INTERACT-Bio
Integrated action on biodiversity

Integrated sub-national action for Biodiversity: Supporting implementation of National Biodiversity Strategy and Action Plans (NBSAP) through the mainstreaming of biodiversity objectives across City-Regions

South Africa Scoping Report

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PART A INTRODUCTION AND METHODOLOGY

1. PROJECT BACKGROUND

1.1. Outline of the INTERACT-Bio project

The INTERACT-Bio project was initiated in December of 2016. It was designed to improve the utilization and management of nature within fast-growing cities and the regions surrounding them. It aims to provide expanding urban communities in the Global South with nature-based solutions and associated long-term benefits. The project is being implemented in Brazil, India, Tanzania, Colombia, China and South Africa.

The project aims to enable governments at all levels – from local to national – to integrate their efforts for mainstreaming biodiversity and ecosystem services into core subnational government functions such as spatial planning, land-use management, local economic development and infrastructure design. INTERACT Bio supports city-regions to understand and unlock, within their specific local context, the potential of nature to provide essential services and new or enhanced economic opportunities, while simultaneously protecting and enhancing the biodiversity and ecosystems on which these services and opportunities depend. These actions in turn place the participating city-regions on a more resilient and sustainable development path.

The INTERACT-Bio project supports the post-2020 Global Biodiversity Framework as well as the Sustainable Development Goals and various other international agreements and associated targets. Through the project, city-regions will align their planning with their National Biodiversity Strategy and Action Plans (NBSAPs), which are required by the Convention on Biological Diversity (CBD). Subnational action in support of the NBSAPs will be promoted and enabled through strengthened cooperation between the different levels of government. Such collaborative approaches will ultimately support nations that are signatories to the CBD to support global biodiversity targets, adopted by all Parties that are signatories to the Convention on Biological Diversity.

1.2. Aims and objectives

The overarching project aim of the project is that biodiversity and ecosystem management in the six model city-regions in Brazil, Colombia, India, China, Tanzania and South Africa is recognized as a cross-sectoral task (horizontal integration) and as such integrated in their sub-national BSAPs (Biodiversity Strategy and Action Plans). Simultaneously, those sub-national BSAPs contribute to the NBSAPs of their countries, in which the sub-national level is increasingly acknowledged as an actor with own targets, as well as implementation partner for national goals (vertical integration).

Specifically INTERACT-Bio aims to:

- **Connect** national and subnational government decision-makers to work together towards integrating biodiversity considerations into city-region planning and decisions;
- **Strengthen** the capacity of city-regions to integrate biodiversity and nature-based solutions into land use, infrastructure and development planning, and to develop supporting policy instruments; and
- **Mainstream** biodiversity considerations across sectors at the subnational and national level.

In doing so, INTERACT-Bio will:

- **Promote** nature-based solutions as economically sound and sustainable investment options;
- **Demonstrate** the effectiveness of nature-based city-region development through pilot projects; and
- **Multiply nature-based approaches** by connecting city-regions with one another, and by building capacity and raising awareness that nature offers significant value in an urban context.

1.3. Project Work Packages and Outputs

Impact(s)				
Biodiversity and ecosystems are managed sustainably and jointly by relevant sub-national and national actors in accordance with associated CBD COP decisions, Aichi targets, the post-2020 global biodiversity framework and the Long-term Approach to Mainstreaming biodiversity to help achieve the 2050 Vision for Biodiversity.				
Outcome				
The biodiversity and ecosystem management in the six model city-regions in Brazil, Colombia, China, India, South Africa and Tanzania is recognized as a cross-sectoral task (horizontal integration) and as such integrated in their sub-national BSAPs (Biodiversity Strategy and Action Plans). Simultaneously, those sub-national BSAPs contribute to the NBSAPs of their countries, in which the sub-national level is increasingly acknowledged as an actor with own targets, as well as implementation partner for national goals (vertical integration).				
Output I	**Output II**	**Output III**	**Output IV**	**Output V**
The baseline of the project regarding biodiversity management within the project countries and city-regions is determined by preliminary studies, and intervention concepts are developed. In a scoping study, decisive drivers for the loss of biodiversity in the selected city-regions have been identified and intervention methods are defined	In all model city-regions, sub-national BSAPs will be developed in a way that ensures close connection and coordination with relevant spatial and technical planning from the outset (instead of having it as an isolated biodiversity planning). At the same time, this spatial and technical planning will take up and integrate the objectives of biodiversity management and the ecosystem services.	Pilot and exemplary projects as well as investment cases are developed towards implementation of the sub-national BSAP in the three (3) project countries (Brazil, India, Tanzania) , and three (3) financing instruments that support the local implementation of NBSAPs are trialed in three (3) of the new project countries (China, Colombia, South Africa).	Vertical integration of biodiversity management between national and sub-national levels is enhanced to improve the common implementation of the biodiversity targets through mechanisms for multilevel collaboration, and scaled out to a growing network of local and subnational governments on the global CitiesWithNature online commitment platform	Global awareness of the importance of mainstreaming biodiversity management at the sub-national level to the signatory countries of the CBD is improved to strengthen the framework conditions for local action. Further, South-South and North-South peer learning, knowledge exchange and partnerships are fostered in support of achieving national targets and implementing the post-2020 global biodiversity framework and the Long-term Approach to Mainstreaming biodiversity.

This scoping report is a product of project Output 1, specifically Indicators I.1 and I.2 of Output I which require the delivery of scoping studies and intervention concepts for each of the three project countries respectively. Results of the scoping process and intervention concepts for South Africa are summarised in this report. The indicators for measuring the scoping are provided below:

Output I: The baseline of the project regarding biodiversity management within the project countries and city-regions is determined by preliminary studies, and intervention concepts are developed. In a

scoping study, decisive drivers for the loss of biodiversity in the selected city-regions have been identified and intervention methods are defined.

Indicator I.1: Scoping studies on the initial situation are completed.

Means of verification: Scoping studies are submitted by ICLEI to the relevant authorities at the national level and municipalities.

Indicator I.2: Four (4) intervention concepts are developed (one [1] concept per city-region, as well as one (1) concept to up-scale on the national level) for each country.

Means of verification: 4 intervention concepts submitted

Indicator I.3: By end December 2022 in all three (3) new project countries (China, Colombia, and South Africa) stakeholder mapping and situation analyses at the national and subnational levels are undertaken.

Means of verification: Stakeholder mapping and situation analyses undertaken in China, Colombia and South Africa and made available on the project website.

1.4. Selection of city regions

Using a number of criteria based on national priorities (e.g. political preference and presidential focus areas for development), biodiversity importance, a mix of existing biodiversity governance traction and very little biodiversity work, a mix of coastal and inland characteristics, 23 (twenty three) local, district and metropolitan municipalities were short-listed. Following discussions with the project's South African national government partner, four district and x satellite municipalities were identified:

- Waterberg District Municipality (the model)
- uMkhanyakude District Municipality
- Overstrand Local Municipality
- Cape Agulhas Municipality

Satellite or 'lighthouse' authorities ('co-learning') municipalities:

- Department of Agriculture and Rural Development (as a focal point for the Gauteng province)
- eThekwini Metropolitan Municipality
- uMgungundlovu District Municipality
- Ehlanzeni District Municipality
- Garden Route District Municipality
- Western Cape Province (through the Department of Environment and Development Planning (DEADP) as focal point)

In line with work area 4 of the project, which focuses on fostering peer learning, knowledge exchange and partnerships among cities in the project countries, a number of additional local governments were invited to participate in the project as a "lighthouse" authority to demonstrate and support best practice locally and to contribute to the City to City peer learning. These government authorities were identified as institutions whose progress, lessons and knowledge on mainstreaming biodiversity into policy, land use planning processes and practices at the local scale can contribute to project implementation and impact.

While the participation of lighthouse authorities is not embedded in the project proposal, as an organization, these sub-national authorities have demonstrated significant progress towards mainstreaming and localising South Africa's NBSAP and biodiversity priorities into local action. Their insights will benefit the project municipalities in their respective journeys in mainstreaming biodiversity at the local level.

1.5. Structure of the report

This report presents the scoping methodology, then provides an overview of global and national status of biodiversity, including mechanisms and indicators for measuring biodiversity status in South Africa. The report then covers the policy and institutional frame for biodiversity and local governance in South Africa. Finally, the detailed results of scoping the four municipalities selected are presented. The report ends with a number of draft intervention concepts for each of the four municipalities.

2. SCOPING METHODOLOGY AND APPROACH

2.1. Purpose of scoping within the context of the INTERACT Bio Project

The purpose of baseline situation scoping is to gather and analyse baseline information, to better understand the current (baseline) situation regarding biodiversity mainstreaming and NBSAP implementation. This includes assessing and understanding the legal and policy frameworks; institutional arrangements and governance systems; national and sub-national economic and social priorities, development pressures and challenges that drive change and biodiversity loss; and opportunities for near and long term development and biodiversity gains.

Given the design and overall duration of the INTERACT Bio project, the baseline situation scoping exercise is not intended as a comprehensive full scoping exercise. Instead, a more strategic, focussed and rapid appraisal scoping is appropriate and sufficient.

2.2. Scoping methodology

- Typically scoping comprises of the following key iterative steps:
- Gather data and information and undertake desktop research;
- Conduct stakeholder mapping exercise;

- Engage and consult stakeholders to gather further information, compliment missing data gaps, test and verify data and assumptions and jointly involve them in the assessment;
- Analyse and assess information:
    - mapping the 'landscape' for biodiversity mainstreaming entry points;
    - identify and consider nature's benefits (ecosystem services);
    - clarify and prioritise key themes for mainstreaming biodiversity;
- Present scoping results and findings to stakeholders.

Figure 1. Scoping generic methodology

Regular and ongoing engagements with key actors and stakeholders during scoping create opportunities to stimulate and support key relationships that secure local input and commitment to both the INTERACT Bio project as a whole, and specific project interventions; help validate baseline situation analyses; and facilitate biodiversity mainstreaming within the city-region during project implementation and post project closure; and provide opportunities for co-production which further strengthens relations and commitment.

ICLEI Cities Biodiversity Center developed a series of technical guidance notes (TGN) to guide the implementation of scoping studies within the project countries while allowing for country specific circumstances and requirements to shape the nature of the baseline and technical scoping exercises. The TGNs provided guidance on how to undertake baseline situation and technical scoping; identifying scoping information needs; and identifying stakeholders.

2.3. Outline of scoping undertaken in South Africa

2.3.1. Scoping process

Scoping was conducted by means of discussions with relevant officials in the municipalities and national government. In addition, non-governmental stakeholders, such as individuals in NGOs, local wards and other non-governmental organisations familiar with the environmental and urban planning

sectors were also interviewed. The purpose of the discussions was to start building relationships with key stakeholders, to identify potential local champions for the project and to gather information to understand the current urban nature and related governance context. These discussions involved introducing the INTERACT-Bio project and engaging in discussions around local urban nature, economic and development priorities.

2.3.2. Stakeholder mapping

Stakeholder mapping for each project municipality was initiated by consulting available municipal documents, in particular the municipality's most recent Integrated Development Plan (IDP) to identify key stakeholder groupings. This information was used to create a draft schematic reflecting all municipal stakeholders relevant to biodiversity mainstreaming and this was then shared with each municipality during scoping meetings, for them to comment on, clarify and change.

2.3.3. Capacity assessment

A structured capacity assessment was not done during this scoping, due to time constraints. However, all municipalities requested that the project should complement municipal capacity.

2.3.4. Assumptions and limitations

Scoping as well as adjustments made in response to scoping information, reflects an emerging context and that context and capacities are essentially emerging in an ongoing process. It is therefore important for the project team to make a start with imperfect knowledge about context and specific stakeholders and specific capacities. It is essential to find champions (supportive, networked and empowered individuals) to work with in each city.

PART B COUNTRY SCOPING

3. OVERVIEW OF GLOBAL AND NATIONAL BIODIVERSITY STATUS

3.1. Global biodiversity hotspots and areas of high conservation value

3.1.1. Global biodiversity hotspots

In their seminal paper of 2000, Myers and colleagues identified 25 globally important biodiversity hotspots. A 'hotspot' refers to areas of exceptional concentrations of endemic species that are undergoing exceptional loss of habitat. The global hotspot assessment and map were updated and published in 2011 (Mittermeier et al., 2011). In the revised assessment, a total of 35 hotspots were recognised globally. The 2011 study showed that of the habitat originally representing the hotspots, less than 15% of these areas remain which means that "an irreplaceable wealth of biodiversity is concentrated in a very small portion of the planet" (Mittermeier et al., 2011; p. 11). The same study indicated that populations in the hotspots are generally growing faster than in the rest of the world, on average.

Of the 35 global hotspots, three (3) hotspots were recognised in South Africa: the Succulent Karoo, the Cape Floristic Region and the Maputaland-Pondoland-Albany complex. In recognising resource constraints for biodiversity conservation, the purpose of identifying 'hotspots' was to guide prioritisation of conservation investments. The 2011 study affirmed that biodiversity hotspots experience similar threats to biodiverse areas worldwide, but that the threats tend to be more intense in and around hotspot areas. According to the 2011 study, habitat transformation is set to remain the dominant threat of the future, even when climate change impacts are accounted for.

3.1.2. The impact of urbanisation on global biodiversity

The impact of population growth and human activities in or near, or affecting these hotspots has stimulated analyses that try to place the fate of areas of conservation importance in the context of human settlement and human activities. These kinds of analyses have been the focus of the 2013 Cities and Biodiversity Outlook (2013) and the 'Nature in the Urban Century', published in 2018. According to these works, by 2050, 70% of the world population will live in cities. Africa, Asia and Latin America are the world's fastest urbanizing and developing regions. These regions also host several of the world's biodiversity hotspots. The urbanization trend reflects urban sprawl, growing slum populations, limited access to services and increased vulnerability to natural hazards. Formal governance structures are weak and livelihood links to ecosystem services are severely underrepresented in the scientific literature. Urban growth has historically been a major cause of natural habitat loss. The NUCA report of 2018 states that urban growth was responsible for the loss of 190 000 km^2 of natural habitat between 1992-2000, such that urban growth accounted for 16% of all natural habitat lost during this time period.

Africa is the most rapidly urbanizing continent with an average population growth rate of 3.5%. African population expansion and a tradition of low-density settlement means that urban land cover increase will be the highest in the world, with a predicted 700% increase in urban land cover between 2000

and 2030. This growth will take place primarily in areas with limited financial, knowledge and infrastructural resources. High levels of poverty across Africa means that socioeconomic development will be a priority. But urban growth also presents opportunities to improve sustainability and achieve key biodiversity goals because cities stimulate innovation, increase economic productivity and create opportunities for more efficient use of natural resources and energy (Cities and Biodiversity Outlook, 2013).

Similar to other parts of Africa, urbanisation is also a significant trend in South Africa. The South African Parliamentary Monitoring Group states that 63% of South Africans are living in urban areas and estimates that this number will rise to 71% by 2030. By 2050, 80% of all South Africans will be urbanised. According to CoGTA (Cooperative Governance and Traditional Affairs), expected challenges of rapid urbanisation in South Africa include the direct loss of natural habitats, unemployment, poor living conditions, crime, loss of traditional social fabric and cultures, urban congestion and increased cost of living. In planning for this scenario, the government has developed the Integrated Urban Development Framework (IUDF).

3.1.3. Global policy on urban biodiversity

Global policy to support urban sustainability and specifically the incorporation of urban nature into urban planning and action, has advanced substantially over the past decade:

- The Global Biodiversity Framework and associated Targets, adopted by Parties at the Biodiversity COP15 (2022), widely acknowledges the critical role of sub-national governments in supporting the achievement of global biodiversity goals and securing the associated ecosystem services for people;
- There is much more focus on nature in the Climate space - as per the outcomes of the Climate COP of 2022;
- Significant progress is being made in terms of developing metrics for cities to track progress towards supporting urban nature, such as the Singapore Biodiversity Index, the CitiesWithNature and RegionsWithNature Platforms which are endorsed by the Convention on biological Diversity;
- The UN Decade for Ecological Restoration, aims to halt and reverse degradation on land and in coastal and marine environment;
- The Ramsar Wetland City Accreditation Scheme promotes exceptional performance of urban wetlands and municipal authorities whose task it is to protect urban wetlands and to secure their benefits;
- Agenda 2063 reflects the Pan African Vision of An integrated, prosperous and peaceful Africa, driven by its own citizens, representing a dynamic force in the international arena. Agenda 2063 is the concrete manifestation of how the continent intends to achieve this vision within a 50 year period from 2013 to 2063.

3.2. Country level biodiversity status and the status of South Africa's National Biodiversity Strategy and Action Plan

South Africa is among the world's megadiverse countries, boasting three biodiversity hotspots, the Cape Floristic Region, Succulent Karoo, and the Maputaland–Pondoland–Albany centre of endemism. South Africa's biodiversity consists of approximately 10% of the world's known birds, fish and plant species and 7% of the world's mammal and reptiles (Cadman et al., 2010). Diversity and endemism are both hallmarks of South Africa's exceptional biodiversity and according to the United Nations, South Africa is one of 17 megadiverse nations and is ranked third for marine species endemism and one of the top ten for plant species diversity. With a land area of just 1.2 million square kilometres and an area surrounded by water of 1.1 million km^2, South Africa is the smallest of the world's megadiverse countries.

This biodiversity, found across terrestrial, freshwater, estuarine and marine environments underpins the country's economy, society and human wellbeing (Cadman et al., 2010; NBA, 2018). Besides providing ecosystem services such as food, medicine and water, these diverse ecosystems also provide a variety of ecosystem services that help regulate biological processes, mitigate climate impacts and attenuate floods and other natural disasters, enhancing society's resilience to climate change. Economies, societies and human wellbeing benefit from South Africa's biodiversity. Integrity of ecosystems, healthy populations of species, and genetic diversity are essential for providing these benefits from nature. As humans continue to engage in activities that directly and indirectly affect biodiversity, it is imperative that we carefully consider how these activities will affect biodiversity, as well as how they will benefit the biodiversity. As such, in order to successfully realise the value of biodiversity and ecosystems in support of the country's development path, it is vital to understand how biodiversity and ecosystems support development and human well-being, and how they are affected by development activities.

3.2.1. The status of South Africa's National Biodiversity Strategy and Action Plan (NBSAP) 2015-2025

South Africa is a signatory of the Convention on Biological Diversity (CBD) and in fulfilling requirements under the CBD, South Africa's NBSAP seeks to integrate the country's obligations under the CBD into its national development and sectoral planning frameworks and make explicit links to the priorities and strategies of a wide range of role players and sectors impacting its biodiversity. Following the development and implementation of South Africa's first NBSAP in 2003-2008, this acts as South Africa's revised NBSAP for the period 2015 – 2025, in line with the CBD's Strategic Plan for Biodiversity 2011-2020 and Target 17 of the Aichi Biodiversity Targets. South Africa's current NBSAP identifies priorities for biodiversity management for this period, further aligning these with the priorities and targets in the global agenda, as well as national development imperatives.

The vision of the NBSAP

"Conserve, manage and sustainably use biodiversity to ensure equitable benefits to the people of South Africa, now and in the future."

The NBSAP has six strategic objectives (SO), all of which provide strategic framework and interventions necessary for addressing the country's pressing biodiversity conservation and management needs, namely;

- **Strategic Objective 1:** Management of biodiversity assets and their contribution to the economy, rural development, job creation and social wellbeing is enhanced.
- **Strategic Objective 2:** Investments in ecological infrastructure enhance resilience and ensure benefits to society
- **Strategic Objective 3:** Biodiversity considerations are mainstreamed into policies, strategies and practices of a range of sectors.
- **Strategic Objective 4:** People are mobilized to adopt practices that sustain the long-term benefits of biodiversity.
- **Strategic Objective 5:** Conservation and management of biodiversity is improved through the development of an equitable and suitably skilled workforce.
- **Strategic Objective 6:** Effective knowledge foundations, including indigenous knowledge and citizen science, support the management, conservation and sustainable use of biodiversity.

The six strategic objectives act as a roadmap and are further broken down into a comprehensive set of outcomes and related activities, which are the priorities for the strategic objective. Each outcome is aligned with indicators and targets, with lead and supporting organisations allocated to ensure coordination and co-operative management. Furthermore, each activity is ranked based on priority, from low, medium to high, in order to effectively manage roll out and financial provision. Consistent with other legal and policy frameworks in the country, the NBSAP is developed to ensure alignment with existing national and organisational priorities and strategic plans, to facilitate effective monitoring and evaluation and to compliment the country's development imperatives, promoting better integration of the NBSAP.

3.3. Biodiversity Assessment in South Africa

The National Environmental Management: Biodiversity Act 10 of 2004 (further detailed below), calls for the establishment of the South African National Biodiversity Institute (SANBI) to lead South Africa's national commitment to biodiversity management. As part of its legislative mandate, SANBI is to monitor and report on the state of South Africa's biodiversity to inform planning and management. Through this role, SANBI has since 2004, led the periodic assessments of the status of the country's biological diversity, contributing to an understanding of the trends, threats and interventions needed to safeguard the country's rich biodiversity.

Figure 2. *The evolution of National level assessments of South Africa's biodiversity*

3.3.1. National Spatial Biodiversity Assessment

In 2004, the country's first nation-wide spatial biodiversity assessment was published through the National Spatial Biodiversity Assessment (NSBA). The NSBA, provided South Africa's first comprehensive account of biodiversity, focusing on 4 broad components across terrestrial, estuarine, freshwater and marine environments in the country. The NSBA has links to policy, providing a set of indicators, information and knowledge tools critical for promoting enhanced mainstreaming of biodiversity into a number of South African laws and policies, further strengthening their implementation.

3.3.2. The National Biodiversity Assessment

The National Biodiversity assessment (NBA) is a countrywide assessment of the status of biodiversity. Building on lessons and data collected as part of the first national (spatial) biodiversity assessment, two more updates have been developed and produced in 2011 and 2019. The NBA is developed every 5-7 years and is done in collaboration with a number of public and private entities in the biodiversity sector. It acts as the primary tool for assessing current trends and dynamics in biodiversity, including how much biodiversity exists across the different ecosystems, species and genes; what condition they are in and what threats are they currently facing and the implications of these on the benefits they provide.

The NBA synthesises this scientific information and makes it available as a useful tool for policymakers, decision-makers and practitioners in the biodiversity sector and across different sectors. The NBA feeds into policies such as the National Biodiversity Strategy and Action Plan (NBSAP), National Protected Areas Expansion Strategy (NPAES), and the National Biodiversity Framework (NBF) and strategies such as the Strategic Environmental Assessments (SEA) and bioregional plans, which promote biodiversity mainstreaming across other sectors such as mining and agriculture, whose activities have an impact of the country's biodiversity, providing strategic and evidence based science to support national responses and prioritisation.

The NBA has two headline indicators, ecosystem threat status (ETS) and ecosystem protection level (EPL) assessed for both ecosystems and species, which are equally assessed across all realms and provide for comparative analysis between terrestrial, inland aquatic (rivers, wetlands and estuarine) and marine ecosystems. Ecosystem threat status evaluates the extent to which an ecosystem or species distribution remains intact and is being degraded, ultimately losing its ability to function optimally and deliver ecosystem services due to changes in its structure, function and ecological composition. Following the IUCN categories, the NBA categorises ecosystem threat status across four broad categories; critically endangered (CR), endangered (EN), vulnerable (VU) and or least concern (LC), with these categories allocated based on the proportion of each ecosystem type that remains in good ecological condition relative to a series of thresholds. The second headline indicator, ecosystem protection level (EPL) deals with the extent to which each ecosystem type or a species is formally protected, as recognised in the Protected Areas Act, or under protected. EPL categories ecosystems across four broad categories, well protected; moderately protected; poorly protected and not protected.

The spatial data and knowledge generated as part of the NBA process provides an essential scientific basis for cross sectoral planning and for prioritising interventions across the different ecosystems, further identifying areas where the national protected areas network can be expanded to ensure that representative samples of the different ecosystems are formally protected and can be managed more sustainably. Furthermore, the outcomes of the NBA have been a useful tool in informing the country's biodiversity planning agenda and subsequent mainstreaming of biodiversity priorities into the environmental impact assessment (EIA) process through the DFFE National Screening Tool which allows applicants to screen their proposed site and activity for any environmental sensitivity prior to obtaining environmental authorisation in terms of the EIA Regulations, 2014.

