accordance with section 25 to demarcate an area within which development will be prohibited or controlled to achieve the objects of this Act or coastal management objectives;	Provincial MEC, but the MEC can only declare such coastal management lines after consultation with municipalities and interested and affected parties.
NEMA	Estuaries	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;	National Minister; SANBI.



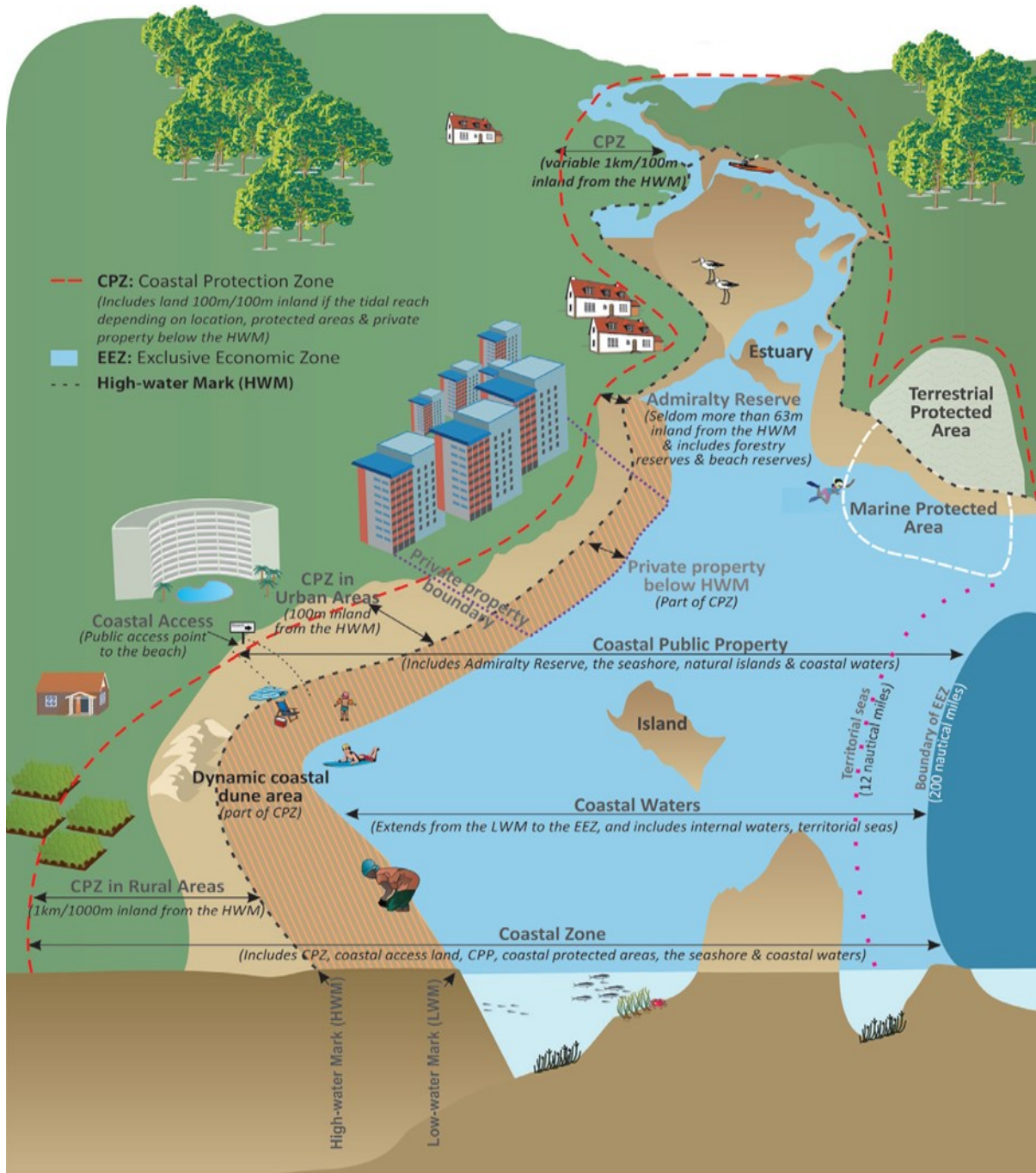


Figure 3: The Coastal Zone of South Africa (source: The Department of Environmental Affairs, 2017).

1.4.2 Delineation and Adjustment of Coastal Boundaries

The NEM: ICMA makes provision for the boundaries of different coastal areas within the overall coastal zone to be declared. The sphere of government that is responsible for the delineation and adjustment of these boundaries is outlined in the figure 4 below:

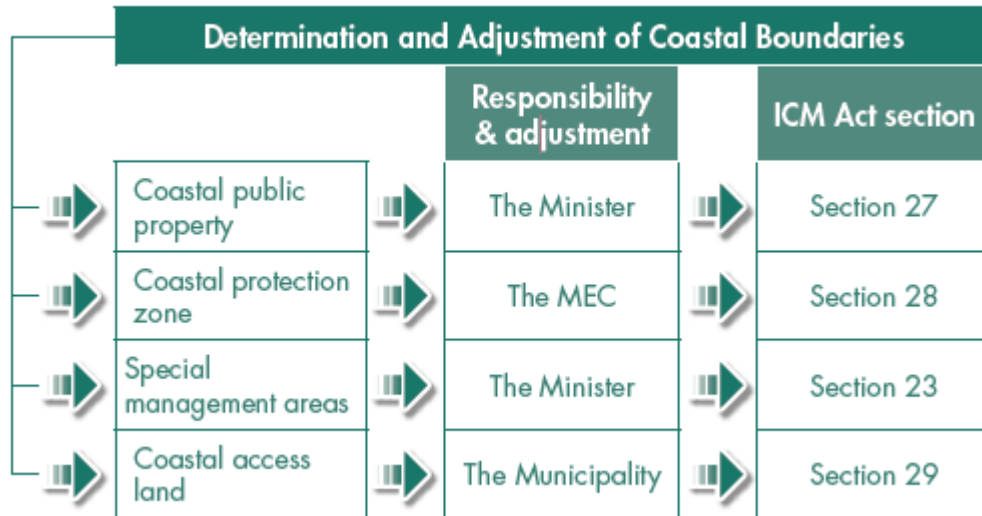


Figure 4: Determination and adjustment of coastal boundaries (DEA, 2017)

Figure 4 shows that municipalities are primarily responsible for the delineation and adjustment of coastal access land boundaries.

The communication of the delineation and adjustment of boundaries is by notification in the Provincial Gazette (MEC and municipalities). The Minister may, in adjusting the coastal public property, also make any consequential changes to an adjoining coastal boundary or the coastal protection zone of coastal access land.

There are several considerations that municipalities must consider when delineating or adjusting coastal access land boundaries.

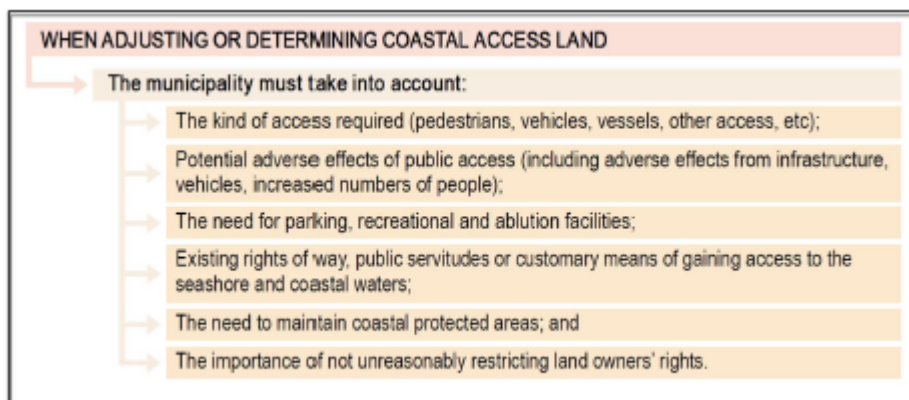


Figure 5: Considerations and requirements for the determination of coastal access land (sourced: DEA:2017).

1.4.3 Spatial Planning in the Coastal Zone

1.4.3.1 General Provisions for Spatial Planning in the Coastal Zone

Spatial planning in the coastal zone landward of the high-water mark is the responsibility of the municipality. Municipal spatial planning processes are consolidated in Spatial Development Frameworks (SDFs), land-use plans and zoning schemes. It is the responsibility of the municipality whose area of jurisdiction the coastal boundary is situated to delineate coastal boundaries on the maps that form part of its SDFs, land-use plans and zoning schemes. This includes all relevant coastal zone boundaries as contained within Table 2.

1.4.3.2 Estuaries

Spatial planning in estuaries forms part of estuary management plans, the requirements for which are specified in the National Estuarine Management Protocol (Government Gazette Notice 533 of 2021). The responsibility for the development of estuary management plans is set out in the National Estuarine Management Protocol, and primarily depends on the location of the estuary. It is specified that where an estuary falls within the boundary of a municipality, the provincial environmental department (in this case DEDEAT) must develop an EMP in consultation with affected municipality and the relevant national government departments. In cases 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 (in this case Eastern Cape Parks and Tourism Agency (ECPTA)) must develop an EMP in consultation with relevant government departments. In accordance with Section 156(4) of the Constitution, the Responsible Management Authority (RMA) may reach an agreement with a municipality to delegate responsibility for an estuary(s). Furthermore, the NEM: ICMA provides for estuary management plans (including spatial zoning plans) to be prepared or adopted as part of an IDP and SDF.

1.4.3.3 Special Management Areas

Special management areas may be declared where an area that is wholly or partly within the coastal zone may be declared a special management area by the Minister (after consultation with the MEC) if environmental, cultural, or socio-economic conditions require the introduction of measures to:

- Attain the objective of any CMPs.
- Facilitate management of coastal resources for a local community.
- Promote sustainable livelihood for a local community; or
- Conserve, protect or enhance coastal ecosystems and biodiversity in the area.

1.4.3.4 Coastal Planning Schemes

A **coastal planning scheme** is another tool which may be used to achieve coastal management objectives. A coastal planning scheme defines areas within the coastal zone or coastal management area which may be exclusively or mainly used for a specified purpose or activity. A planning scheme may also restrict or prohibit certain activities in, or uses of a specified zone. As consistency is one of the strongest themes in the NEM: ICMA, the coastal planning scheme cannot be established without notification in the Government Gazette and must be aligned with the objectives of the NEM: ICMA and any coastal management programmes or estuarine management plans which apply to that area (DEA,2009).



1.4.4 Summary of Acts Governing Activities in the Coastal Zone

Various Acts govern the management and control of activities that may take place in the coastal zone of the Buffalo City Metropolitan Municipal (BCMM) area. In many cases, regulations, norms, and standards have been promulgated under these Acts, creating a potentially complex environment that needs to be acknowledged in how the coastal zone is managed. A summary of the key coastal activities relevant to the BCMM area and the Acts that govern them is presented below:

Table 3: Key Coastal Activities and the Acts that govern them.

Activity	Key Acts
Managing of coastal access land, Land reclamation Coastal leases and concessions Unlawful structures Off-road vehicles Boat launching sites. Effluent discharges into the coastal zone Dumping at sea	Act No. 36 of 2014: National Environmental Management: Integrated Coastal Management Amendment Act, 2014
All developments in the coastal zone, within 100m of the high-water mark, that are listed activities in terms of Government Notices (GNR327, GNR326, GNR325 and GNR324) environmental authorization.	National Environmental Management Act (Act 107 1998)
Biodiversity and protected areas management	National Environmental Management: Biodiversity Act (Act 10 of 2004) and National Environmental Management: Protected Areas Act (Act 57 of 2003)
Marine protected areas	National Environmental Management: Protected Areas Act (Act 57 of 2003)
Sensitive coastal areas	Environment Conservation Act (Act 73 of 1989)
Heritage area management	National Heritage Resources Act (Act 24 of 1999)
Solid waste management	National Environmental Management: Waste Act (Act 59 of 2008)
Atmospheric pollution	National Environmental Management: Air Quality Act (Act 39 of 2004)
Control of Scuba Diving, whale watching, shark cage diving and other protected / threatened species	Marine Living Resources Act (Act 18 of 1998); and legislation controlling whales, sharks, and sea birds
State assets in the coastal zone	Government Immovable Asset Management Act (Act 19 of 2007); State Land Disposal Act (Act 48 of 1961)
Fisheries Management	Marine Living Resources Act (Act 18 of 1998); Sea Fishery Act (Act 12 of 1988)
Marine aquaculture / harvesting of marine resources. (sea-based)	Marine Living Resources Act (Act 18 of 1998)
Harvesting of coastal resources (land-based)	Conservation of Agricultural Resources Act (Act 43 of 1983); National Forests Act (Act 84 of 1998)
Port management	National Ports Act (Act 12 of 2005); International Health Regulations Act (Act 28 of 1974)
Freshwater flows into the coastal zone (quantity and quality)	National Water Act (Act 36 of 1998)
Mining in the coastal zone; oil and gas exploration	Mineral and Petroleum Resources Development Act (Act 28 of 2002)
Coastal infrastructure (land-based)	Local Government: Municipal Systems Act (Act 32 of 2000); National Building Regulations and Building Standards Act (Act 103 of 1977 amended 1982, 1984, 1989, 1995, 1996); Spatial planning and land use management Act (Act 16 of 2013); Provincial Planning Acts.
Recreational water quality (e.g., estuaries and beaches)	National Health Act (Act No. 61 of 2003)

ROLES & RESPONSIBILITIES

The NEM: ICMA assigns roles and obligations to all levels of government, including mandated functions for national, provincial, and local governments (Department of Forestry Fisheries & Environment, 2023). The legislative environment governing the scheduled roles, responsibilities, and mandate of Metropolitan Municipalities such as BCMM in implementing coastal management functions is dominated by the National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008) (NEM: ICMA). However, there are several other Acts that either stipulate or infer a responsibility on municipalities to protect the coast (as a natural environment) and manage it as a recreational asset. These are summarized in Table 4. Coastal committees form the core of the institutional framework for integrated coastal management under the NEM: ICMA in a nested coastal governance system.

The Minister from the Department of Forestry, Fisheries, and the Environment (DFFE) establishes a National Coastal Committee (NCC) with a mandate to promote integrated coastal management in the Republic and effective cooperative governance by coordinating the effective implementation of this Act and of the national coastal management programme. There is also Working Group 7 Oceans & Coast (WG 7 O&C), which is an intergovernmental relations structure, established in terms of the Intergovernmental Relations Framework Act of which the key function is to advise departments, and coastal stakeholders to improve integrated ocean and coastal management in South Africa and the area. WG 7 O&C also provides advice on international benchmarking, identifying gaps and opportunities, and developing plans to overcome them. The WG 8 O&C prioritizes providing high-quality ocean and coastal management governance services.

Municipal Coastal Committee	
Functions	Composition
<ul style="list-style-type: none"> · Promote ICM in the municipality; · Promote co-ordinated and effective implementation of ICM Act and municipal coastal management programme; · Advise the Municipal Manager, Municipal Council and Provincial Coastal Committee on coastal management matters in the municipality; · Advise the Municipality on development, finalisation, review and amendment of the municipal coastal management programme; · Provide a forum for dialogue, co-ordination and co-operation between key organs of state and other people involved in coastal management in the municipality; · Promote the integration of coastal management concerns into the IDP and SDF and any other municipal plans and policies that affect the coastal zone; and · Perform any delegated coastal governance function. 	<p>A Municipal Coastal Committee may include:</p> <ul style="list-style-type: none"> · People with relevant coastal management expertise; · Representatives from management authorities of coastal protected areas or special management areas in the municipality; and · Representatives of communities or organisations with a particular interest in contributing to effective coastal management such as: <ul style="list-style-type: none"> ◦ Port authorities; ◦ Organs of state; ◦ Coastal resource users (for livelihoods or business); ◦ Environmental interest groups; or ◦ Research organisations.

Figure 6:: Composition and Functions of Municipal Coastal Committees (source: DEA, 2017)



Table 4: Scheduled Coastal Management Functions, Roles, and Responsibilities in terms of the NEM: ICMA (Source: DFFE, 2023)

ASPECT		RESPONSIBILITIES
LOCAL GOVERNMENT / MUNICIPAL ROLES AND RESPONSIBILITIES		
1	Access to coastal public property	Ensuring that the public has equitable access to coastal public property by designating coastal access land, designate in by-laws strips of coastal access land to promote access to CPP along the coast.
2	Coastal management linedemarcation on zoning maps	Delineate coastal management lines in Spatial Development Frameworks and municipal zoning / land use scheme maps (should participate in any provincialcoastal management line determinations, but this is discretionary; work with relevant provincial department to determine municipal coastal management lines which the province must Gazette).
3	Determining and adjustingcoastal boundaries of coastal access land	Ensure specified considerations are considered when determining or adjusting a coastal boundary of coastal access land.
4	Marking coastal boundaries on zoning maps	Delineate coastal boundaries determined or adjusted in terms of Section 26 of the NEM: ICMA on zoning scheme maps and in Spatial Development Frameworks, where applicable and appropriate.
5	Municipal CMPs	Prepare and adopt a municipal CMP for managing the coastal zone or specific parts of the coastal zone in the municipality.
6	Consistency and alignmentbetween Municipal CMPs and other statutory plans	Ensure that any plan, policy or programme adopted by an organ of state that may affect coastal management is consistent and aligned with municipal coastal management programmes, which in turn is aligned with provincial coastal management programmes and the national coastal management programme and ensure that IDPs (including its spatial development framework) is consistentwith other statutory plans (See Section 52 (1)(a-f) of the NEM: ICMA) adopted by either a national or a provincial organ of state.
7	Consultation and public participation	Adequate consultation and public participation precede the exercising of a power by a municipality, which this Act requires to be exercised in accordancewith Section 53 of the NEM: ICMA.
8	Implementation of land use legislation in coastalprotection zone	Section 62 of the NEM: ICMA obliges any organ of state that is implementing anylegislation that regulates the planning or development of land, in a manner that conforms to the principles of cooperative governance contained in Chapter 3 of the Constitution, apply that legislation in relation to land in the coastal protectionzone in a way that gives effect to the purposes for which the protection zone is established as set out in Section 17 of the NEM: ICMA. Furthermore, SPLUMA requires that a land use scheme must comply with environmental legislation.

1.5 OVERVIEW OF THE BCMM COASTAL ENVIRONMENT

This chapter is intended to provide a summary of the key features of the coast in the Buffalo City Metropolitan Area, the current state of the coast, and coastal issues.

1.5.1 Contextual Overview of the Buffalo City Metropolitan Municipality

The BCMM is in the Eastern Cape Province and is one of 8 metropolitan municipalities in South Africa. The BCMM is bordered by the Great Kei, Amahlathi, Raymond Mhlaba and Ngqushwa Local Municipalities and all these Local Municipalities fall within the Amathole District Municipality. The metropolitan area is approximately 2,515km² in size (Buffalo City Metropolitan Municipality, 2011) and is divided into three regions namely inland, midlands and coastal. It includes the towns of East London, Bhisho and King William's Town, as well as the large townships of Mdantsane and Zwelitsha.

There are three distinct land use patterns namely urban areas, rural settlement areas and commercial farmland. There is a distinct east-west urban corridor running along the R102 from East London in the east, to King Williams Town and Dimbaza in the west. Due to its coastal location and altitudinal variance, which ranges from sea level to roughly 2100m asl in the Amatola Mountains, BCMM has a rich floral and faunal biodiversity. The BCMM region contains several endemic plant taxa and species of high conservation importance because it is also part of the Albany Centre of Endemism. Thicket and bushland make up 41.2% of the Municipal land cover, according to the area's land cover mapping, 9% or so are grown for semi-commercial or subsistence farming purposes.

The 2008 BCMM Conservation Plan and Metropolitan Open Space System identified that 12.3% of the municipal area is in a natural state and 3.4% comprises wetlands and waterbodies.