3.4. A systematic biodiversity planning approach to managing and mainstreaming biodiversity into decision making

South Africa, through SANBI's leadership, also undertakes systematic biodiversity planning. Biodiversity Planning makes use of the principles of systematic biodiversity planning, also known as systematic conservation planning, to support the country to identify national and regional priority areas for biodiversity conservation (). Through this approach, South Africa has been able to analyse and identify national threatened terrestrial ecosystems, areas of significant geographic focus to inform National Protected Area Expansion Strategy and has provided technical support to all nine provinces in developing provincial spatial biodiversity plans, as mandated by the National Environmental Management: Biodiversity Act 10 of 2004. Furthermore, systematic biodiversity planning has contributed significantly to national biodiversity assessment, having provided input for the development of the National Spatial Biodiversity Assessment (NSBA) in 2004 and both National Biodiversity Assessments published for 2011 and 2018.

Through its biodiversity planning approaches, South Africa has been able to systematically respond to biodiversity related global and national priorities, making a significant contribution to the development of national biodiversity priorities and informing the development and implementation of strategic programmes and projects, where the value of conserving biodiversity for nature and

society is promoted. Through this approach, a number of planning tools have been developed and now play an integral part in ensuring the effective mainstreaming of biodiversity priorities into development planning in the country. Among others, some of these tools include:

3.4.1. National Protected Area Expansion Strategy (NPAES)

The National protected areas expansion strategy (NPAES) is a 20 year strategy for the expansion of South Africa's formal protected areas network to achieve ecological sustainability and build resilience to climate change. South Africa developed its first national protected areas expansion strategy (NPAES) in 2008. The goal of the NPAES was to strategically identify areas for cost effective expansion of the country's land based protected area network. The NPAES takes an ecosystem approach, identifying geographic areas where effective land based protected areas expansion can be achieved.

3.4.2. Marine Protected Areas (MPAs)

In efforts to improve marine planning and management in the country, marine based protected areas were developed through the marine protected areas. MPAs include coastline or ocean areas protected for the benefit of people and nature and are declared through the National Environmental Management: Protected Areas Act 57 of 2003.

3.4.3. National Freshwater Ecosystem Priority Areas (NFEPA)

The National Freshwater Ecosystem Priority Areas (NFEPA) was a three-year multi-partner project that concluded in 2011, with the objective of identifying priority areas within the freshwater environment. The resultant Freshwater Ecosystem Priority Areas (FEPAs) include rivers and wetlands required to meet the country's biodiversity targets for freshwater ecosystems (Nel et al., 2011).

3.4.4. Strategic Water Source Areas (SWSA)

Strategic Water Source Areas (SWSAs) are those areas that supply a disproportionate amount of mean annual runoff to a geographical region of interest. Given that South Africa is a water scarce country, SWSAs have the potential to contribute significantly to overall water security, from both a quality and quantity perspective, effectively supporting the country's economic growth and development needs.

3.4.5. Critical Biodiversity Areas (CBA)

Critical Biodiversity Areas (CBAs) are areas required to meet biodiversity targets for ecosystems, species and ecological processes (SANBI, 2017; SANBI, 2018). To achieve this, CBAs must be kept in a natural or near-natural state while Ecological Support Areas (ESAs) ESAs do not need to be completely natural, but must be kept at least semi-natural so that they retain their ecological functioning and continue to provide ecosystem services (SANBI, 2018). CBA Maps are currently being used by planners and decision-makers countrywide as an effective tool for mainstreaming biodiversity into different sectors, activities and informing appropriate land use decisions across the South African landscape (SANBI, 2018). As mandated by the National Environmental Management: Biodiversity Act 10 of 2004, all provinces in South Africa are required to develop provincial spatial biodiversity plans, which contribute towards provincial and national biodiversity mainstreaming and management and include CBA maps for effective mainstreaming and ecological sustainability.

These spatial datasets, along with a number of other biodiversity related spatial layers focusing on both species and ecosystems, biodiversity strategies, plans and other tools were used to form the basis of the composite Biodiversity Priority Areas map. The biodiversity priority areas map shown in figure 3 provides a comprehensive account of the country's biodiversity priority areas, where national and international biodiversity targets can be met, while maintaining ecological integrity, function, connectivity and composition across landscapes. As a means to ensure biodiversity mainstreaming across the different sectors, the biodiversity priority areas map forms the basis of the National Environmental Screening Tool and ensures that all development applications and activities are screened for any environmental sensitivity prior to the issuing of any environmental authorisation.

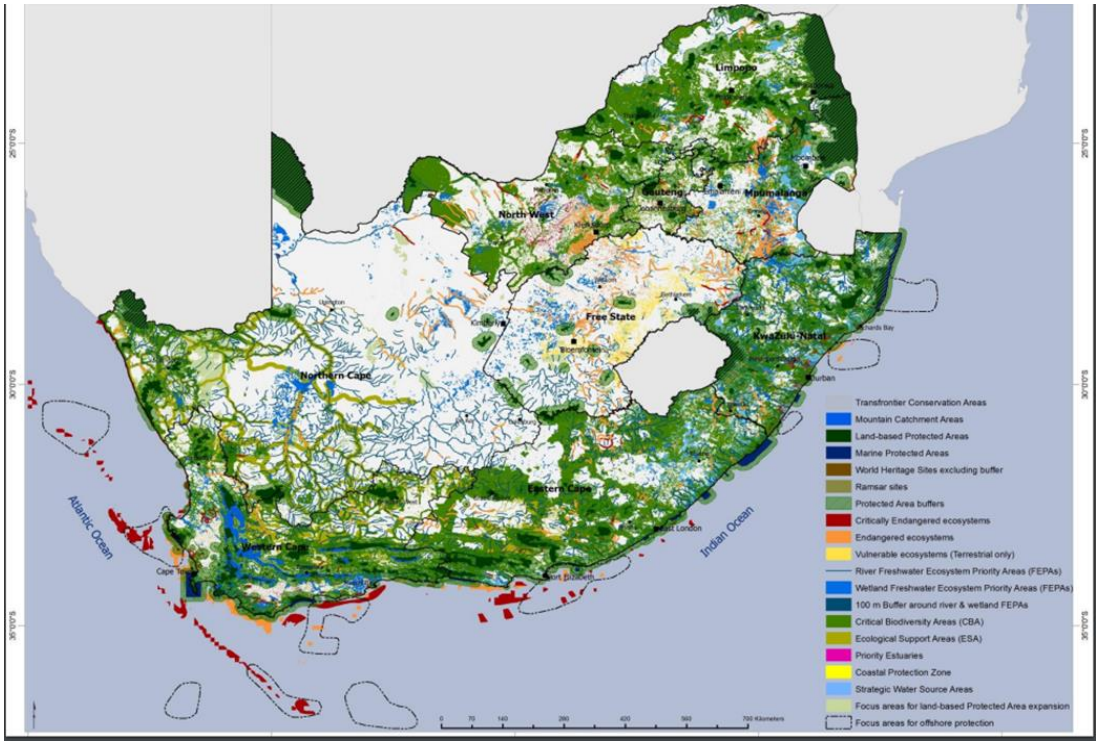

Figure 3. *South Africa's Biodiversity Priority Areas map*

3.5. The status of South Africa's biodiversity: Threats and pressures

The country's biodiversity is under threat due to a number of human activities mostly associated with patterns of consumption and production. According to the recent assessment of the country's biodiversity status (NBA 2018), almost half of the 1 021 ecosystem types assessed in the NBA 2018 are threatened, with wetlands and estuaries having the highest proportion of threatened ecosystems in the country (SANBI, 2019). However, due to advances in the expansion of the protected areas network, only 31% of these ecosystem types are not protected (SANBI, 2019).

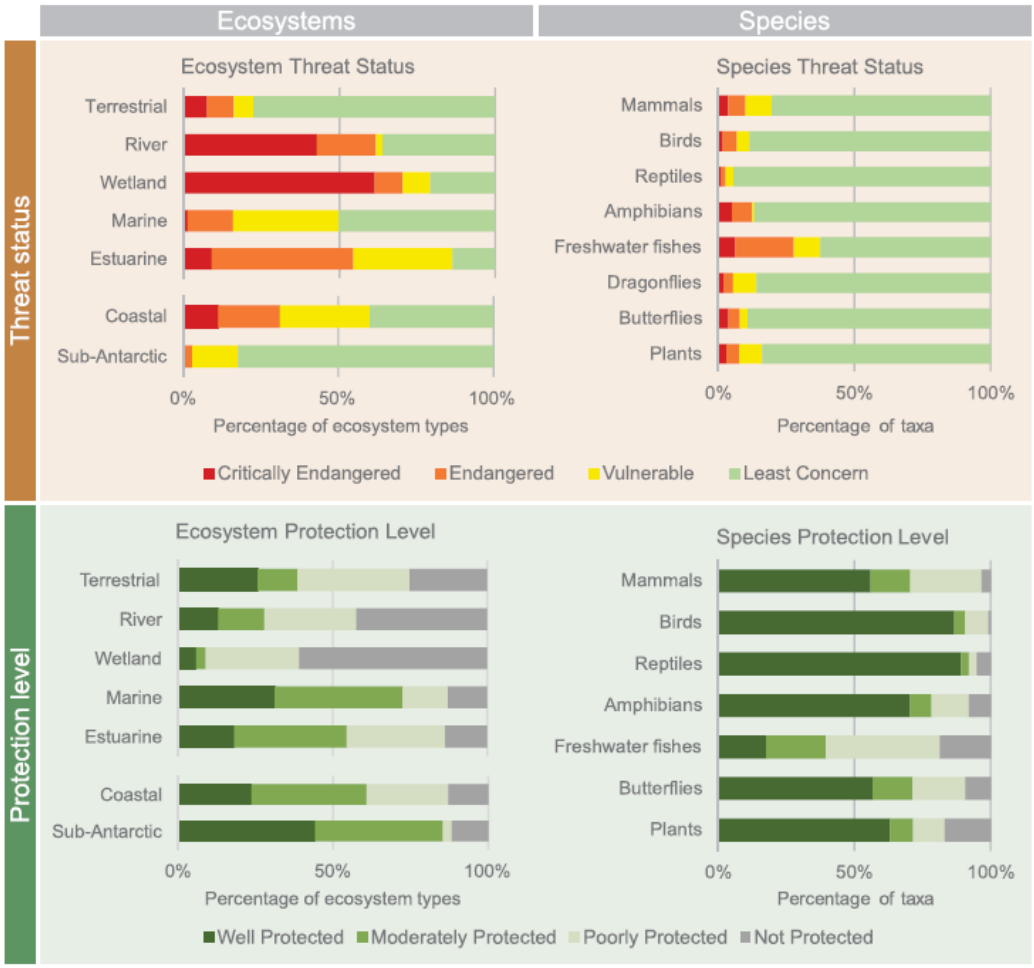

Figure 4. *Status of biodiversity based on threat status and protection level for both ecosystems and species (Source: SANBI, 2019)*

Changes in land use from human activities has led to extensive degradation of ecological infrastructure across both land and seascape. Altering its ability to deliver ecosystem services, contribute to water and food security, enhance disaster risk reduction and protect society from the impacts of climate change. Threats to biodiversity vary across the different realms and include cultivation, invasive alien plants (AIP), energy production, mining, land use change and changes in biological resource extraction and use and have been proven to have a varying intensity across the different realms (Figure 4). According to the status report on biological invasions (Zengeya and Wilson, 2020), agriculture (cultivation), land degradation and biological invasions are the greatest threats to South Africa's biodiversity.

3.5.1.1. Agriculture

According to the Economic Review of South African Agriculture (Department of Agriculture, Land Reform and Rural Development (DALRRD), 2020), in 2019, agriculture contributed approximately 80 million Rands to the country's Gross Domestic Product (GDP). Despite its relatively low contribution to the GDP, agriculture remains a significant player in the South African economy, providing employment and food security, especially in rural areas (DALLRRD, 2020). However, despite that,

agriculture is one of the major drivers of biodiversity loss, contributing to about 50% of biodiversity loss due to changes in consumption and population trends nationally. Among other impacts, agriculture has resulted in environmental degradation and extensive water usage. In most parts of the country, agricultural farms fall within strategic water source areas and result in extensive water abstraction (SANBI, 2019). Presently, a large proportion of agricultural practices have a strong dependence on artificial fertilisers and chemicals that have negative impacts on soils, biodiversity and critical water resources such as wetlands and rivers (SANBI, 2019). As such, managing agricultural activity is crucial to ensure soil, water and biodiversity around these areas are sustainably conserved and managed through better agricultural practices.

3.5.1.2. Addressing the challenge of agriculture on biodiversity

The South African government in collaboration with the public and private sector have begun work towards transforming the agricultural industry and farming practices towards those that are sustainable Finally, it is essential that farming practices transform towards sustainable and regenerative in order to reduce biodiversity loss, protect soils and surface and groundwater water resources. These interventions include the maintenance of agricultural yield quality and quantity through the changes in water, fertiliser management and crop rotation. These interventions have proven beneficial to soil health. Furthermore, organisations like WWF have started working farmers across the different scales of agricultural production to move towards more sustainable agricultural practices. This includes encouraging a stronger commitment to conserving and sustainably managing the natural environment and supporting culture change through the development of best practice guidelines, protocols and standards which inform better agricultural practices, while not compromising agricultural productivity and food security.

3.5.2. Land degradation

Land degradation is a global problem with significant impacts on biodiversity and livelihoods. It has had profound effects on ecological integrity and function, resource-based livelihoods and the South African economy (DEA, 2018). Despite the importance of biodiversity and associated ecosystems, South Africa still faces a major threat of desertification, land degradation, and the effects of drought. These impacts are further exacerbated by human activities such as mining, urbanisation and infrastructure development, bush encroachment, invasive alien plants (AIP) and unsustainable land use practices associated with the agricultural sector (DEA 2018).

The impacts of land degradation have been felt across the different realms, with their intensity varying across the various areas of biodiversity and livelihood. South Africa is a water scarce country and as such, ensuring sustainable use and management of water resources and water related ecological infrastructure is a priority for the national government. In the last decade, changes in land use and increasing impact of degradation and human activities on water resources such as rivers, wetlands, dams and estuaries, further exacerbating the impacts on water quality and quantity and food security (DEA, 2018). In most parts of the country, soil erosion results in sedimentation of dams, while increased infestation of water resources, including riparian areas by alien invasive plants, has lowered stream flow (DEA, 2018).

3.5.2.1. Addressing the challenge of land degradation

The interconnected nature of ecosystems and associated processes has meant that efforts to address challenges need to be cooperative and inclusive of a number of stakeholders. Over the years, continued decline in biodiversity and increasing pressures have emphasized the need for better coordination and cooperation between different sectors, including agriculture, mining, water management, urban planning and infrastructure development (SANBI, 2019). This has been facilitated through a number of tools, policy changes and interventions such as the National Action Programme (NAP), CBA maps (detailed in section 3.4.5); the Spatial Planning and Land Use Management Act (SPLUMA) (further detailed in section 4.3.15) and other tools and resources which enhance cross-sectoral mainstreaming of biodiversity nationally and at the local level (SANBI 2019).

a. The National Action Programme

South Africa's ratification of the United Nations Convention to Combat Desertification (UNCCD) has been a confirmation of the country's commitment to and political will to contribute towards the successful implementation of the Conventions. As such, South Africa developed its first National Action Programme (NAP) to combat desertification, land degradation and the effects of drought in 2004 through collaborative efforts with the national government and related departments, private sector, civil society and academic institutions and non-governmental organisations.

Table 1. *Overview of the framework for the National Action Programme to combat desertification, land degradation and the effects of drought*

<table>
<tr><td colspan="4">Vision
Prosperous and healthy South Africans living in an environment restored and maintained through universal improvement in land management to its beautiful landscapes and productive ecosystems that sustain livelihoods and ecosystem services, for the benefit of current and future generations</td></tr>
<tr><td colspan="4">Purpose
To identify factors contributing to desertification, land degradation and drought, as well as practical measures necessary to mitigate the effects of drought</td></tr>
<tr><td>Outcome 1: By 2020, national strategy for communication and coordination of programme to mitigate desertification/ degradation and drought is delivered</td><td>Outcome 2: By 2020, policy and institutional frameworks are effectively implemented and strengthened to minimise desertification, reverse land degradation and mitigate effects of drought (mainstream DLDD in other relevant sector policies)</td><td>Outcome 3: By 2025, support and encourage research by academic and scientific institutions on science, knowledge and technology on desertification, land degradation and drought, as well as climate change mitigation and adaptation</td><td>Outcome 4: By 2019, the capacity of government institutions, non-governmental organisations (NGOs) and civil society to support efforts / initiatives aimed at mitigating desertification, land degradation and drought has been built</td></tr>
</table>

	Outcome 5: By 2019, funding mechanisms to support land owners, communities and conservation entities to implement sustainable land use management have been established and are functioning	Outcomes 6: By 2030, South Africa is to ensure that degraded ecosystems are restored whilst contributing to ecosystem services delivery, climate change adaptation and mitigation	Outcome 7: By 2019, South Africa's national voluntary targets to ensure a land degradation neutral world have been identified, formulated and implemented

The purpose of the NAP is to identify factors contributing to desertification, land degradation and drought and promote the implementation of practical measures and interventions necessary to combat land degradation, desertification and mitigate the effects of drought in the country (DEA, 2018). As such, the NAP sets out institutional arrangements and resources required. for its successful implementation.

b. Investing in ecological infrastructure for water security

These tools, including those not detailed in this report all function on the premise of cooperative governance and allowing cross-sectoral partnerships to enhance knowledge generation and sharing, thus boosting the impact of these interventions. One such example is the uMngeni Ecological Infrastructure Partnership (UEIP) in KwaZulu-Natal, where stakeholders have come together to address natural resource challenges in a way that supports social and economic development (Box 1)

BOX 1. Case Study

Investing in ecological infrastructure to enhance water security in the uMngeni River catchment (adapted from SANBI, 2019)

The uMngeni River in KwaZulu-Natal is about 225 km long, and supplies two major economic hubs, Durban and Pietermaritzburg, KwaZulu-Natal. The uMngeni River Catchment accounts for less than 5% of the surface area of KwaZulu-Natal, yet supplies over 40% of the population in the province. Over the years, changes in population dynamics and economic growth in the surrounding areas have led to extensive degradation of the river and broader catchment's ecological integrity and function. Among the challenges, a decline in water quality and quantity, together with a growing demand on the resource, have increased the risk of water security challenges in the province.

In response to the water security challenges threatening the catchment, a cross-sectoral and multi-disciplinary project, the **uMngeni Ecological Infrastructure Partnership (UEIP)** led by the South African National Biodiversity Institute (SANBI), eThekwini Metropolitan Municipality, the KwaZulu-Natal office of the Department of Water and Sanitation and Umgeni Water partnered for change. The catchment wide partnership has over the years successfully demonstrated how healthy ecological infrastructure can be utilized to secure water for the benefit of society, the economy and the environment through a programmatic research approach with the aim of;

- Increasing investments in ecological infrastructure
- Improving compliance and enforcement around ecological infrastructure

- Improving institutional capacity
- Strengthening the policy environment
- Strengthening the links between science and policy through evidence-based research

Partnering for change

- National, provincial and local government departments
- Private sector
- Business
- Academic institutions
- Civil society

(adapted from SANBI, 2019)

3.5.3. Biological invasions

Invasive alien plants (IAPs) are a threat, not only to South Africa's biological diversity, but to the country's water security, livelihoods and economy (Zengeya and Wilson, 2020). According to the recent Status report on Biological invasions (Zengeya and Wilson, 2020), biological invasions are the third largest threat to South Africa's biodiversity, following cultivation and land degradation, and are responsible for 25% of all biodiversity loss. In the last decade, new alien species have continued to infest landscapes, with the polyphagous shot hole borer (PSHB) (*Euwallacea fornicatus*) among the most destructive to South Africa's biodiversity (Zengeya and Wilson, 2020).

Since 2013, the South African government has spent approximately 1 Billion Rand every year in the clearing and control of IAPs and has listed over 500 invasive taxa as requiring control (Zengeya and Wilson, 2020). Annually, at least 3 alien species taxa are introduced in the country, contributing to the destructive and sometimes irreversible damage to biodiversity, the economy and livelihoods (Zengeya and Wilson, 2020). In fire prone areas such as the Fynbos biome, invasive plants have been recorded to intensify the impact of fires, rendering them a danger to communities and biodiversity at large. Additionally, IAPs have been proven to negatively impact water resources, increasing droughts in parts of the country (Zengeya and Wilson, 2020). This has led to intensified action, further calling for a boost in investment in IAP clearing and landscape restoration and rehabilitation, specifically in riparian areas where the impact on water security is most concentrated.

3.5.3.1. Addressing the challenge of biological invasions

Addressing the challenge of biological invasions and IAPs has seen South Africa develop a number of interventions, tools and protocols to limit the spread and any further infestation of the South Africa landscapes. Below, are some examples of efforts made to eradicate and manage biological invasions;

a. Expanded Public Works Programme: Working for Water (WfW) programme

The South African Government, through the Environmental Programmes led by the Department of Forestry, Fisheries and the Environment, has spent over 1 billion Rand a year on projects aimed at eradicating and biological invasions throughout the country. Through these green jobs initiatives, partners across government, private sector and academia have collaborated to enhance South Africa's water security, targeting invasions along riparian areas, water sources areas and mountain catchments. Anchored on the development of people as an essential element of environmental conservation, the WFW programme has contributed significantly to job creation through invasive alien species clearing activities (SANBI and CIB, 2020). Targeting youth, women and people living with disabilities and investing immensely in community development and the fight against poverty.

b. Invasive species regulations and protocols

Increasing IAP infestations of invasive species have led to a number of policy and legislative improvements in South Africa over the last decade. This includes the development of Invasive species regulations and protocols in 2014 (later revised in 2021), as part of the National Environmental Management: Biodiversity Act 10 of 2004. The alien and invasive species regulations and protocols are comprehensive, innovative and have become an effective tool for the successful control and management of threats posed by IAPs across the different landscapes (Zengeya and Wilson, 2020).

c. Technology as a tool for managing biological invasions

Technological advances have proven a useful tool for boosting IAP control and management. In the last few years, South Africa has developed and introduced new technologies to support pathway treatments, especially at the various ports of entry into the South African borders (Zengeya and Wilson, 2020). These technologies include DNA analysis equipment commonly known as 'labin-a-box', where all samples of biological specimens entering the country are analysed by biosecurity inspectors to ensure compliance with regulations and protocols (Zengeya and Wilson, 2020).

3.6. Biodiversity Economy

South Africa's biodiversity provides jobs and employment opportunities across a number of sectors. Beyond managing biodiversity for its intrinsic value and to meet international and national targets, sustainable use and management of the country's biodiversity is crucial for its economic development and job security (SANBI, 2019). Includes activities that directly depend on biodiversity for their core business function or those whose activities contribute to the conservation of biodiversity (DEA, 2016). The biodiversity economy comprises activities such as wildlife ranching, game hunting and farming, medicinal plant trade, research, cosmetics, biodiversity-derived products for trade and bio-prospecting, game industry, hunting industry, agriculture and agro processing of indigenous crops and vegetables and livestock breeds and indigenous marine resources and eco-tourism among others (DEA, 2016).

As reported in the NBA 2018, South Africa boasts more than 418 000 biodiversity related jobs (Figure 4) (SANBI, 2019). Most of these biodiversity related jobs are conducted outside urban areas, targeted

at the rural communities, improving rural economies and rural development. With the decline in traditional industries such as manufacturing and the country's move to green jobs and a just transition, biodiversity related jobs have the potential to enhance the country's economic sustainability, effectively contributing to long term economic growth (SANBI, 2019).

Figure 5. *Biodiversity related jobs in South Africa (Source: SANBI, 2019)*

4. OVERVIEW OF INSTITUTIONAL LANDSCAPE AND POLICY FRAMEWORK

4.1. System of governance and institutional arrangements

4.1.1. System of governance

"South Africa is a constitutional democracy with a three-tier system of government and an independent judiciary. The national, provincial and local levels of government all have legislative and executive authority in their own spheres and are defined in the Constitution as distinctive, interdependent and interrelated.

Operating at both national and provincial levels are advisory bodies drawn from South Africa's traditional leaders. It is a stated intention in the Constitution that the country be run on a system of cooperative governance."