Even though 61.1% of the municipal area was reported as being undeveloped, only 2.1% of the municipal area falls within Protected Areas (nature and forest reserves). Beyond the urban corridor lies a fringe of peri-urban and rural areas which are home to approximately one fifth of the municipal population. This area includes the Ncera and Newlands settlements and areas which previously comprised the former Ciskei Bantustans. Commercial farms are situated on the north-eastern and south-western coastal regions (Buffalo City Metropolitan Municipality, 2011).

The built environment varies from dense urban areas (such as the commercial, industrial, and residential development in East London) to the relatively sparse rural settlements such as Newlands. The main industrial complexes are in East London and surrounds. These include several heavy industrial complexes (e.g., West Bank and Wilsonia) and light industrial areas (e.g., Beacon Bay and SBDC). The East London Industrial Development Zone (ELIDZ) is located on the West Bank of East London. Other heavy industry areas include Berlin, Fort Jackson, Zwelitsha, Dimbaza and King William's Town (CES, 2005).

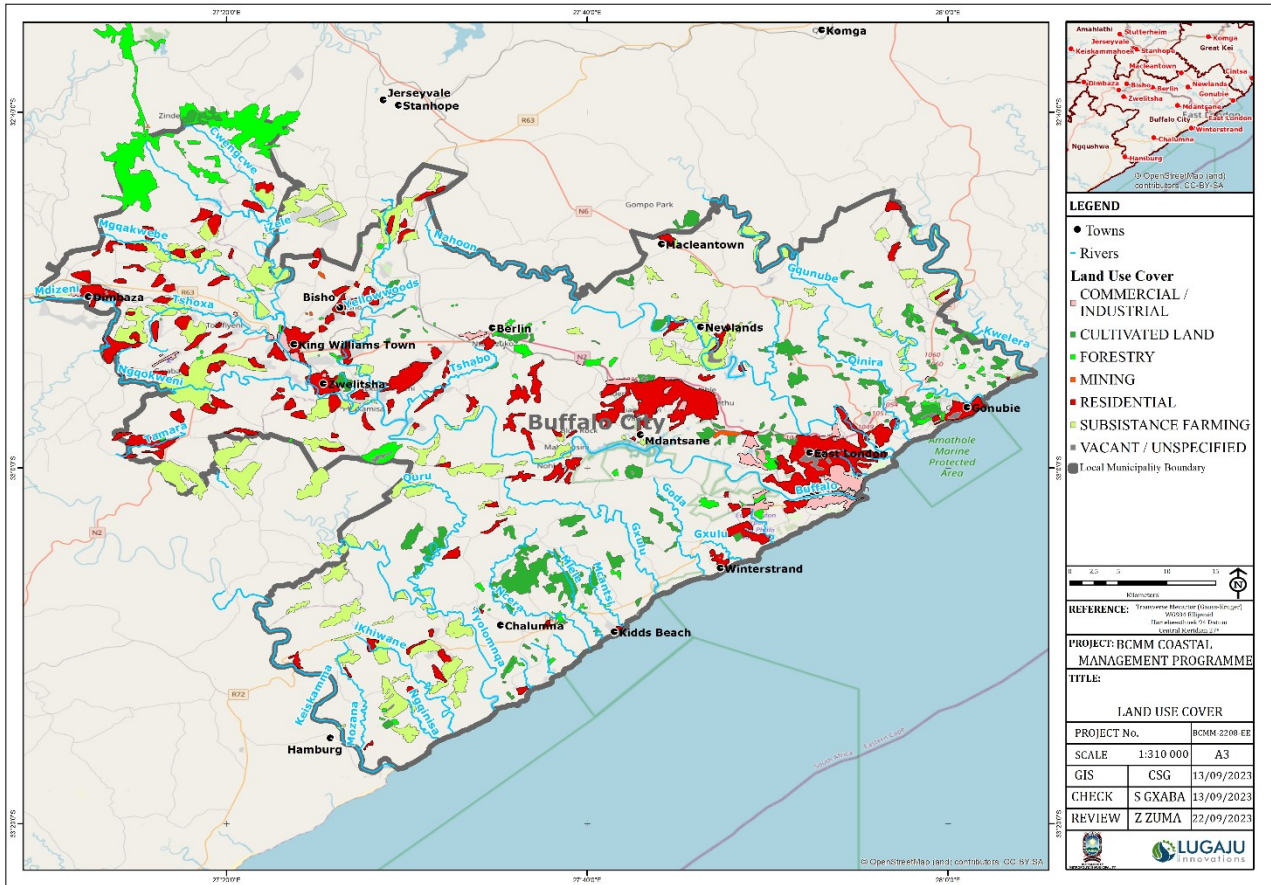


Figure 7: BCMM land use Patterns.

1.5.2 Biophysical Overview

BCMM’s jurisdiction extends from sea level along the coastal belt to a plateau of elevation between 450m and 850m above sea level. Due to its locality and altitudinal variations, BCMM is rich in floral and faunal biodiversity, endowed with a diverse ecosystem, which supports a variety of preservation-worthy animal and plant-life. These fauna and flora are mainly found along the sensitive coastline and in a “band” or “Conservancy Network” running north-westerly towards the northern boundary of the Metropolitan Municipality (refer to Sub-Tropical Thicket Ecosystem Planning Programme: STEP).

The topography is dissected by major river systems and incised river valleys which run parallel to each other in a south easterly direction through the municipality, which has resulted in a fragmented landform, characterized by steep valley slopes and ridges. Consequently, achieving large-scale uniformity of development on flat land is a challenge and this significantly impacts the cost of provision of services within the region. Typically, human settlements are necessarily confined to pockets of developable land.

The nature of the terrain and the consequent need to develop land in developable pockets provides opportunities for sensitive urban design to integrate open spaces with the built environment. Poor land administration practices and over-concentration of people who are resource-reliant in parts of the Metropolitan Municipal area, resource degradation has occurred in both urban and rural areas of Buffalo City Metropolitan over time. Nevertheless, some valuable

pristine areas, which offer opportunities for conservation and appropriate management remain. These natural assets, however, are often inaccessible to the poor and marginalized members of the Buffalo City Metropolitan community, and their appropriate management could provide opportunities both for education and recreation for those who can ill-afford more commercially orientated entertainments.



Component	Summary
The BCMM Coastline	<p>The Buffalo City Metropolitan Municipal area (BCMM) coastline is located within the warm temperate south coast of South Africa. It stretches 82km from the west bank of the Kwelera River mouth in the north- east to the east bank of the Keiskamma River mouth in the south- west. This comprises just under 10% of the total length of the Eastern Cape coastline, and 2.6% of the length of South Africa’s coastline. This section of South Africa’s coast has, for the most part, been well protected from development and remains in near natural condition with a diversity of coastal habitat types and functional ecosystems.</p> <p>The East London Coast Nature Reserve (ELCNR) comprises of several small nature reserves that are managed collectively as one (Protected Area management Plan, 2019). The nature reserves in the ELCNR that fall within the BCMM jurisdiction include:</p> <ul style="list-style-type: none"> • Kwelera • Blue Bend • Cove Rock/Igoda • Gxulu • Kidd’s Beach • Kayser’s Beach • Chalumna • Kiwane • Christmas Rock to Gxulu River Mouth and Nahoon Point to Gonubie Point Marine Protected Areas making up the Amatole Marine Protected Area (MPA)

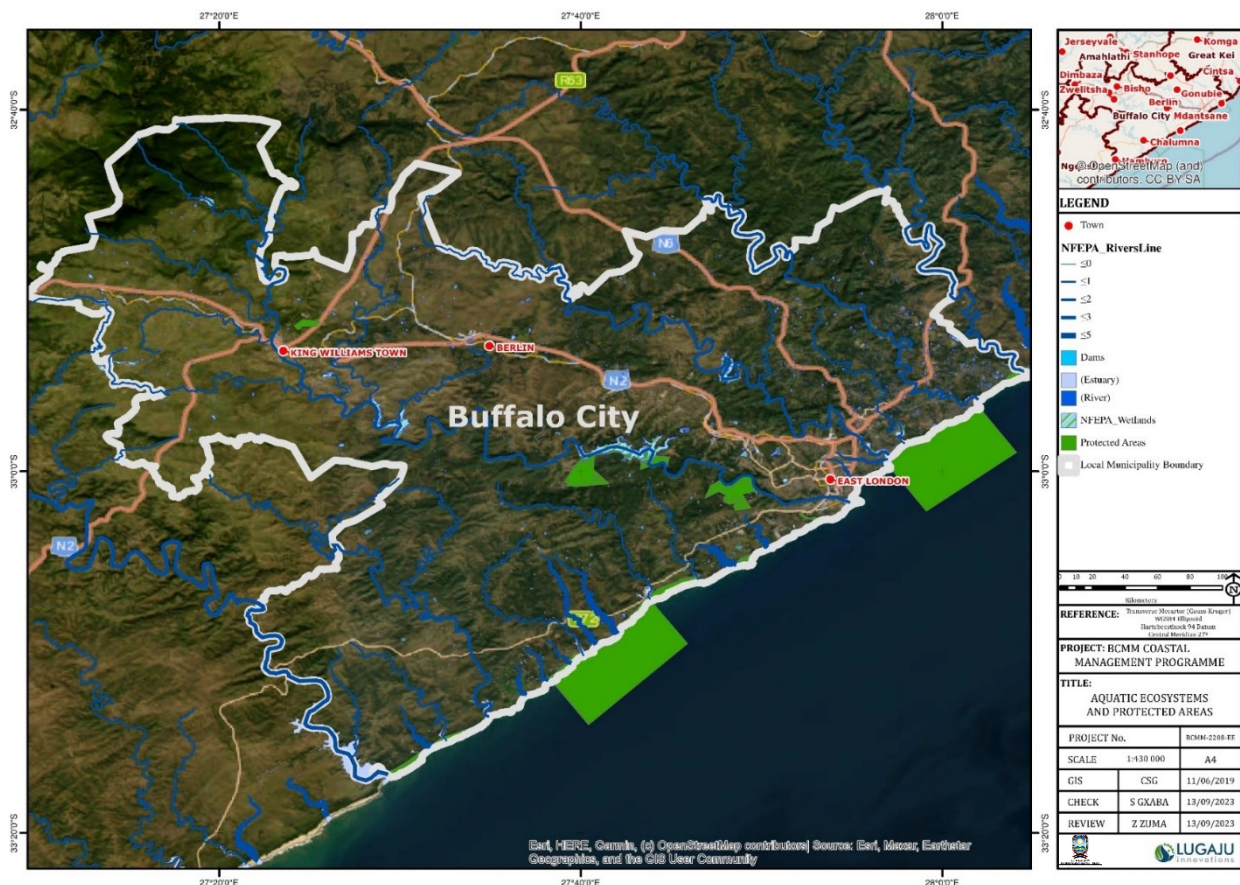


Figure 8: Aquatic Ecosystems & Protected Areas

Component	Summary
Estuaries	<p>The BCMM area falls across seven main river catchments: the Kwelera, Gonubie, Nahoon, Buffalo, Gxulu, Tyolomnqa and Keiskamma River Catchments. Some of these 'catchment areas' include several short rivers draining directly into the sea rather than one large river. The municipal area contains 22 estuaries, which comprises 14% of the province's estuaries. These range from large open to small closed systems. At present, the estuaries within the BCMM area are afforded minimal protection, with only a small portion closer to the mouth of the Nahoon Estuary being part of the Blue Bend protected area, which is part of the ELCNR, the extreme coastal extent of certain others fall within nature reserves. In terms of biodiversity (conservation) importance rating, Tyolomnqa, Nahoon, Quinera, Gonubie and Kwelera estuaries are categorized under <i>important</i>, with the rest of the estuaries being categorized as <i>low to average importance</i> (National Biodiversity Assessment (NBA), 2019).</p> <p>Six areas comprise direct anthropogenic (human) pressures on estuaries: land use, pollution, exploitation of living resources, artificial breaching (modification of estuary mouths), and water resource utilization (Van Niekerk <i>et al</i>, 2020). Other sources of pollution include residential and industrial wastewater, storm water runoff from the city Centre, landfill leachate and pollution associated with port activities such as spillages, repairs, and waste disposal (Nahoon Estuary Management Plan (2016) & Buffalo River Estuary Management Plans (2018)). Water flowing through the fish ladder was also identified as a point source of organically enriched and bacterially contaminated water (Nahoon Estuary Management Plan, 2016).</p>

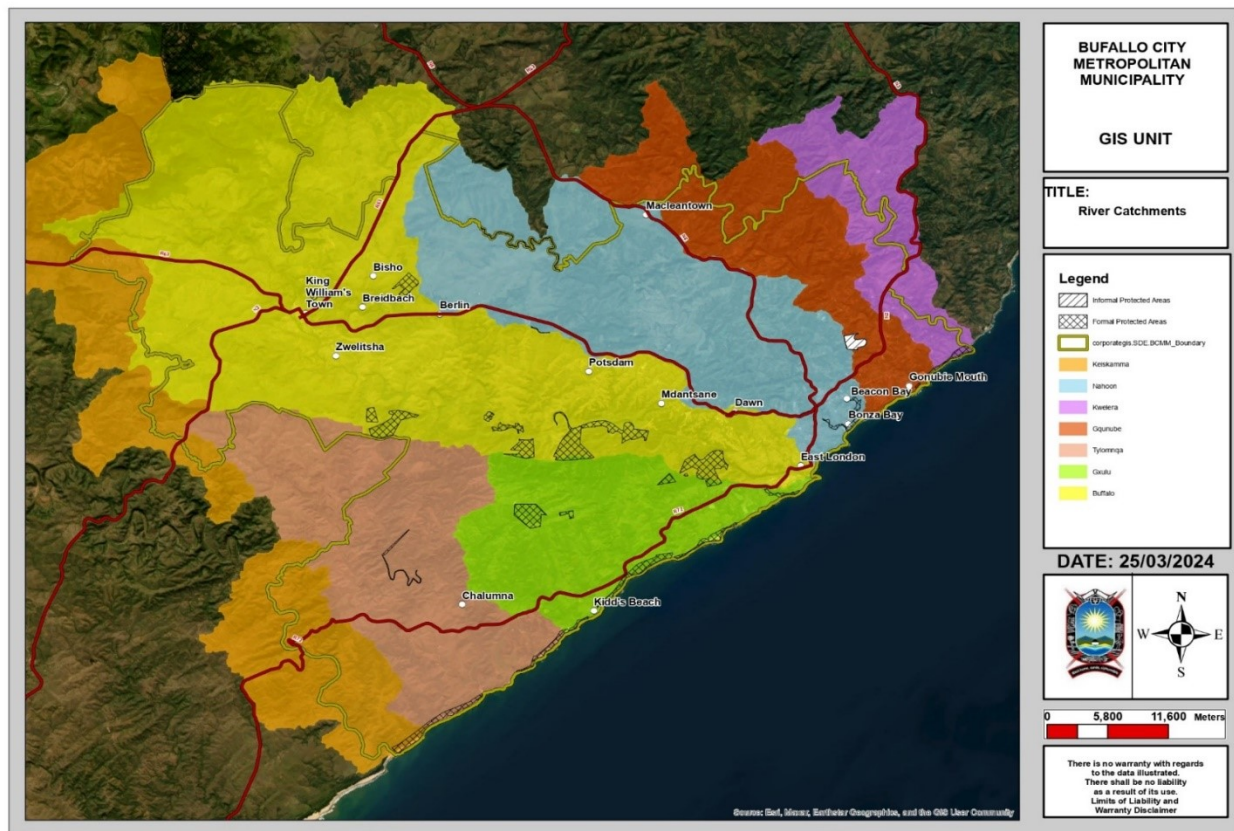


Figure 9: Map of the Major River Catchments in the BCMM area.



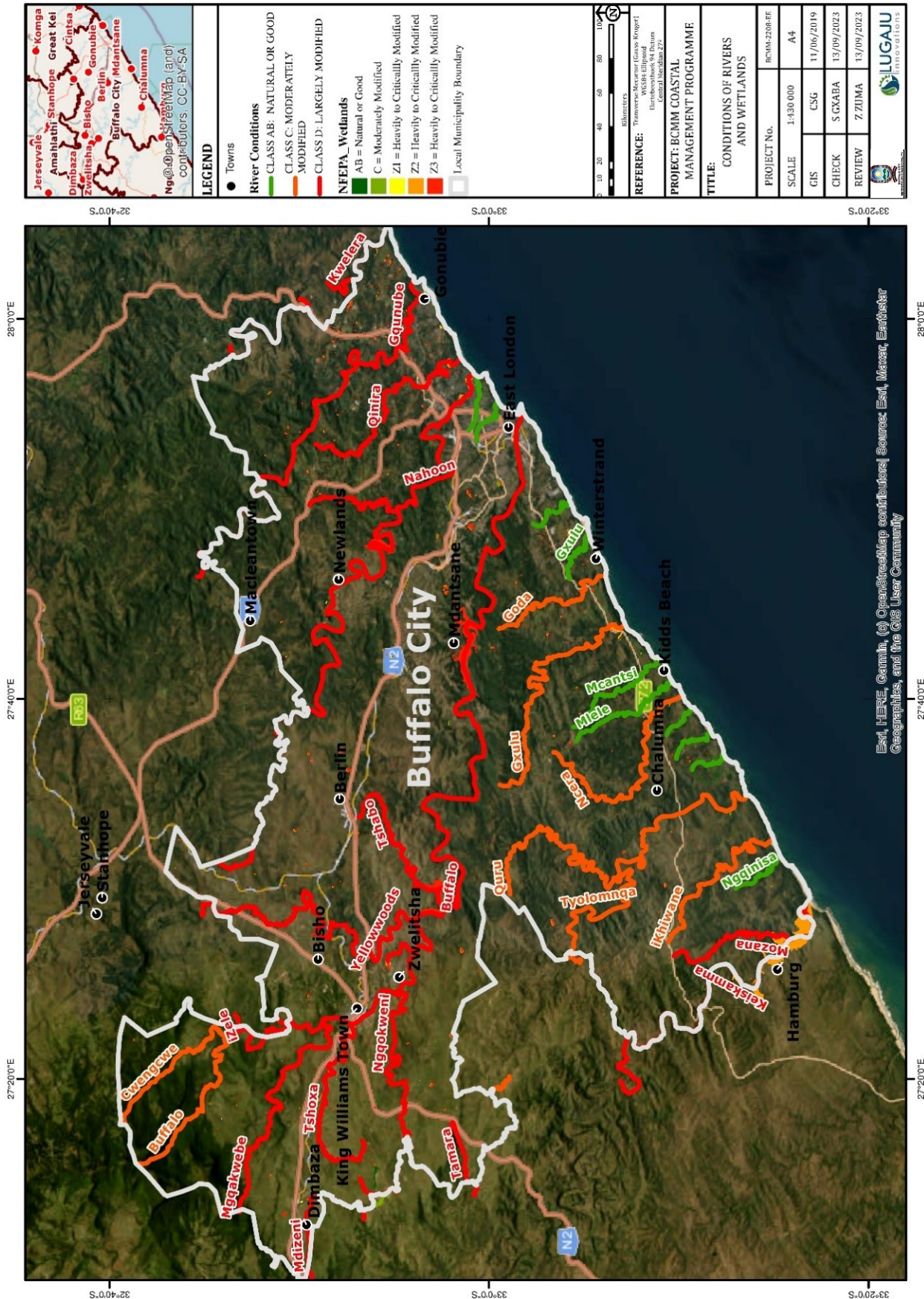


Figure 10: BCMM River & Wetlands conditions (Source: SANBI GIS)