Source: https://www.gov.za/about-government/government-system/structure-and-functions-south-african-government

4.1.2. National and Subnational authorities

<table>
<tr><th colspan="2">Government entities</th></tr>
<tr><th>National departments and public entities</th><th>Provincial conservation agencies, parks boards or other conservation authorities</th></tr>
<tr><td>

Department of Environment, Forestry and Fisheries (DEFF)
South African National Biodiversity Institute (SANBI)
South African National Parks (SANParks)
World Heritage Site Authorities
Department of Human Settlements, Water and Sanitation (DHSWS)

Research entities:

The Council for Scientific and Industrial Research (CSIR)
The Water Research Commission (WRC)
The Agricultural Research Council (ARC)
The South African Environmental Observation Network (SAEON)

</td><td>

Western Cape: CapeNature
Kwazulu-Natal: Ezemvelo KZN Wildlife (EKZNW)
North West: North West Parks and Tourism Board (NWPB)
Eastern Cape: Eastern Cape Parks and Tourism Authority (ECPTA)
Limpopo: Limpopo Tourism and Parks Board (LTPB)
Mpumalanga: Mpumalanga Tourism and Parks Agency (MTPA)
Isimangaliso Wetland Park Authority

Note: CapeNature and EKZNW are mandated to work throughout their respective provinces, whereas the other parks authorities are mandated to work only within the boundaries of protected areas
</td></tr>
<tr><th>Provincial environment and/or conservation departments</th><th>Key government-led national environmental programmes</th></tr>
<tr><td>

Western Cape: Department of Environmental Affairs and Development Planning (DEA&DP)
Northern Cape: The Department of Environment Affairs and Nature Conservation (DENC)
Free State: Department of Economic Development, Small Business Development, Tourism and Environmental Affairs

</td><td>

Working for Water (WfW)
Working on Fire (WoF)
Working for Wetlands (WfWet)
Working on Ecosystems (WonEco)
LandCare
Working for the Coast (WftC)
Community-based Natural Resource Management (CBNRM)
People and Parks Programme
Man and Biosphere Reserve Programme (MAB)

</td></tr>
</table>

<table>
<tr><td>Eastern Cape: The Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)
KwaZulu-Natal: Department of Economic Development, Tourism and Environmental Affairs (DEDTEA)
Gauteng: Gauteng Department of Agriculture and Rural Development (GDARD)
Mpumalanga: Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA)
North West: Department of Rural, Environmental and Agricultural Development (NW READ)
Limpopo: Limpopo Department of Economic Development, Environment and Tourism (LEDET)</td><td>Local governments

All local governments in South Africa (including Metropolitan, District and Local Municipalities) play an increasingly important role in spatial planning and land-use management (including biodiversity management and integrated environmental management). They also provide a strategic opportunity to mainstream biodiversity into sustainable development through the integration of nature-based opportunities (aligned with the NBSAP) into integrated development plans</td></tr>
<tr><td colspan="2">NGOs, the private sector, civil society</td></tr>
<tr><td colspan="2">African Conservation Trust (ACT); BirdLife South Africa, The Botanical Society of Southern Africa (BotSoc); Conservation-South Africa; Endangered Wildlife Trust (EWT); IUCN in SA; Peace Parks Foundation (PPF), Wildlife and Environment Society of South Africa (WESSA); World Wide Fund for Nature South Africa (WWF-SA); Wildlands Conservation Trust; Wilderness Foundation; ICLEI; Biosphere Reserve management agencies; community-based organizations; businesses and other private sector role-players; landowners Note: These lists are not comprehensive and there may be many other organizations and programmes that play an important role in biodiversity conservation and to whom the NBF will be relevant.</td></tr>
</table>

4.1.3. Coordinating structures

4.1.3.1. Cooperative Government and Traditional Affairs

The CoGTA Ministry consists of the Department of Cooperative Governance (DCoG) and the Department of Traditional Affairs (DTA). The Municipal Demarcation Board (MDB), South African Local Government Association (SALGA) and South African Cities Network (SACN) are entities reporting to the CoGTA Minister. The Municipal Infrastructure Support Agent (MISA) reports to DCoG.

Key elements and Constitutional foundations of CoGTA's mandate:

- System of Cooperative Government (Chapter 3 of the Constitution)

- Provinces (Chapter 6 of the Constitution)
- Local Government (Chapter 7 of the Constitution)
- Traditional Leaders (Chapter 12 of the Constitution)

CoGTA's mission is to ensure that all municipalities perform their basic responsibilities and functions consistently by:

1. Putting people and their concerns first;
2. Supporting the delivery of municipal services to the right quality and standard;
3. Promoting good governance, transparency and accountability;
4. Ensuring sound financial management and accounting; and
5. Building institutional resilience and administrative capability.

Key to this project, CoGTA coordinates the *District Development Model* (DDM). The DDM is a presidential imperative, initiated in 2019 to support and strengthen the capacity of municipalities to manage their own affairs. In particular, the Model reflects an integrated district based approach to addressing service delivery challenges [and] localise[d] procurement and job creation, and promotes and supports local businesses and involves communities.

The Model consists of a process by which joint and collaborative planning is undertaken at local, district and metropolitan by all three spheres of governance resulting in a single strategically focussed One Plan for each of the 44 districts and 8 metropolitan geographic spaces in the country, The District Development Model (DDM) is an operational model for improving Cooperative Governance aimed at building a capable, ethical Developmental State. It embodies an approach by which the three spheres of government and state entities work in unison and where there is higher performance and accountability for coherent service delivery and development outcomes. It is a method of government operating in unison focusing on the municipal district and metropolitan spaces as the impact areas of joint planning, budgeting and implementation.

Source: https://www.cogta.gov.za/

4.1.3.2. South African Local Government Association

"The South African Local Government Association is an autonomous association of all 257 South African local governments, comprising of a national association, with one national office and nine provincial offices. Membership of the association is voluntary.

SALGA has set out its role to represent, promote and protect the interests of local governments and to raise the profile of local government, amongst other objectives. SALGA is funded through a combination of sources, including primarily membership fees (81%), donations from the donor community for specific projects (6%), other sources (9%) and a small annual allocation from the national fiscus (4%).

SALGA has a clear strategic role to play in representing the interests of local government within the system of government as a whole and supporting its members to fulfil their developmental obligations."

Source: http://www.salga.org.za/

4.2. Macro policy frameworks

4.2.1. 4.2.1. Growth and development policy frameworks

4.2.1.1. National Development Plan 2030

"South Africa's National Development Plan (NDP) offers a long-term perspective on eliminating poverty and reducing inequality by 2030. According to this plan, South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state and promoting leadership and partnerships throughout society.

The plan sets out six interlinked priorities:

- Uniting all South Africans around a common programme to achieve prosperity and equity;
- Promoting active citizenry to strengthen development, democracy and accountability;
- Bringing about faster economic growth, higher investment and greater labour absorption;
- Focusing on key capabilities of people and the state;
- Building a capable and developmental state;
- Encouraging strong leadership throughout society to work together to solve problems."

Source: https://www.gov.za/issues/national-development-plan-2030

4.2.1.2. Just Transition Framework

"The just transition framework is a planning tool for achieving a just transition in South Africa, setting out the actions that the government and its social partners will take to achieve a just transition, and the outcomes to be realised in the short, medium, and long term.

In 2021, the Presidential Climate Commission commissioned several studies and undertook public consultations to help inform the development of the just transition framework and to unpack some of the issues and context for the development of a framework that is practical, timely, and actionable, and meets the needs of all social partners.

The framework sets out the policy measures and undertakings by different social partners to minimise the social and economic impacts of the climate transition, and to improve the livelihoods of those most vulnerable to climate change."

Source: https://www.climatecommission.org.za/about

4.2.1.3. National Framework for Sustainable Development

"The purpose of the National Framework on Sustainable Development is to enunciate South Africa's national vision for sustainable development and indicate strategic interventions to re-orientate South Africa's development path in a more sustainable direction. It proposes a national vision, principles and areas for strategic intervention that will enable and guide the development of the national strategy and action plan.

The Framework Vision: South Africa aspires to be a sustainable, economically prosperous and self-reliant nation state that safeguards its democracy by meeting the fundamental human needs of its people, by managing its limited ecological resources responsibly for current and future generations, and by advancing efficient and effective integrated planning and governance through national, regional and global collaboration.

The "substantive principles" of the framework address the content or conditions that must be met in order to have a sustainable society and are based on principles already enshrined in legislation and policies. The principles underscore a cyclical and systems approach to achieving sustainable development and are as follows:

- Efficient and sustainable use of natural resources
- Socio-economic systems are embedded within, and dependent upon, eco-systems
- Basic human needs must be met to ensure resources necessary for long-term survival are not destroyed for short term gain

The framework's pathways to sustainable development:

- Enhancing systems for integrated planning and implementation
- Sustaining our ecosystems and using natural resources efficiently
- Economic development via investing in sustainable infrastructure
- Creating sustainable human settlements
- Responding appropriately to emerging human development, economic and environmental challenges."

Source: National Framework for Sustainable Development in South Africa. July 2008.

4.2.2. Climate change and disaster risk management policy frameworks

4.2.2.1. National Climate Change Adaptation Strategy, 2019

The National Climate Change Adaptation Strategy (NCCAS) serves as South Africa's National Climate Adaptation Plan and provides a common vision of climate change adaptation and climate resilience for the country, fulfilling the country's international obligations. The vision of the NCCAS is to transition to a climate resilient South Africa, which will follow a sustainable development path, guided by anticipation, adaptation and recovery from a changing climate and environment to achieve our development aspirations. The NCCAS outlines priority areas for achieving South Africa's climate change vision and draws from preceding frameworks including the National Climate Change Response

Policy (NCCRP) (DEA, 2011), the National Development Plan (NDP) (NPC, 2011), the National Strategy for Sustainable Development (NSSD) (DEA, 2011b) and the adaptation commitments included as part of the country's Nationally Determined Contributions (NDCs). It ensures alignment with other existing plans and policies, by further drawing on other sector adaptation plans, including provincial and municipal adaptation plans to achieve harmonisation and integration in priorities and policies. The strategy takes a whole of society approach, where civil society, research community, organs of state, businesses and all other government departments and stakeholders all have a crucial role in enhancing climate change adaptation and resilience in South Africa. The NCCAS further sets out four strategic objectives, which are strongly linked to the strategic interventions and strategic outcomes and guide resource allocation and prioritisation.

Strategic objectives:

- **Objective 1:** Build climate resilience and adaptive capacity to respond to climate change risk and vulnerability.
- **Objective 2:** Promote the integration of climate change adaptation response into development objectives, policy, planning and implementation.
- **Objective 3:** Improve understanding of climate change impacts and capacity to respond to these impacts.
- **Objective 4:** Ensure resources and systems are in place to enable implementation of climate change responses.

These strategic objectives and associated interventions and outcomes, allow a coherent response to climate change at the national level, and address the country's trajectory towards increased human resilience and adaptive capacity; increased economic resilience and adaptive capacity; increased environment and ecological infrastructure resilience and adaptive capacity and increased physical infrastructure resilience and adaptive capacity, as reflected in the four clusters of the NCCAS.

4.2.3. Environment and biodiversity policy frameworks

4.2.3.1. South Africa's National Biodiversity Strategy and Action Plan (NBSAP) 2015-2025

The South African National Biodiversity Strategy and Action Plan has been described and discussed in section 3.2.1 above.

4.2.3.2. National Protected Areas Expansion Strategy, 2016

The National Protected Area Expansion Strategy (NPAES), first published in 2008, and revised in 2016, presents a 20-year strategy for the expansion of protected areas in South Africa. The current protected area network fails to ensure sufficient representation of all ecosystems and maintain ecological function and address climate change impacts, as such, the NPAES seeks to address these gaps. The NPAES charts the path for the expansion of the country's protected area network by identifying protected area targets; priority areas and making recommendations for interventions necessary to achieve this. The NPAES also describes the three main mechanisms to be employed for expanding the

land-based protected area network, namely; acquisition of land; contract agreements with landowners and the declaration of public and state land, all of which have a significant role to play. The implementation of the NPAES requires cooperative governance, as such, various organs of state, non-governmental organizations (NGOs) and other relevant stakeholders have a role to play, including contributing towards addressing information gaps; management and financing of protected area expansion.

The NPAES has 5-year implementation targets, aligned with the 5-year revision cycle. This allows for effective monitoring and evaluation of targets, and ensures effective resource allocation and spatial prioritization. The current revision of the NPAES identifies main targets and provides an overview of the progress in the implementation of the NPAES, including shortcomings and further providing recommendations on interventions needed to address these shortcomings across the different ecosystem types.

4.2.3.3. South Africa's National Biodiversity Framework 2019-2024

South Africa's first National Biodiversity Framework (NBF) was published in 2009 in terms of the National Environmental Management: Biodiversity Act, 10 of 2004. The initial framework identified a set of 33 high priority activities used to guide interventions and activities from the biodiversity sector over the period 2008-2013. The current framework expands on the efforts made in the first NBF, addressing the threats and pressures to biodiversity as identified and assessed in the most recent National Biodiversity Assessment (NBA) released in 2019. Building on existing policies, frameworks, strategies and plans, the framework aims to provide coordination and alignment of the efforts of the various key roleplayers involved in the conservation and management of the country's biodiversity.

The Framework notes five principles that underpin its implementation and are aligned with the country's NBSAP, namely;

- The *principles set out in the National Environmental Management Act, 1998* (Act No. 107 of 1998) which address the need to ensure that all activities with the likelihood of resulting in the loss of biodiversity, disturbance of ecosystems and landscapes are avoided and where they cannot be altogether avoided, are minimised and remedied accordingly.

- Undertaking *a landscape and seascape approach to the conservation and management of biodiversity.* This includes the conservation, protection and management of biodiversity within and beyond the protected area network as a way to deliver socio-economic and ecological benefits to the people of South Africa.

- Ensuring a *consistent and strategic approach guided by the principles of representation and persistence*. Achieved through the identification of spatial biodiversity priorities, this approach allows for the conservation and management of a representative sample of ecosystems, species and processes that promote long-term biodiversity persistence. Consistent with the biodiversity planning principles, spatial priorities include Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), National Freshwater Priority Areas (NFEPA), Strategic Water

Source Areas (SWSAs) and priorities for Protected Area expansion (NPAES) and the existing protected area network.

- Acknowledging that *biodiversity has intrinsic value and constitutes critical natural capital which is essential for sustainable and resilient economic and social development*. This principle ensures that biodiversity conservation interventions are directed towards addressing biodiversity conservation priorities and be people-centric, in order to leverage on the multiple benefits of biodiversity, placing the sustainable use of the country's resources at the core.

- Emphasising the importance of *partnerships that enable cooperation and collaboration across institutional and administrative boundaries in effectively managing ecosystems.* This further addresses the role of Municipalities across Metropolitan, District and Local scale in promoting the successful implementation of the NBF, mainly through spatial development and land use planning, integrated environmental management and making provision for the strategic mainstreaming of biodiversity considerations into the sustainable development agenda.

In paving the way for successful implementation, the NBF further identifies priority interventions or "acceleration measures" that will help enhance and accelerate the implementation of the NBSAP in support of the country's sustainable development agenda, addressing the country's pressing socio-economic challenges and transitioning towards a climate-resilient society.

4.2.3.4. National Action Programme

The National Action Programme has been described and discussed in section 3.5.2.1.1 above.

4.3. Key legislation

4.3.1. Constitution of the Republic of South Africa, 1996

The Constitution acts as the foundational basis for environmental legislation in South Africa. Section 24 of the constitution sets out the right to an environment that is not harmful to health or wellbeing, and calls on the government and other organs of state to ensure the protection of the environment, for present and future generations through legislative and other actions, to prevent pollution and ecological degradation; promote conservation; secure ecologically sustainable development and promote the use natural resources while promoting justifiable economic and social development.

4.3.2. The National Environmental Management Act, 1998 (Act No. 107 of 1998)

The National Environmental Management Act, 107 of 1998, (NEMA) gives statutory effect to the environmental right enshrined in Section 24 of the Constitution. NEMA is a framework law that provides the principles for environmental management and decision-making, sets of measures to ensure that the right, as upheld in the constitution, is upheld. Moreover, NEMA promotes co-operative governance in managing the environment, while fulfilling social and economic rights, recognising the need for economic development.

At the core of NEMA, are four principles which set the foundation for its development, implementation and administration, which;

- apply, alongside all other appropriate and relevant considerations, throughout the Republic of South Africa and to all organs of state whose activities or actions may have significant impacts on the environment. These principles serve as the general framework within which environmental management and implementation plans must be formulated and as a guideline reference from which all environmental management and implementation plans must be formulated while guiding the interpretation, administration and implementation of NEMA and any other law concerned with the protection or management of the environment. The principles further recognise the State's responsibility to respect, promote and fulfil social and economic rights, particularly the rights of disadvantaged groups.
- place the people and their needs at the forefront and serve their physical, psychological, developmental, cultural and social interests in an equitable manner.
- promote socially, environmentally and economically sustainable development and;
- acknowledge the multidimensional nature of sustainable development and the need to ensure consideration of all factors that may cause any disturbance of ecosystems; landscapes and sites of importance to the nation's cultural heritage, including those related to waste; pollution and the overall degradation of the environment. Making sure that where possible they all together avoided, minimised and remedied.
- The principles further promote the participation of all interested and affected parties in environmental governance, ensuring that all decisions taken are fully considerate of the needs of all interested and affected parties, recognising all forms of knowledge, including traditional knowledge, and promoting intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.
- Section 11 of NEMA also calls for the development and periodic revision of Environmental implementation plans and management plans by all departments exercising functions involving the management of the environment and environmental affairs. The environmental implementation plans and management plans seek to harmonise the environmental policies, programmes, plans and decisions of the various national departments and promote cooperative governance.
- Chapter 5 of NEMA makes provisions for integrated environmental management, in this chapter 23A(2) promotes integrated environmental management, by ensuring effective mainstreaming of biodiversity and environmental considerations into decision making, calling for the development of best practice guidelines, and promoting environmentally friendly consumption and production practices. Section 24 further gives effect to this chapter by making provisions for environmental authorisations, promoting co-operative management and evaluation of all activities that may have an impact on the environment. Further, giving competent authorities the power to manage, assess and provide authorisations based on potential impact and assessment of proposed activity. Aligned with NEMA, are several specific

environmental management Acts' (SEMAs), which aim to target and provide a legislative framework for the management of a number of environmental related aspects.

4.3.3. National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)

The National Environmental Management: Biodiversity Act (NEMBA) provides for the management and conservation of South Africa's rich biodiversity, within the framework of the National Environmental Management Act, 1998. NEMBA makes provisions for the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; and the establishment of a South African National Biodiversity Institute. NEMBA also gives effect to international agreements that South Africa has ratified and are binding on the Republic, such as the Convention on Biological Diversity.

NEMBA further makes provision for biodiversity planning, promoting integrated and coordinated planning of South Africa's biodiversity, periodic monitoring and assessment of the status of biodiversity and biodiversity research to enhance the country's response and management. This includes the development of a National Biodiversity Framework, Bioregions and bioregional plans and Biodiversity management plans which seek to ensure an integrated and coordinated response to biodiversity planning, prioritisation, management and monitoring across various regions. Moreover, NEMBA promotes co-operative governance, giving various organs of state and departments the powers to develop, implement, monitor and evaluate actions and interventions in line with this Act, including promoting alignment between integrated development plans developed by Municipalities in terms of the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000); Bioregional plans prepared in terms of Chapter 3 of the NEMBA; and any other spatial development frameworks developed in terms of this legislation, aim to regulate land-use management, land development and spatial planning.

4.3.4. National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)

The National Environmental Management: Protected Areas Act (NEMPAA) provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes by making provision for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental cooperation and public consultation in matters concerning protected areas; for the continued existence, governance and functions of South African National Parks; and for matters in connection therewith. The Act further provides the declaration of protected areas, providing definitions and criteria for listing. This includes identification of the types of protected areas; namely; special nature reserves, national parks, nature reserves (including wilderness areas); protected environments; world heritage sites; marine protected areas; specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act, 1998 (Act No. 84 of 1998); and mountain catchment areas declared in terms of the Mountain Catchment Areas Act, 1970 (Act No. 63 of 1970).

The objective of the Act is to provide for a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity and provide for a diverse and representative network of biodiversity and ecosystems to promote sustainable utilisation of protected areas for the benefit of people. The Protected Areas Act further provides for the continued juristic existence and operation of the South African National Parks, to ensure coordinated management of all existing national parks and other protected areas as deemed by the Minister and through this Act. Moreover, the Act promotes co-operative governance, with Section 39 making provisions for the preparation of protected area management plans and the consultative process between the management authority concerned, and other organs of state and interested parties deemed relevant as per this Act.

4.3.5. National Environmental Management: Integrated Coastal Management Act, 24 of 2008 (Act No. 24 of 2008)

National Environmental Management: Integrated Coastal Management Act establishes a system of integrated coastal and estuarine management in South Africa, including norms, standards and policies, in order to promote the conservation of the coastal environment, maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable. The Act further determines the responsibilities of organs of state, promoting co-operative governance across all spheres of government and giving effect to the Republic's obligations in terms of international law regarding coastal management and the marine environment. This Act is regarded as a specific environmental management Act (SEMA) and as such, operates and must be interpreted within the framework of the National Environmental Management Act (Act 107 of 1998).

4.3.6. White Paper on the Conservation and Sustainable Use of South Africa's Biodiversity

"During mid-2022, the South African Government (Cabinet) approved the draft White Paper on the Conservation and Sustainable Use of South Africa's Biodiversity for public comment, emphasising that "South Africa's biodiversity provides an important basis for economic growth and development, and is critical to people's livelihoods".

Despite having a range of biodiversity and sustainable use legislation and policies, biodiversity loss continues to threaten the health of ecosystems and survival of species, and results in negative impacts for livelihoods and the economy. Global change, habitat loss and degradation, invasive alien species, overharvesting, and illegal harvesting all threaten South Africa's biodiversity.

Over two decades since democracy (since 1994), the biodiversity sector remains substantially untransformed and there is inequality in access to benefits arising from biodiversity and associated ecosystem services. Furthermore, the sector has not reached its potential in terms of the contribution to the national economy and Growth Domestic Product (GDP). Biodiversity and its use is a catalytic engine of rural economies, and the value chains that emerge from these need to be fully realised.

The draft White Paper sets out a vision of “A prosperous nation, living in harmony with nature, where biodiversity is conserved for present and future generations, and secures equitable livelihoods and improved human well-being.”

To accomplish this, the mission is “To conserve South Africa's biodiversity, and maintain and/or restore ecological integrity, connectivity, processes, and systems, with resulting ecosystem services providing transformative socio-economic development benefits to the nation, through justifiable, responsible, and ecologically sustainable, and socially equitable, use of components of biodiversity.” The outcome of this is encapsulated in the impact statement of “Thriving People and Nature.” The draft White Paper also sets out important principles which will guide future policy, legislation, and decision-making across the sector.

This will empower communities and traditional leaders and healers as influential and impactful leaders of the sector, and as equal and meaningful participants, as well as to ensure and enhance the spiritual and sacred contribution of nature to people, especially for-fronting the close connection of African people with nature and the environment, and of living in harmony with nature.

The White Paper emphasises partnerships and adopting participatory and consensus approaches throughout the biodiversity sector, which will promote meaningful participation and influence of all stakeholders, with communal rather than individual outcomes.

The White Paper will be published in the second quarter of the 2022/23 financial year for public comment."

Source: https://www.dffe.gov.za/speeches/creecy_cabinetapproves-strategicbiodiversity-whitepaper

4.3.7. National Water Act, 1998 (Act No. 36 of 1998)

The National Water Act (NWA) seeks to ensure that the country’s water resources are protected, used, developed, conserved, managed and controlled sustainably while meeting the needs of present and future generations. With equity as the central guiding principle, the NWA provides for the establishment of water management strategies, namely; the National water resource strategy and catchment water resource strategies, which facilitate the management of water resources at national and catchment level respectively. It also promotes coordination and management of water use through considerations, conditions and essential requirements of general authorisations and licences, which are devolved across various organs of state.

4.3.8. National Environmental Management: Air Quality Act, 39 of 2004

The National Environmental Management: Air Quality Act aims to reform the law regulating air quality in South Africa by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures;

and for matters incidental thereto. The Act provides for the establishment of a national framework and national, provincial and local standards for the management of ambient air quality and emissions and the development of air quality management measures.

4.3.9. National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)

The aim of the National Environmental Management Waste Act is to establish legal reform in the regulation of waste management, in order to protect human health and the health of the environment. The Waste Act, provides for reasonable measures for minimising the consumption of natural resources; safe treatment and disposal of waste; prevention of pollution and any ecological degradation; promotion of effective waste delivery services; remediating land where contamination presents, or may present, a significant risk of harm to health or the environment; and achieving integrated waste management reporting and planning. The Act further provides for the development of a national waste management strategy, norms and standards to promote coordinated and a strategic response to waste management in the Republic.