Component	Summary
Ecosystem Health	<p>The coastline within the BCMM area is an asset that offers many opportunities for economic development and social well-being. However, harnessing these opportunities in a way that does not degrade the coastal ecosystems that underpin them requires careful planning and ongoing management. An important point to bear in mind is that coastal ecosystems (including estuaries, beaches and the near-shore ocean) can be degraded not only by coastal development and resource use, but also by development inland that results in pollution of rivers and changes in river flow patterns, as these impacts are transferred downstream to the coastal zone, affecting the quality, productivity and stability of coastal ecosystems.</p> <p>The estuary pressure assessment (NBA, 2019) has several categories including cumulative, flow, pollution, habitat loss, fishing effort, artificial breaching, and invasive species and all the other estuaries were rated low and medium except for Buffalo River, Nahoon, Gonubie and Kwelera estuaries. The Buffalo River estuary is rated high and very high under cumulative, flow and fishing effort. Nahoon on the other hand is rated high for pollution, fishing effort and invasive species. Gonubie estuary is rated high for invasive species (fish) and Kwelera estuary for fishing effort. According to NBA (2019) there are four classification categories for estuaries including natural state (A), near natural (B), moderately modified (C) and heavily modified (D). Majority of the estuaries fall under category A and A/B. Gxulu estuary and Qinira estuary fall under category B/C. Nahoon falls under category C and then Buffalo River estuary was then classified as class D (heavily modified) because of modifications that resulted in the loss of biota, natural habitat, and essential ecosystem services (Figure 10). Coastal areas are thus inherently areas of great opportunity, but also areas of great sensitivity, dynamism, and risk. The uniqueness of coastal areas and the need to manage the complex pressures on coastal ecosystems requires special attention in government planning and management.</p>

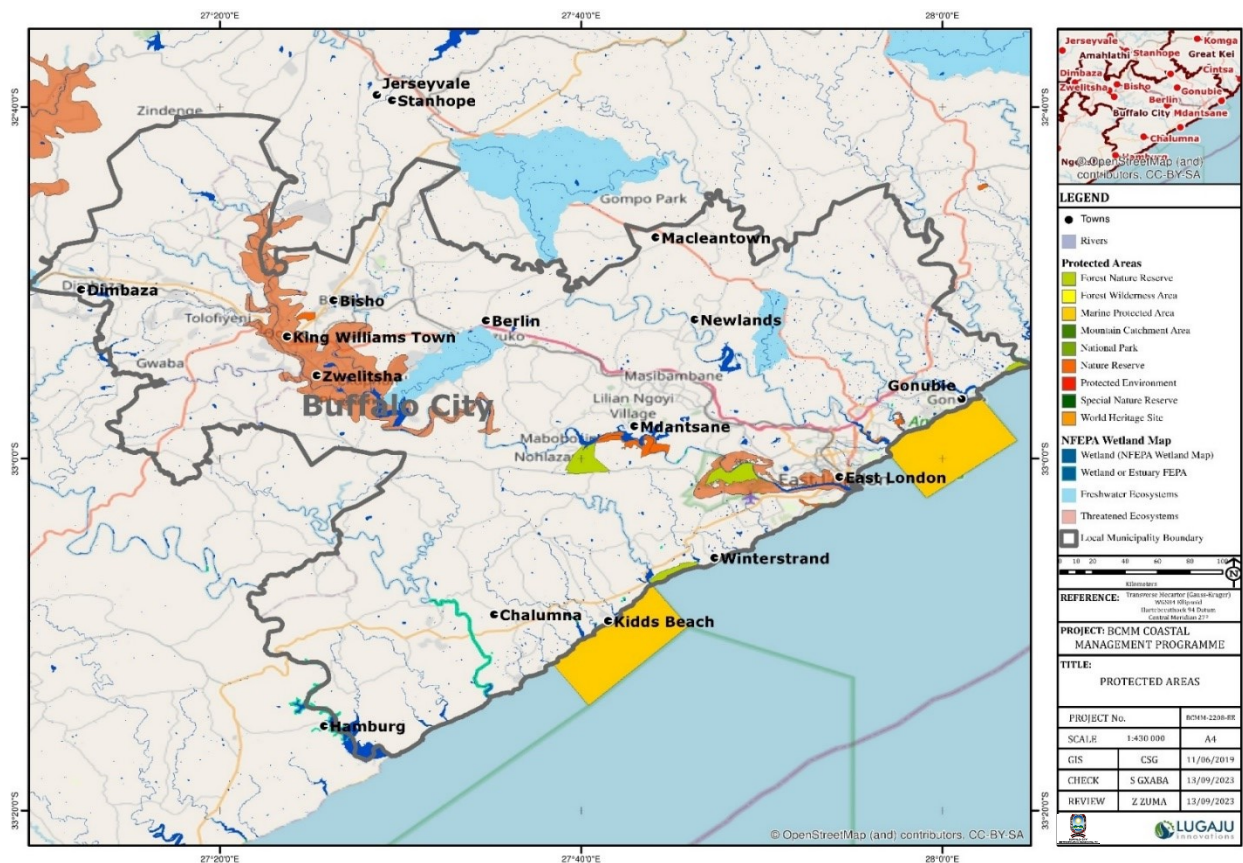


Figure 11: Protected areas and ecosystem health.

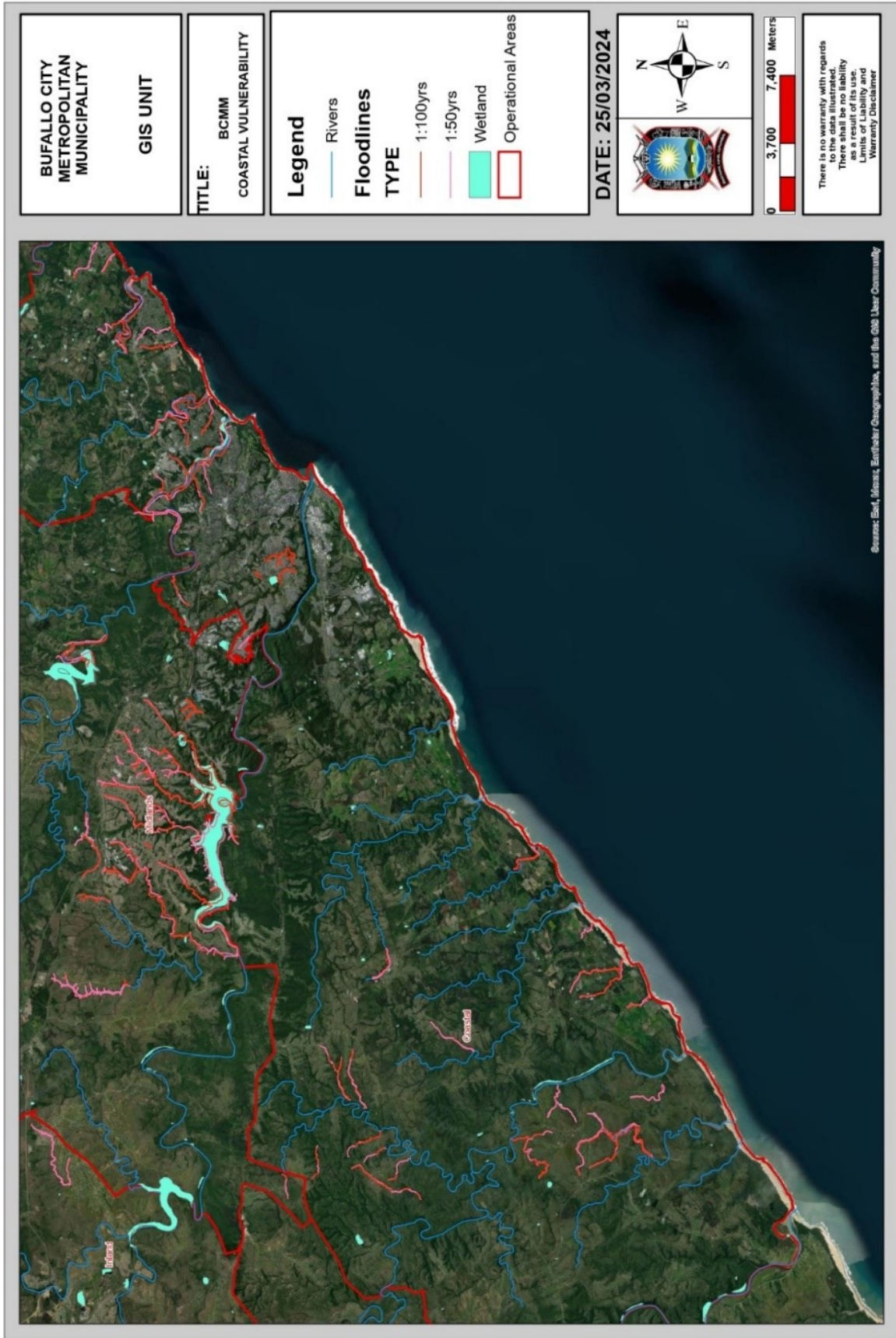
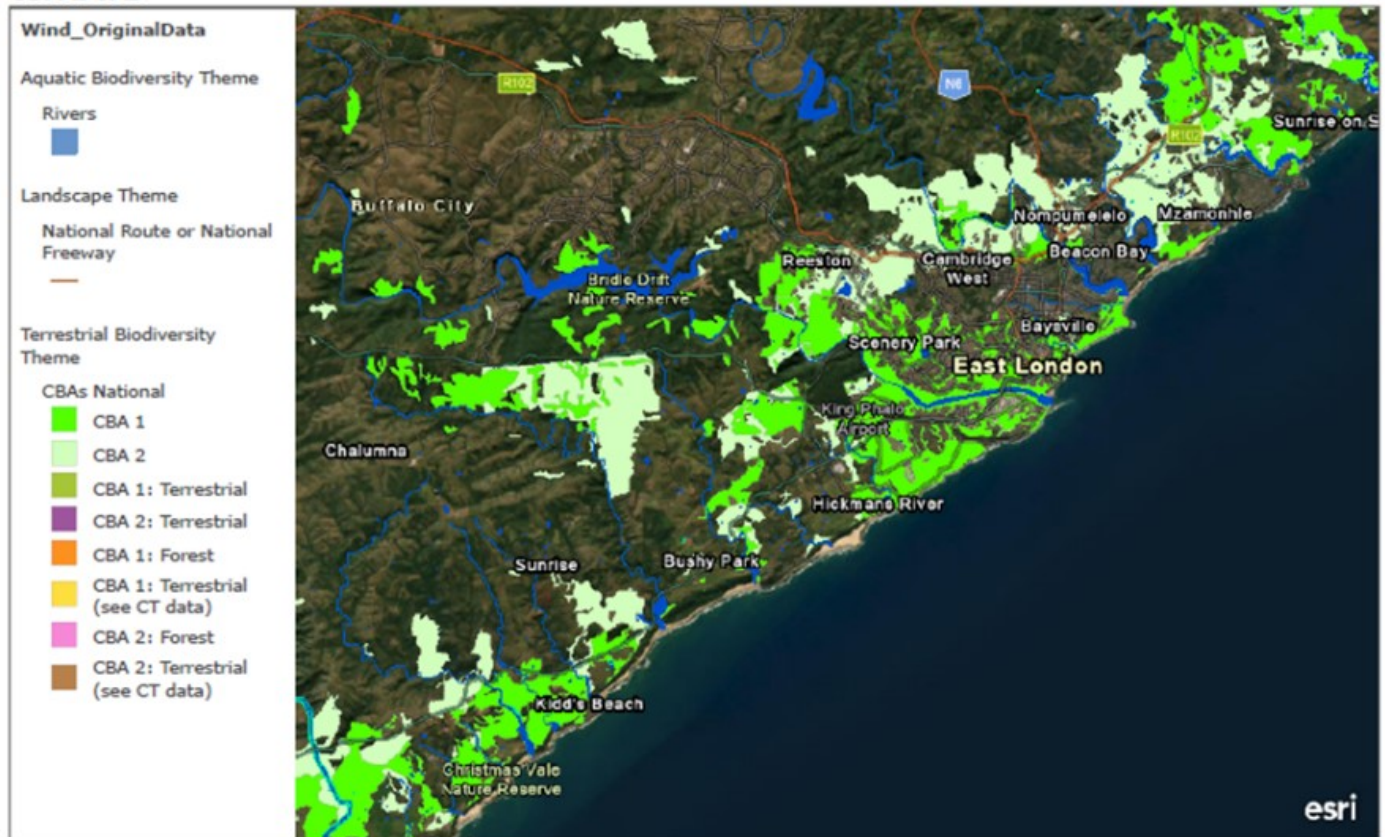


Figure 12: BCMM Coastal Vulnerability



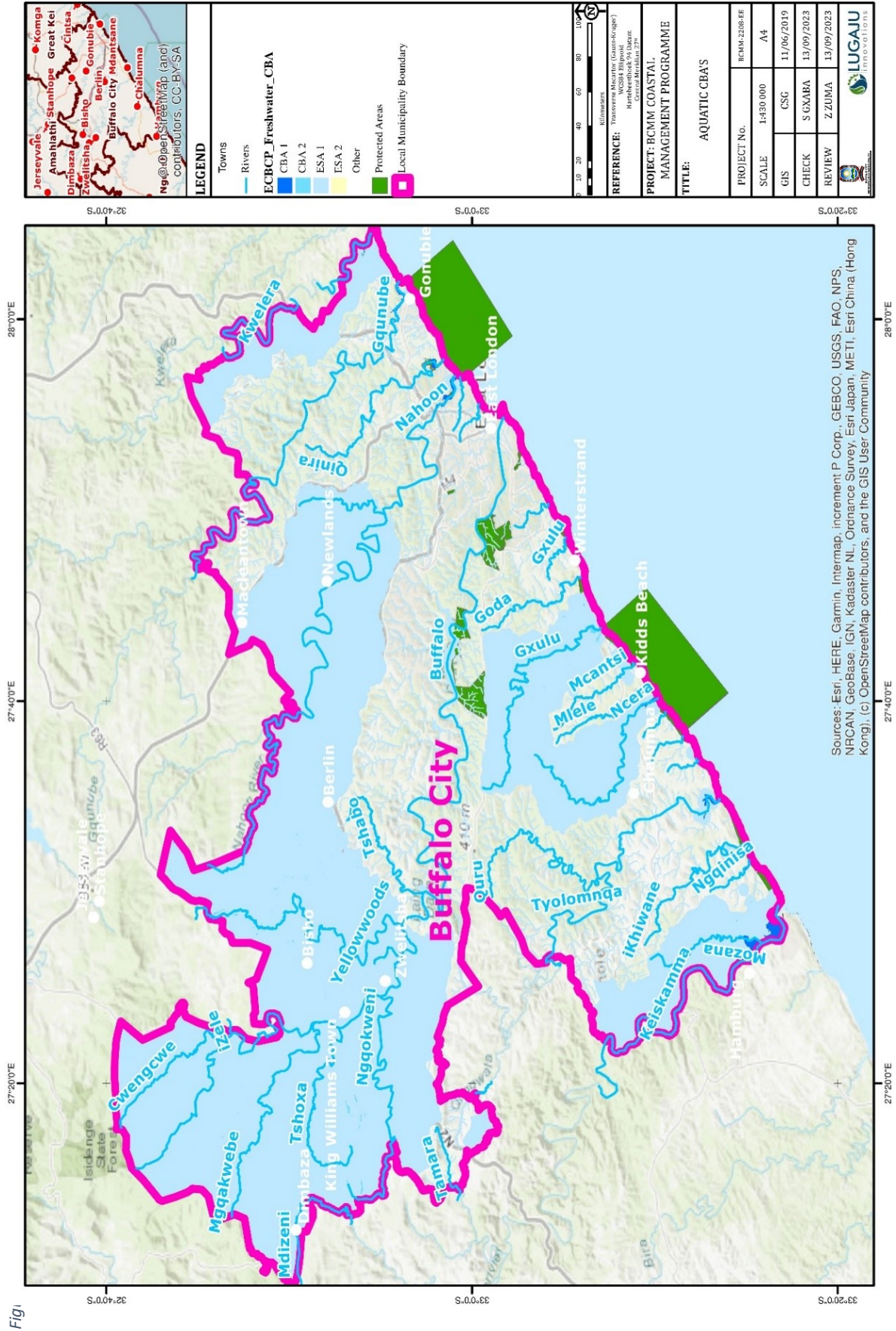
Component	Summary
Bioregional and Local Conservation Plans affecting the BCMM Coast	<p>The Eastern Cape Biodiversity Conservation Plan (ECBCP) identifies Critical Biodiversity Areas and provides for Biodiversity Land Management Classes (BLMC), or guidelines of permissible land uses to conserve biodiversity. This includes the Systematic biodiversity planning analysis undertaken in 2019 and biodiversity priority areas identified by other systematic biodiversity planning projects, such as the Subtropical Thicket Ecosystem Project (STEP). The ECBCP developed two maps, one showing the terrestrial CBAs and the other the aquatic CBAs.</p> <p>Terrestrial CBAs as identified in the ECBCP show that without exception, all coastal areas in the BCMM fall within Terrestrial CBA 1 and CBA 2 areas. This indicates that all development in the coastal zone needs to be considered in the context not only of local biodiversity and ecosystem protection priorities, but also into terms of regional conservation requirements.</p> <p>A large-scale plan has been created for the entire Eastern Cape Province and it should be utilized as a planning tool for a significant geographic area. According to the Biodiversity Plan below, 15% of BCMM's land cover is taken up by BLMC 1 (CBA 1). CBA 1 is primarily found in the native forests surrounding the Maiden Dam in the northwest, along the Buffalo River below the Laing Dam, and along the western coastline. BLMC 2 (CBA 2) takes up an additional 29% of the land area.</p> <p>The Keiskamma and parts of the Gxulu river catchment area (in the coastal section) are included as Aquatic CBA 1 areas that require special consideration in respect of future transformation given their importance in protecting key estuaries and associated coastal ecosystems.</p>

CBA 1 & 2



Earthstar Geographics | Esri South Africa, Esri, HERE, Garmin, Foursquare, METI/NASA, USGS

Figure 13: Terrestrial CBA's as identified in the ECBCP (2019)



Component	Summary
Subtropical Thicket Ecosystem Project	<p>The Subtropical Thicket Ecosystem Project (STEP) is a bioregional conservation plan for South Africa's Thicket Biome, which stretches from the Gouritz River in the Western Cape to the Kei River in the Eastern Cape and inland as far as Graaff-Reinet.</p> <p>Figure 15 shows that the coastal area between the Gonubie and the Kwelera rivers forms part of the STEP Mega-conservancy Network that aims to secure the major core and corridor network of thicket biome. The STEP also identified a 'coastal corridor' that runs along the entire length of the BCMM coastal zone.</p> <p>Development in these STEP areas must be planned in such a way as to ensure that sub-tropical thicket areas with a high conservation value are conserved, and that there are adequate linkages between major 'core areas' of thicket habitat.</p>

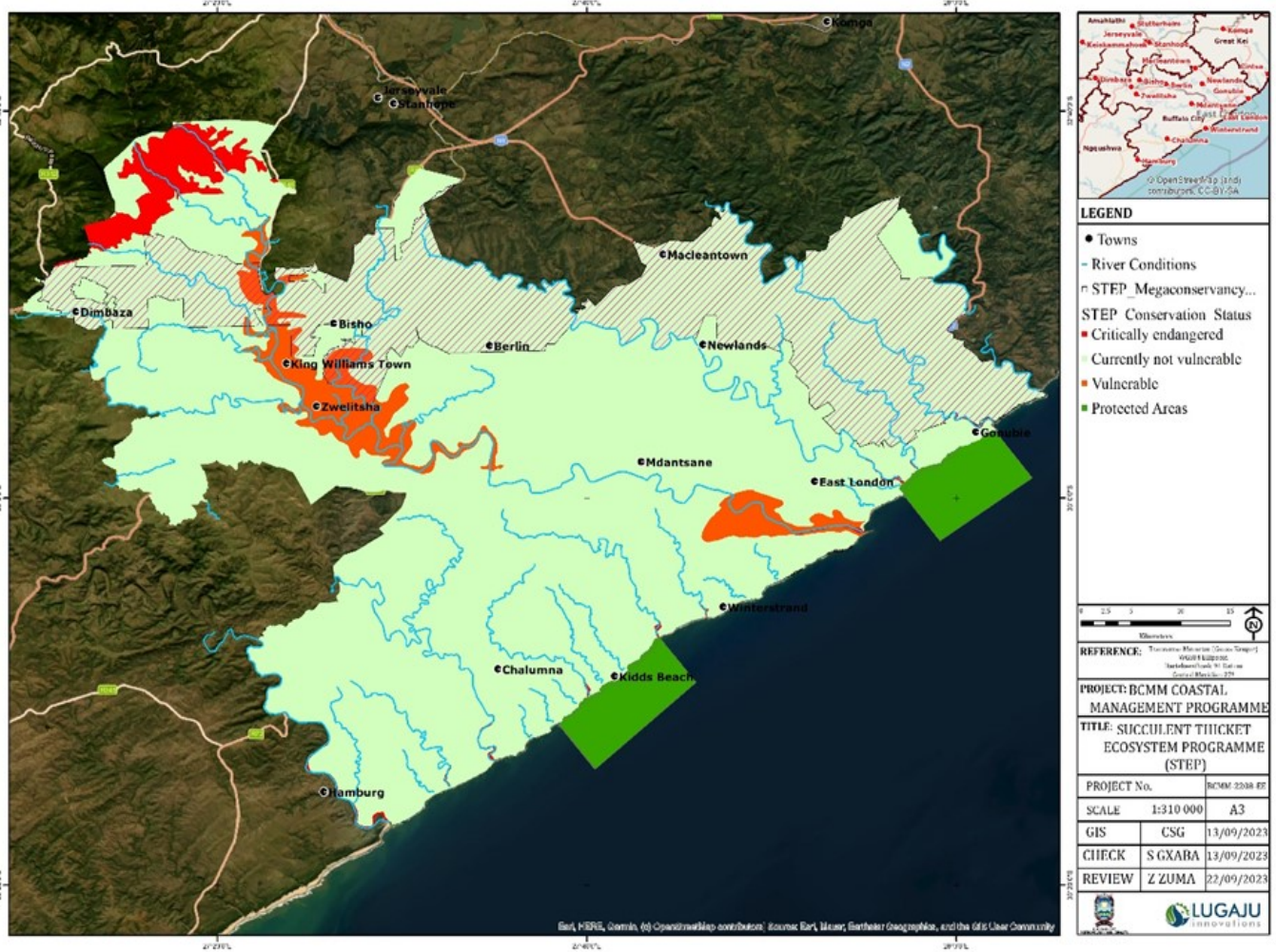


Figure 15: Subtropical Thicket Ecosystem Programme (STEP)



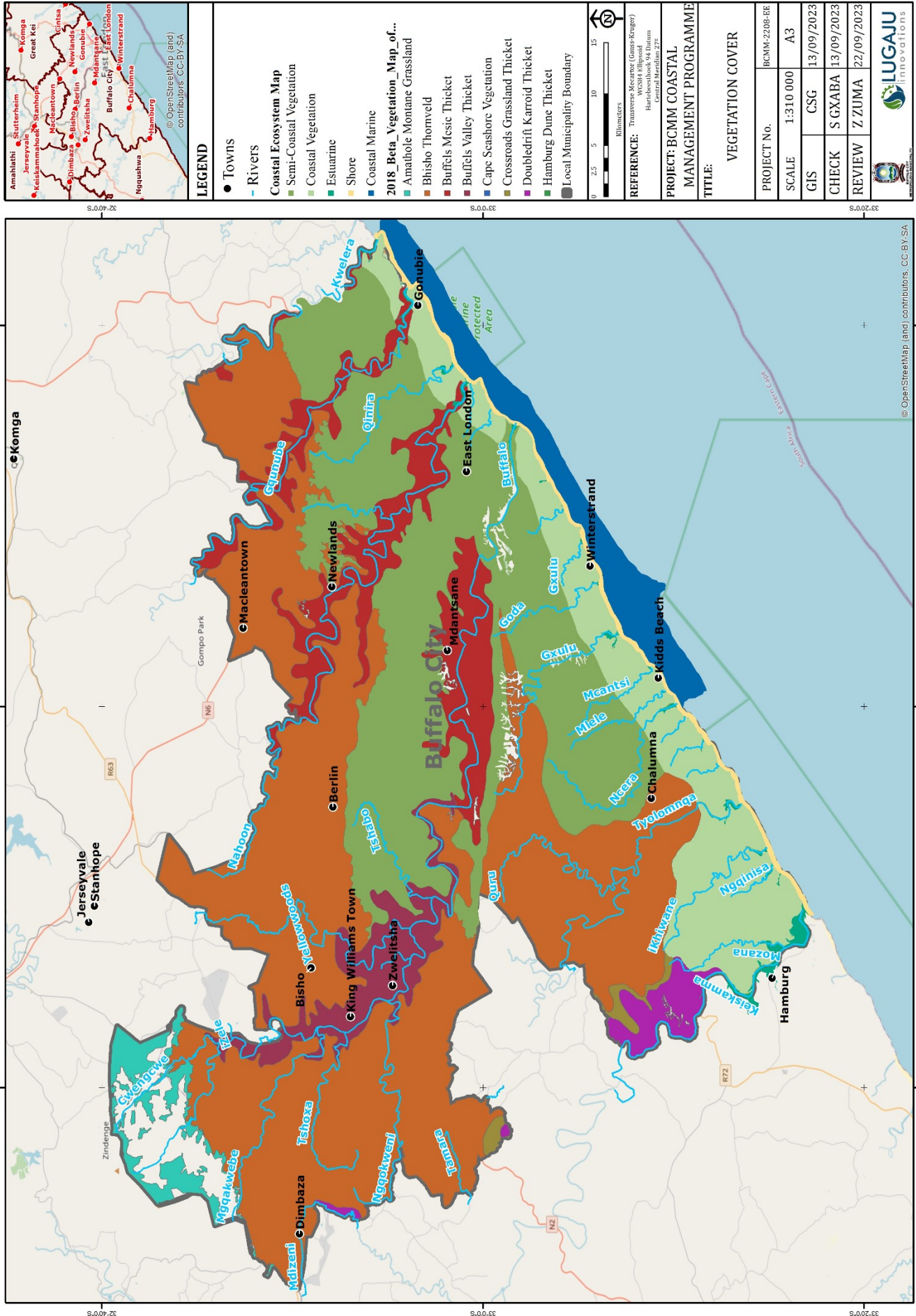


Figure 16: BCMM Vegetation Cover

1.5.3 People & the coast

1.5.3.1 Demographics & Human Settlement

When analysing an economy, population data are crucial since population increase has a direct and indirect impact on employment, unemployment, and other economic indicators including economic growth and per capita income. In 2020, the Buffalo City Metropolitan Municipality, with 891 000 residents, hosted 1.5% of all South Africans (South African Regional Explorer, 2020).

The BCMM IDP report (2022/2023) was consulted regarding the socio-economic status of the area, and it shows that the population grew by an average of 1.22% per year between 2010 and 2020, which is slightly less than South Africa's overall growth rate of 1.55%. The population growth rate for Buffalo City was 1.22%, which was slightly higher than the province's average yearly growth rate of 1.00%. When compared to other regions, the Buffalo City Metropolitan Municipality accounts for a total population of 891,000, or 12.2% of the total population in the Eastern Cape Province, with the O.R. Tambo being the most populous region in the Eastern Cape Province for 2020. The Buffalo City Metropolitan Municipality's population forecast indicates a projected average annual growth rate of 1.1% between 2020 and 2025. Over the anticipated time, the population of South Africa and the Eastern Cape Province has grown by an average annual rate of 1.3% and 1.0%, respectively. According to estimates, the average growth rate for the Eastern Cape Province will be 1.0%, which will be slower than that of the Buffalo City Metropolitan Municipality. Buffalo City's growth rate is greater than the predicted average annual growth rate for South Africa, which is 1.3%.

Historically, due to its relative distance from the major centres of economic activity, the Metro's levels of development have been badly impacted. The Metro's levels of development have been significantly impacted by its relatively remote location in comparison to the major centres of economic activity in South Africa (Johannesburg, Cape Town, and Durban) and by "separate development" strategies' devastating sociopolitical and economic effects prior to 1994 (BCMM SDF, 2020). Consequently, while having a population of close to 900,000, the bulk of them are at a disadvantage due to their difficult living conditions, lack of education, and lack of skills. A rise of -3.62 percentage points can be seen in the percentage of individuals living in poverty, which climbed from 57.74% in 2010 to 61.37% in 2020 (BCMM IDP, 2022).

The legacy of Buffalo City Metropolitan's uneven and modest economic growth has contributed to its distinctively fragmented land use and settlement pattern, which is characterized by low density (low intensity of development).



The following traits are mentioned: -



The BCMM IDP 2022/2023 projects the current population for the metro area at some 891,000 people in approximately 248,229 households (BCMM IDP2022/2023, pg. 112).



The buying power within Buffalo City Metropolitan Municipality is relatively small compared to other regions and it decreased at an average annual growth rate of - 0.25%



At an estimated 42,70%, BCMM's unemployment rate is higher than that of Eastern Cape (BCMM IDP 2022/2023, pg. 162)



In 2020 13.95% of all the households were living on R30 000 or less per annum (BCMM IDP 2022/2023, pg. 112)



The Municipality's formal housing backlog is estimated to be over 71 300 units (BCMM IDP 2022/2023, pg. 112).



There are about 10 800 informal households in the municipality. Additionally, without a formal link to services (BCMM IDP 2022/2023, pg. 111).

Figure 17: Demographics & housing (Adopted from the BCMM SDF 2020 & BCMM IDP 2022/2023)

In response to this overall need, 12 housing projects are currently under construction, providing about 9,558 housing options, and about 10 additional housing projects are anticipated to provide an additional 6,096 housing chances.

The development of 15,654 state-subsidized housing opportunities is mentioned for the medium term. Only 4 out of the 22 projects, however, can be deemed to be well-located in terms of giving housing recipients preferential access to prime locations for social and professional possibilities.

An analysis of the affordability profile highlights the gap between affordability and what the private housing market appears to be able to offer given current market conditions and suggests that private and institutional rental housing products (both the bond market and Social Housing/Institutional projects) would account for less than 8% of the total market from the perspective of economic access to housing opportunities. The state's (BCMM) capacity to provide housing options that are not only inexpensive for their beneficiaries but also, critically, well-located to represent positive assets enabling households to better their life chances in the local economy, is put under scrutiny as a result.

1.5.3.2 Socio-economic Aspects

The Buffalo City Metropolitan Municipality had a total GDP of R 83.8 billion and was the second-largest regional economy in terms of its contribution to the GDP of the Eastern Cape Province, behind only the Western Cape. Disposable income, too, is scarce in Buffalo City as a whole and there is a consequent need to focus on overcoming the legacy of under-development affecting its people and the local economy. The overall lack of disposable income in Buffalo City necessitates a focus on eradicating the effects of underdevelopment on both its residents and the regional economy. In 2020, the unemployment rate in Buffalo City Metropolitan Municipality was 42.70%, which is an increase of 16.6 percentage points, higher than that of Eastern Cape.

The East London and King Williams Town CBDs, as well as regional shopping malls like the Hemmingway, Vincent, and Beacon Bay, are just a few examples of the nodal network of developments that define BCMM. This pattern enables the decentralization and reduction of crowding and pressure in the CBDs, as well as the growth of the land and sea areas to increase accessibility for people. Due to the shift in skills needed in alignment with the technological advancements, there has been an increase in the unemployment rate. The unemployment may be expected to continue because of the fourth industrial revolution (4IR) transition, where technological advancements are gradually replacing labour-intensive methods in many of the commercial farming regions of BCMM. The need for settlement and land in these places is becoming more ambiguous and dynamic because of this.

Positively, the East London Development Zone (ELIDZ) has developed through time and now offers major growth potential, which inspires the strategic commitment to the growth and expansion of urban settlement extensions in the West Bank of the East London city region. This is especially true given the automobile manufacturing plant owned by Mercedes Benz of South Africa's proven medium-term investment commitment to the West Bank region and the positive ripple effects this has on the neighbourhood's economy.

Tourism experienced the slowest increase, growing at an average annual rate of -17.51% between 2010 (168 000) and 2020 (24 500). From 2010 to 2020, the number of domestic tourists has decreased at an average annual rate of -15.77%, while in the same period the international

tourists had an average annual decrease of -6.77%. The total number of bed nights spent by tourists decreased at an average annual growth rate of -14.31% from 5.7 million in 2010 to 1.22 million in 2020. It is apparent that the Metro needs transformation and upgrading to revive and boost the tourism consumption structure of the region as it is one of the most important standards to measure the tourism development of the region (Liu & Zhang, 2018). Liu & Zhang (2018) emphasize that there must be changes and adjustments to the development pattern and direction when the tourism business reaches a particular scale and degree of development. Estuaries are frequently the focus of recreational activities along the coast since they are a major draw for residents and tourists and can thus potentially bring in money through well managed tourism efforts. The primary recreational activities along the coast include boating, fishing, canoeing, paddling, surfing, and swimming. Due to the danger that boating poses to the environment and to people's safety, the BCMM has a thorough set of boating prohibitions. To prevent overuse, preserve biodiversity, and keep systems operating naturally, fishing and bait must be carefully managed (Coastal and Environmental Services, 2005a). However, it has been alleged that municipal by-laws, bag limitations, and catch limits mandated by the national government are not being strictly enforced.

In terms of International Trade, the goods exported from the Buffalo City Metropolitan Municipality account for around 2.48% of all exports made in the country. The Gross Domestic Product (GDP) of the Buffalo City Metropolitan Municipality's exports accounts for 41.26% of its overall GDP. R 24.7 billion in merchandise imports accounts for around 2.23% of total national imports. About 2.37% of all trade conducted in the country is conducted within Buffalo City. In 2020, Buffalo City Metropolitan Municipality's trade balance was positive to the tune of R 9.83 billion.

All these interventions and strategies call for careful asset/resource management (both financial and natural), as well as marketing to build the profile of the Metro.

1.5.3.3 The Built-Environment

The built environment is comprised of all the elements that enable us to function on daily basis which include the spatial development, infrastructure, and transportation networks.

The spatial development of BCMM is characterized by a fragmented settlement, which then divides communities under the BCMM jurisdiction, because of the landform (topography) and historical planning and development strategies in the area (BCMM SDF, 2020). Consequences of this include high socio-cultural divides across communities, major social and economic costs, and costly inefficiencies in the servicing and operation of the built environment.

The dynamic character of population flows between urban and rural settlement components of BCMM is a defining element of their interaction. People who maintain ties to rural settlement areas but frequently commute to metropolitan areas in search of economic and service possibilities due to the phenomenon known as "straddling," which is a specific response to the degrees of socioeconomic development in the region. This tendency contributes to the emergence of informal settlements, together with historical shortages of cheap housing. Such informal settlement is especially noticeable in areas like Duncan Village, close to East London's Central Business District, where there is a considerable demand for informal residential housing that is placed quite close to centres of work in the Central and West Bank areas of the city.

Urban renewal must be seen as offering a significant chance to address persistent issues in these areas, allowing BCMM to concentrate on the development of renewed built environments where appropriate densities of spatial development offer opportunities for better and more efficient servicing, the development of accessible facilities, and the establishment of public transportation hubs.

In terms of infrastructure, Bulk infrastructure (water and wastewater) networks are concentrated around the urban areas that make up the Municipal Area, such as greater East London/Mdantsane and King Williams Town. One of the main issues with the BCMM is that areas of excess capacity frequently do not line up with areas of greatest demand or strategic importance to a consolidated and efficient urban settlement pattern and integrated traffic movement network. As a result, interest in developing areas that are physically far from the major hubs of economic activity and employment opportunities often increases. Consequent to this, there is a limited amount of excess bulk capacity in the main water and/or wastewater networks serving greater East London's strategic priority areas, which slows down the pace of land development in these areas, such as the Central Wastewater Catchment Area (Duncan Village, Haven Hills, Amalinda and surrounding areas). To maximize the potential for the development of large-scale, strategically well-located housing and industrial development (East London IDZ), several projects are required in the Central East London/Duncan Village, Mdantsane/Reeston, and West Bank areas. These areas are primarily comprised of wastewater infrastructure networks. This will create new prospects for development and urban revitalization. In addition, the risk of raw sewage being deposited into the major river channels and ultimately into the coastal zone will be decreased.

Given the disjointed and ineffective settlement pattern described above, the significance of the road, rail, and public transportation networks and systems available to the residents of Buffalo City Metropolitan assumes an even greater significance than is the case in better integrated and interconnected urban environments (where public transportation remains a crucial component of a functional city). In the broader East London area, cross-town (east-west) mobility is restricted by the spatial distribution and architecture of road (and rail) networks, which primarily follow spurs and ridgelines. People who live in places with the least access to opportunity tend to depend on public transportation the most.

However, historically, the spatial organization and densities of development in these locations have not been favourable to the viability of the majority of mass-based public transportation options. The result of this is that the most vulnerable citizens have not been adequately served by the physical environment or the public transportation networks that have persisted (mostly the mini-bus taxi business). This then calls for proposals for bridge crossings of Buffalo River and the linkage of the N2 and coastal routes (R72) would facilitate improved mobility of people resident in the Mdantsane/Reeston/Duncan Village areas to areas of current and future opportunity in the West Bank area of the city. These development opportunities will then have consequences on the coastal environment which will necessitate proper planning, management, and monitoring.

When considering the BCMM demographics, socio-economic aspects, and the built environment it can be noted that the overconcentration of production capacities within the Metro has significantly raised communities' vulnerabilities. The associated social and economic vulnerabilities are exacerbated by the City's fragmented settlements from key transportation corridors and gateways, especially the coastal villages. The lack of such integrated linkages limits citizens' access to economic, trade, and capacity building opportunities necessary for long-term development. There is slow rate of economic development, with economic activities unevenly

spread over the spatial economy. This has resulted in high levels of social and economic vulnerability, which, when combined with projected population growth rates and increased urbanisation would necessitate interventions that could significantly increase levels of economic growth and employment while also changing the structure of the economy in an equitable manner. In response to this issue, the coastal environment presents opportunities such as the oceans economy towards coastal economies and livelihoods across the various coastal nodes of the BCMM. This can be in the form of coastal tourism, small scale fishing, aquaculture, marine tourism, marine transport and manufacturing and research.