4.3.10. The Conservation of Agricultural Resources Act, 1983, Act 43 of 1983

The purpose of the Conservation of Agricultural Resources Act (CARA) is to provide for control over the use of the natural agricultural resources of the Republic. The Act promotes the conservation of natural agricultural resources through the maintenance of high agricultural potential of land, soil health by preventing erosion, weakening or destruction of water resources and the protection of vegetation and prevention of weeds and invasion by alien invasive plants.

4.3.11. National Forest Act, 1998, Act 84 of 1998

The National Forest Act intends to provide for the protection of and management of forest resources, reform the law on forests, repeal certain laws and provide for matters related to forest resource management in the Republic.

4.3.12. World Heritage Convention Act, 1999, Act 49 of 1999

The World Heritage Convention Act intends to provide for the incorporation of the World Heritage Convention into South African law by ensuring its implementation. The ACt further aims to promote the recognition and establishment of World Heritage Sites, the establishment of Authorities and the granting of powers to relevant organs of state and the development of integrated management plans over World Heritage Sites and the resolution of all land matters in relation to World Heritage Sites.

4.3.13. Mountain Catchment Areas Act, 1970, Act 63 of 1970

The Mountain Catchment Areas Act 63 of 1970 intends to provide for the conservation, sustainable use, management and control of land situated in mountain catchment areas located within the Republic.

4.3.14. Genetically Modified Organisms Act, 1997, Act 15 of 1997

The Genetically Modified Organisms Act intends to provide for measures to promote the responsible development, production, utilisation and application of genetically modified organisms to ensure that all activities involving the use of genetically modified organisms are regulated and are carried out in a way that limits any potentially harmful consequences to the environment as a result of their use, import or distribution. The Act further lays down the necessary procedures, requirements and criteria for risk assessment, including the effective ways to manage any accidents and waste resulting from the use of genetically modified organisms in the republic.

4.3.15. Marine Spatial Planning Act, 2018 (Act No. 16 of 2018)

The Marine Spatial Planning Act provides a framework for marine spatial planning in the country, providing for the development of marine spatial plans; the development of institutional arrangements for the management and implementation of spatial plans and governance of marine resources and the ocean across the various sectors and to provide for any matters therewith, including the promotion of sustainable economic opportunities. The Act further provides guidelines for marine spatial planning and marine spatial planning systems, establishment of a National Working Group on Marine Spatial Planning and makes recommendations for the resolution of any conflicts in marine resource use.

4.3.16. Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013)

The aim of the Spatial Planning and Land Use Management Act (SPLUMA) is to provide a framework for spatial planning and land use management in the Republic. The Act specifies the relationship between the spatial planning and the land use management system and other kinds of planning in order to provide for inclusive, developmental, equitable and efficient spatial planning at the different spheres of government. SPLUMA also provides a framework for the monitoring, coordination and review of the spatial planning and land use management system, further providing a framework for policies, principles, norms and standards for spatial development planning and land use management; to address past spatial and regulatory imbalances; promote greater consistency and uniformity in the application procedures and decision-making by authorities responsible for land use decisions and development applications. SPLUMA also makes provision for institutional arrangements and provides for the establishment, functions and operations of Municipal Planning Tribunals to facilitate and enforce land use and development measures and to provide for matters connected therewith

4.3.17. Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000)

The Local Government Municipal Systems Act provides the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards socially and economically sound upliftment of local communities. The Act promotes community participation and integrated development planning in order to achieve optimal service delivery to all. The Act further describes the legal nature of a municipality, including the local community within the municipal area, working in partnership with the municipality's political and administrative structures to provide for the manner

in which municipal powers and functions are exercised and performed. Moreover, the Act provides a framework for municipal governance and powers, considering public administration, human resources and municipal performance management as a means of enhancing local government efficiency.

5. BIODIVERSITY FINANCE

Urbanisation is a major driver of environmental degradation, increased consumption of natural resources, loss of biodiversity and ecosystem change. It is projected that almost 50% of Africa's population will be urbanised by 2034. This rapid growth puts demand on ecosystem goods and services. This growing demand often exceeds nature's ability to sustain humanity with the services and resources which it needs to survive. Cities in particular rely heavily on nature and ecosystem services. In addition, almost half the global GDP is dependent on nature and its services, yet some of the biggest threats to biodiversity loss are the very economic activities that are reliant on nature. It is therefore essential that the economic and intrinsic value of nature and its services are integrated into decision making and management of the environment in the urban context. Through the integration of biodiversity and accounting of ecosystem goods and services, it will ensure that cities are developed and managed sustainably. Many cities around the world are already using or investigating innovative ways to leverage investments to secure, restore and retrofit nature's benefits for urban residents. These interventions have the potential to enhance urban resilience in the face of growing environmental threats and improve the health and quality of life for urban residents, whilst saving costs and reducing negative impacts on nature over the long term.

5.1. Biodiversity Finance in South Africa

In South Africa, financing for biodiversity has developed significantly, through a biodiversity expenditure review, through the The Biodiversity Finance Initiative (BIOFIN) in 2016, which was later updated in 2021. The review revealed that the government is the largest spender on biodiversity . Private sector and non-governmental organisations also contribute finances towards biodiversity conservation and management but these funds barely cover the biodiversity needs at a national level. It is estimated the implementation of the NBSAP is ZAR63 Billion over 10 years, but there is a significant funding shortfall. This South African context is however reflective of the global trend in relation to biodiversity funding.

There are various strategies for resource mobilisation for biodiversity, which include i.) efficient spending of current resources through planning and prioritisation; ii.) collaborating with the private sector and civil society to create blended finance opportunities; and iii.) through policy reforms to enable innovation and sustainable use of finances. As part of the INTERACT-Bio project, at least one financing instrument that supports the local implementation of the South African National Biodiversity Strategy and Action Plan (NBSAP) will be trialled. In doing so, it is anticipated that this will help policymakers understand the role of natural systems in achieving development goals, identify ecosystems in their respective regions that are important for service provision, evaluate potential project locations or use of nature-based solutions, justify the public spending on ecosystem restoration and management, and find innovative ways to mobilise financial resources for biodiversity.

5.1.1. The Sustainable Landscape Finance Coalition

In 2019 The Sustainable Landscape Finance Coalition was formed by WWF-SA and Wilderness Foundation to address the urgent needs of attracting finance into South Africa and to drive the development of finance solutions for effective landscape conservation and environmental management work. The coalition brings together a national knowledge base of thought leaders, experts and stakeholders from the finance sector and leans on a group of voluntary specialist contributors who provide expertise to support the work of the coalition. A few finance solution incubators have been initiated through the coalition to identify and implement pilot initiatives. These initiatives rely on strategic partners to ensure their effective implementation and

In October 2022, a Sustainable Landscape Finance Bootcamp was hosted by the Coalition to showcase the work that the coalition had achieved to date, to various investors, private sector corporations and various stakeholders. The Bootcamp was an opportunity for intensive learning and networking. It allowed both the environmental and finance (and private) sectors to capacitate and upskill individuals to become more capable of dealing with the integration of finance and nature, to address nature related risks and to develop sustainable landscape finance solutions, across South Africa.

5.1.2. Natural Capital Accounting (NCA) Forum

Statistics South Africa (Stats SA) in collaboration with the South African National Biodiversity Institute (SANBI) have been collaborating on the development of Natural Capital Accounting (NCA) in South Africa. A 10 year strategy has been developed to advance NCA in South Africa and to ensure that it is widely used to provide evidence for integrated planning and decision-making in support of the development needs of the country. The NCA uses the internationally agreed System of Environmental-Economic Accounting (SEEA), a global standard developed by the United Nations Statistics Division. A new element of the SEEA was adopted in 2021, called the SEAA Ecosystem Accounting which measures ecosystem services, tracking changes in ecosystem assets and linking the information to economic and other human activity. The system does not necessarily always quantify ecosystems in monetary value, but also captures the value to society through non-monetary statistics and indicators.

As part of the NCA in South Africa, a community of practice has been established called the NCA Forum. The Forum is convened by Stats SA in partnership with SANBI and a gathering is held annually, bringing together a wide range of experts to share knowledge, experiences and ideas on a range of topics. Discussions can cover the development of accounts for water, protected areas and ecosystems to policy development and implementation. The Forum creates a platform for the sharing of data, methodologies, collaboration and capacity building to further advance the integration of NCA into decision-making and planning for biodiversity in South Africa.

PART C CITY-REGION SCOPING

6. CITY REGION CONTEXT

6.1. WATERBERG DISTRICT MUNICIPALITY

6.1.1. Municipality profile

The Waterberg District Municipality, formed in 2000, is located in the western part of the Limpopo Province in South Africa. It is the biggest of five district municipalities in the province, covering an area of approximately 45 000 km^2. In terms of the Municipal Structures Act, Waterberg District Municipality was established as a Category C municipality, in which case a Mayoral Executive System was put in place.

It shares its district borders with Botswana, and shares boundaries with Capricorn District Municipality to the north, Sekhukhune District Municipality to the east and the North-West and Gauteng provinces to the south-west and south-east, respectively (Figure 6). The District comprises 5 local municipalities, which are Bela-Bela, Lephalale, Modimolle-Mookgophong, Mogalakwena and Thabazimbi (refer to Figure 7).

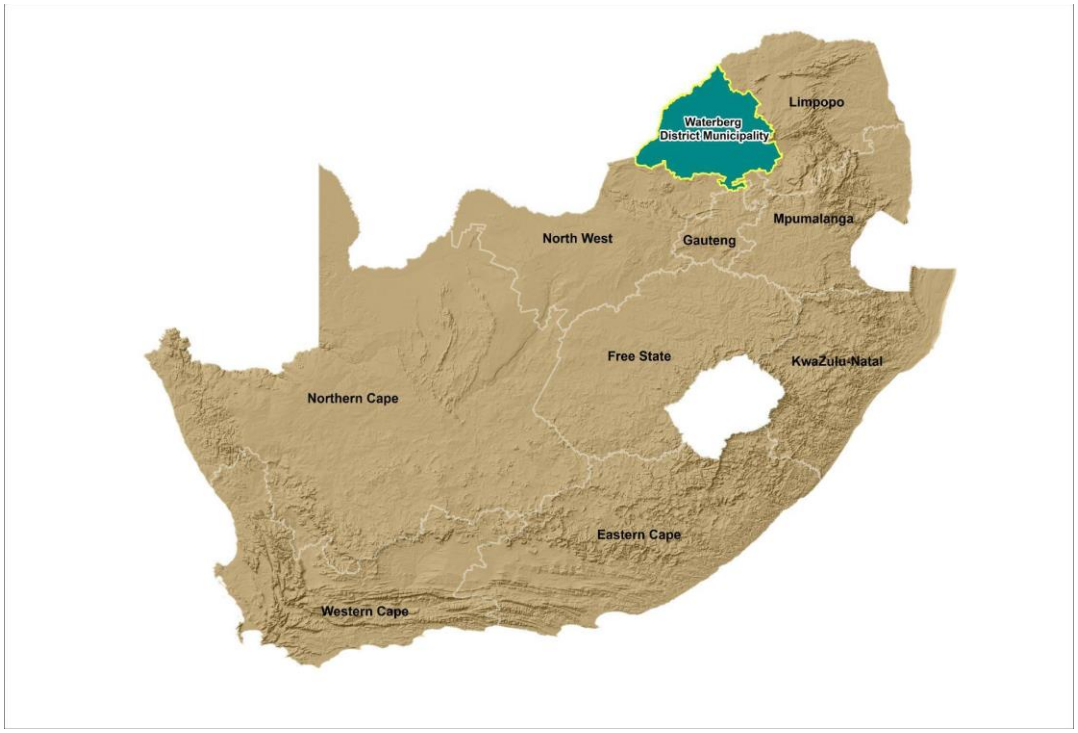

Figure 6. *Waterberg District Municipality in relation to South Africa Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [District Municipalities]. https://www.demarcation.org.za*

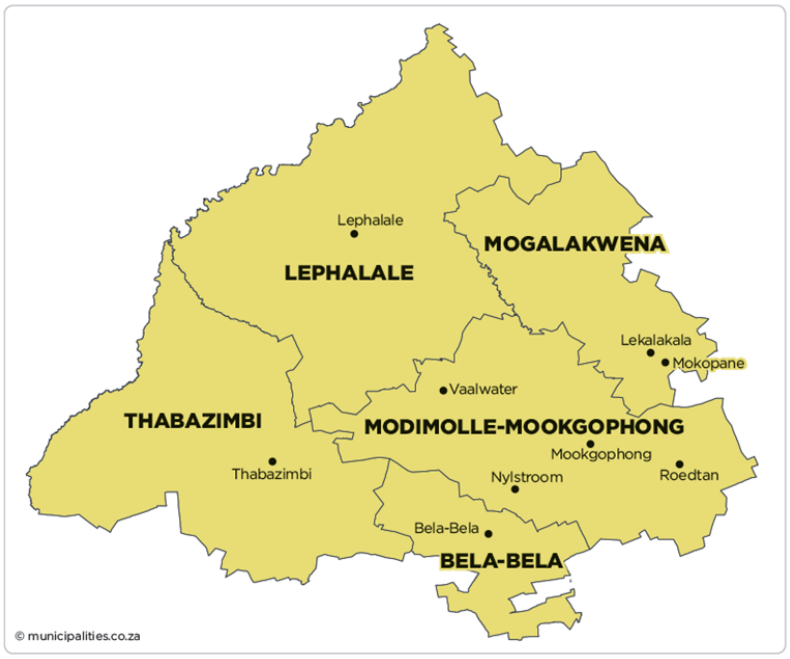

Figure 7. *The 5 local municipalities that make Waterberg District Municipality*

The Waterberg District has over three million years of history and is a true natural wonder, featuring mountains, rich biodiversity, rock art and sites of archaeological and paleontological significance. It is a region synonymous with a great variety of wildlife, abundance of birds and diverse plant life. The region is a popular safari destination and is one of South Africa's prime ecotourism areas. A major drawcard of the region is the UNESCO Waterberg Biosphere Reserve, which is the only savannah biosphere reserve in southern Africa. Tourism is therefore one of the main economic sectors in the region, together with mining and agriculture.

The mission of the municipality is to "invest in a constituency of talented human capital who are motivated and innovative to build a sustainable economy in the field of energy, minerals and eco-tourism for the benefit of all our communities". Whilst the vision is to be "the energy hub and eco-tourism destination in Southern Africa".

6.1.2. Socio-economic status

The Waterberg District Municipality is home to approximately 761 590 people, with an average growth rate of 1,27% per annum (based on 2020 statistics). It is predicted that the population will reach 799 000 people by 2023. The age and gender composition of the population has a considerable impact on the demographic and socio-economic conditions of the District. The population comprises 48,8% female and 51,2% male, whilst age analysis reveals that the median age is 23, with the largest age group being between the ages of 0-14 (34% of the population).

The District has an employment rate of 38,4% and unemployment rate of 28,8%. Though the employment rate is relatively good, it should be analysed with caution as there is no clear indication of the reason for those who are not economically active. Furthermore, opportunities, in particular for

the youth, are of vital importance for the District's economy. Despite the rate of unemployment, this District Municipality is the highest contributor to the provincial economy, contributing over 26% of the total production in Limpopo.

The main economic activities that characterise the economy of Waterberg include agriculture, mining and quarrying, commerce, manufacturing, utility services, trade and catering, and development. Mining is considered the biggest economic contributor, but it is the agricultural sector which employs the most people. Many people and households also earn a living from the informal sector, which comprises spaza shops, hawking and street vending.

The households in the District area are predominantly formal structures, whilst informal structures comprise 13%. However, despite the rate of employment and formal households, poverty and inequality are still major challenges faced by the District Municipality. This is also reflected in the access to healthcare and the health profile in Waterberg. HIV/AIDS and tuberculosis are the main causes of death in the working population.

Education in the Waterberg District Municipality is slowly improving, with the matric pass rate and higher education increasing annually. There are, however, no public universities in the Municipal area. There are two further education institutions in the area and internships, learnerships and apprenticeships are provided through different industries, such as mining, agriculture, hospitality and engineering sectors. In a region rich with mineral resources, potential in agriculture and tourism, the education sector in the Waterberg District should continue to produce the type of skills that would correspond with those required by the regional economy.

6.1.3. Local policy frameworks and legislation

The Waterberg District Municipality is expected to comply with a number of national and provincial legislations and policy frameworks, set out by the respective spheres of government. Specific national policy frameworks and legislation have direct influence on the development and revision of specific local government frameworks. These include, but are not limited to, the Constitution of the Republic of South Africa, 1996; The National Environmental Management Act, 1998 (Act No. 107 of 1998); Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) and the Municipal Systems Act, 2000 (Act No. 32 of 2000). As a District Municipality, Waterberg is mandated to have specific policies and frameworks in place and need to ensure that there is alignment with any relevant national and provincial framework objectives and priorities. In table 2 below, a brief description of a number of strategic documents developed by the Waterberg District Municipality, which are directly or indirectly aligned to existing policy frameworks, are listed. These documents are relevant to the work that will be undertaken as part of the INTERACT-Bio project.

Table 2. *Strategic documents and policy frameworks developed by Waterberg District Municipality*

STRATEGIC DOCUMENT	BRIEF DESCRIPTION
Spatial Development Framework (SDF) 2021	Reflects the spatial vision and development outcome for the next planning period in line with current legislative and policy directives, and to spatially represent the municipal Integrated Development Plan. The SDFs include the components specified in Section 21 of the Spatial Planning and Land Use Management Act, 2013 (SPLUMA). The Waterberg District Municipality has not yet promulgated municipal planning by-law as contemplated in SPLUMA to define further requirements to the SDF contents and process.
Integrated Development Plan (IDP) 2021/22 – 2025/26	A tool that Local Government to guide its developmental role and seeks to arrive at decisions on issues such as Municipal budgets, land management, promotion of local economic development, and institutional transformation in a consultative, systematic and strategic manner. The framework plan is to ensure that the process of the district IDP and local IDPs are mutually linked and can inform each other ensuring co-operative governance as contained in section 41 of the Constitution
District Development Model (DDM) / One Plan 2021	The DDM strives to address issues resulting in poor service delivery and limited developmental impact within the district, such as i. lack of coherence; ii. poor intergovernmental collaboration; and iii. insufficient strategic focus in plans. The One Plan is a visionary and transformational plan that seeks to address the interrelated DDM key transformation focus areas, content themes and principles.
Environmental Management Framework (EMF) (2021)	The report is an update of the existing Environmental Management Framework in the WDM. It builds on the findings of the predecessor, as well as the inputs from stakeholders and the project governance structures. The final EMF consists of the most critical findings of the Status Quo Assessment, Commodities & Enterprises report, Desired State report, along with a full set of environmental management objectives and guidelines for each identified Environmental Management Zone as set out in the Strategic Environmental Management Plan, as well as specific guidance on relevant strategic interventions.
Climate Change Risk & Vulnerability Assessment with an Adaptation & Response Plan (2019)	The report provides the necessary information to enable the creation of sustainable rural livelihoods that will be resilient to climate shocks and stress through the coordination of a people-centred response to the risks and vulnerabilities posed by climate change. It guided by the draft National Climate Change Action Strategy (NCCAS) of 2019 and the Adaptation and Response component of this Report, reiterates the NCCAS objectives,

	visualising the need for Climate Change Risk and Vulnerability as well as Adaptation and Response Plans to become entrenched in strategies, policies and plans.
Bioregional Plan (2018)	The purpose of a bioregional plan is to inform land-use planning, environmental assessments and authorisations, and natural resource management, by a range of sectors whose policies and decisions impact on biodiversity. Bioregional plans are intended to contribute to a range of multi-sectoral planning and assessment processes, such as Environmental Management Frameworks (EMFs), Spatial Development Frameworks (SDFs), Strategic Environmental Assessments (SEAs) and Environmental Impact Assessments (EIAs); and to support decision-making that impacts on biodiversity
The Disaster Risk Management Policy Framework	The purpose of this policy framework is to provide those with statutory disaster risk management responsibilities within the Waterberg District Municipality with a written mandate. It also serves to guide the development and implementation of uniform and integrated disaster risk management policy and plans in the Bela-Bela, Lephalale, Modimolle, Mogalakwena, Mookgophong and Thabazimbi local municipalities.
Disaster Risk Management Plan 2020	Outlines the procedures for both the proactive (prevention, mitigation and preparedness) and the reactive (disaster response, recovery, rehabilitation and reconstruction) phases of disaster risk management. The preventative elements of the plan must be implemented and maintained on a continuous basis, whilst the emergency or reactive elements of the plan will be implemented whenever a major incident or disaster occurs or is threatening to occur.
Draft Public and Environmental Health By-Laws	To enable the Council to protect and promote the long term health and well-being of people in the municipal area by - (a) providing, in conjunction with any other applicable law, an effective legal and administrative framework within which the Council can - (i) manage and regulate activities that have the potential to impact adversely on public health; and (ii) require premises to be properly maintained and managed.
Local Economic Development 2014	Collates economic information and investigates the coordinated and integration options available to broaden the economic base of the Waterberg District Municipality. The implementation of the strategy would necessitate the facilitation of employment opportunity creation, investment and business development and the resultant positive spin-off effects throughout the economy

Environmental Management Plan (EMP) 2006	A plan or programme which guides the protection of the environment and seeks to achieve a required end state. The plan describes how activities that have, or could have, an adverse impact on the environment, will be mitigated, controlled, and monitored. The EMP addresses environmental impacts during the design, implementation and operational phases of a project through environmental specifications/recommendations.

6.1.4. Stakeholder map

Stakeholder mapping is critical, as it guides the overall stakeholder engagement strategy for a project. It also enables the implementer to understand the relevance and influence of different stakeholders in the context of the project and how to prioritise different stakeholders and their involvement. Stakeholders also play a critical role in the success of the project: Getting their buy-in and understanding their needs, can ensure better chance of project success.

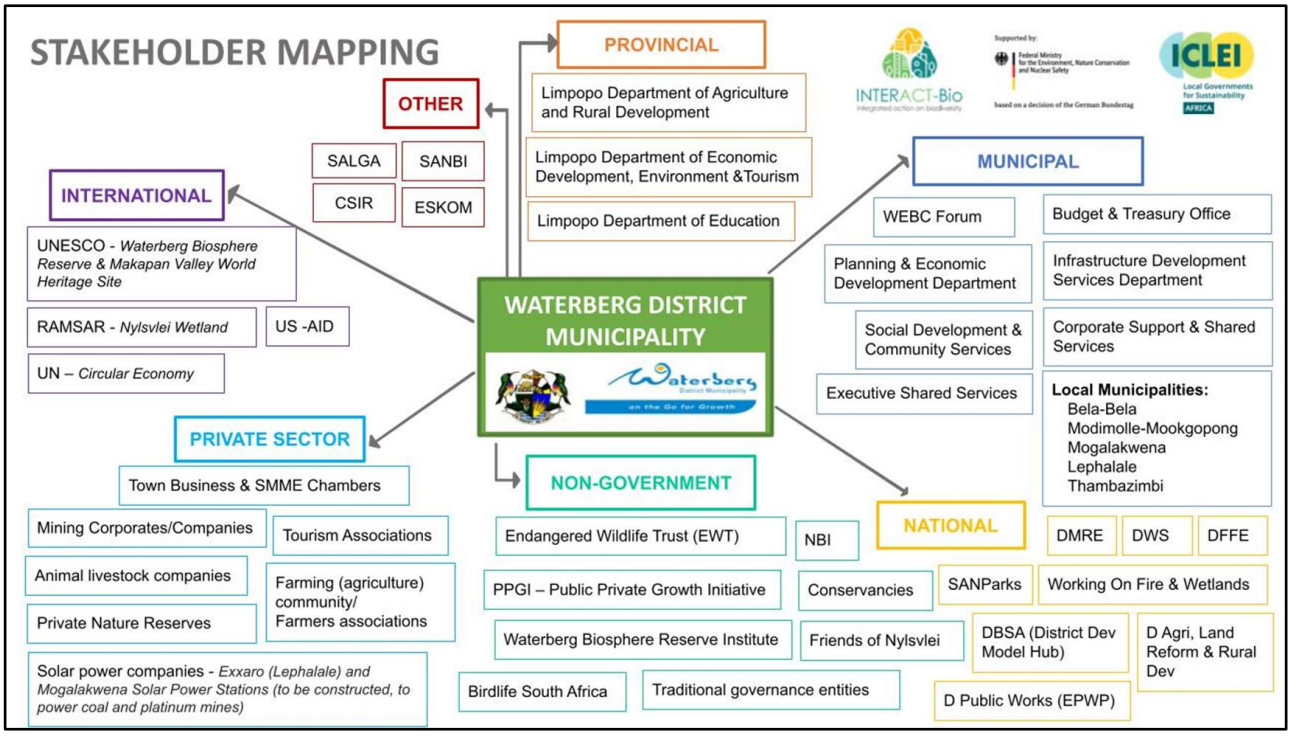

Figure 8. *Current version of the stakeholder map for Waterberg District Municipality*

Using the broad stakeholder group categories (i.e. International, National, Provincial, Local/Municipal, NGO, Private Sector and Other) and the current Waterberg District Municipality Integrated Development Plan (IDP) 2022-2023, a number of stakeholders and stakeholder groups were identified and grouped under the categories. In order to validate and refine the preliminary stakeholder map, during a meeting between ICLEI Staff and Waterberg UMKHANYAKUDE DISTRICT MUNICIPALITY

6.1.5. Municipality profile

The uMkhanyakude District Municipality lies in the far northern region of the KwaZulu-Natal Province (32,014489; -27,622242). uMkhanyakude District Municipality is the second largest district in the Province, after Zululand District Municipality, with 12 818 km^2 and 689 090 residents (IDP, 2018/2019). It also boasts the World Heritage Site Isimangaliso Wetland Park which stretches over 200 km along the coastline of uMkhanyakude District.

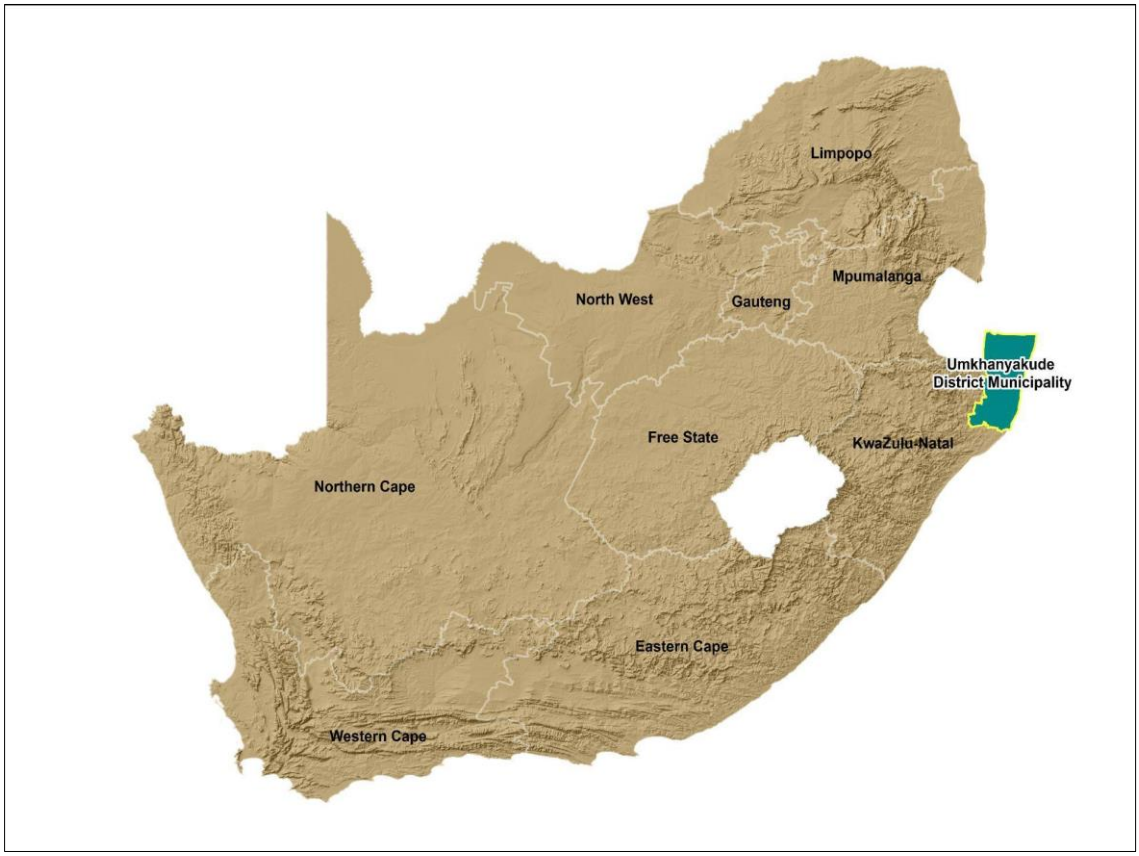

Figure 9. *uMkhanyakude District municipality in relation to the rest of South Africa (source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [District Municipalities]. https://www.demarcation.org.za*

The district stretches from Mtubatuba (St Lucia) at the southern end to Kosi Bay at the northern end and across the Lubombo Mountains at the western end. It is strategically situated along the N2 and thus linked to KwaZulu-Natal, Mpumalanga, and Swaziland, its neighbour. Local municipalities within the district include Jozini, Mtubatuba, uMhlabuyalingana, and the Big Five Hlabisa local municipality. As a municipality, it is regarded as one of the poorest in KwaZulu-Natal (Patrick, 2020: 4).

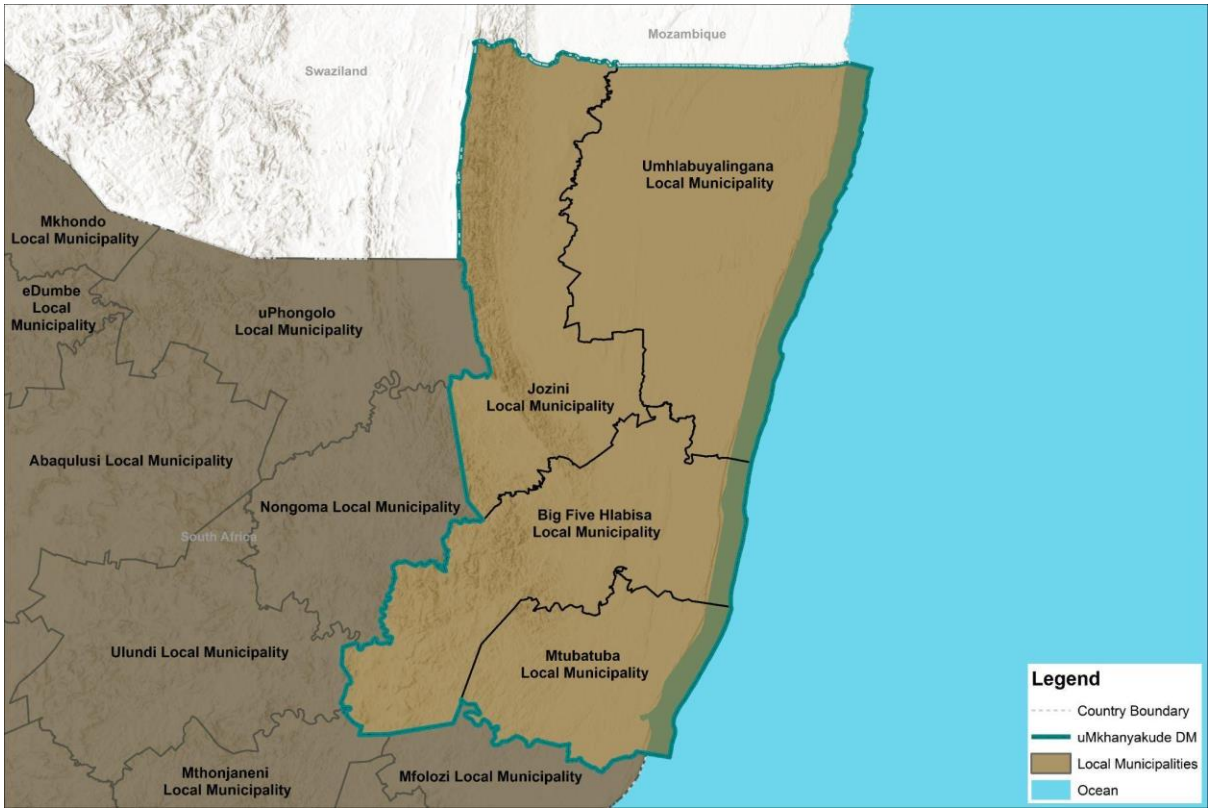

Figure 10. *Local Municipalities within uMkhanyakude District Municipality.* *Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [District Municipalities]. https://www.demarcation.org.za*

There are large areas of forests, grasslands, and wetlands, as well as cultivated land and settlements in this rural district. Large areas of communal land lie within the traditional authority areas under the jurisdiction of the Ingonyama Trust.

Umkhanyakude District offers a year-round tourism experience with mild winters and hot summers, and more than half of the area is under state conservation or private ownership. In the south, to Mapelane, and in the north, to Kosi Bay, the iSimangaliso Wetland Park stretches along the Zululand coast. There are a variety of terrain types in the uMkhanyakude District Municipality, including coastal dunes, tropical forests, mountain ranges, foothills, and valleys incised by rivers. Throughout the municipality, you will see the world's tallest sand dunes on the eastern shores, as well as coastal low lying plains immediately adjacent. From Ndumo south to Mkuze, the eastern foothills of the Lebombo Mountain range stretch westward, along with the Lebombo Mountain rage and lying Western Plains, and from Hlabisa southward, the high hills around Hlabisa and Hluhluwe-iMfolozi Park extend southward.

At Ingwavuma within the Lebombo Mountain range, the highest point is on average just 744 metres above sea level, with altitudes ranging from 10-70 metres above sea level between Mtubatuba and St Lucia Town. A range of biodiversity can be found in KwaZulu-Natal and the District due to its highly favorable topography. North facing slopes tend to be warmer and drier, supporting a variety of habitat types. In contrast, south-facing slopes, escarpments, and kloofs are generally cooler and wetter, favouring indigenous forest growth. When compared to regions with flat topography, the mosaic of

habitat allows for a diversity of biota with different habitat needs to exist within relatively smaller areas. In addition to shelter, the cool, damp scarps and sheltered kloofs protect the fauna and flora from fire and anthropogenic damage.

6.1.6. Socio-economic status

According to Patrick (2020: 4), the district municipality is one of the most socioeconomically deprived in South Africa, ranking 51st out of 55. The uMkhanyakude District Municipality is distinguished by poor economic development, limited infrastructure, and poor service delivery (Dlamini, 2018: 51; Mulopo, Kalinda & Chimbari, 2020: 2). The majority of services in this district are located and distributed in the district's urban areas, which contributes to the district municipality's inability to provide economic stimuli in order to break the poverty cycle that is affecting its economic growth and prosperity (Dlamini, 2018: 51).

Poverty in uMkhanyakude has been exacerbated by high illiteracy and a lack of growth opportunities. The district municipality's poverty rate ranges from 72.1% to 88.6% of the total population. According to Patrick (2020: 5), more than 70% of the population in uMkhanyakude lives on less than R800 per month, and more than 83% of total households are poor. Approximately 14% of the district's unemployed population has never attended formal school, and another 17% has only an elementary level of education. It should be noted that the majority of the unemployed population has completed Grade 12 education, with another 30% having some form of secondary education (IDP, 2018/2019: 76).

Only a small proportion of the unemployed have completed any form of tertiary education. The extent of poverty in uMkhanyakude's rural areas has forced 95% of the inhabitants to rely on subsistence farming, government grants, and remittances from family members working outside the municipality to survive (Dlamini, 2018: 53; SDF, 2019/2020: 45). Agriculture, tourism, and trade are the main economic sectors in uMkhanyakude. However, all of these sectors have suffered as a result of the effects of climate change.

6.1.7. Local policy frameworks and legislation

Legislation/Policy	How it relates to biodiversity protection/management with the municipality
Integrated Development Plan (IDP)	Overall strategy document for the municipality.
District Spatial Development Framework	Broad spatial planning guidelines for the district (including a map of land use within the district)
Bioregional plans (draft or gazetted)	To provide a map of biodiversity priorities with accompanying land use planning and decision making guidelines, to inform land use planning, environmental assessment and authorisations as well as natural resource management by a range of sectors whose policies and decision impact on biodiversity

Spatial Planning and Land Use Management Act	It sets out in its definitions that municipal planning is primarily the executive function of the local sphere of government and requires that biodiversity is adequately considered in spatial planning.

6.1.8. Stakeholder mapping

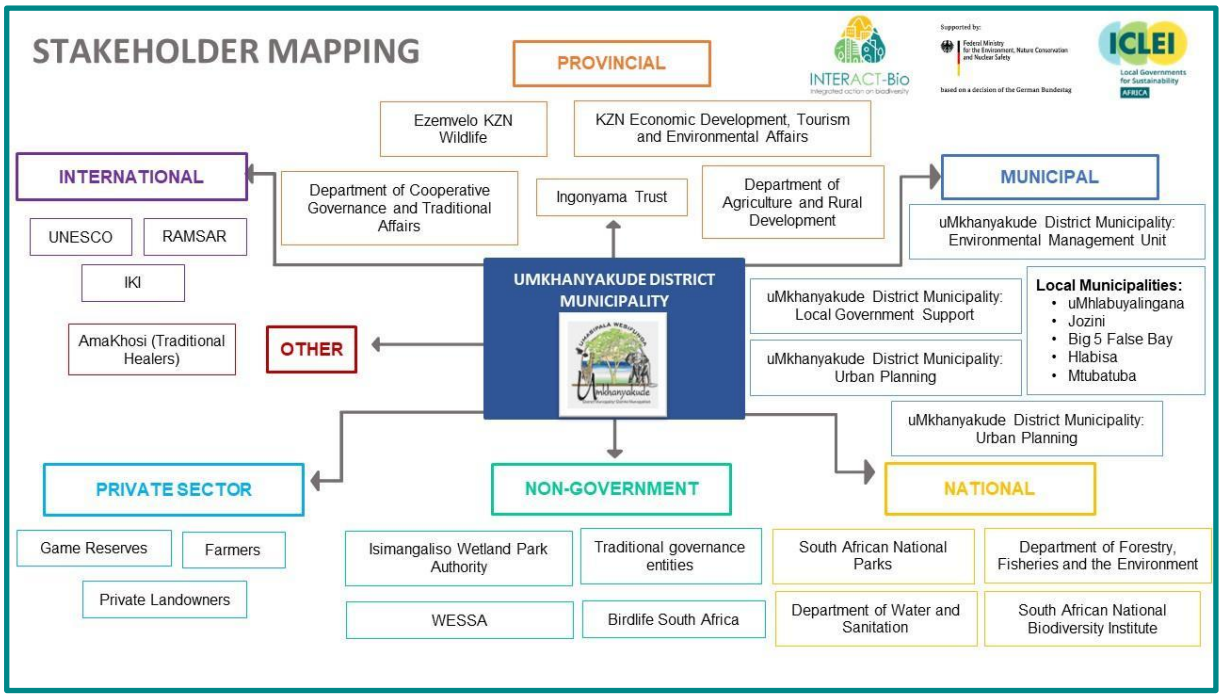

Figure 11. *Stakeholder mapping conducted for the uMkhanyakude District Municipality*

To gain an understanding of the stakeholder landscape in uMkhanyakude District Municipality, we used a two-step process. First, we consulted the District Municipality's 2018/2019 IDP to identify potential stakeholders that we need to engage with. The second step involved travelling to the district municipality to gather input from city officials through a participatory and iterative process. Then during visits, we met with various key stakeholders and employed snowball sampling techniques (Babbie, date) to gather information about other key stakeholders that we were not aware of before.

6.1.9. Capacity assessment

The 2018/2019 IDP states that, in terms of Environmental Management human resource capacity, there has been a noticeable improvement district-wide, with some of the local municipalities incorporating environmental management into their respective organograms. An Environmental Management Unit exists at the District level, but there is only one municipal official (Environmental Management Officer) and one Local Government Support official (LGS) from the Department of Environmental Affairs (DFFE). It should be noted that only Jozini and Big Five False Bay municipalities have Environmental Management Units. These units, however, are primarily focused on waste management. The other two municipalities (uMhlabuyalingana and Mtubatuba) have Waste

Management units instead. According to its existing structure and resources, the district does not show sufficient commitment to environmental management. The district municipality lacks environmental skills and knowledge, which indicates a need for capacity building.

6.1.10. Biodiversity profile

uMkhanyakude District is noted for its scenic beauty and rich biodiversity levels. ISimangaliso Wetlands Park is a world heritage site and is known to attract tourists from all over the world. It is also a centerpiece for the district. The district is also known for its game reserves, both private and state owned, marine protected areas and natural forests. A total of 45 vegetation types can be found in the uMkhanyakude District, which spans six biomes. These biomes are the Savanna, Grassland, Wetlands, and Indian Coastal Belt biomes.

There is a great deal of conservation and biodiversity importance within the region, specifically the Maputaland region, which is a globally recognized biodiversity hotspot. Van Wyk & Smith (2001) defined the uMkhanyakude District as extending from the Hluhluwe town area to Maputo, which constitutes the Mozambican Maputaland Centre of Plant Endemism. A number of highly specialized and endangered dune forests are found here, along with lush riverine and estuarine habitats, diverse savannahs, and foothill grasslands. This centre contains a wide range of endemism, including plants and animals across virtually all taxonomy groups. Three major plant communities dominate the distribution of endemic plant species, namely Sand forest, Tembe Sandy bushveld and Maputaland Wooded grassland. The conservation of this region is therefore of the utmost importance

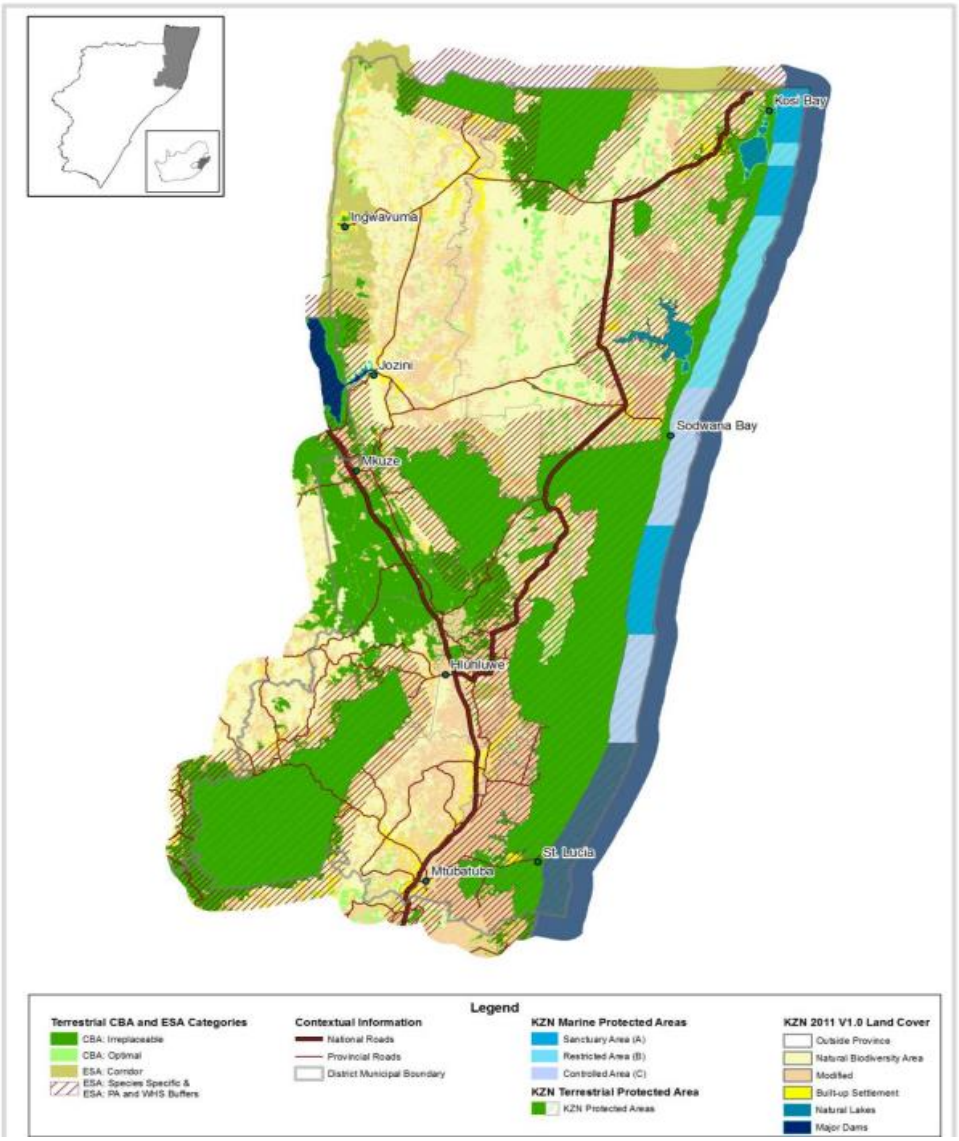

Figure 12. *Terrestrial Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) of the uMkhanyakude District.* *(Source: Ezemvelo KZN Wildlife, 2014).*

6.1.10.1. Flora

Maputaland-Pondoland-Albany is one of the most important centers of plant endemism, and has the second highest floristic diversity in the world. Approximately 230 species of endemic or near-endemic species occur within the Maputaland Centre, out of a total of 2500 species. Several Red List species have been recorded for the uMkhanyakude District, including 4 Endangered, 11 Vulnerable, and 7 Near Threatened species (Ezemvelo KZN Wildlife, 2014).

6.1.10.2. Fauna

One Critically Endangered species has been recorded in the uMkhanyakude District (*Cloeotis percivali australis*), the short-eared trident bat), 12 Endangered species, 40 Vulnerable species, 23 Near Threatened species, and 20 rare and/or endemic species.

uMkhanyakude District comprises of a number of formally protected and other conservation areas:

Name	Area (Ha)
World Heritage Site	
iSimangaliso Wetland Park	287 676
Provincial Nature Reserve	
Makasa Nature Reserve	1 700
Manguzi Forest Reserve	237
Tembe Elephant Park	30013.3236
Sileza Nature Reserve	2 124
Ubombo Mountain Nature Reserve	1 714
Ndumo Game Reserve	10 117
Hluhluwe-iMfolozi Park	89 672.68
Hlatikulu Forest Reserve	1 213
Sites of Conservation Significance	
Futululu Forest	20
Futululu Conservation Area	74
Private Nature Reserve /Game Ranch	
Kwami	687.028
Vergenoeg Game Ranch	685.223
Spesbona	336.585
Falaza Game Park	495.035
Sungulwana	1031.525
Bayala	1030.164
Ubizane Game Ranch	1161.579
Kubu Yini	1183.431
Meyersland	829.753
Bonamanzi	4525.824
Bartenheim	1833.441
Thanda	4099.046

Name	Area (Ha)
Nkonka Game Ranch	623.025
Impala Ridge	1002.007
Zulu Nyala Game Lodge	1420.974
Silvasands	3564.075
Sutton	1868.68
Phinda	18563.333
Shotton	1031.491
Coleford Game Ranch	810.771
Cadillac Beuna Vista	2543.153
Cairn Bain Game Farm	1012.561
Double H Ranch	1988.414
Hlambanyathi Game Reserve	1881.131
Lulubush Game Ranch	1448.879
Chick's Game Lodge	381.753
Mpembeni	2003.081
Somerset	1009.449
Stewardship sites	
Zululand Rhino Reserve	18 429
Usuthu Gorge	13179
Stewardship Focus Areas	
Bhekabantu CCA	6342.479
Phinda Private Game Reserve	30914.932
Hlambanyathi Game Reserve	8064.442
Thanda Game Reserve	60696
Chanini CCA	11738.473
Tembe expansion	9235.401
Bonamanzi	4672.267
Community Conservation Areas	
Mpembeni	2003.47
Mabaso	2214.819
KwaChitamuzi	246.311
Makhasa	1498.32
Usuthu Gorge	2216.875
Tshanini	2741.399
Bhekhabantu	1793.393
Mduna Royal	5454.439
Bhekula	2064.114
KwaSonto	1250.671

Source: Ezemvelo KZN Wildlife, 2014.

6.1.10.3. Ramsar sites

uMkhanyakude District is home to five protected sites: Turtle Beaches/Coral Reefs of Tongaland, St. Lucia System, Kosi Bay, Lake Sibaya, and Ndumo Game Reserve. Each of these sites is located within the current network of Protected Areas. During the local input phase, additional sites were identified as possibly of equal importance, namely Czewane and Teza Pan.

6.1.10.4. Transfrontier Conservation Areas (TFCA)

There are three proposed transfrontier conservation areas in the uMkhanyakude District, namely: Usuthu-Tembe-Futi TFCA (Swaziland/South Africa/Mozambique), Ponta do Ouro-Kosi Bay TFCA (Mozambique/South Africa), and Nsubane-Pongola TFCA (South Africa/Swaziland). Through these TFCAs, large ecological regions that span multiple countries can be conserved. The TFCAs also aim to create job creation and income generation opportunities for local people.