Table 5: The key Development Proposals and Projects within the Coastal Spatial Focus Areas 1,2 and 4 (According to BCMM SDF, 2020)

SPATIAL FOCUS AREA 1: WESTBANK	SPATIAL FOCUS AREA 2: URBAN CORE- EAST LONDON TO MDANTSANE	SPATIAL FOCUS AREA 2: QUENERA
<p>Key Development Proposals:</p> <p>West Bank Economic Development Corridor – Catalytic Programme Area.</p> <p>West Bank Mass Housing development area approx. 71 340 res units</p> <p>Key Projects and enabling infrastructure:</p> <p>Expansion of MBSA production plant</p> <p>High speed internet cable and associated development opportunities</p> <p>Harbour expansion and deepening.</p> <p>Airport Expansion</p> <p>Water services – especially Wastewater Treatment to serve the West Bank and ELIDZ</p> <p>Roads and bridges(N2/R72) linking West Bank to Urban Core</p>	<p>Key Development Proposals:</p> <p>The MELD and Northwest Development Corridors (2000 res units) - Catalytic Programme Area</p> <p>Mdantsane CBD/Hub Revitalisation – Catalytic Programme Area</p> <p>East London Inner City Revitalisation - Catalytic Programme. Duncan Village Revitalisation, Mdantsane Revitalisation and informal settlement upgrading, Inner City Innovation District, Amalinda Junction, Arnoldton Mass housing development area – approx. 25 695 res units.</p> <p>Key Projects and enabling infrastructure:</p> <p>Roads and bridges(N2/R72) linking West Bank to Urban Core</p> <p>Realignment of R72 through Sleeper site to open it up for development.</p> <p>The Central-Reeston Wastewater Transfer System.</p> <p>Northwest Expressway Extension linking CBD to Amalinda Junction and N2</p> <p>Sleeper site Redevelopment</p>	<p>Key Development Proposals:</p> <p>Quenera Mass housing development area approx. 26 595 res units</p> <p>Beacon Bay to Gonubie Development Corridor</p> <p>Gonubie Main Road Development Corridor</p> <p>Key Projects and enabling infrastructure:</p> <p>The Beacon Bay-Gonubie Link Road and intersections</p>



A stylized graphic of a wave, composed of several overlapping, curved bands in various shades of blue, from dark navy to light sky blue. The wave is positioned on the right side of the page, curving upwards and then downwards.

CHAPTER 2

THE PURPOSE OF THE BCMM COASTAL MANAGEMENT PROGRAM

CHAPTER 2: THE PURPOSE OF THE BCMM COASTAL MANAGEMENT PROGRAMME

2.1 Aim and Purpose of the BCMM CMP

All coastal stakeholders² must provide an Integrated, Coordinated, and Uniform Approach to coastal management in accordance with the BCMM CMP, which is mandated by the NEM: ICMA as a policy directive for Integrated Coastal Management. Thus, the goal of the BCMM CMP is to demonstrate a real commitment to carrying out the Municipal Government's integrated coastal management mandate.

The Metro's CMP is a dynamic, iterative process that requires regular evaluation of coastal management priorities to enhance performance and update plans. For this reason, BCMM's CMP is not a one-time, "cast in iron" program. This CMP specifies the strategies, norms, and standards that the municipality still needs to establish to achieve the management objectives and the vision. Moreover, and maybe most importantly, the goal of this CMP is to outline the municipal roles and obligations related to coastal management.

The purpose of the BCMM Coastal Management Programme is therefore to:

- Meet the statutory requirement in terms of the NEM: ICMA (Act 24 of 2008) for South African coastal municipalities to have a Coastal Management Programme.
- Articulate the BCMM's commitment to coastal protection and management (through a clear vision, set of aims and objectives that are aligned to the local context, provincial and national CMPs).
- Present the Coastal Zone Protection and Management Policy Framework of the BCMM that needs to be adopted and integrated into the planning and operations of all municipal service sectors.
- Present a clear implementation programme for coastal zone management activities and projects, as well as the partnerships that are needed for effective implementation.

² *Organs of state, in all spheres of government, non-governmental organizations, the private sector and local communities.*



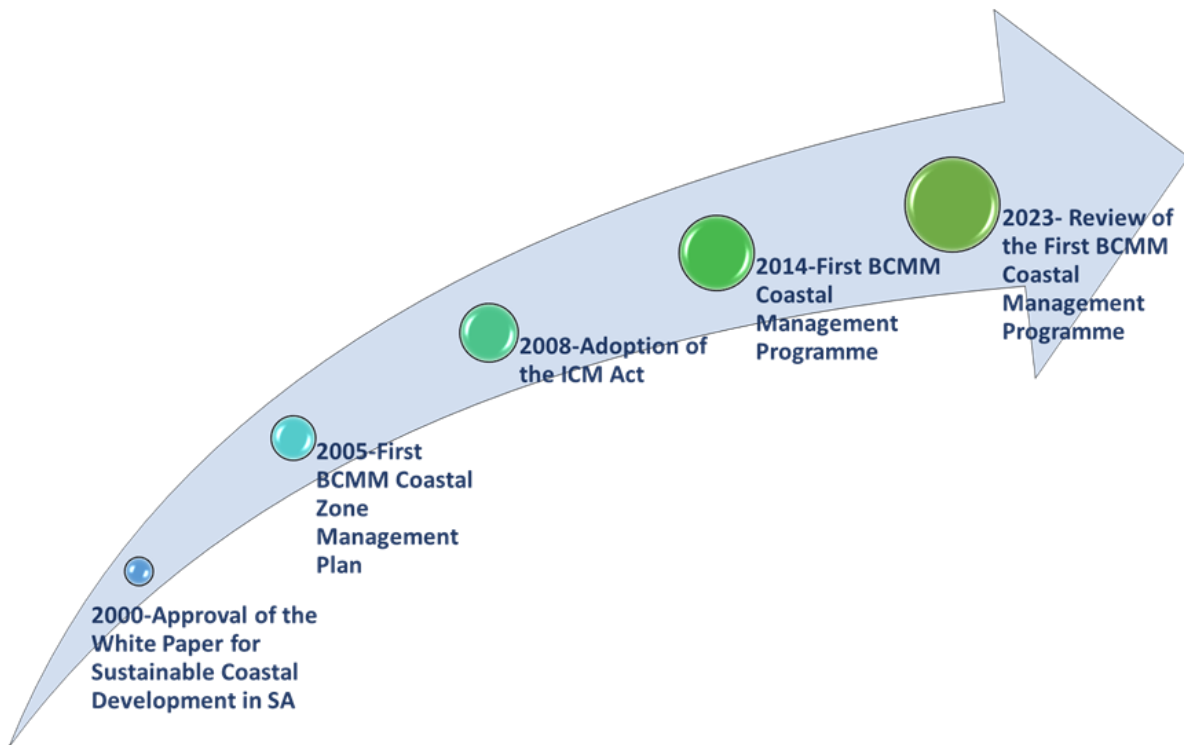
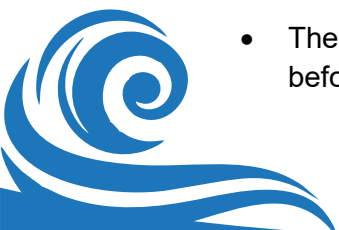


Figure 18: The history of integrated coastal management within the BCMM context.

2.2 The 2024 CMP Review Process

The process of reviewing and updating the CMP considered the extant work which includes several statutes, management programmes and initiatives in place that deal with the coastal management aspects. The review process considered the existing programmes and initiatives from different Government departments, non-government organizations (NGOs) and other stakeholders as basis for the development of the CMP. In undertaking the review of the 2024 CMP, the following process has been followed:

- The 2014 Buffalo City Municipality State of the Environment Report was reviewed and updated. This report informed the identification of issues and coastal management responses required to be included in the 2024 CMP.
- A review of the current national and provincial coastal zone environmental legislations and policies that the Municipality must adhere to.
- A workshop was held with the Coastal Management Committee and environmental stakeholders within the municipal area on the 11th of October 2023. During the workshop the draft updated BCMM CMP was presented, and the attendees presented their perceptions and opinions for consideration, in addition, recurring and emerging issues that needed to be addressed in the updated programme were identified.
- The 2014 CMP was reviewed and updated.
- The Draft CMP was circulated to the key stakeholders in the municipal area for comment before being finalized.



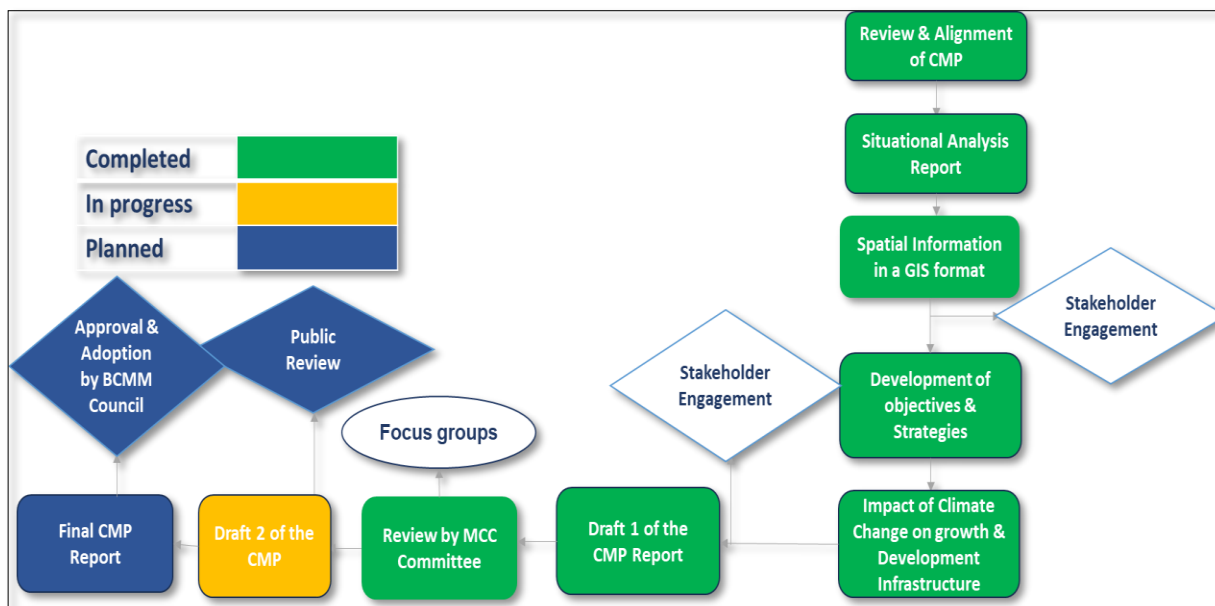


Figure 19: Process Flow of the 2024 BCMM CMP development.

CMPs typically contain the following aspects, which need to be relevant to the area, communities and coastal asset covered:

- A vision for coastal management, including sustainable use of coastal resources.
- Coastal management objectives.
- Priorities and strategies to achieve the objectives.
- Performance indicators to measure progress with achieving objectives.
- Norms and standards for the management of the coastal zone or specific components thereof; and
- A framework for implementation that facilitates participation and cooperation between various stakeholders, including previously disadvantaged communities.

This Coastal Management Programme for the Buffalo City Metropolitan Municipality has therefore been prepared in alignment with the requirements of the NEM: ICMA, the Eastern Cape Coastal Management Programme (ECCMP) (Breetzke, *et al.*, 2013) and National Coastal Management Programme (NCMP) (DEA, 2014 & DFFE 2023 (draft)). According to the requirements of the NEM: ICMA and NCMP, municipal CMP (the BCMM CMP) must be incorporated into the municipal Integrated Development Plan (IDP), Spatial Development Framework (SDF) and zoning schemes.

2.3 The 2014 BCMM Coastal Management Programme: A review of successes and challenges

When reflecting on the progress made in terms of implementing the BCMM 2014 CMP, the progress that has been made is notable in terms of improving corporative governance and bridging the gap and lack of coordination between the municipal department, government departments, NGOs, research, and private sector. This is supported by the formation of joint efforts such as the Joint Operations Committee, a task team for festive seasons which involves collaboration of different departments such as health, tourism, fire, law enforcement to ensure that all the activities are monitored and in cases of incidents it is easy to get assistance. There is also Rate Payers Association for different areas such as Gonubie, Nahoon, Beacon Bay etc which helps residents to address and report issues that affect their areas in collaboration with the Municipality. Border Kei Chamber of Business (BKCOM) which is an association between business owners within the Municipality to ensure that the state of the Metro improves through provision of funds, resources and/or equipment that will assist to address issues that affect BCMM including the coastal zone. BKCOM is defined as *“the recognised “Voice of Business” in the region, working to create an enabling environment for economic activity and a platform for business to flourish”*. There are also many other NGO’s and association which are actively supporting the Municipality towards effective and sustainable coastal management.

To address issues of city planning, coastal vulnerability mapping has been conducted including other assessment such as the climate risk & vulnerability assessment, wetland Identification, invasive alien species monitoring, monitoring and eradication plan and environmental education and public awareness strategy with sand dune and beach management plans in progress. More assessments need to be done including demarcation of coastal management lines and that implementation plans be addressed timeously.

Coastal upgrades and maintenance e.g. Beach Front have been done including establishment of the education centres. Although this is a great progress, beaches within the Metro need revitalization and more recreational activities including theme parks are needed to boost the tourism of the city.

Gadu (2019) identified a few obstacles to climate change adaptation development, including as capacity, skepticism, uncertainty, and change issues. Among the trends identified in the collected data is "change." All parties involved need to consider adjusting to lessen their sensitivity to climate change. For instance, to address the effects of a changing environment, they should all consider substituting some of their antiquated procedures with ones that are more flexible. Reviewing and modifying their climate change-related operations is necessary for government agencies, farmers, businesses, and society at large to reduce their vulnerability to this phenomenon. The empirical data also suggests that skeptics pose a problem for effective adaptation to climate change including those who contest or dispute the reality of climate change. It is doubtful that people who contest the reality of climate change will adjust to it or fully engage in the execution of strategies, plans, or policies.

Another notable trend in the implementation of coastal management plans is capacity, as some of the stated plans cannot be adequately implemented by government agencies. The data suggests that to implement some of the plans and policies effectively, there is a deficit of several forms of capacity, including financial, skill, and human capacity. Regarding climate change, Diederichs *et al.* (2016) assert that insufficient or incorrect reactions arise from a lack of comprehensive information regarding potential climate change and the risk that will arise in the BCMM as a result of climate change.

One of the obstacles to effective climate change adaptation has been noted as the lack of uncertainty surrounding climate change (Gadu, 2019). The empirical data shows that uncertainty about the exact time, region, and degree of change in temperature, seasons, frequency of natural disasters and so on is an issue in the process of adapting to climate change. All parties involved need to know this information to make the necessary adjustments to the changing environment and its effects. The conflict between financial gain and adaptation to climate change is one of the most notable aspects. The information gathered suggests that climate change adaptation is an expensive process, particularly for some stakeholders like farmers.

Although integrated coastal management is a cross-sectoral issue, there are several obstacles that affect the collaboration of institutions. The obstacles include the structure of the South African institutional and policy framework, fragmented policies, the different perceptions about the urgency to address coastal issues including climate change amongst government authorities. Another finding highlighted that the lack of collaboration between institutions exists during the development of related policies; institutions responsible for developing policies do not adequately consider the capacity of the authorities responsible for implementation.



The background features a large, stylized wave graphic in shades of blue. The wave starts as a dark blue shape on the left, curves down and then up into a light blue shape, and finally breaks into several overlapping, curved bands of varying blue tones on the right side. The overall composition is clean and modern, with a focus on the theme of coastal management.

CHAPTER 3

**VISION, PRINCIPLES AND PRIORITIES
FOR COASTAL MANAGEMENT**

CHAPTER 3: VISION, PRINCIPLES & PRIORITIES FOR COASTAL MANAGEMENT

3.1 National and Eastern Cape Vision for the Coast

The National Coastal Management Programme (NCMP) (DEA, 2014) sets out the following vision for the desired future for South Africa's coast:

We, the people of South Africa, celebrate the diversity, beauty and richness of our coast and seek an equitable balance of opportunities and benefits throughout it.

We strive for sustainable coastal development – involving a balance between material prosperity, social development, cultural values, spiritual fulfilment, and ecological integrity, in the interests of all South Africans.

We strive for a time when all South Africans recognise that the coast is ours to enjoy in a spirit of community.

We look forward to a time when all South Africans assume shared responsibility for maintaining the health, diversity, and productivity of coastal ecosystems in a spirit of stewardship and caring. We seek to guide the management of our coast in a way that benefits current and future generations and honours our obligations and undertakings from local to global levels.

The Eastern Cape Coastal Management Programme (ECCMP) (Breetzke, et al., 2013) sets out the vision for the desired future for the Eastern Cape coast as follows:

We, the people of the Eastern Cape, recognise the intrinsic value, and appreciate the scenic beauty, diversity, and richness of our unique coastline.

We aim to take ownership of the coast and foster a spirit of custodianship and shared responsibility as our coast is a unique shared asset, which has social, cultural, ecological, and economic value.

We aspire to manage the coast in an integrated manner that takes both the spiritual and biological value into account.

We strive to utilize the natural resources of our diverse coastline in a sustainable and equitable manner, which maximises the benefits for all people of the province and ensures the long-term maintenance of biodiversity and ecological integrity of coastal habitats.

We strive to promote sustainable development and alleviate poverty in an equitable and participatory manner that considers the requirements of all stakeholders and takes cognizance of the conservation and biological importance of our coastline as well as national and provincial interests.

We seek to guide the management of the Eastern Cape coast in a way that eliminates the threats of unsustainable utilisation of the coastal resources while optimising the opportunities that can be derived from the coastal zone.

3.2 BCMM's Coastal Management Vision

The BCMM Coastal Management Vision is updated from the 2014 Coastal Management Programme to align with the Eastern Cape Coastal Management Plan (2014) as follows:

We, the people of the Buffalo City Metropolitan Municipal area, recognize the intrinsic value, scenic beauty, diversity, and richness of our unique coastline and seek an equitable balance of opportunities and benefits through it.

We aim to take ownership of the coast and foster a spirit of custodianship and shared responsibility as our coast is a unique shared asset, which has social, cultural, ecological, and economic value.

We strive for sustainable coastal development – involving a balance between material prosperity, social development, cultural values, spiritual fulfillment, and ecological integrity.

We strive to provide equitable access to the coast and to utilize its natural resources in a sustainable manner such that the benefits to all people of the municipal area are maximized and the ecological integrity and biodiversity of coastal habitats is secured.

3.3 ICM Guiding Principles

The following Guiding Principles for the management of the coast are presented in the National Coastal Management Programme (DEA, 2014) and apply throughout South Africa:

Table 6: ICM Guiding principles (adopted from the National Coastal Management Programme, 2014)

National Asset	The coast must be retained as a national asset, with public rights to access and benefit from the opportunities provided by coastal resources
Economic Development	Coastal economic development opportunities must be optimised to meet society's needs and to promote the wellbeing of coastal communities
Social Equity	Coastal management efforts must ensure that all people, including future generations, enjoy the rights of human dignity, equality, and freedom
Ecological Integrity	The diversity, health and productivity of coastal ecosystems must be maintained and, where appropriate, rehabilitated
Holism	The coast must be treated as a distinctive and indivisible system, recognising the interrelationships between coastal users and ecosystems, and between the land, sea, and air
Risk Aversion & Precaution	Coastal management efforts must adopt a risk averse and precautionary approach under conditions of uncertainty
Accountability & Responsibility	Coastal management is a shared responsibility. All people must be held responsible for the consequences of their actions, including financial responsibility for negative impacts
Duty of Care	All people and organisations must act with due care to avoid negative impacts on the coastal environment and coastal resources
Integration & Participation	A dedicated, co-ordinated, and integrated coastal management approach must be developed and conducted in a participatory, inclusive, and transparent manner
Co-operative Governance	Partnerships between government, the private sector and civil society must be built to ensure co-responsibility for coastal management and to empower stakeholders to participate effectively
Differentiated Approach	Recognising that implementation of integrated coastal management is contextual. While a generic management framework is important, mechanisms of implementation cannot be rigid.
Adaptive Management Approach	Incrementally adjusting practices based on learning through common sense, experience, experimenting, and monitoring ("learning-by- doing").

CHAPTER 4

PRIORITIES AREAS
(COASTAL MANAGEMENT ISSUES)

CHAPTER 4: PRIORITY AREAS (COASTAL MANAGEMENT ISSUES)

The coastal management issues identified in the 2014 BCMM Coastal Management Programme have been reviewed and updated through a process of engagement with municipal officials, key stakeholders and through the review of local, regional, and provincial reports, plans, policies, and programmes. These issues have been structured around the Priority Areas for Coastal Management as contained in the Eastern Cape Coastal Management Programme (CMP).