Usuthu-Tembe-Futi TFCA (Swaziland/South Africa/Mozambique):

Mozambique, South Africa, and Swaziland are all linked by the proposed TFCA. Tembe Elephant Park and Ndumo Game Reserve, as well as Tshanini and Usuthu Gorge Community Conservation Areas, are examples in South Africa. The TFCA was recently expanded to include Swaziland's Usuthu region, making it a Trilateral TFCA. Partnerships with local communities are also being formed in order to incorporate areas to the east and west of Tembe Elephant Park. Tembe Elephant Park and Ndumo Game Reserve could be combined. The project in Mozambique focuses on the Maputo Special Reserve and the Futi-corridor, a swamp system that connects the Reserve to the Tembe Elephant Park. This TFCA will bring together an ancient elephant population that used to roam freely between Mozambique and South Africa, as well as improve the efficiency of biodiversity conservation in a region with a high endemicity (Maputaland-Pondoland-Albany biodiversity hotspot).

Ponta do Ouro-Kosi Bay TFCA (Mozambique/South Africa):

The TFCA connects Mozambique's Ponta do Ouro-Inhaca coast with South Africa's World Heritage-listed iSimangaliso Wetland Park. Aside from its extensive wetlands, the area is rich in biodiversity and contains turtle breeding grounds for leatherback and loggerhead turtles.

Nsubane-Pongola TFCA (South Africa/Swaziland):

South Africa's component consists of public, private, and community-owned land surrounding the core conservation area, Pongola Nature Reserve. There are primarily private lands, government-owned lands, and community lands in Swaziland, all of which are underdeveloped in terms of tourism infrastructure.

6.1.11. Competing Land Uses and activities that threaten CBAs and ESAs within the uMkhanyakude District

In South Africa, as in other parts of the world, population growth and development expansion result in habitat destruction, degradation, and fragmentation, which contribute to biodiversity loss.

The following land uses and activities threaten CBAs and ESAs within the District:

Unplanned and incompatible development (tourism and formal/informal urban/rural).
Clearing of vegetation for informal settlement and associated subsistence agriculture.
Expansion of forestry, sugarcane and other commercial cultivation.
Over utilization of natural resources/ecoservices and medicinal species
Poor land management activities
Overgrazing and the unsustainable management of grazing land.
Destruction of wetland and riparian habitat, most notably through;
Wetland drainage
Erosion of wetland habitat, river courses and riparian areas.
Cultivation of wetland and riparian areas.
Overgrazing.
Invasion by alien species.
Pollution.
Water pollution, resulting in algal blooms, fish kills loss of aquatic and riparian habitat and increased costs for treatment of agricultural, industrial and potable water.
Faecal pollution from informal settlements, dairies, piggeries and urban areas with poorly maintained and surcharging sewer infrastructure
Overuse or mismanagement of agricultural chemicals and fertilizer
Erosion and sedimentation
Stormwater runoff

Source: Ezemvelo KZN Wildlife, 2014

During the stakeholder mapping workshop held by ICLEI and uMkhanyakude Municipality in November 2022, invasive species were identified as one of the major problems within the municipality. Due to its location, close to the border of South Africa, Mozambique, and Swaziland; there has been a proliferation of invasive species in the district. According to the 2018/2019 district IDP, uMkhanyakude District Municipality contains the following invasive species:

- 31,522 condensed ha of *Chromolaena odorata*;
- 4,314 condensed ha of *Eucalyptus* spp. ;
- 1,538 condensed ha of *Lantana camara*;
- 872 condensed ha of *Psidium guajava*;
- 757 condensed ha of *Cereus jamacaru*;
- 315 condensed ha of *Pinus* spp;
- 176 condensed ha of *Melia azedarach*; and
- 149 condensed ha of *Solanum mauritianum*.

Of the 19 species targeted for eradication, five species have been marked as priority species for immediate eradication, namely; *Ipomoea carnea* subsp; Fistulosa; *Pereskia aculeata; Chromolaena odorata*, and *Lantana camara*.

It is crucial that alien invasive plants be removed and rivers and riparian zones be rehabilitated in the uMkhanyakude District for the long term solution to water resource quality and supply problems and the preservation of biodiversity and ecosystem goods and services.

6.1.12. Local biodiversity plans & alignment with national priorities & urban planning

6.1.12.1. uMkhanyakude Biodiversity Sector Plan

This BSP has the primary objective of assisting and guiding land use planners and managers in the uMkhanyakude District and the local municipalities to consider biodiversity conservation priorities when planning and managing land use. By doing so, they will be able to promote sustainable development, protect biodiversity, and protect ecological infrastructure and ecosystem services in the process.

6.2. OVERBERG DISTRICT MUNICIPALITY

The Overberg District Municipality governs the Overberg Region of the Western Cape, South Africa and has its head office in the town of Bredasdorp. The boundaries of the Overberg are the Hottentots-Holland mountains in the West, the Riviersonderend Mountains in the North, the Atlantic and Indian Oceans in the South and the Breede River in the East (Fig. 13). The municipal area covers 12,241 km^2 and currently has an estimated population of 300,285 people in 86,716 households. The major towns are Hermanus, Caledon, Bredasdorp, Grabouw and Swellendam and the region includes Cape Agulhas, the southernmost point of Africa. The landscape is dominated by gently to moderately undulating hills enclosed by mountains and the ocean.

The Overberg is the breadbasket of the Cape and largely produces wheat. The wheat fields are a major breeding ground for South Africa's national bird, the blue crane. Another important food farmed in the Overberg is fruit with Grabouw being the second largest supplier of fruit in South Africa.

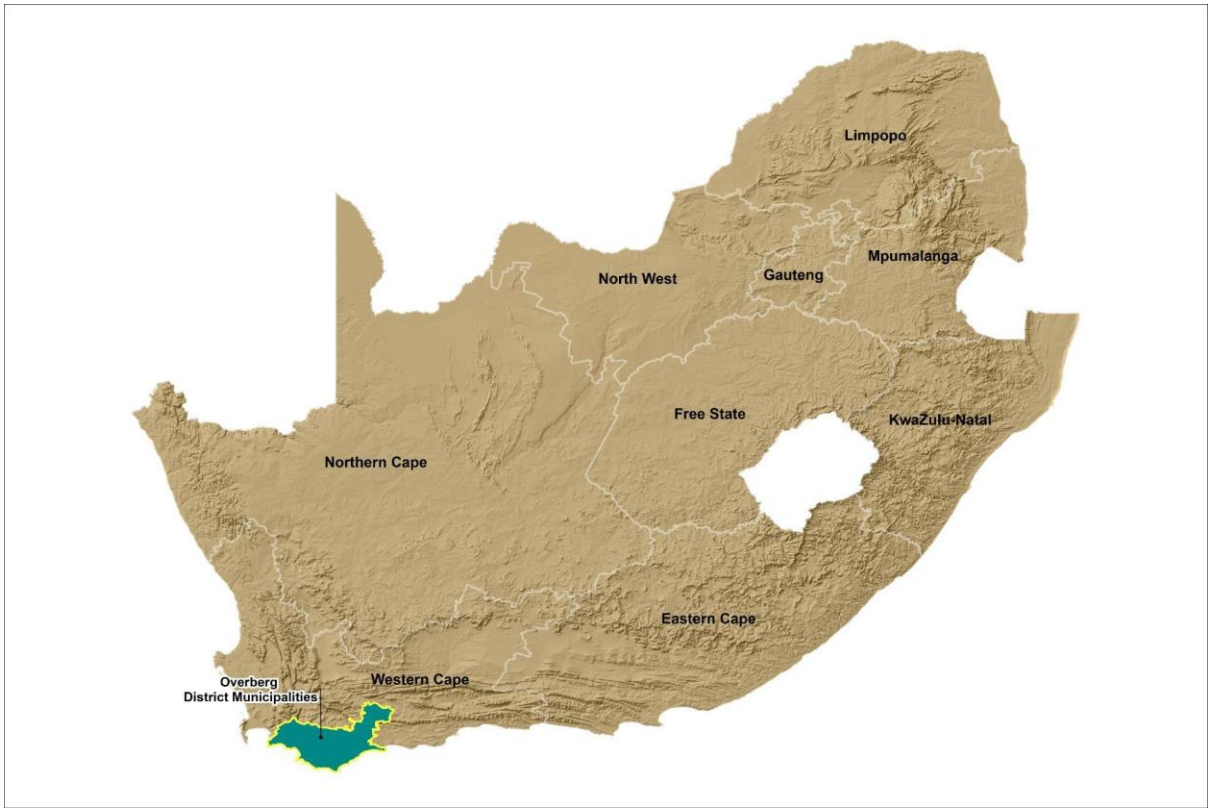

Figure 13. *Overberg District Municipality* *(Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [District Municipalities]. https://www.demarcation.org.za)*

The Overberg District Municipality is classified as a 'Category C' municipality, with the following 'Category B' local municipalities in its area of jurisdiction: Cape Agulhas, Overstrand, Theewaterskloof and Swellendam (Fig. 14).

The Overberg District municipality falls entirely within the fynbos biome in the Cape Floristic Region, a recognised global biodiversity hotspot with high levels of endemism and floral and faunal diversity. A huge number of wetlands can be found throughout the municipality, including two RAMSAR sites of international importance. The wetlands within Overberg District Municipality are considered to be high-value 'ecological infrastructure', in that they provide vital habitat for flora and fauna, but also provide critical ecosystem services to the municipality. These include flood attenuation, water filtration, erosion control and water storage (regulatory services) as well as food provision, supply of raw materials and clean drinking water (provisioning services). The wetlands within the District Municipality also play a pivotal role in disaster risk management as well as reducing the impacts of climate change within the district (Overberg Wetland Strategy & Action Plan, 2017).

Figure 14. *Local Municipalities of Overberg District Municipality* *(Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [Local Municipalities]. https://www.demarcation.org.za)*

Section 83(3) of the Municipal Structures Act, 1998 (Act 117 of 1998), states: "A district municipality must seek to achieve the integrated, sustainable and equitable social and economic development of its area as a whole by:
(a) ensuring integrated development planning for the district as a whole;
(b) promoting bulk infrastructural development and services for the district as a whole;
(c) building the capacity of local municipalities in its area to perform their functions and exercise their powers where such capacity is lacking; and
(d) promoting the equitable distribution of resources between the local municipalities in its area to ensure appropriate levels of municipal services within the area.

The Strategic vision for the Overberg DM (2022 - 2027): "Overberg – the opportunity gateway to Africa through sustainable services." Its mission:

To render sustainable, customer-directed services and to be the preferred Provider of Shared Services within the Overberg, by:
- Promoting social and economic development;
- Utilising all available resources economically, efficiently and effectively;
- Ensuring the provision of optimal and quality service delivery; and
- Enhancing effective stakeholder relations.

The Overberg District Municipality strategic goals:

SG 1: To ensure the well-being of all in the Overberg through the provision of efficient basic services and infrastructure.
SG 2: To promote regional economic development by supporting initiatives in the District for the development of a sustainable district economy.
SG 3: To ensure municipal transformation and institutional development by creating a staff structure that would adhere to the principles of employment equity and promote skills development.
SG 4: To attain and maintain financial viability and sustainability by executing accounting services in accordance with National policy and guidelines.
SG 5: To ensure good governance practices by providing a democratic and pro-active accountable government and ensuring community participation through IGR structures.

Source: https://odm.org.za/about-us

6.2.1. Regional and local policy frameworks and legislation

6.2.1.1. The Western Cape Biodiversity Act, 2021 (Act 6 of 2021)

The Western Cape provincial Biodiversity Act (WCBA) was signed into law in November 2021. The intention was then for CapeNature and the Department of Environmental Affairs and Development Planning (DEA&DP) to initiate a public participation process where interested parties will be consulted to formulate several regulations necessary to implement the Act.

The WCBA and its implementation will focus on enabling a transformed biodiversity economy which emphasises access to critical resources in an equitable and sustainable manner. To achieve this, the Western Cape Biodiversity Act facilitates partnerships with key sectors and communities to promote the protection of biodiversity while also allowing for development, economic growth, and job creation. The Act builds on CapeNature's successful model whereby a public entity pursues the multiple objectives of protection of biodiversity and simultaneously enabling economic opportunities for local rural economies.

The Western Cape Premiere explained that the proactive protection and investment in ecosystems and ecological infrastructure represents a low- to no- risk climate change adaptation strategy ensuring the resilience of people and the economy. Key to this is the optimisation of investment into ecological infrastructure which reduces fire, water and climate risk while bringing a range of job and economic opportunities.

6.2.1.2. Western Cape Biosphere Reserves Act 6 of 2011

The Western Cape contains five biosphere reserves: The Cape West Coast, Kogelberg, Cape Winelands, Garden Route and Gouritz Cluster Biosphere Reserves. The Kogelberg Biosphere Reserve falls within the Overstrand Municipality, which is of interest.

Biosphere Reserves are areas of terrestrial and coastal ecosystems which are internationally recognised within the framework of the United Nations Education, Scientific, and Cultural Organisation's (UNESCO's) Man and Biosphere Programme (https://www.capenature.co.za/biosphere-reserves)."Biosphere reserves are sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. Each site promotes solutions reconciling the conservation of biodiversity with its sustainable use." (https://en.unesco.org/biosphere/about)

The purpose of this Act is to:

> (a) promote the protection of areas of high biodiversity value and ecological importance in the Province as biosphere reserves designated in terms of the Man and the Biosphere Programme;
>
> (b) make provision for protection by law of biosphere reserves or proposed biosphere reserves;
>
> (c) ensure that any development in biosphere reserves is undertaken and managed in a sustainable manner taking into account the purpose of a biosphere reserve;
>
> (d) ensure that any development within a biosphere reserve is managed in accordance with the principle of sustainability through the development, application and enforcement of the requisite framework plan; and
>
> (e) ensure that the need for and purpose of biosphere reserves, and the type of development to be allowed in and around biosphere reserves, are taken into account when any spatial development decision which may potentially impact on the biosphere reserves is taken.

Biosphere Reserves are managed by a Management Committee in accordance with published management principles determined by the Minister. The Management Committee must compile a constitution for the biosphere and develop an annual report on its activities to the Minister, the municipalities in whose areas of jurisdiction the biosphere reserve is located as well as adjacent municipalities.

6.2.1.3. CapeNature State of Conservation Report (Western Cape)

CapeNature monitors the status of the Western Cape Province's biodiversity: habitats, species of plants and animals and contributes to the development of a comprehensive inventory of biodiversity in the Western Cape. CapeNature’s protected areas are important for balancing conservation of ecosystems and species with social upliftment through job creation opportunities, particularly in the rural areas.

The 2020 CapeNature State of Conservation Report provides summaries based on a number of conservation indicators, including the status of terrestrial and marine ecosystems, freshwater and wetland ecosystems, indigenous species, the conservation estate, threats to biodiversity, habitat loss

trends, biological invasions, pollution, climate, conservation strategies and tools, including the Western Cape Biodiversity Spatial Plan and the The Provincial Biodiversity Strategy and Action Plan (PBSAP), partnerships (CapeNature, 2020).

6.2.1.4. Western Cape Government Provincial Spatial Development Framework (2014)

Outcomes advocated by the PSDF are:

- Protecting biodiversity and ecosystem services.
- Safeguarding inland and coastal water resources and managing use of water.
- Safeguarding the Western Cape's agricultural, fishing and mineral resources and
- managing their sustainable use.
- Recycling and recovering waste.
- Delivering clean energy resources.
- Shifting from private to public transport.
- Adapting to and mitigating against climate change.
- Progressive opening-up of opportunities in the space-economy, including the use of regional infrastructure investment to leverage economic growth, the diversification and strengthening of the rural economy, and the revitalisation and strengthening of the urban space-economies as the engines of growth.
- Protecting and managing cultural and scenic landscapes and enhancing a sense of place.
- Improved inter- and intra-regional accessibility.
- Compact, mixed use and integrated settlements.

6.2.1.5. Other relevant provincial and district level policies

- ❖ Western Cape Biodiversity Spatial Plan
- ❖ The Provincial Biodiversity Strategy and Action Plan
- ❖ Overberg District Spatial Development Framework (2022)
- ❖ Overberg Climate Change Response Framework (2017)
- ❖ Overberg District Municipality Climate Change Adaptation Summary Report ()
- ❖ Western Cape Government's Strategic and Policy Framework 2014-2019.

6.2.1.6. The Agulhas Biodiversity Initiative

The Agulhas Biodiversity Initiative (ABI) is a landscape initiative and an important biodiversity concern in the Overberg District (See: https://agulhasbiodiversity.co.za/). It recognises the important links between the two major landscape types in the Overberg, namely natural landscapes and agriculture and that these landscapes and their communities are co-dependent. ABI is the conservation coordination hub of the Overberg region of South Africa.

ABI does the following:

- Convene interested and affected parties

- Collate information and data
- Communicate with all parties
- Conceptualise projects and initiatives
- Help raise capital for priority activities

ABI focuses on five key themes: Integrated land-use planning; nature-based tourism; environmental education; environmental education, skills and awareness; and transitioning to a green economy.

Overberg District Municipality and Overstrand Local Municipality are ABI partners.

6.2.1.7. The Overberg Wetland Strategy and Action Plan

Given the importance of wetland resources in the district, the Overberg District Municipality developed a Wetland Strategy and Action Plan (2017 - 2030) as part of the Local Action on Biodiversity project. This strategy and plan sets out a vision, focus areas and detailed goals for the wetlands in the Overberg District.

The Overberg District Municipality Wetland vision:

"Working together, from catchment to coast, towards a legacy of healthy functioning wetlands in the Overberg, for the benefit and enjoyment of all."

The Overberg District Municipality Wetland Strategy six focus areas:

1. Roles, responsibilities, funding and capacity
2. Coordinated wetland management strategy aligned with the IDP
3. Baseline assessment, mapping and monitoring
4. Awareness raising and education
5. Stakeholder collaboration and the Green Hub
6. Constraints to landowner buy-in and involvement

Source: Overberg Wetland Strategy and Action Plan, 2017 - 2030.

6.3. CAPE AGULHAS LOCAL MUNICIPALITY

6.3.1. Municipality Profile

Cape Agulhas Municipality (CAM) is a Category B[1] (i.e. local) municipality in the Overberg District of the Western Cape Province (See Fig 15).

[1]According to the Constitution of South Africa, the Local Government: Municipal Structures Act, 1998 (Act 117 of 1998) presents criteria for determining when a sub-nationally governed area must have a category A municipality (metropolitan municipalities) and when municipalities fall into categories B (local municipalities) or C (district municipalities). Source: *https://www.gov.za/about-government/government-system/local-government*

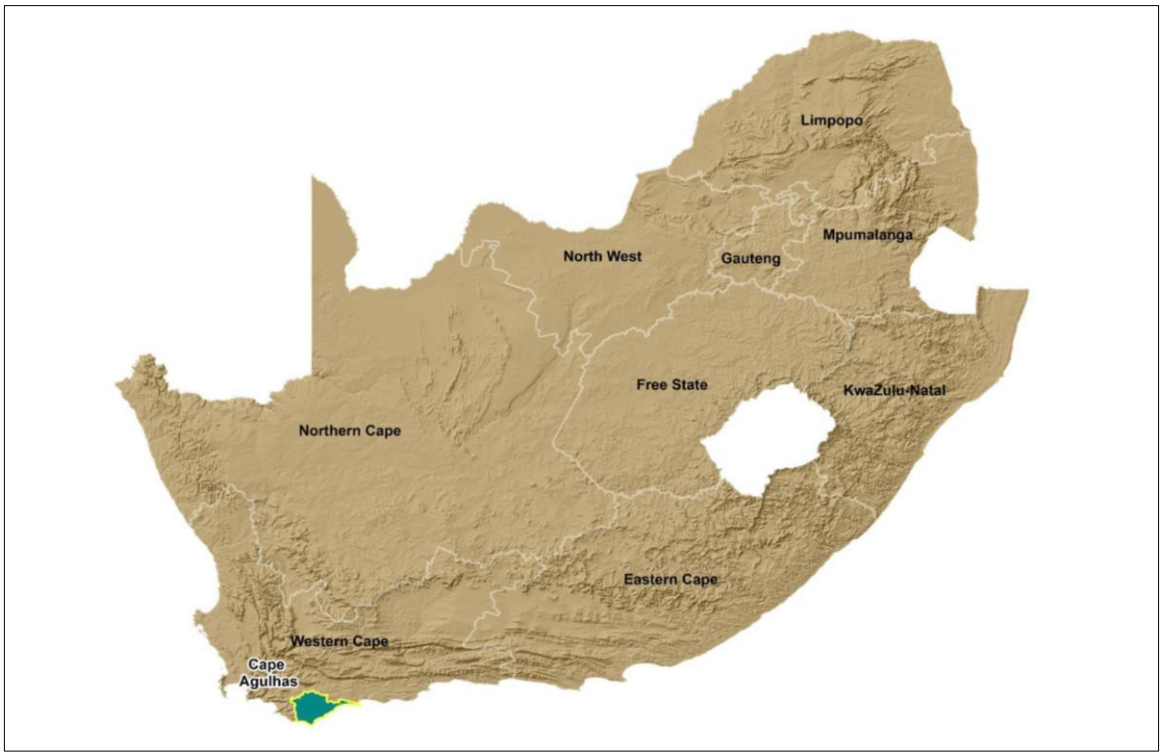

Figure 15. *Cape Agulhas Local Municipality Location* *(Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [District Municipalities]. https://www.demarcation.org.za)*

The Overberg District Municipality includes Cape Agulhas Municipality (CAM), the Overstrand, Swellendam and Theewaterskloof local municipalities (See Fig. 16). The CAM municipal area covers approximately 2411 km^2 and it includes the towns of Bredasdorp (the administrative seat of the municipality), Napier, Struisbaai, Arniston, Waenhuiskrans, L'Agulhas, Suiderstrand, Klipdale, Protem and Elim, which is a Moravian Mission town established in 1824.

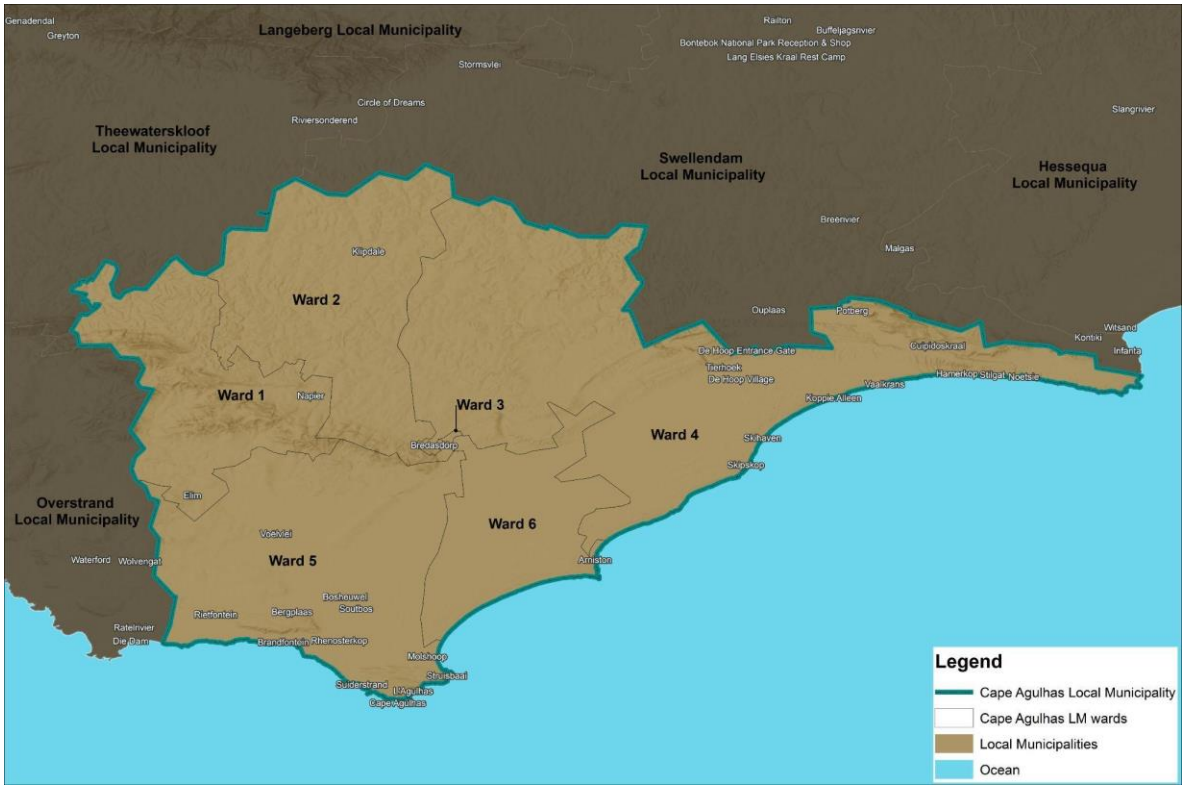

***Figure 16**. Wards that comprise the Cape Agulhas Local Municipality*

(Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [District Municipalities]. https://www.demarcation.org.za)

The towns are surrounded by rural landscapes with characteristic wheat fields, natural fynbos, wetlands and coastal zone vegetation (See Fig. 17). CAM is a coastal municipality (178 km of coastline) flanked by the Indian and Atlantic Oceans including where these oceans meet at the iconic southern tip of Africa at L'Agulhas. The population size of the CAM is 35 427 (average annual growth rate of 0.5%) with 10 802 households, according to the latest Integrated Development Plan. The population density is 10 people per km^2 as compared to 10 people per km^2 for Swellendam, 63 people per km^2 in the Overstrand and 38 people per km^2 in Theewaterskloof (CAM IDP, May 2022).

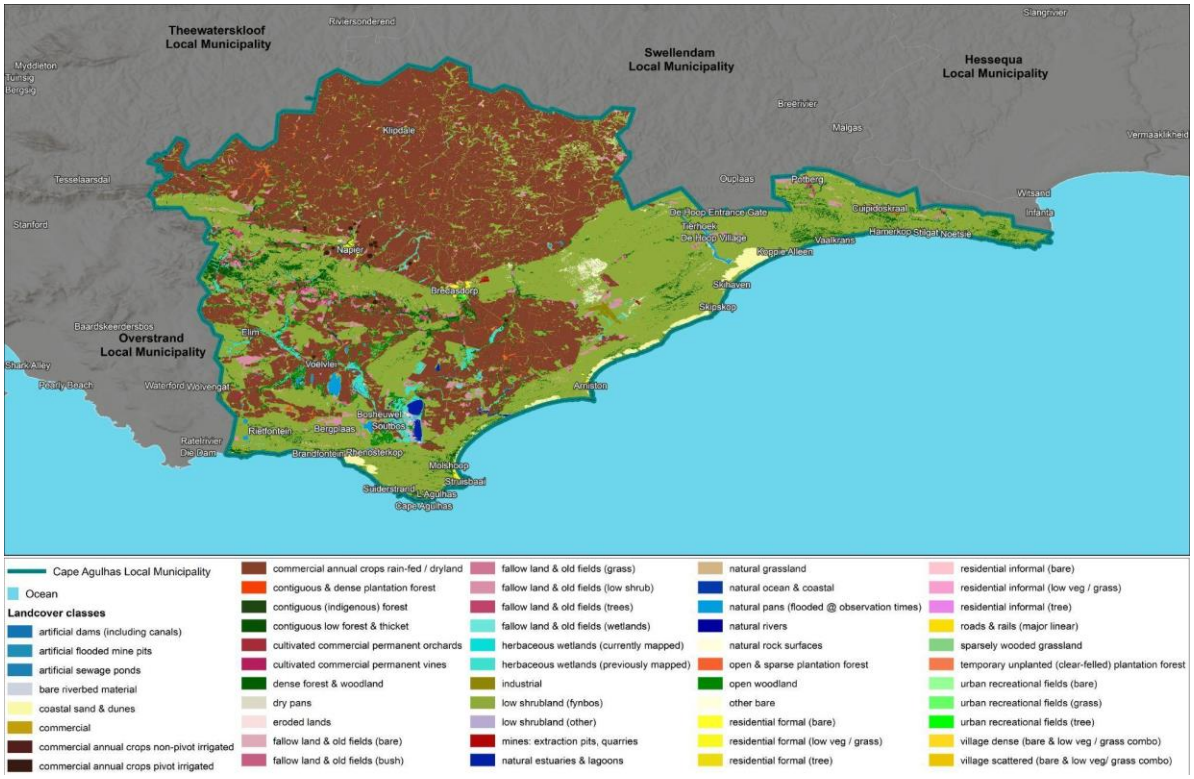

Figure 17. *Landcover classes of the Cape Agulhas Local Municipality* (source: Department of Environmental Affairs (2020). South African Landcover 2020. https://egis.environment.gov.za/data_egis/data_download/current)

6.3.2. Socio - economic status

In 2019, the economy of Cape Agulhas was valued at R3.171 billion and employed 16 180 people. Data show that between 2015 and 2019, the municipal economy realized an average annual economic growth rate of 1.1 per cent. The Gross Domestic Product Per Capita (GDPC) is R86 358, slightly higher than the Western Cape Province's GDPC of R84 976, but income inequality has increased over the last six years for the CAM. The Human Development Index (HDI) (a composite indicator reflecting education levels, health and income; "It is a measure of peoples' ability to live a long and healthy life, to communicate, participate in the community and to have sufficient means to be able to afford a decent living." (IDP, p. 33) for the CAM was 0.77 in 2020. The HDI score falls between 0 and 1 where 1 represents a high level of human development. The number of households registered for indigent support was 3 713 in 2020/1. (IDP, 2022).

In recent years the municipal average annual economic growth rate of 1.6 per cent has been improving steadily. The finance, insurance, real estate and business services (R601.2 million); wholesale and retail trade, catering and accommodation (R692.7 million) and transport, storage & communication (R339.1 million) sectors were the main drivers of this positive growth. The finance, insurance and business services sector contributed to job creation in recent years as well as the wholesale and retail sectors, catering and communication sectors. The construction sector is said to have shed the most jobs in the CAM in recent years.

Despite its important role in the local economy and being one of the main sources of employment, the agriculture, forestry and fisheries sector showed below-average performance between 2014 and 2018 and is estimated to have shrunk by 0.9 per cent in 2019. This sector is still recovering from the provincial drought. In addition, the COVID-19 pandemic had and continues to exert a significant impact on the CAM's local economy (IDP, 2022).

The Cape Agulhas municipal area's total number of employed people in 2020 was 15 227, of which 11 970 (78.6%) are in the formal sector while 3 257 (21.4%) are informally employed. Informal employment has been declining recently, since 2017. The demand for skilled labour is on the rise, which emphasises the need to capacitate and empower low-skilled and semi-skilled workers. CAM's unemployment rate of 8.3% (a 2020 estimate), is slightly lower than that for the Overberg District (10.9%) but notably lower than the Western Cape's unemployment rate of 18.9% (IDP, 2022).

6.3.3. Biodiversity profile

The Cape Agulhas Municipality boasts a wealth of biodiversity resources, including unique fynbos and significant wetlands. Bredasdorp is sometimes referred to as the 'heart of the Overberg' and it hosts the annual Cape Floral Kingdom Expo. Figures 18 and 19 show the Municipality's Biodiversity land cover classes and core biodiversity areas respectively.

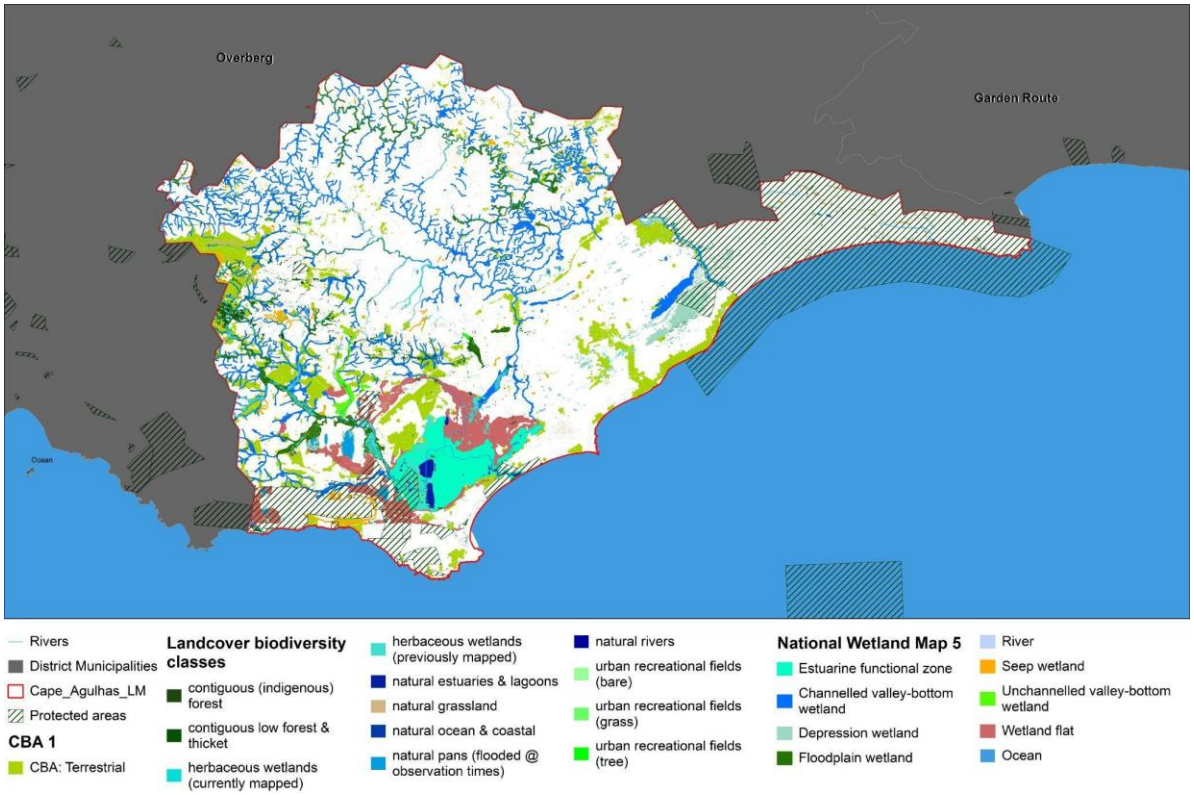

***Figure 18**. Landcover biodiversity classes of Cape Agulhas Municipality* (**source:** *Department of Environmental Affairs (2020). South African Landcover 2020. https://egis.environment.gov.za/data_egis/data_download/current)*

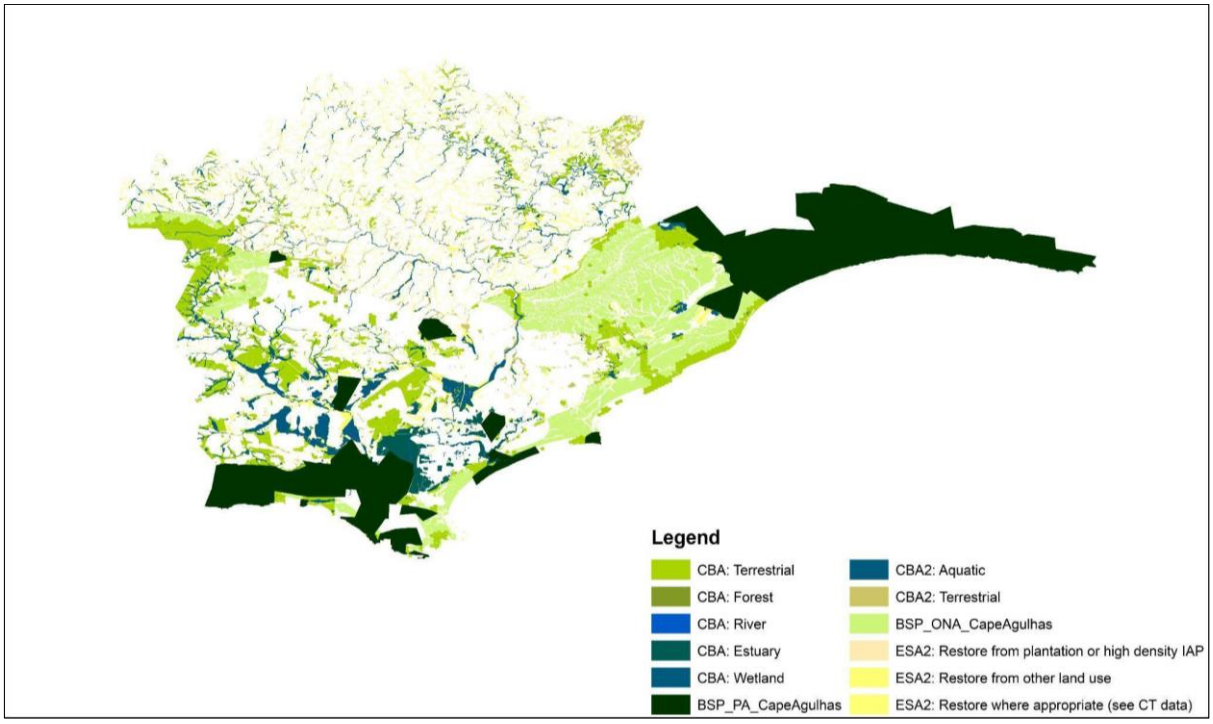

Figure 19. *Critical Biodiversity Areas of Cape Agulhas Municipality)* *(Source: Cape Agulhas Municipality)*

The Nuwejaars wetland system (with the headwaters in the Elim area) is an important wetland and peatland system flowing into the De Mond Estuary which is also a Ramsar wetland. This system's groundwater supports water security in the CAM. In addition, the Nuwejaars system is an important OECM ('Other Effective area based Conservation Measures') not under formal protection but adjacent to the Agulhas National Park and well supported by private landowners (farmers) in the area (See: https://nuwejaars.com/).

The Heuningberg Municipal Nature Reserve is adjacent to Bredasdorp Town and boasts high levels of biodiversity and might have significant ecotourism potential.

Major threats to biodiversity include ground water consumption, invasive alien plants and their water use, and general waste issue and pollution in residential areas and in the rivers and along the beaches. There is a need for education on the circular economy.

Strengths include an active NGO sector, existing, funded projects on invasive clearing in and near wetlands and interest in using the biomass from woody invasive plants to generate energy efficiently.

6.3.4. Cape Agulhas Municipality Stakeholder map

The Cape Agulhas Municipality stakeholder map (Fig. 20) was based on the Cape Agulhas Municipal IDP information as well as feedback from the key department: Strategic Planning, Public Participation, Communication and Risk.

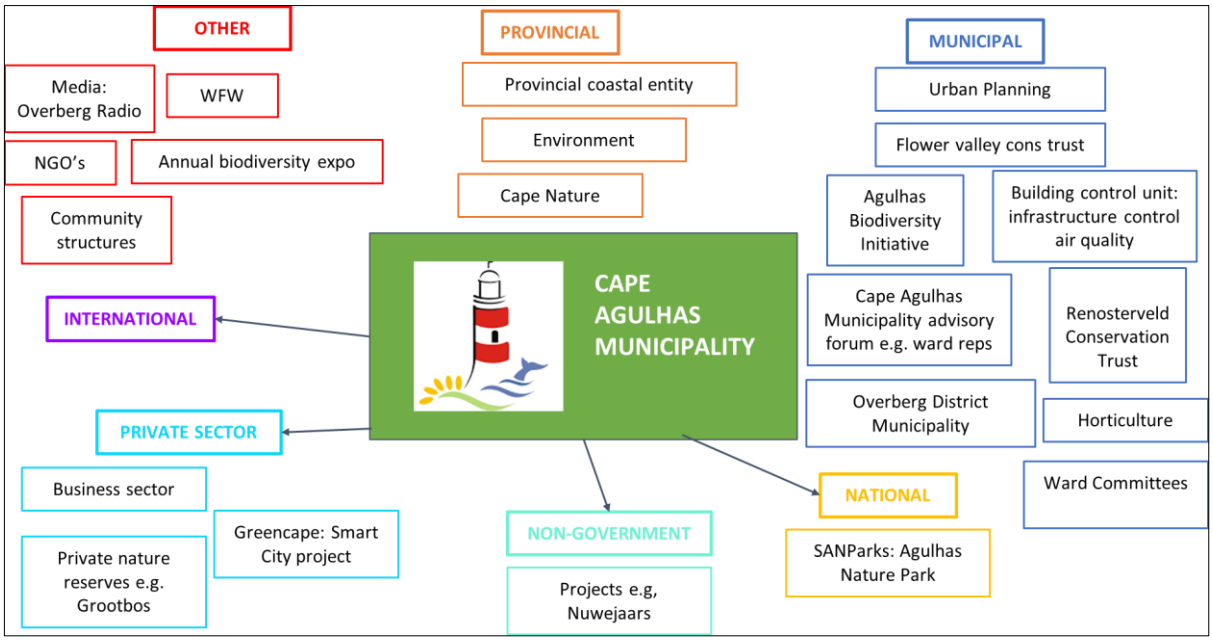

Figure 20. *Stakeholder map for Cape Agulhas Municipality*

6.3.5. Local policy framework and legislation

6.3.5.1. Integrated Development Plan

Provincial priorities: Western Cape Government's Strategic and Policy Framework 2014-2019 outlines five strategic goals and associated "Game Changers" (focus areas where immediate and concerted change could be affected). Most relevant to the CAM SDF is the focus on creating opportunities for growth and jobs, improving education outcomes and opportunities for youth development, increasing wellness and safety, tackling social ills, and a sustainable, inclusive and quality living environment.

Water security: The Municipality provides water to all towns in its area of jurisdiction with the exception of Elim, which is a private town. The Municipality's primary water sources are ground water from various boreholes in the area, as well as the Uitvlucht spring and the Sanddrift Dam in Bredasdorp. The Struisbaai water source is however under pressure due to numerous residential developments. There is also seasonal pressure during the summer tourist season due to an influx of holidaymakers. It is therefore imperative that long-term water security is prioritised beyond the period of the current IDP, for example, for the coming 20 – 30 years and that the investigation of alternative water sources be initiated. A ground water study and hydro-census has commenced and completed for Struisbaai/L'Agulhas/Suiderstrand area is currently being further conducted for the rest of the municipal area.

Parks and Recreation:

Challenges:

- Expansion of work-teams for maintenance of public open spaces
- Destruction of greening initiatives such as street trees
- Shortage/Lack of sport grounds to accommodate all sport codes/types
- Vandalism

Operational development priorities:

- Ongoing parks beautification and maintenance
- RDP House greening programme
- Community awareness programmes
- Heuningberg alien clearing
- Maintenance and daily management of sport facilities
- Source funding for an Alien Invasive Control Management Pl

Beaches:

Operational development priorities:

- Maintenance and daily management of Resorts
- Marketing of resorts
- Full Blue Flag Status – Struisbaai

Human settlement:

Council approved the Human Settlement Plan (HSP) in April 2018.

Low-cost housing development remains a challenge for municipalities as the demand for housing grows annually out of proportion with the funding available to assist the poor with proper shelter as enshrined in the Constitution of South Africa. The Housing pipeline is compiled in terms of the National Housing Code and the purpose is for the municipality to be able to plan for future housing.

Cape Agulhas Municipality is currently in process to review the Human Settlement Plan in collaboration with the Provincial Department: Human Settlements. A workshop will be held with Council to identify new housing projects for inclusion in the longer-term housing pipeline.

The municipality adopted revised Infrastructure Master Plans as the major bulk services are required to unlock future housing projects and planning should be aligned to all these infrastructure master plans.

The Cape Agulhas Municipality (CAM) Spatial Development Framework (SDF), was prepared in parallel to the development of the CAM 2017-2022 Integrated Development Plan (IDP) and was adopted by the Municipal Council on 30 May 2017. An amendment of the SDF, inclusive of a Capital Expenditure Framework, will be conducted in 2022 to be adopted with the IDP in May 2023.

Tourism is a big economic driver in both Overstrand and CAM Municipalities

6.4. OVERSTRAND LOCAL MUNICIPALITY

6.4.1. Municipality profile

The Overstrand Municipality is a Category B[2] (i.e. local) municipality in the Overberg District of the Western Cape Province (Fig. 21). The municipality is one of the smallest municipalities in the Overberg district, covering 1 708 km², which is 14% of the geographical area.

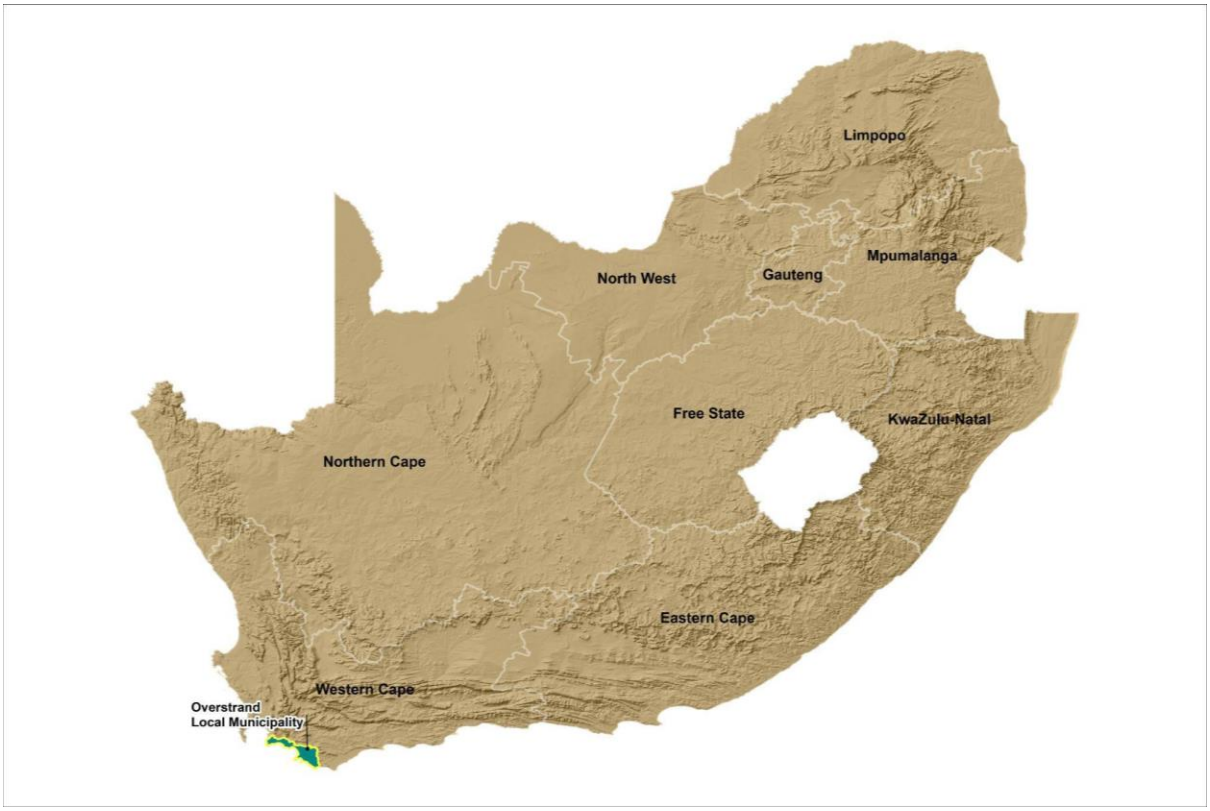

***Figure 21**. Overstrand Local Municipality location (source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [Local Municipalities]. https://www.demarcation.org.za)*

It includes the towns of Betty's Bay, Greater Hermanus, Birkenhead, De Kelders, Fishershaven, Franskraal, Gans Bay, Hawston, Hermanus, Hangklip-Kleinmond, Onrus, Pearly Beach, Pringle Bay, Rooi-Els, Sand Bay, Stanford, Van Dyks Bay and Vermont (Overstrand IDP, 2022) (See Fig. 22).

The climate in the region is southern western cape or mediterranean, this is defined by cold winter months and high rainfall; and high temperatures in summer with low rainfall.

[2]According to the Constitution of South Africa, the Local Government: Municipal Structures Act, 1998 (Act 117 of 1998) presents criteria for determining when a sub-nationally governed area must have a category A municipality (metropolitan municipalities) and when municipalities fall into categories B (local municipalities) or C (district municipalities). Source: *https://www.gov.za/about-government/government-system/local-government*

Figure 22. *Overstrand Local Municipality* *(Source: South African Demarcation Board. (2018). South African Demarcation Board Shapefiles [Local Municipalities]. https://www.demarcation.org.za)*

A significant feature of the Overstrand Municipal area is that it has a coastline extending from Rooiels in the west for approximately 230 km to Quinn Point in the east. The Kleinriviersberg Mountain Range is a large mountain range along the Walker Bay coastline and surrounds the main centre of the town of Hermanus, the area's primary urban centre. There is an estimated population of 110 856 people (annual estimated population growth of 2.8%) in the Overstrand Municipality with 30 075 households. This municipality has the highest population growth of all the municipalities in the Overberg district. The population density of the municipal area is 63.1 persons per square kilometer compared to 10 people per km^2 for Swellendam, and 38 people per km^2 in Theewaterskloof (Overstrand IDP, date and www.westerncape.gov.za/treasury/).