The key issues identified can be categorised as:

- i. Legacy issues (issues arising from past policies and historical developments that remain challenging).
- ii. Current issues (issues that pose challenges or offer opportunities based on current trends) and
- iii. Future trends (issues that may be anticipated as being crucial in the future and which therefore require that steps begin to be taken now)

4.1 Cooperative Governance

Issue 1: Coordination of coastal management activities and functions

Ecological processes and patterns of biodiversity are intricately linked in ways that transcend realms and human-constructed borders. Simultaneously, human endeavours across several domains with distinct policies, legislation, and management approaches may affect the coastal planning and implementation programmes. Cooperative governance and cross-sectoral planning and decision-making are crucial to addressing this interdependence and combat the pattern of working in silos which will then guarantee coherence in planning and implementation. Models such as the District Development Model (DDM) assist to ensure that *"local government is capacitated and transformed to play a developmental role"* (DFFE, 2023). According to the White Paper, developmental local government *"is local government committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic, and material needs and improve the quality of their lives"*. The model serves as a practical Intergovernmental Relations (IGR) framework, enabling collaboration between government, communities, and stakeholders for planning, funding, and implementation.

A clear priority action includes making sure that all sectors more effectively incorporate this collective responsibility into their practices and policies. Cooperation is required between government agencies with disparate responsibilities, as well as between the national, provincial, and local spheres of government, as well as between the government, academic institutions, non-governmental organizations, and the commercial sector. A successful communication channel will allow for efficient and integrated coastal management between all delegated tiers of government with minimal overlap maximising the benefits to all. Policies and frameworks include several tools such as SPLUMA and Marine Spatial Planning to facilitate cross-sectoral planning and decision-making. Implementation of these frameworks can be challenging, but relationship building, partnerships and sharing of information can advance these efforts (SANBI, 2019). The inadequacy of accountability and responsibility for completing tasks, fulfilling delegated roles, functions and for decisions taken is also cause for concern and should be addressed. Other issues include enhancing integrated coastal management and management structures through collaboration and increased participation by all the relevant stakeholder (government departments, traditional leaders, NGO's, private entities, and research associates). Lack of

funding and capacity to tackle some of the issues is a barrier towards improving the management of coastal environments. In addition, lack of alignment with other plans, policies, or programs; identification of areas in need of special management, and the creation of management strategies for these disaster management are additional problems.

4.2 Coastal Planning & Development

Issue 2: Pressure for coastal shoreline development

One of the main causes of habitat loss along the land-sea interface is coastal development, which also carries several threats and pressures. Development can weaken coastal ecosystems' resilience and raise the chance of infrastructure failure in the face of natural disasters and climate change if it is situated improperly (SANBI, 2018). This is made worse by the fact that rivers and estuaries are delivering less sand to the coast due to factors like past dunes stabilization, decreased freshwater flow, and sand mining. As a result of all of this, certain beaches such as Eastern Beach are disappearing altogether in certain locations. This puts human lives in jeopardy and raises the possibility that endemic species will go extinct. There is an ongoing pressure for coastal property development for both local and international developers. Currently the BCMM coastline is well balanced between developed areas and well protected natural areas with large development being limited to the East London, Nahoon and Gonubie areas, and smaller settlements and resorts predominating the remainder of the coastline. Linear development along the coastline and estuaries must be avoided and there should be a concerted effort to densify and expand the existing towns into consolidated nodes without compromising the surrounding natural areas. This will ensure that the current balance between built and natural habitats is maintained and that the beauty of the BCMM continues to attract visitors to the area.

Issue 3: Habitat Transformation and Degradation

The coastal and estuarine environments are highly sought after due to their aesthetic beauty and the range of recreational opportunities they provide. As a result, there is considerable development pressure on these habitats, which in many instances have already been highly impacted upon by the existing settlements. There are a range of pressures which result in habitat degradation on the terrestrial, marine, and estuarine environments which vary from vegetation removal to bank stabilization and canalisation of estuaries, and estuarine sand winning. Careful control of future development within the coastal zone and management of recreational, commercial and subsistence activities will reduce future impacts and habitat degradation and strict controls will need to be designed and enforced.

4.3 Climate Change and Dynamic Coastal Processes

Issue 4: Coastal vulnerability: adaptation and resilience

BCMM recognizes that, although the developments must be of elite social class, it is imperative that the developments must be in an environmentally sustainable manner. In addition to storms and flash floods damaging infrastructure throughout the metropolitan region, there is evidence that sea level rise is having an adverse effect on the beaches within the municipality. As a response to this adaptation needs must be addressed to cope with disaster events. Rehabilitation of the ecological infrastructure must be done to reduce risk of erosion and other possible factors. Additionally, identify areas that are at risk and come up with strategies to curb and reduce damage from natural hazards. Sustainable development along the coast should consider the following

factors: development should occur behind coastal management lines; ribbon development should be avoided; sufficient freshwater flow and sediment delivery to the coast should be guaranteed; degraded dunes should be restored; and soft engineering solutions should be used whenever possible in place of hard structures (SANBI, 2018). To date, coastal management lines have not been delineated within the BCMM area, meaning local planning is not informed by provincial and national norms regarding the protection of the coastal zone, and limitation of risk to infrastructure investments in the coastal zone. The Municipality needs to initiate conversation about delineation of the coastal management lines by the MEC in consultation with the public so that this issue can be addressed. Lastly, sea level rise study must be conducted to project areas of vulnerability and put measures in place.

Climate change exacerbates pressures on the coastal zone in several ways:

- Increased coastal storms, storm surges and sea level rise results in damage to coastal ecosystems and habitats, erosion of beaches and dunes – which impacts negatively on the integrity of the coastal asset and can result in significant financial costs.
- Increased number and magnitude of flood events, resulting in scouring and erosion of estuaries – which impacts negatively on the integrity of estuarine (and surrounding) ecosystems, and may erode public and private land adjacent to estuaries.
- Increased frequency of flooding and storm surf conditions, resulting in negative impacts on the recreational quality of beaches and the near shore ocean.

In the BCMM region, some of these pressures are already noticeable. The municipality has had to restore major damage caused by previous storm surges to the recreational facilities in the coastal zone.



Figure 20: Damage due to storms and sea-level rise along the BCMM Coastline (Photo credit: BCMM Beaches Office)



4.4 Land and Marine-based Sources of Pollution

Issue 5: Pollution and Sanitation

The current condition of the social and biophysical environments in the BCMM area can be enhanced through efficient waste and pollution management. Given the Buffalo River's proximity to urban and industrial activity, human activity has a substantial impact on the estuary's health.

Solid waste management- The waste impacting the BCMM estuaries e.g., the Buffalo River can be divided into three major categories, namely general solid wastes, sanitation pollution and urban stormwater pollution. Although general waste does not pose a significant threat to public health, it leads to environmental degradation if poorly managed, as it can produce leachates which have the potential to pollute surface and groundwater or can contaminate soils and thus crops growing on these soils. As indicated in the Buffalo River Estuary Management Plan (2018), only 34% of households receive formal refuse removal meaning the risk of the solid waste contaminating the coastal zone is very high. Inadequate disposal of organic waste can result in the eutrophication of neighbouring water sources, caused by increased levels of nutrients. This can have significant impacts on water quality and quantity, as well as habitat integrity and aquatic biodiversity. Another major issue is lack of solid waste transfer stations within BCMM communities which lead to places like Buffalo Pass, the small stream leading to our estuaries used as dumping points by members of the public that cannot travel all the way to Roundhill. This problem also extends to rural areas where there is complete lack of waste disposal sites. In these areas, generated waste is either placed in communal pits, or disposed of on-site by burning or burying.

Inadequate sewage treatment systems- Also of concern is the lack of, or inadequate, wastewater treatment systems within the municipality. Majority of households within the BCMM have access to flushing toilets connected to sewage system or septic tank as a result wastewater treatment works (WWTW) are often overloaded or malfunctioning, causing spillage from pump stations and/or sub-standard effluent to enter rivers and estuaries. The main causes of the rise in sewage overflow occurrences that endanger the environment include aging infrastructure, theft, illegal connection to the sewer line and vandalism (BCMM,2022). Other issues include loadshedding which leads to WWTW shutdown and spillages as well as infrastructure and copper cable theft for scrap. The ability of the current WWTWs to efficiently handle incoming sewage is strained if the WWTWs are not maintained or upgraded. Consequently, there is a far higher chance of untreated sewage spilling into the catchment's water courses. This is evident in bulk of tiny coastal villages, e.g., Kidds Beach and resources must be made available to repair or upgrade deteriorating infrastructure and upskilling of the operators is needed to ensure efficient operations management.

Stormwater run-off- from urban and industrial areas contains various pollutants and nutrients that can have a severe negative impact on coastal ecosystems and water quality and may be a key cause of decline in the recreational value of coastal areas over time. Despite the growing threat posed by contaminated urban runoff, there is no long-term monitoring or assessment programmes are currently conducted at the municipal scale to establish pollution loading to estuaries, nor to the nearshore coastal environment. Stormwater monitoring must be conducted to combat the effects of the urban run-off to the water courses.



Intensive Agriculture- is one of the threats to aquatic ecosystems in the Municipality. The National Biodiversity Assessment (2018) shows that agricultural activities in addition to destroying natural habitat, have also has an adverse effect on rivers and wetlands due to things like water abstraction for irrigation and return flows with fertilizers and pesticides that degrade water quality. This might lead to an abundance of nutrients from pollutants in the water, which would encourage algae to bloom densely. As a result, data must be collected to confirm pollution loads entering estuaries through agricultural return flow from nearby catchments, as the current information is an estimate based on catchment land use and/or water quality inflow.

Informal Sector- The informal sector is a major contributor to the coastal pollution in BCMM. More specifically, the informal carwash sector (in areas like Duncan Village, CBD, Beachfront, Nompumelelo, Cambridge location or township). In addition, street mechanics in the same areas and street vendors contribute negatively to the pollution within the municipal coastline.

4.5 Estuaries

Issue 6: Protection of Estuaries

The 22 estuaries that fall within the BCMM area are the receiving environment for all run-off that enters rivers and streams in the municipal area. These ecosystems are therefore the primary filters that play a role in reducing, treating, and diluting urban effluents and pollutants that may otherwise impact negatively on the near shore ocean. Estuaries are also the systems that play an important part in sustaining coastal fisheries as a result of the fish nursery function that they play; and in protecting / buffering settlements from ocean storm surges and floods. According to the NBA (2019), the percentage of natural estuary health inside the BCMM is roughly 50%. The major pressures affecting the ecological functioning of the BCMM estuaries have been identified as freshwater flow modification (pollution), overfishing and bait collection, inappropriate land use and development in the EFZ, invasive species, solid waste (plastics), and insufficient sewage systems and stormwater runoff. Data on river input, bathymetry, sediment structure, mouth condition, and water quality must be gathered and made available. Furthermore, it is important to understand how the surrounding estuaries influence one another. In addition, conduct an invasive species assessment to evaluate the potential environmental consequences on ecosystem functioning and the value derived from the estuaries. The data would aid in the creation of hierarchical classifications and models to determine the vulnerability of various ecosystem types to pressure.

At present, the estuaries within the BCMM area are afforded minimal protection, and this calls for multi-intervention to avoid further decline in estuarine health. This may be in the form of protection of freshwater in flow, restoration of water quality, reduction in fishing effort and avoidance of mining, infrastructure development and crops in the EFZ. In terms of the National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008), that estuaries be managed in a coordinated and efficient manner and management of the estuarine environments is under the DEDEAT including development and implementation of estuarine management plans.

4.6 Facilitation of Coastal Access

Issue 7: Public Access, Amenities and Awareness

Appropriate management of the coastal accesses could provide opportunities both for education and recreation for those who can ill-afford more commercially orientated entertainments. The coast is an increasingly popular destination during prime holiday seasons and increased public

access to the coast places increases pressures on the biophysical environment. Many of the public facilities at access points are poorly maintained or inadequate and cannot cope with the seasonal influxes and there is also issue of safety and security. One of key issues that need to be addressed is the lack of universal access to the beaches. In addition, audits of the existing access must be conducted and need for additional access be assessed. Potential user-conflicts (boats, fishers, surfers etc.) must also be addressed at identified points. Provision of services at access points including addressing the issue of overcrowded carparks, provision of lifeguards, building maintenance, access regulations during festive season e.g. road closure to prioritize access of the emergency vehicles to the beach. Other challenges experienced at the beaches include inadequate resources (uniform or PPE, first aid kits, specialized equipment rescue boards or torpedo buoys, landlines for communication and signage shelter). Ultimately, public access must be maintained to guarantee minimal damage and that public facilities remain operational.

4.7 Awareness, Education, Training, Capacity Building, and Information

Issue 8: Building a sense of Custodianship.

The coast is a shared resource amongst all citizens of the municipal area. Promoting the protection and management of the coast through building a sense of custodianship amongst relevant stakeholders and the public is therefore important.

Issue 9: Education and Training Opportunities

Since the BCMM coast is generally highly functional and contains a diversity of natural habitats and species, and is used recreationally, the coast presents an opportunity to be used as an education and training asset. The development of education centres that utilize coastal assets for learning experiences should be explored. Such initiatives would help to build awareness of the coast as a shared and valuable resource and would also provide a platform for upskilling and training in coastal management.

4.8 Compliance, Monitoring and Enforcement

Issue 10: Inadequate Enforcement

Inadequate capacity to monitor long-term activities and enforce existing regulations is a clear threat to the sustainable management of the coastal resources within the BCMM. Compliance with existing and encroachment occurring below the high-water mark along some of the estuaries in the BCMM. According to the DEDEAT report, notices have been sent to the responsible residents regarding the illegal jetties issue and the requirement for permits in this regard. There are jetties that stretch from the riverbank into the estuary for 20 to 30 meters. In some instances, residents have even closed off the portion of their boundary that goes into the river. In the last ten years, the Nahoon Estuary has seen an increase in the usage of amusement boats and barges, which, if left permanently moored, can also extend the jetty construction out by an additional three to four meters.

Fundamentally, buildings that jut out into estuaries are on state property and fall under the jurisdiction of the Sea Shore Act (Act 21 of 1935, specifically Act 190 of 1993 with amendments) (Nahoon Estuary Management Plan, 2016). Jetties must therefore be approved in line with the Act's specified application and registration procedure. This process may result in limitations on the size, length, materials utilized, and other aspects of jetty construction.

4.9 Natural Resource Management

Issue 11: Threats to Species Diversity

Threats to the diversity of species within the coastal zone exist. These include development pressure and invasion and competition by alien species which may place extreme pressures on rare and endemic species which occur in this region of the province. Indicators have been identified and designed to report on the status of biodiversity as well as the pressures threatening the biodiversity in the BCMM. These indicators will assist managers to monitor changes in trends over time and implement mitigatory measures where necessary to ensure the long-term protection of biodiversity.

Issue 12: Natural Resource Utilization

Utilization of the living coastal resources occurs on recreational, subsistence and commercial scales and is regulated by a permit system. Currently the levels of exploitation are exceeding the regenerative capacity of several of the resources resulting in local depletions. This is further compounded by the substantial unregulated and illegal exploitation of both the coastal living resources (e.g., wood, abalone, mussels) and non-living resources (sand mining). While sand and mineral mining does not have a big spatial footprint in the EFZ within the Municipality, physical habitat change is an increasing issue because the long-term environmental implications have not been properly defined and validated. Mining is a powerful source of pressure, with long-term direct and indirect effects on species and ecosystems. The land cover changes dataset captures the direct impacts of destroying natural habitats. Other impacts, such as water abstraction, stream bed modification, and water body contamination; indirect impacts, such as pollutant migration; and induced impacts, such as those associated with mine, industrial, and urban development, are only quantified on a site level and are not included in land cover change analyses. There is increased pressure in sand mining to a point where there are no or limited sand reserves remaining. Inadequacy enforcement capacity is a major constraint in ensuring compliance with regulations and bag limits and restricts the potential for successful coastal management within the BCMM.



Figure 21: Illegal sand mining in Tyolomnqa (Source: BCMM Climate Risk Assessment Report)

4.10 OCEAN ECONOMY

Issue 13: Promotion and implementation of Blue Economy

The Oceans/ Blue Economy is a recent field of study that encompasses economic activities that depend on the sea, often associated with other economic sectors, including maritime tourism, maritime transport, energy, offshore oil and gas and aquaculture. When considering the spatial distribution, socioeconomics and demographics of the city, there is slow rate of economic development, with economic activities unevenly spread over the spatial economy. This has resulted in high levels of social and economic vulnerability which necessitate a need to explore other economic avenues and Oceans Economy provides an opportunity for economic growth and employment and overall turn-around of the local economic status.

The Oceans Economy, particularly Operation Phakisa was initially introduced at a national level, excluding coastal municipalities from implementation, causing difficulties in providing necessary support. Although there is traction in other places such as Coega Development Corporation (CDC), this field has a little to no existence within the Metro. Furthermore, coastal governance and management of coastal areas are perceived as excluding ordinary citizens who rely on ocean resources, displacing them from the value chain. Therefore, implementation of the Oceans Economy requires the development of an integrated strategic response that would ensure sustained economic growth, whilst ensuring inclusive and equitable socio-economic development linked to the structural transformation of the BCMM and ultimately Eastern Cape spatial economy. This then requires increased levels of effectiveness and efficiency in the Oceans' Economy, which in turn should be underpinned by the emergence of a new knowledge and skills based on innovation and capacity-building. The Eastern Cape Oceans Economy Strategic Roadmap outlines some prospective areas of implementation within the BCMM including revitalization of coastal villages, development of the East London Beach Front, Relocation of the East London Aquarium, EL IDZ Marine Aquaculture, Expansion of the East London Port, Gonubie small craft harbour development and mini waterfront. All these activities require investments, capacity building and integrated strategy to ensure effective implementation in a phased manner and alignment in blue growth goals. In addition, there must be cohesion between all the role players to evaluate specific characteristics, type of risks and uncertain areas of this economy and policies must be developed which will guide and govern development in this field.



A stylized graphic of waves in various shades of blue, from dark navy to light sky blue, flowing across the page. The waves are composed of smooth, curved lines that create a sense of movement and depth. The top left corner is a solid dark blue, while the rest of the page is a lighter blue gradient.

CHAPTER 5

COASTAL MANAGEMENT PROGRAM IMPLEMENTATION PLAN

CHAPTER 5: COASTAL MANAGEMENT PROGRAMME IMPLEMENTATION PLAN

This chapter presents the Coastal Management Programme of the Buffalo City Metropolitan Municipality with the coastal management action plan.

5.1 Priority Areas for Coastal Management

The nine Priority Areas of the Eastern Cape Coastal Management Programme (2014) are adopted here for structuring of the BCMM Coastal Management Programme:

1. Cooperative Governance
2. Coastal Planning and Development
3. Climate Change and Dynamic Coastal Processes
4. Land and Marine-based Sources of Pollution
5. Estuaries
6. The Facilitation of Coastal Access
7. Awareness, Education, Training, Capacity Building, and Information
8. Compliance, Monitoring and Enforcement
9. Natural Resources Management
10. Oceans Economy

5.2 Coastal Management Goals and Implementation

The following table presents the coastal management goals and objectives for each coastal management Priority Area. The following timeframes are suggested for implementation of each objective:

Short	Begin the project within the next 2 years
Medium Term	Begin the project between 2 and 5 years from now
Long Term	Begin the project more than 5 years from now
Ongoing	Begin the project immediately and continue to implement as per requirement
Annually	Conducted on annual basis

The following table presents the coastal management goals and objectives for each coastal management Priority Area. The actions are then rated according to their significance if not implemented.

High Priority	If actions are not implemented, the municipal administration, its infrastructure, and resources and / or citizens will be exposed to significant risk.
Medium Priority	If actions are not implemented, the municipal administration, its infrastructure, and resources and / or citizens will be exposed to a moderate amount of risk.
Low Priority	If actions are not implemented, the municipal administration, its infrastructure, and resources and / or citizens will be exposed to limited or low levels of risk.

Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
Priority Area 1: Cooperative Governance						
A. To promote partnerships between government, the private sector and civil society to foster co-responsibility in coastal management.	i. Assure the MCC is operating as intended including participation of traditional leaders from coastal villages.	High	Ongoing (Quarterly)	IEMP Unit	N/A	<ul style="list-style-type: none"> Minutes of the MCC meetings. BCMM representatives nominated.
	ii. Promote local government objectives through participation in the Provincial, National Coastal Committee and MINTEC Working Group 7 through elevation of priority areas from MCC to WG7.	Medium	Ongoing	IEMP Unit	N/A	<ul style="list-style-type: none"> Attendance
	iii. Formation of partnership agreements with other departments within BCMM, organs of state and other stakeholders for the implementation of coastal management priorities.	High	Ongoing	IEMP Unit	N/A	<ul style="list-style-type: none"> Minutes of meetings and registers Agreements
Goals						
Priority Area 2: Coastal Planning and Development						
A. To maintain an appropriate balance between coastal conservation and development.	i. The BCMM shall undertake review and amendment of the management scheme, land use management scheme such that there is an appropriate balance between coastal conservation and development is achieved.	High	0-2 years	Spatial planning & Development and IEMP Unit	R2000 000,00	<ul style="list-style-type: none"> Development occurring outside the sensitive areas and within the legislated requirements. Adoption of the spatially differentiated coastal development guidelines by the Council.
	ii. The BCMM shall identify coastal areas that are a priority for biodiversity conservation.	Medium	0-2 years	IEMP Unit	R500 000,00	<ul style="list-style-type: none"> Priority coastal areas for conservation are protected in terms of zoning schemes / declaration as nature



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
B. To promote coastal tourism, leisure and recreational developments in suitable (including in conservation areas) to optimize the value of their coastal location, take the upliftment of coastal communities into account, and occur in an aesthetically and ecologically sustainable manner.	<p>biodiversity corridors, coastal risk management and protection, or heritage conservation, and shall pursue the formal protection of these areas.</p> <p>i. Local economic development strategy must be developed and promoted through the provision of required infrastructure which will adhere to the coastal plans and development control policies to ensure detrimental effects on the aesthetics & the environment are avoided, minimized, and mitigated.</p>	High	0-2 years	Local Economic Development, Spatial Planning & Development, Infrastructure, Engineering Services, Beaches & IEMP Unit	R90 000 000,00	<ul style="list-style-type: none"> • Strategy for economic development on the BCMM • Heritage Resource Study • Revamp and introduction of low and high-impact tourism and recreation activities to improve the inflow of tourists. • Environmental Authorizations in place for all mining activities in the coastal zone. • Compliance with the zoning scheme. • Municipal by-laws to give effects to required forms & nature of development and activities in the coastal zone. • Number of LED projects that are supporting disadvantaged coastal communities to derive sustainable livelihoods.
Goals	Objectives / Actions	Priority	Timeframe			Indicators
Priority Area 3: Coastal Vulnerability: Adaptation & Resilience						
A. To proactively	i. Coastal development	High	Ongoing	IEMP,	R500 000,00	<ul style="list-style-type: none"> • Coastal risk and erosion



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
address climate change related risks to people, property, and economic activities in coastal areas from coastal erosion, flooding and inundation in all cities planning and development control functions.	shall be strategic to maintain dynamic coastal features, minimize the disruption of dynamic coastal processes and to avoid exposure to significant risk from natural hazards, including flooding, inundation, and coastal erosion.			Infrastructure Services, Spatial Development and Disaster Management		<ul style="list-style-type: none"> mapping maps Identification and inclusion of Coastal management lines in coastal plans and coastal spatial development guidelines. Review of Coastal Vulnerability & Risk Assessment, which incorporate the sea level rise study.
	ii. The potential consequences of medium- and long-term climate change and associated sea-level rise shall be considered in all coastal planning and management.	High	0-2 years	IEMP unit, DEDEAT, Spatial Planning & Disaster Management	R400 000,00	<ul style="list-style-type: none"> Sea-level rise study to inform the CML delineation.
	iii. Support DEDEAT with the development of CMLs	High	0-2 years	DEDEAT IEMP	N/A	<ul style="list-style-type: none"> Coastal spatial development guidelines that include coastal retreat criteria in a phased manner. Coastal management line demarcation on zoning maps.
B. Review and maintain integrity of MOSS areas in the coastal zone as a buffer to coastal climate change impacts and to sustain coastal biodiversity under climate change conditions.	i. Coastal planning shall take cognizance of the role of natural areas and ecosystems in buffering natural hazards and coastal erosion, including those associated with sea-level rise and coastal storms, by protecting such natural areas from transformation for development.	High	Ongoing	Spatial planning & development and IEMP Unit	R200 000, 00	<ul style="list-style-type: none"> Coastal management lines reflect the role of natural areas in buffering coastal risks and hazards. Network of coastal protected areas is established that provides buffering function for coastal hazards. Health status of coastal ecosystem.
	i. Coastal risk	Medium	0-2 years	Disaster	R600 000,00	<ul style="list-style-type: none"> Coastal risk and disaster

Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
C. Prepare detailed management plans to define the municipal response to climate related risks, disaster, and damage in the coastal zone.	<p>assessment and disaster / hazard plans shall be prepared.</p> <p>ii. Shoreline management plans shall be prepared.</p>	High	0-2 years	Management IEMP Unit & Beaches	R100 000,00	<ul style="list-style-type: none"> scenario's assessment is completed. Coastal disaster management plan is completed. Shoreline management plan is completed.
Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
Priority Area 4: Land and Marine-based Sources of Pollution						
A. To implement pollution control and waste management measures in order to ensure the maintenance of water quality that meets desired water quality and legal requirements within estuaries and near shore coastal environments.	<p>i. The BCMM's waste and pollution control plans and shall identify and address discharges of all point and diffuse sources of pollution that are likely to impact on coastal ecosystems such that impacts are avoided, or where they cannot be avoided are minimized and mitigated.</p>	High	Ongoing	DFPE, Municipal Health Services & Water & Sanitation (Scientific services)	R500 000,00	<ul style="list-style-type: none"> Identification of sources of coastal pollution undertaken. Source to sea action implemented. BCMM integrated waste management plan and pollution control plans include coastal ecosystem pollution prevention and control measures.
B. To manage polluting activities to ensure that they have minimal adverse impact on the health of coastal communities, ecosystems, and people's use of	<p>i. The responsible authorities shall ensure that the wastewater treatment works discharging into rivers and the ocean are licensed and they comply with legal limits / standards.</p> <p>ii. The municipality shall ensure</p>	High	Ongoing	DFPE, Water & Sanitation (Scientific Services) & Infrastructure Services Beaches, Scientific	R4 000 000,00 R2 000 000,00	<ul style="list-style-type: none"> Compliance with discharge permit conditions. Number of meetings annually where BCMM coastal enforcement issues are discussed and addressed by different spheres of government. An inventory of coastal



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
coastal resources.	that all coastal areas are properly serviced with sanitation systems that do not pose a threat to the coastal environment.			Services & Department of Water & Sanitation		sanitation services is conducted. <ul style="list-style-type: none"> Areas and installations where sanitation servicing in inadequate or causing coastal pollution are to be prioritized for action. Programme of improvement of coastal sanitation systems is rolled out.
	iii. The municipality shall monitor, manage, and respond appropriately to pollution from the solid waste management sites that may impact on rivers and coastal ecosystems.	High	Ongoing	Waste Management, DEDEAT & Municipal Health	R1 000 000,00	<ul style="list-style-type: none"> Monitoring systems in place for all municipal solid waste facilities. Response plan in place for pollution from solid waste facilities.
	iv. The municipality shall monitor the health and quality of coastal ecosystems and the potential health impacts on users.	Medium	Ongoing	Water & Sanitation (scientific services) & IEMP	R800 000,00	<ul style="list-style-type: none"> Coastal ecosystem monitoring programme in place for terrestrial and marine systems. Research and monitoring partnerships in place.
Goals	Objectives / Actions	Priority	Timeframe			Indicators
Priority Area 5: Estuaries						
A. To manage and protect estuarine resources within the municipal jurisdiction.	i. The BCMM shall support development of the outstanding estuarine management plans and implement Estuary Management Plans for all estuaries within its jurisdiction in accordance with the National Estuarine Management Protocol.	High	Ongoing	DEDEAT & IEMP unit	R350 000,00	<ul style="list-style-type: none"> BCMM to form part of the project steering committee. Reports on the number of projects implemented.
Goals	Objectives / Actions	Priority	Timeframe			Indicators
Priority Area 6: The Facilitation of Coastal Access						
A. Ensure that the	i. The BCMM shall	High	Ongoing	Beaches	R3 500,000	<ul style="list-style-type: none"> Conduct coastal access



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
public has physical access to the sea and the shoreline via suitably located and serviced access points.	provide public access at appropriate locations along the coast and shall ensure that these are safe for all members of the public to use.					<ul style="list-style-type: none"> audits, document findings, and develop action plan. Coastal public access shall include facilities for the disabled people. Maintained coastal public access facilities. Approved coastal access by-law.
	ii. Identify suitable areas for new public launch sites	High	Ongoing	DEDEAT Beaches & IEMP Unit	N/A	<ul style="list-style-type: none"> Listing (gazette) of public launch sites within BCMM. Municipal by-laws are developed where required. Annual boat launch sites report.
Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
Priority Area 7: Awareness, Education, Training, Capacity Building, and Information A. To promote public awareness about the coast (instill a sense of ownership of the coast), coastal regulations, and train coastal management and other stakeholders to ensure effective coastal planning and management.	i. The BCMM shall establish a coastal awareness programme that complements the Eastern Cape and National coastal awareness programmes, targeting a range of coastal management topics or issues about the value of the coast, and coastal rules and regulations.	High	Ongoing	IEMP	R250 000,00	<ul style="list-style-type: none"> Coastal awareness programme developed Coastal newsletter Coastal awareness programme implemented – annual list of activities completed, and stakeholders engaged.
	ii. Promote coastal education through the maintenance of coastal interpretive and education centers.	Medium	0-2 years	IEMP unit, Beaches, Human Resource Management & DEDEAT	R800 000,00	<ul style="list-style-type: none"> Implementation partnerships are established. Maintenance of the existing centers and ensure that they continue to be functional. Register of learners that



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
	iii. Coastal management training and capacity building shall be developed and provided to all relevant municipal officials, stakeholders, and communities.	High	0-2 years	IEMP unit, Beaches & Human Resource Management	R350 000,00	<ul style="list-style-type: none"> visited the centers on an annual basis. Number of people trained at the centers on an annual basis. Training programme developed. Number of municipal officialstrained annually. Coverage of trained officials across municipal departments (i.e. number of departments with and without staff that have received training).
B. Launch and maintain public coastal information sharing portal.	Launch a public coastal information portal that can be used by the public and any other interested person	Low	0-2 years	IEMP Unit & ICT	R400 000,00	<ul style="list-style-type: none"> Live, interactive information-sharing portal
C. Establish a coastal research and knowledge building programme.	i. Coastal monitoring and research shall be implemented through partnerships established between the BCMM and relevant research institutions.	Medium	Ongoing	IEMP Unit	R2 000 000,00	<ul style="list-style-type: none"> Coastal partnerships are established. Coastal research programme funded. Coastal research programme outputs (e.g., papers, reports, theses).
Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
Priority Area 8: Compliance, Monitoring and Enforcement						
A. To ensure compliance with coastal / environmental legislation and mandated functions.	i. The BCMM shall ensure that all developments, operations, and functions in coastal areas are conducted with full compliance in respect of local, regional, and	High	Ongoing	Organs of state, IEMP Unit & Beaches	N/A	<ul style="list-style-type: none"> Compliance with EIA, waste management, water act and other regulations for activities in the coastal zone. Number of non-compliance issues dealt with on an



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
	<p>national policy and legislative requirements.</p> <p>ii. The BCMM shall ensure that it has allocated adequate institutional capacity and resources, and that people are adequately skilled / trained, to implement its scheduled coastal protection and management functions.</p>	High	Ongoing	Human Resource Management & IEMP Unit	R300 000,00	<p>annual basis.</p> <ul style="list-style-type: none"> Number of officials and environmental inspectors trained. Scheduled coastal management roles and responsibilities have been allocated to relevant municipal departments and included in departmental mandates and managerial KPI's.
	<p>iv. The BCMM shall establish / maintain adequate resources and capacity to enforce development control and by-laws intended to protect coastal resources, coastal aesthetics, and ecological health.</p>	High	Ongoing	IEMP & Beaches	TBC	<ul style="list-style-type: none"> Ensure Building control and enforcement functions understand coastal protection and management by-laws and policies and are actively enforcing these. Number of non-compliance issues dealt with annually in respect of coastal development control and coastal access by-laws.
	<p>v. Participate in NEM: ICMA compliance and enforcement task team meetings and form partnerships with Law enforcement agencies (DEDEAT, SAPS, private securities) as they often have greater knowledge, having feet on the ground.</p>	High	Ongoing	IEMP & Beaches	N/A	<ul style="list-style-type: none"> Reports on joint operations Records of cases Meeting minutes Task team formed
Priority Area 9: Natural Resource Management						



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
A. To maintain the diversity, health and productivity of coastal processes and ecosystems.	i. The BCMM shall include in its plans the requirements of the MOSS, ECBCP, STEP and other conservation plans and SDFs and any other Municipal directorate plans (Sector plans) to protect coastal biodiversity.	High	Ongoing	IEMP & Spatial Planning Department	R2 000 000,00	<ul style="list-style-type: none"> Local and regional conservation plans are addressed / included in coastal plans, zoning schemes, land use schemes and spatial development guidelines.
	i. Identification of additional indicators for BCMM state of the Coast (SOC) reporting	High	0-2 years	IEMP, DEDEAT	R200 000,00	<ul style="list-style-type: none"> List of indicators for state of the coast monitoring BCMM SOC Report updated.
B. To manage a system of coastal protected areas.	i. The BCMM shall identify and develop a network of coastal protected areas that serve to protect coastal biodiversity, buffer climate change impacts and coastal risks, and create enhanced coastal amenities for tourism and other forms of economic development.	Medium	0-2 years	IEMP Unit, Spatial Planning Department, Geographical information Systems (GIS) Unit DEDEAT	R500 000,00	<ul style="list-style-type: none"> BCMM prioritizes areas for formal protection and those that can be protected through land use scheme controls. Protection is implemented through formal proclamation or through zoning schemes / land use schemes.
	ii. Undertake aerial inspection surveys of the BCMM coastline	Medium	Annually	IEMP & GIS Unit	R1 500 000,00	<ul style="list-style-type: none"> Aerial inspection report Comparison of the data sets.
C. To rehabilitate damaged or degraded coastal ecosystems and habitats.	i. Coastal ecosystems within the municipality's jurisdiction that are degraded or damaged shall be rehabilitated.	High	Ongoing	IEMP unit, Beaches & DEDEAT	R600 000,00	<ul style="list-style-type: none"> Areas requiring rehabilitation identified and prioritized on an annual basis. Annual budget for coastal rehabilitation. Hectares of coastal area rehabilitated annually.



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
	ii. Implement sand dune & beach management plan and rehabilitation protocol to manage coastal erosion	High	0-2 years	IEMP Unit, Beaches & Human Resource Management, DEDEAT.	R500 000,00	<ul style="list-style-type: none"> Annual budget for maintenance of rehabilitated coastal areas. Health status of coastal ecosystems rehabilitated (to be determined through research Partnership and post-graduate funding).
D. To monitor implementation of the Coastal Management Programme and requirements.	i. The BCMM shall monitor its progress in respect of implementation of the Coastal Management Plan and shall review its Coastal Management Plan on a regular basis.	High	Ongoing	IEMP Unit	N/A	<ul style="list-style-type: none"> Annual reports on coastal management programme implementation. Review the CMP after 5 years.
E. To preserve, protect and promote historical and cultural resources and activities of the coast.	i. Heritage study must be conducted to identify and protect coastal resources of historical, archaeological, cultural, or scientific value	Medium	2-5 years	Local Economic Development	R2 500 000,00	<ul style="list-style-type: none"> Study completed that identifies all coastal resources of historical, archaeological, cultural, or scientific value; including cultural and traditional use of the coast.
	ii. Coastal heritage resources shall be incorporated in the municipal plans and zoning schemes, physically protected and where appropriate promoted through coastal access and interpretation /	Medium	2-5 years	Sports & Recreation (Heritage) and Local Economic Development	R150 000,00	<ul style="list-style-type: none"> Resource sites are protected in coastal plans and zoning schemes. Resource sites are identified in Coastal Public Access plans and appropriately protected and promoted. Resource sites are



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
	education facilities.					included in the BCMM Coastal Tourism Strategy.
	iii. Traditional or spiritual activities along the coast shall be regulated and given special consideration in coastal planning and management.	Medium	Ongoing	Beaches & Law Enforcement	N/A	<ul style="list-style-type: none"> BCMM administers regulatory environment for traditional and cultural use of the coastal zone.
F. To ensure that the municipality fulfills its duties as the legal custodian of coastal access land.	ii. The BCMM shall manage municipal coastal nature reserves and other protected areas / landscapes in the best public interest, taking into consideration the need to protect ecological assets and buffer coastal risk.	High	Ongoing	IEMP	R300 0,000	<ul style="list-style-type: none"> Annual budget for coastal protected area management. Hectares of protected coastal area managed. Health status of coastal ecosystems managed by the municipality (to be determined through research partnership).
Goals	Objectives / Actions	Priority	Timeframe	Budget	Indicators	
Priority Area 10: Oceans Economy						
A. To promote and implement the sustainable use of ocean resources for local economic growth and socioeconomic value improvement, balancing the development agenda and protecting the environment.	i. Develop BCMM Oceans Economy strategy, establish and operate an Oceans Economy management capacity with the goal of ensuring that the strategic plan is implemented effectively and efficiently. ii. Secure new implementation resources and investments into oceans economy.	High	0-2 years 2-5 years	BCMM DEDEAT BCMIDA DFFE EL IDZ Office of the Premier BKCOM and others	R100 000, 00 N/A	<ul style="list-style-type: none"> BCMM Oceans Economy Strategy Alliances between sectors that compose Blue Growth. Induction of Municipal Departments and partners Annual training and capacity building reports List of approved research and innovation projects Partnerships, MOUs, Investments reports. Minutes of the meetings



Goals	Objectives / Actions	Priority	Timeframe	Responsible Department	Estimated Budget	Indicators
	iii. Accelerate and unleash catalytic projects in a staged strategy focused on Blue Growth.	High	5 years & beyond		R500 000 000, 00	<ul style="list-style-type: none"> • Reports on economic growth and job opportunities created. • Functional implementing entity • Annual turn-over and contribution to the GDP.



The background features a large, abstract graphic of a wave. The wave is composed of several overlapping, curved bands in various shades of blue, ranging from a very dark navy blue to a light sky blue. The wave starts on the left side, curves upwards and then downwards, creating a sense of movement and depth. The overall composition is clean and modern, with a strong emphasis on the color palette of blues.

CHAPTER 6

**INSTITUTIONAL MANAGEMENT
FOR COASTAL MANAGEMENT**

CHAPTER 6: INSTITUTIONAL ARRANGEMENT FOR COASTAL MANAGEMENT

6.1 BCMM Institutional arrangement for coastal management

The Buffalo City Metropolitan Municipality (BCMM) has established an Integrated Environmental Management Plan (IEMP) unit, and institutional capacity within the municipal institution to champion and drive the sustainable development agenda of the city. This institutional capacity is housed primarily within the Environmental Management Services Department. However, most if not all other municipal departments have a role to play in implementing the sustainable development intentions of the municipality and there is thus decentralised environmental management capacity in a host of other key municipal sectors.