The land cover map for the Overstrand (Fig. 23) shows that the area has a large proportion of natural vegetation, large tracts of land under agriculture and a significant portion of alien vegetation. The Walker Bay Whale Sanctuary and the Walker Bay Marine Protected Area are important marine and coastal zones for the protection of coastal and marine biodiversity.

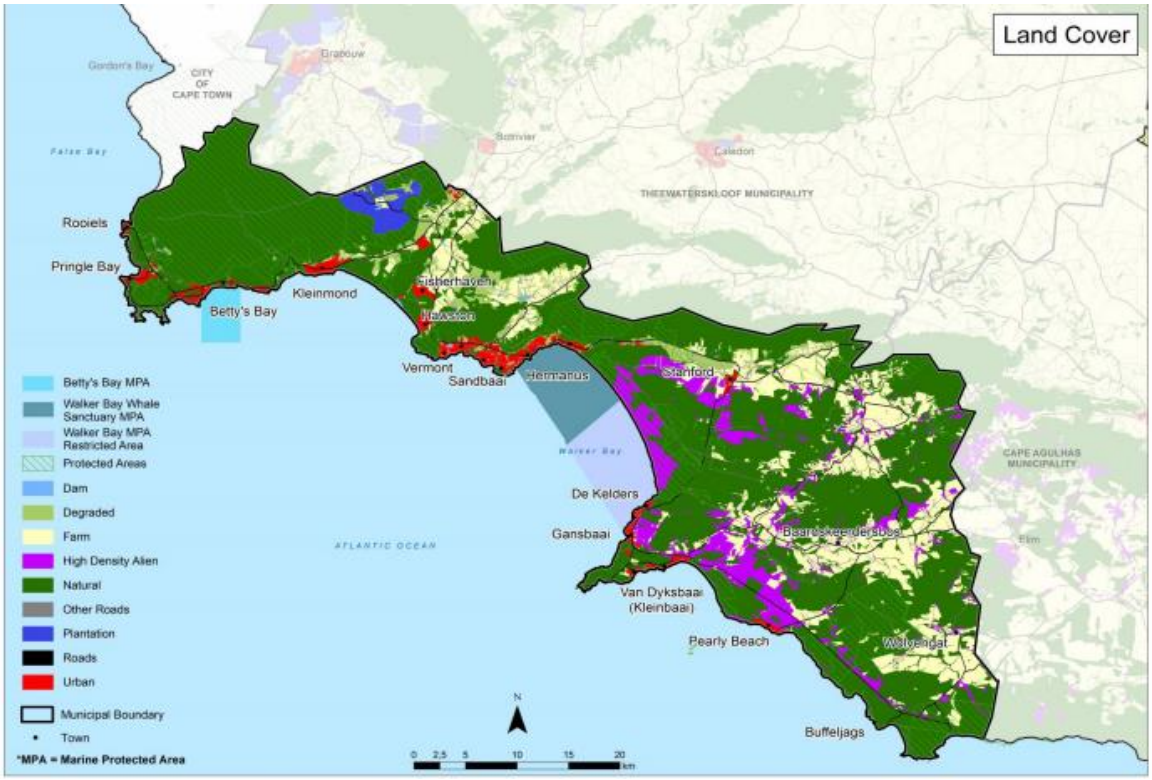

Figure 23. *Landcover classes of Overstrand Local Municipality* *Source: Department of Environmental Affairs (2020). South African Landcover 2020. https://egis.environment.gov.za/data_egis/data_download/current*

6.4.2. Socio - economic status

In 2019, the economy of the Overstrand municipal area was valued at R6.609 billion and it employed 36 600 people. Between 2015 and 2019, the Overstrand municipal area had an average annual economic growth rate of 0.8%. The growth in the economic sector has toned down in recent years and the primary sector (Agriculture, forestry & fishing, mining and quarrying) declined by 4.3% in the years 2015-2019, the secondary sector (Manufacturing, electricity, gas and water and construction) grew by 0.7% and the tertiary sector (Wholesale and retail trade, catering and accommodation, transport, storage and communication, finance, insurance, real estate and business services, general government and community, social and personal services) grew by 1.3%. In terms of the sector contributions the finance, insurance, real estate and business services contributed R1.557 billion, wholesale and retail trade, catering and accommodation contributed R1.333 billion and manufacturing contributed R1.023 billion. The aforementioned sectors were the main contributors to growth in the municipal area during that period.

In 2020, it was estimated that total employment in Overstrand was 34 009 workers of which 23 106 (67.9 per cent) were in the formal sector while 10 903 (32.1 per cent) were informally employed. The total formal employment in the municipal area consists of semi-skilled (46.8%) and low-skilled (31.5 per cent) workers. Although skilled labour only contributed 21.7% to total formal employment, it was the only category to experience positive average annual growth between the years 2016 and 2020. The category of skilled workers grew by 0.4% while the semi-skilled and low-skilled categories

respectively declined by 0.3% and 1.2%. The growth in the skilled category demonstrates the need in the market for skilled labour which implies the need to capacitate and empower the semi-skilled and the low-skilled workforce. Formal employment in the municipal area on average declined by 0.4 per cent between 2016 – 2020.

Overstrand had the highest unemployment rate in the entire Overberg District in 2020, at 16.2%. Although Overstrand's unemployment rate was higher than the District total (10.9%), it was still below the Provincial average of 18.9 per cent (Overstrand IDP, date and www.westerncape.gov.za/treasury/).

6.4.3. Biodiversity profile

The Overstrand consists of varied landscapes as a result of its rugged, varied topography and underlying geology. These landscapes and landforms create micro-climates that support a diversity of fynbos-dominated natural habitats, rivers and estuaries as well as productive marine and agricultural environments. The landscapes include, at a broad scale, sandy coastal plains, sandstone dominated mountain ranges, open valleys and a diversity of freshwater and coastal habitats.

The Kogelberg Biosphere Reserve is an important feature of the Overstrand landscape. The Kogelberg Biosphere Reserve was the first Biosphere Reserve to be declared in southern Africa and forms part of UNESCO's world-wide network of Biosphere Reserves. The Kogelberg Biosphere Reserve boasts 1 300 different plant species per 10 000 square kilometres - the highest diversity in the world for the criteria: number of species per unit area (https://www.capenature.co.za/biosphere-reserves).

The majority of agricultural crops in Overstrand are farms located in the valleys. Natural vegetative cover exceeds 65% of the total Overstrand land surface area. There are eighteen natural vegetation types of which six are classified as critically endangered, three as endangered, and two as vulnerable to extinction. As a result, the Overstrand has substantial areas under formal protection (See Fig. 24).

Overstrand's water and coastal habitats consists of rivers, streams, estuaries, wetlands, fine sand grain beaches, exposed rock headlands and water eroded rock platforms. The coastal features in the area include:

- Hangklip at Rooiels
- The mountainous Kogelberg Biosphere Reserve that is recognised as the heart of the Cape Floristic Kingdom,
- Fernkloof Nature Reserve
- The African Penguin Colony at Stony Point
- A number of nature reserves and marine protected areas such as the Walker Bay Whale Sanctuary Protected Marine Area

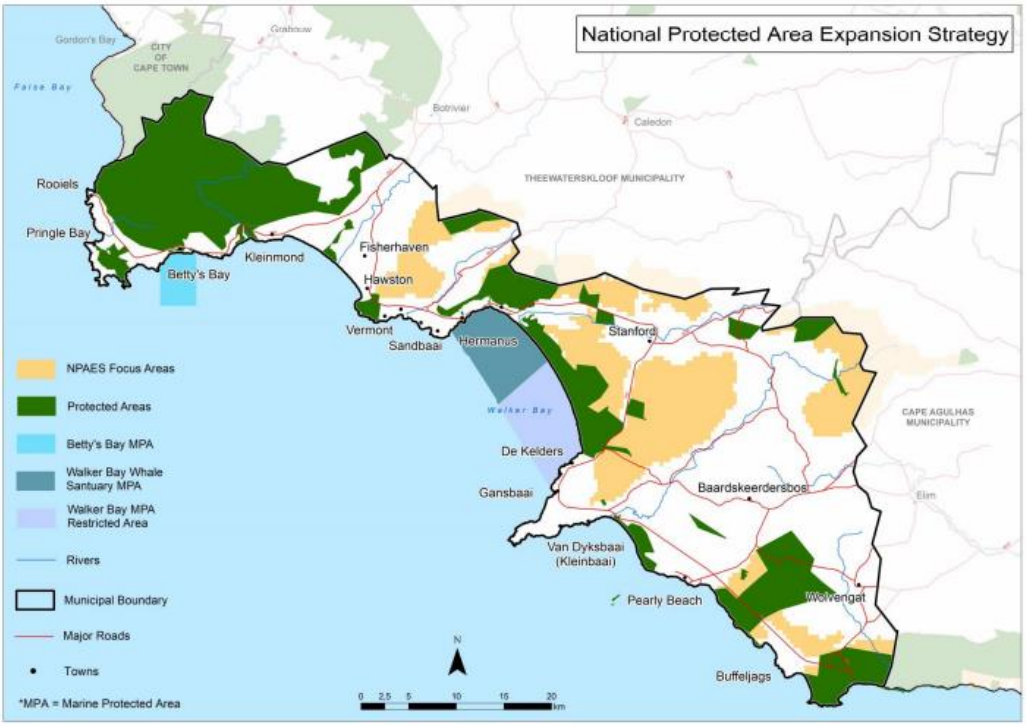

***Figure 24**. Protected areas in the Overstrand Municipality.* *Source: Overstrand Spatial Development Framework*

The Overstrand municipal area supports a diversity of natural habitats that include:

- A large network of important wetlands and river corridors, many of which have been identified by the South African National Biodiversity Institute (SANBI) as Freshwater Ecosystem Priority Areas (FEPAs) (Fig. 25).
- Numerous large and productive estuaries, which are of key importance in terms of ecological economic functions such as sustaining commercial marine fisheries, aquaculture and tourism.
- The above in addition functions as natural habitats for birds, especially water birds.
- The most extensive is the Kleinmond-Lamloch Botriver wetland system. This wetland is home to the critically endangered micro frog and the endangered Cape Platanna frog.
- There are two Ramsar sites in the Overstrand Municipal area, the Bot-Kleinmond Estuary system (declared in 2017) and the Deyer and Geyser Islands Provincial Nature Reserves (declared in 2019).
- A small but precious wetland area of 11 hectares is on the Hermanus Golf Course, commonly known as the Flat Street Wetland.
- The Mill Stream wetland system in Stanford provides breeding habitat for the Western Leopard Toads. (Interesting enough, until the mid - 90s Kleinmond was home to the largest population of Western Leopard Toads in SA)
- The Paddavlei in Hawston, unfortunately spoilt by contamination by waste water. The important birding areas associated with wetlands are the Botvlei area, Rooisand and the Lamloch swamps, the Klein River Estuary and associated wetlands on the coast just east of Hermanus as well as the Stanford wetlands and the river system.

The Overstrand has a high level of alien invasive plant infestations especially along river courses. This leads to the degradation of aquatic systems which then impacts on the water quality and quantity available in the region.

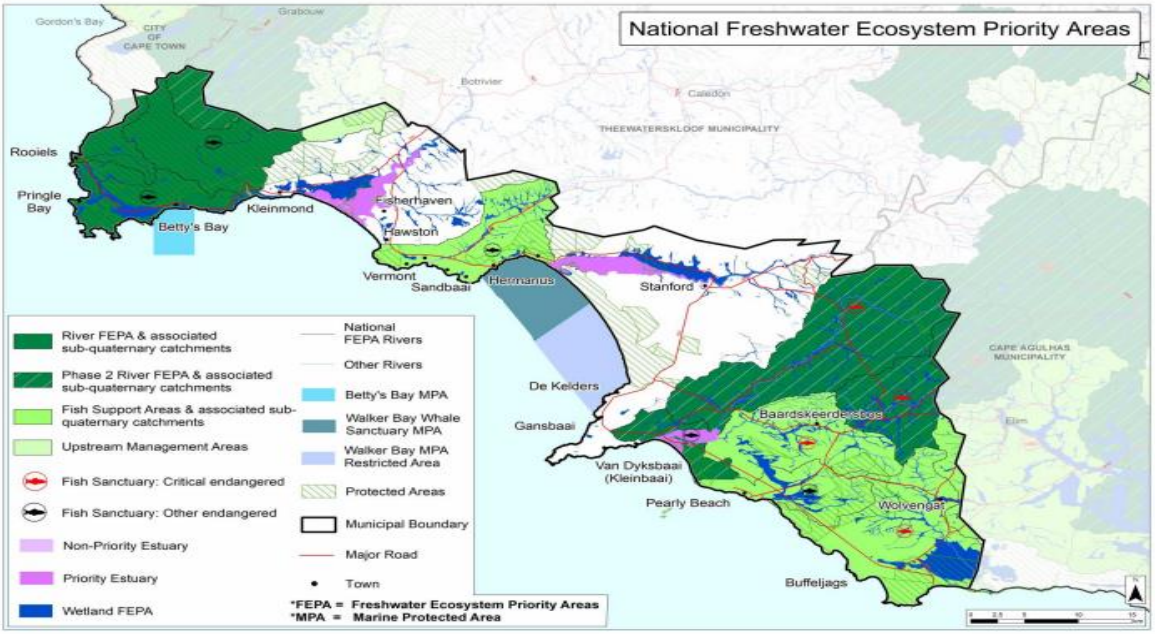

***Figure 25**. National Freshwater Ecosystem Priority Areas in Overstrand Local Municipality .* *Source: Overstrand Spatial Development Framework*

6.4.4. Local policy frameworks and legislation

Overstrand municipality strategies relevant to the INTERACT-Bio project:

- Air quality management plan
- Disaster Management Plan
- Plot clearing policy
- Economic Development
- Coastal Management Programme
- Estuary Management Plan
- Nature Reserve Plan (Fernkloof)
- Integrated Development Framework
- Integrated Development Plan
- Integrated Waste Management Plan
- Overstrand densification strategy
- Spatial Development Framework
- Water Services Development Plan

6.4.5. Overstrand stakeholder map

An initial stakeholder map was constructed in 2022 using key municipal documents, with a focus on using the Overstrand IDP. The preliminary stakeholder structure was then discussed in person with the Overstrand Environmental Management Services (EMS) Department. An updated structure was share electronically and edited again by the EMS (See Fig. 26 below).

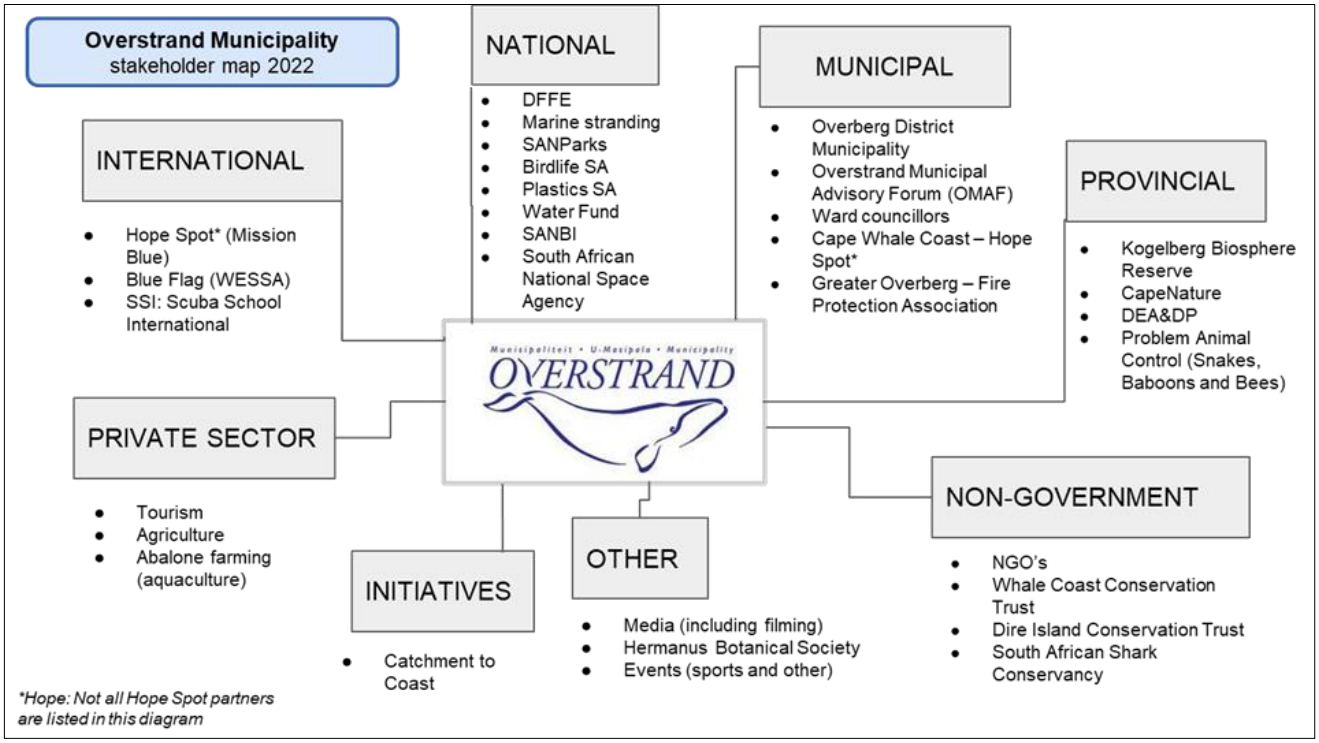

Figure 26. *Stakeholder map for Overstrand Local Municipality*

6.4.5.1. Specific environmental requests in the 2021/2 Overstrand IDP review:

- River front and 'wandelpad' (walkway/hike path) enhancement – Millstream (Stanford)
- CBD revitalization – i. Upgrade of Long Street area ii. Beautification of CBD entrance near taxi rank (Hermanus)
- Quite a few references to upgrading of streets
- Play grounds and maintenance of play parks (Zwelihle)
- Beautifying entrances to Sandbaai and open spaces (development)
- Restoration and upgrade of beach area including facilities and Connection of two beaches – road – easier to reach toilets and connection of VOS path as well as New toilet block at Western beach Sandbaai and Sport and recreational facilities along coastal path/beaches.
- Play parks (Hawston) and play park equipment (Gansbaai)
- Play grounds and maintenance of play parks (Zwelihle)
- Upgrading and maintenance of Play Parks and Open Spaces (Onrus and Vermont)

- Environmental management projects: - Projects to mitigate climate change; - Eradication of illegal alien vegetation; - Dune Management projects in Betty's Bay, Pringle Bay & Rooiels, including developing a retention pond/picnic area at Main Beach, Betty's Bay - Channeling of seasonal mountain stream in Overhills Informal Settlement - Baboon Management; - Upgrading of trails and footpaths and developing recreational facilities in nature reserves and commonages, as well as a coastal path in Betty's Bay; and Management of wetlands and estuaries and their tourism potential (Betty's Bay, Pringle Bay, Rooiels, Overhills)

A number of the development priorities in the IDP have been addressed through the 2021/2 Overstrand Municipal budget allocation.

7. INTERVENTION CONCEPTS

7.1. Intervention opportunities

7.1.1. Waterberg District Municipality

Biodiversity and Health

- Proper Planning and Implementation on Biodiversity beneficiation such as Bioprospecting
- Projects on pharmaceutical processing of indigenous plants
- Biodiversity Offsets (to be incorporated into urban planning and maybe considered as a financial avenue).
- Development of a Local Biodiversity Strategic Action Plan (LBSAP)

Water Resources Management - Development and Implementation of:

- Waterberg Catchment Management Plan
- LMs Water Use Management Plans

Waterberg Expectations – possibly points of intervention

1. Equitable Biodiversity Planning that will be in synergy and be coordinated both by Private and Public Sector.
2. Innovation and Funding of Biodiversity Projects that will create beneficiation and circulation of wealth within disadvantaged communities.
3. Advanced accredited capacitation and skills development in Biodiversity.
4. SMMEs development in Bioprospecting businesses.
5. Biodiversity Awareness Programs for diverse multi stakeholders such as; Traditional Authorities, Political Councillors, Communities and Schools.

7.1.2. uMkhanyakude District Municipality

Based on the initial scoping assessment and initial engagement with the Umkhanyakude District Municipality, some of the main priorities for the region are poverty alleviation and control of alien invasives. Based on discussions with the District, the following are possible interventions that could be explored:

- Natural asset map – develop a map that will spatially depict where biodiversity exists across the district and will guide biodiversity priorities for the municipality

- Ecological restoration – the removal and control of alien invasive plants across the district, to protect natural areas and ecosystem goods and service which a large portion of the population rely on
- Biodiversity economy opportunities – look at opportunities to create jobs or local economies to help alleviate poverty, whilst also sustainably managing natural resources and biodiversity

7.1.3. Cape Agulhas Local Municipality

1. Intervention concept 1: A suite of products that can be aligned with the CAM SDF. For the Cape Agulhas Municipality (CAM), many priorities pointed to a need to produce something that can be incorporated into the CAM Spatial Development Framework (SDF):

- For example, the CAM seems to need an LBSAP-type of product that lists biodiversity projects and initiatives so that the CAM can be aware and help coordinate. It should also include a spatial component to align with the SDF.
- Another SDF related issue is the need for housing. From an INTERACT-Bio perspective, the project can assist with incorporating/suggesting a way to incorporate green belts* and/or pocket parks/community gardens, also in informal settlements, where quality of life and waste are problems.
- There is a need to plan invasive alien clearing for the CAM but this is a big project. One option would be to start with an asset management approach, e.g. to identify key biodiversity and water conservation and fire prone areas and prioritise those for action/clearing (using a co-production approach, large-scale approach similar to the Thematic Atlas and to the CoJ Invasives Plan)

2. Intervention concept 2: Work with the business sector and finance experts and other stakeholders to learn about biodiversity finance mechanisms to reflect on the feasibility of an ecotourism plan for the Heuningberg NR with emphasis on job creation.

3. Intervention concept 3: Support the municipality in their application to become a Ramsar accredited wetland city. The CAM is an ideal candidate for Wetland City Accreditation. They have two Ramsar sites and a high reliance on groundwater and wetlands which is protected through the Nuwejaarsrivier project, but which needs additional support and profiling as well as water security concerns.

7.1.4. Overstrand Local Municipality

A dominant theme during scoping for the Overstrand was that despite a rich endowment of biodiversity resources and areas, such as the coast and the Kogelberg Biosphere Reserve, biodiversity in this municipality is seen as exclusive and inaccessible by many. The Municipality is also in need of open space development.

1. Intervention Concept 1: To create an Open Space Planning tool for the Municipality, consolidating current information, developing an Open Space vision* and overlaying biodiversity and development

planning spatial information, and incorporating Natural Capital Accounting. This approach is similar to the one used in the Dar Thematic Atlas. (Possibly include an implementation plan with a focus on involving the youth, as in the Kijani Pamoja program). One important aspect would be to integrate native/indigenous biodiversity and ecosystem services considerations into the open space site-level planning (maybe one or two sample sites for detailed planning, maybe one near a school), so that anyone using open spaces have access to the nature-based amenity but can also experience biodiversity elements at the same time. Also, to develop a site governance/care and maintenance plan. Another important aspect would be to develop a parallel suite of funding options,including natural capital accounting, ecotourism opportunities and building on the private and business sector participation as in the Hope Spot model.

2. Intervention concept 2: Use the layers in (1) to develop an illustrated map for awareness/outreach at the level of primary and secondary schools and to market access to green open spaces to the youth.

3. Intervention concept 3: Support the municipality in their application to become a Ramsar accredited wetland city. With the Kogelberg Biosphere Reserve and effective protection and wise use of significant rivers, wetlands and estuaries, together with a high level of integration into urban planning, plus outreach, the Overstrand municipality is a strong candidate for application. International Ramsar Wetland City status is a national and local pride-of-place and good governance badge for wetlands and as a result, may unlock future resourcing opportunities.

**Note: for both CAM and the Overstrand there seems to be a perceived big difference between wild biodiversity which appears to be inaccessible to most residents (too far and/or expensive and a hands-off attitude by some) and a lack of quality man-made landscapes close to/within residential areas.*

8. References

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