The IEMP unit is responsible for the management and implementation of projects within the environmental sector, including but not limited to:

- Estuary management
- Climate change and climate risk vulnerability assessment
- Compliance and enforcement
- Facilitating environmental impact assessment (EIA's) for Municipal projects
- Environmental awareness and education



Figure 22: Integrated Environmental Management Unit Institutional Arrangements

6.2 Key role players responsible for the implementation of the coastal management programme

DEPARTMENT	COASTAL MANAGEMENT PROGRAMME RESPONSIBILITIES
National, Provincial, Office of the City Manager and Political leaders	<ul style="list-style-type: none"> • Identification and allocation of roles, responsibilities and resources to the various municipal departments that need to implement the Coastal Management Programme and scheduled coastal management functions. • Technical, administrative, and political support • Investor attraction and support. • Strategic direction and implementation.
Integrated Environmental Management & Sustainable Development	<ul style="list-style-type: none"> • Monitor and maintain database of coastal stakeholders. • Coordinate Municipal Coastal Committee. • Represent BCMM on the Provincial Coastal Committee. • Ensure that public participation is undertaken for the preparation of allcoastal plans. • Champion the establishment of partnerships between the BCMM, research institutions, NGO's, community organisation and the private sector. • Lead the coastal research, review, and monitoring programme. • Coastal ecosystem monitoring programme for terrestrial, estuarine, and marine systems. • Assessment and mapping of coastal vulnerability, risk, biodiversity and heritage, traditional and cultural use is undertaken and priority areas for protection are identified. • Health status of the coastal ecosystems. • Pursue the formal protection of these high priority conservation areas. • Network of coastal protected areas is established that provides buffering function for coastal hazards. • Environmental Authorizations in place for all mining activities in the coastalzone. • Environmental management programmes in place for all mining activities inthe coastal zone. • Modelling of sea-level rise to inform the delineation of coastal management lines. • Annual reports on coastal management programme implementation. • Coastal rehabilitation plans.
Marine & Coastal Services Division	<ul style="list-style-type: none"> • Audit and inventory of coastal public access points is undertaken to determinepriorities for upgrading and maintenance. • Develop shoreline management plan. • Provision of services at access points including addressing the issue of overcrowded carparks, provision of lifeguards and resources, building maintenance, access regulations during festive season. • Reports on joint operations. • Preparation and implementation of Coastal Public Access Plan. • Annual reports on the state of coastal access submitted to DEDEAT. • Identification and prioritization of coastal management actions. • Implementation of coastal ecosystem rehabilitation and management. • Enforcement of coastal access by-laws. • Collaboration with other state entities on enforcement of coastal resourceuse license / permit enforcement. • Participation in estuary management forums and committees.
Development Planning	<ul style="list-style-type: none"> • Legal compliance of all municipal developments in the coastal zone. • Identification of coastal development nodes and zones and establish associated land use management schemes, zoning schemes or coastal planning schemes that direct and control development in the coastal zone. • Coastal plans and development control policies giving precedence to economic development activities (within identified economic development nodes) that are dependent on, or have significant value added by their coastal location.
Disaster Management	<ul style="list-style-type: none"> • Development of disaster risk and disaster scenarios assessment. • Development and updating of coastal disaster management plan.



Local Economic Development	<ul style="list-style-type: none"> • Develop and implement economic strategy. • Revitalization of coastal villages. • Revamp and introduction of low and high-impact tourism and recreation activities to improve the inflow of tourists. • Coastal tourism strategy • Launch of live, interactive information sharing portal. • Identification of coastal resources of historical, archaeological, cultural, and traditional use of the coast.
Scientific Services	<ul style="list-style-type: none"> • Water quality monitoring including ponds and wastewater treatment works. • Maintenance of pump stations. • Coastal ecosystem monitoring including effects of mining. • Updating water monitoring programmes (both terrestrial and marine systems).
Municipal Health	<ul style="list-style-type: none"> • Monitoring system in place for all municipal solid waste facilities.
Waste Management	<ul style="list-style-type: none"> • Integrated waste management and pollution control measures. • Monitoring system in place for all municipal solid waste facilities. • Establishment of additional general waste and garden refuse transfer stations.
Human Resource Management	<ul style="list-style-type: none"> • Training and capacity building. • Induction of Municipal departments to Oceans Economy.
Finance and Supply Chain Management	<ul style="list-style-type: none"> • Ensure that the necessary financial resources are identified, procured, and deployed in a compliant manner.
Geographic Information Systems.	<ul style="list-style-type: none"> • Spatial planning and remote sensing. • Aerial inspection report.
BCMDA	<ul style="list-style-type: none"> • Resource mobilization, investor attraction, technical and administrative support, strategic plan.
EXTERNAL DEPARTMENT & ENTITIES	
DEDEAT	<ul style="list-style-type: none"> • Environmental authorizations are in place for all mining activities. • Estuarine ecosystem management • Delineation of coastal management lines. • Coastal spatial development guidelines that include coastal retreat principles. • List of public launch sites within the BCMM.
DFFE	<ul style="list-style-type: none"> • Identifying sources of coastal pollution. • Implementation off source to sea action plan. • Provide coastal communities with rights to operate small scale fisheries. • Enforce compliance with discharge permit conditions.
BKCOM, EL IDZ, MBSA	<ul style="list-style-type: none"> • Research, technology and innovation projects e.g. oceans economy. • Partnerships and investments. • Alliance for the establishment and implementation of Blue Economy.
Universities	<ul style="list-style-type: none"> • Ensure access to technical capacities, researchers, funding, and innovation.
Communities & NGOs	<ul style="list-style-type: none"> • Define needs and priority areas, stewardship, and active participation & empowerment



CHAPTER 7

CONCLUSION

CHAPTER 7: CONCLUSION

Managing coastal ecosystems is critical for striking a balance between the agenda for development and environmental protection. The BCMM CMP is the fundamental policy directive for coastal management for the BCMM, guiding actions and activities in the defined coastal zone as well as those impacting it. It also represents the BCMM's commitment to fulfilling the practical and tangible actions stated through engagements during the revision of this document. It is evident that a great deal more effort is required to ensure that our coastal management systems are in place and functional. It also fosters cooperative governance, stressing the fact that management of our coastal zone cannot be achieved by solitary effort of the municipality, but rather joint effort and action is required, from the national to community level. Recurring and emerging issues are discussed including issue of climate vulnerability and resilience and its impacts on our coastal environments, properties, and livelihood. Given our slow economic growth and high unemployment rate, emerging sectors and areas of opportunities are explored e.g. Oceans Economy where strategic plans, resources and implementation plans are required. There are other issues relating to utilization of the coastal resources (e.g. sand and heavy mineral mining) which may lead to physical habitat change and currently long-term environmental implications have not been properly defined and validated. The CMP process is a cyclical process and is intended to be adapted as and when amendments are required and updates need to be incorporated, through discussions and debate within the municipal coastal committee, the internal structures of the BCMM and the public.



An abstract graphic consisting of several overlapping, curved shapes in various shades of blue, creating a sense of movement and depth. The shapes are layered, with some appearing to be in front of others, and they flow from the top left towards the bottom right.

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The image features a background of light blue with a dark blue shape on the left and a series of white and blue wavy lines on the right. The word "ANNEXURES" is centered in the lower half of the image.

ANNEXURES

ANNEXURES

Annexure A: Norms & Standards

The following norms and standards are provided in the Eastern Cape Coastal Management Programme:

NORMS AND STANDARDS FOR THE EASTERN CAPE COASTAL ZONE

Norms are management practices that are regarded as typical or best practice. Standards are management rules and guiding principles to achieve certain objectives or outcomes, or to ensure legal compliance. For the purposes of the Eastern Cape CMP, norms take the form of environmental management guidelines, both with reference to specific areas and guidelines that are more generic. These guidelines have been derived from the gap analysis report as well as from the 2004 CMP and include both existing and proposed guidelines.

Standards for the Eastern Cape CMP are proposed for coastal set-back line demarcation and establishment.

7.1 GENERAL ENVIRONMENTAL MANAGEMENT GUIDELINES FOR THE EASTERN CAPE COAST

The following guidelines have been extracted from existing documentation identified in the Gap analysis report component of this project.

Table 2: General Environmental Management Guidelines to the Eastern Cape Coast

Category	Guideline	Rationale
Consolidation and expansion of protected areas	<ul style="list-style-type: none"> Land use planning must be aligned with national policy so that national conservation targets for different natural asset types are adhered to, namely a target of 30% of estuaries conserved. All-natural forest should have a high degree of protection, but will be more difficult to attain, since so many of the existing forests are in a poor state. If a municipality is endowed with conservation assets of high value, then land uses that support and add value to the assets rather than detract from them, should be promoted. Formal conservation areas should be consolidated, and new developments should be concentrated where there is already development. Conservation of biodiversity assets are identified in this strategy as of critical importance of sustainability is to become a defining feature of coastal management in the Eastern Cape, but true sustainability means making allowances for communities to benefit from conservation initiatives. 	<ul style="list-style-type: none"> Opportunities exist to secure South Africa's marine and coastal habitats. South Africa is poised to expand its Marine Protected area network. MPAs are valuable national assets that deliver ecosystem services and socio-economic benefits. Overexploited fish stocks can recover and provide long term food and job security.
Implementation	<ul style="list-style-type: none"> Catchment management should be considered as a critical input into and controlled. When considering land use change in land use will affect the supply of ecosystem services, and who will bear the cost of any change in service supply. Existing settlement/nodes must be properly managed and maintained to prevent deterioration of the natural environment. Current bad practices must be reversed and degraded areas rehabilitated. Service infrastructure provided in nodal areas, and proposed to be provided, must be maintained. 	<ul style="list-style-type: none"> Consideration of the catchment area in relation to the estuary is

Annexure B: Additional Information

1. Guidelines

- A Step-by-Step Guide for the Designation and Management of Coastal Access in South Africa.
- Guidelines for the Development and Implementation of Estuarine Management Plans.
- National Guideline towards the Establishment of Coastal Management Lines.
- Strategy in terms of the National Environmental Management: Integrated Coastal Management Act, 2008: National Coastal Access Strategy for the facilitation of coastal access in South Africa (2014) (NEMA) (Act 24 of 2008).
- South African Water Quality Guidelines for Coastal Marine Waters: Guideline for Recreational Use (Regulation, 2012).

2. Regulations & Protocols

- National Environmental Management: Integrated Coastal Management Act, 2008 (Act No.24 of 2008): Control of use of vehicles in the Coastal Area.
- National Environmental Management: Integrated Coastal Management Act, 2008 (Act No.24 of 2008) National Estuarine Management Protocol.
- National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) Appeal Regulations.
- National Environmental Management: Integrated Coastal Management Act, 2008 (Act No.24 of 2008): Public Launch Site Regulations.

3. Policy

- Department of Environmental Affairs and Tourism, 2000. White Paper for Sustainable Coastal Development in South Africa. Department of Environmental Affairs and Tourism. Printed for the Government Printer by Formset Printers, Cape Town, pp. 137.
- Department of Environmental Affairs and Tourism, 1998. Coastal Policy Green Paper: Towards Sustainable Coastal Development in South Africa. Wynland Printers, Cape Town, pp. 155.

Annexure C: ECBCP Guidelines for land use planning and decision-making

Land use Guidelines influence planning and development. In particular, the spatial planning of land use categories and the resultant zoning plans of Municipal SDFs ought to be guided by land use principles. Furthermore, decision-makers, authorities, and EAPS need to take these rules into account.

These land use guidelines have been informed by:

The land management objectives of the CBA and ESA categories, as well as the anticipated effects of land use activities that have been connected to SPLUMA land use categories.

Recommended land use guidelines

A range of land uses/purpose types have been assessed in terms of the anticipated impacts against the management objectives for each CBA category. The assessment for terrestrial and aquatic ecosystems (Table 12 and 13) is structured around the following types of responses with respective to the level of acceptance for each land use type/purpose:

1. Yes (Y): this is an appropriate land use activity, it is unlikely to compromise biodiversity, the activity is in line with, and may contribute to the management objective, the land use activity is permissible.
2. Restricted ®: The activity may compromise the integrity of biodiversity, it may not be in line with management objectives, it will require detailed specialist assessment, it will require restrictive conditions (e.g. reduced footprint, clustering, located only on previously cleared land, etc.), may require the consideration of a biodiversity offset or set-aside.
3. Not appropriate (N): This activity will result in destruction/degradation of important biodiversity and/or ecological support areas, it is not in line with management objectives. Development activities proposed will required detailed specialist assessment in the appropriate field of study* to establish compelling reason why this activity should be authorised for development. Stringent restrictive conditions will be applied and, if appropriate, a biodiversity offset plan must be developed and implemented in line with the principles and protocols of the most recent National or Provincial Offset Policy.
4. Management required (M): Selected activities should not result in further degradation or disruption of biodiversity or ecological infrastructure or processes, provided that these activities are formally manged throughout the life of the activity. This may be achieved through the development and implementation of a management plan.

The specialist selected will depend on the biodiversity features present with the area in question. For example, and area may be classified as a CBA due to:

- The presence of a threatened vegetation type. In this case, a suitable qualified vegetation specialist should be appointed to undertake a detailed survey of the vegetation.
- The presence of a threatened species (e.g. bird/plant/reptile/amphibian). A taxonomic specialist should be appointed to assess the presence of threatened species and the surrounding habitat to support these species.
- The need of an area to meet South African biodiversity targets. In this case, a biodiversity planner should be appointed to consider the biodiversity present in the

project area and provide an opinion on the alignment of the development proposal with the objectives of the ECBCP 2019.

- The presence of priority coastal, estuarine, river and/or wetland features. Similarly, suitably qualified specialists should be appointed to assist with assessments of these ecosystems.

Table 12 Matrix of recommended land use management guidelines for Terrestrial based activities in the Eastern Cape

LAND USE TYPE	ASSOCIATED LAND USE ACTIVITIES	CORRESPONDING SPLUMA LAND USE PURPOSE	CBA1	CBA2	ESA1	ESA2
Environmental conservation	Conservation management, low-intensity eco-tourism and sustainable consumptive activities. These include activities associated with the Biodiversity/Green economy.	Conservation.	Y	Y	Y	Y
Tourism and accommodation	Low impact tourism/recreation and accommodation.	Special/low density residential (tourism) including lodges, hotels, etc.	R	R	Y	Y
	High impact tourism: Resorts	Low-medium density residential: human habitation, hotels	N	N	N	R
Municipal commonage	Local Agri-economic development	Agriculture	R	R	M	M
Rural residential	Low density rural housing and eco-estates.	Low density residential; human habitation: housing, rooms to let, eco-estates.	R	R	R	R
	Traditional/communal areas and Rural Settlement (e.g. golf estates)	Low-medium density residential; Human habitation: housing, hotels, flats, clubs, hostels, rooms to let.	N	N	R	R
Residential	High density urban residential development (urban and business development).	Medium-high density residential; human habitation: housing, hotels, flats, clubs, hostels, room to let.	N	N	N	N
Other urban influences	An amalgamation of land use zones, including institutional, Urban influence, mixed use, and business.	Commercial: light industrial.	N	N	N	N
		Educational: Instruction/teaching.	N	N	N	N
		Institutional: charitable institutions (hospitals, nursing homes, clinics, etc.)	N	N	N	N
		Business: retail	N	N	N	N
		High density residential: human habitation: housing, hotels, flats, clubs, hostels, rooms to let.	N	N	N	N
		Recreation: Entertainment, leisure, sports, and amusement	N	N	N	N
Agriculture	Extensive livestock and game farming	Agriculture	Y	Y	Y	Y
	Game breeding.		N	N	N	R
	Intensive animal farming (feedlot, diary, piggery, poultry, and aquaculture)		N	N	N	R
	Cultivation (dryland and irrigated).		N	N	R	Y
	Agri-processing		N	N	N	R
Open space	Public or private open space, including recreational areas, parks, etc.	Public: open space, parks, gardens, recreation sites, sport	R	R	R	Y

LAND USE TYPE	ASSOCIATED LAND USE ACTIVITIES	CORRESPONDING SPLUMA LAND USE PURPOSE	CBA1	CBA2	ESA1	ESA2
		fields and religious gatherings.				
		Community: non-profit community places of import/use.	R	R	R	Y
Low, high, and general industry	Low, high, and general impact industry	Industrial: heavy industrial: manufacture.	N	N	N	N
Transport services	Transport service land uses (airports, railway stations, truck/bus/taxi stops, petrol stations).	Transport: taxi ranks, bus bays, railway, roads, and streets.	N	N	R	R
Roads and railways	Existing and planned linear infrastructure such as hardened road and railways, including activities and buildings associated with construction and maintenance.		R	R	R	R
Other utilities	Linear engineering structures (pipelines, canals, power lines).	Government: use of land by national, provincial, or municipal government to give effect to its governance role: water, sewerage pipelines, Eskom power lines. This includes municipal zoning schemes appropriate for power generation by Independent Power Producers.	R	R	R	R
	Small-scale infrastructure (WWTW and substations).		N	R	R	Y
	Large-scale infrastructure (bulk water transfer schemes and water projects and power stations).		N	N	N	N
	Renewable energy: PV		N	N	N	R
	Renewable energy: wind		N	N	N	R
	Alternative renewable energy: biogas, gasification, biodiesel plants		N	N	N	R
Quarrying and mining	Prospecting and underground mining	Mining	N	N	N	R
	Quarrying and open-cast mining (surface mining, dumping, and dredging)		N	N	N	R
	Hydraulic fracturing (fracking)		N	N	N	R



Table 13 Matrix of recommended land use management guidelines for Aquatic based activities in the Eastern Cape

LAND USE TYPE	ASSOCIATED LAND USE ACTIVITIES	CORRESPONDING SPLUMA LAND USE PURPOSE	Instream Rivers and Wetlands		Catchments and buffers	
			CBA1	CBA2	ESA1	ESA2
Environmental conservation	Conservation management, low-intensity eco-tourism and sustainable consumptive activities	Conservation	Y	Y	Y	Y
Tourism and accommodation	Low impact tourism/recreation and accommodation	Special/low density (residential (tourism) = lodges, hotels etc.	Y	Y	Y	Y
	High impact: golf estates, lodges, resort, hotels	Low medium density Residential: human habitation, hotels	N	N	R	R
Rural residential	Low density rural housing and eco-estates.	Low density residential; Human habitation: housing, hotels, flats, clubs, hostels, rooms to let.	N	N	R	Y
	Traditional areas and Rural communal Settlement	Low-high density residential; Human habitation: housing, hotels, flats, clubs, hostels, rooms to let.	N	N	R	Y
Residential	High density urban residential development (urban and business development).	Medium-high density residential; human habitation: housing, hotels, flats, clubs, hostels, room to let.	N	N	N	R
Agriculture	Extensive livestock and game farming	Agriculture	Y	Y	Y	Y
	Game breeding.		N	N	N	R
	Intensive animal farming (feedlot, diary, piggery, poultry, and aquaculture)		N	N	N	R
	Cultivation of virgin soil (dryland and irrigated).		N	N	N	M/R
	Agri-processing		N	N	N	R
Other utilities	Other linear engineering structures (roads, railways, pipelines, canals, power lines).	Government: use of land by national, provincial, or municipal government to give effect to its governance role: water, sewerage pipelines, Eskom power lines.	R	R	M/R	M/R
	Small-scale infrastructure (WWTW and substations).		N	N	N	R
	Large-scale infrastructure (water projects and power stations).		N	N	N	R
	Renewable energy: PV		N	N	N	R
Quarrying and mining	Prospecting and Underground mining	Mining	N	N	N	R
	Quarrying and open-cast mining (surface mining, dumping, and dredging)		N	N	N	R
	Hydraulic fracturing (fracking)		N	N	N	R