

17. CONSERVATION PLANNING

17.1 Provincial Conservation Planning

SANBI's vegetation types forms the basis for conservation planning of the country's ecosystem types. These vegetation types supersede all previous efforts of national and provincial vegetation classification and should therefore form the basis of the conservation planning exercise for the EMF. However, the vegetation types of the study area have been described at a finer scale that is more appropriate for planning in the EMF. The relationship between the fine-scale units and the national vegetation descriptions were indicated in Section 10 of this report.

The provincial conservation authority (Ezemvelo KZN Wildlife) upholds additional vegetation types in the Province and, through their Conservation Plan (C-Plan) they determine the importance of an area on the basis of 'irreplaceability'. This is entirely dependent on the determination and adoption of conservation targets for each element of biodiversity. The KwaZulu-Natal C-Plan is currently under review (mainly due to SANBI's updated classification) and is not yet available for use in this study. Ezemvelo KZN Wildlife has subsequently indicated that they prefer the fine-scaled vegetation description and statistics as used in Section 10 for the purpose of the EMF. They have also indicated that the updated C-Plan would be made available in due course for inclusion in the EMF.

17.2 Local Conservation Planning

The City of uMhlathuze recognises the value of the municipal area as a biogeographical corridor that supports biodiversity of national significance. Similarly they have realised the potential for tourism and the critical environmental services that need to be managed for sustaining its people. The city has taken several steps over recent years to integrate biodiversity considerations into spatial development planning and to mainstream the environment with development plans, programmes and land use controls. They do however acknowledge the challenging task of encouraging development while protecting and/or utilizing the remaining natural assets of the area in a sustainable manner¹.

Figure 54 depicts conservation planning initiatives in the study area. The Nseleni Nature Reserve lies outside the study area. The Richards Bay Sanctuary is a protected water area but is under increasing pressure from poachers and squatters, as well as illegal gill-netting from rural populations. Ezemvelo KZN Wildlife aims to establish an ecological corridor between these two formal nature reserves.

¹ Jordan T (2006) *Integrating biodiversity concerns into spatial planning – case study of the City of uMhlathuze, Richards Bay*. ICLEI World Congress 2006 for cities and local governments.

The City of uMhlathuze has further proposed a biosphere reserve² over the municipal area, consisting of core, buffer and transition areas. The purpose of the biosphere concept is:

- To facilitate the establishment of a network of protected nature areas and the linking of such areas through appropriate ecological corridors;
- To provide a planning and implementation framework for their socio-economic development and conservation programme; and
- To give effect and promote the extension of the City's Open Space System.

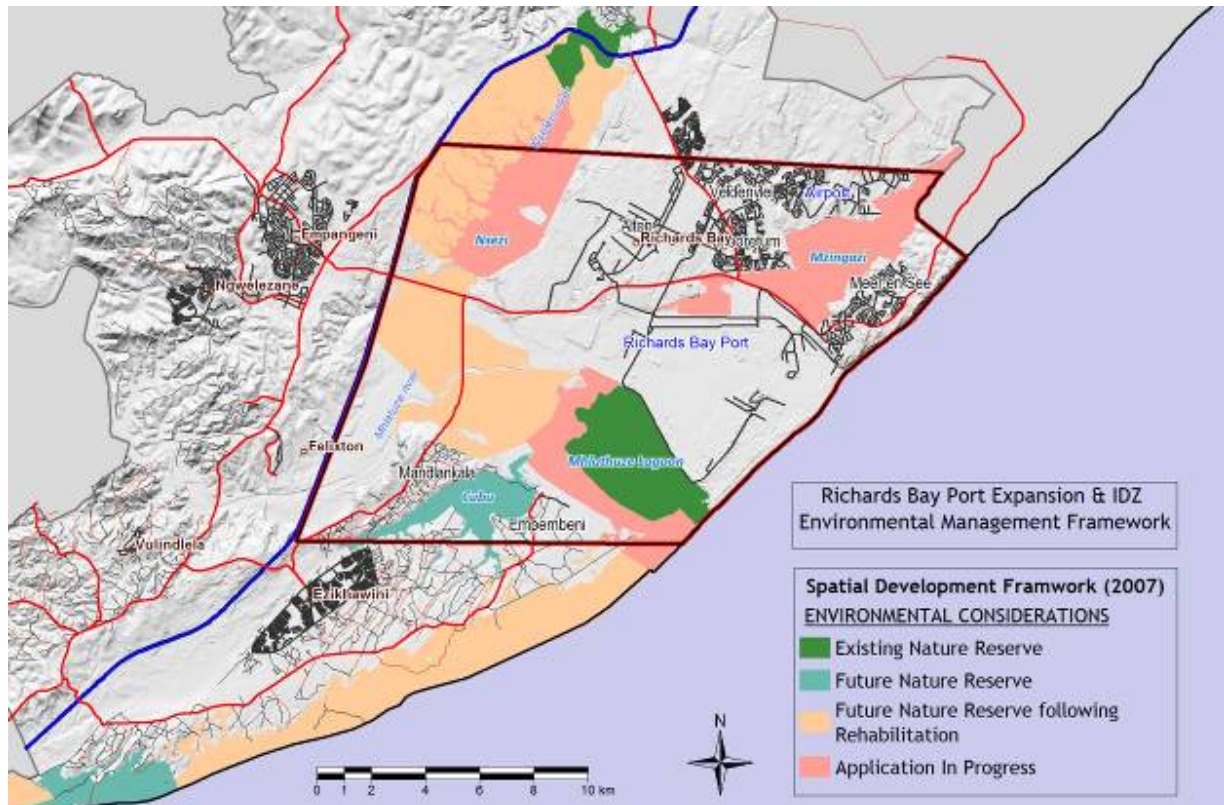


Figure 1: Existing and proposed nature reserves

The City's approach to open space planning goes beyond identifying the open space "footprint". They have further adopted an environmental assets and services approach³ making use of river catchments as spatial planning units to inform local and regional development planning. Eight catchments were analyzed in terms of an environmental asset design concept and three environmental service supply and management zones have been identified:

- Conservation zone;

² Dennis Moss Partnership (2005) *Biosphere Reserve Feasibility Study for the City of uMhlathuze: Towards the establishment of a UNESCO Biosphere Reserve over the City of uMhlathuze*. Report version June 2005 (First Draft).

³ uMhlathuze Municipality (2007) *uMhlathuze Environmental Services Management Plan*. Updated report from the original 2005 Plan, prepared by FutureWorks and dated December 2007

- Open Space Linkages Zones; and
- Development Zone.

The outcome of this planning approach informs the land use management scheme and is used on a day-to-day basis to inform development applications.

Other local conservation planning initiatives include areas of conservation significance identified by Transnet. An area that lies to the east of the south pier which includes Spinach point has been identified as a conservation area and is in the process of being registered with the Department of Environmental Affairs and Tourism as a South African Natural Heritage Site. This 'green area' is currently being used as a buffer zone between development and the natural marine environment. The fauna and flora of this area is of high conservation value and is a natural asset to the Port⁴.

⁴ CSIR (2005) *Strategic Environmental Assessment: Port of Richards Bay, State of the Environment Summary Report*. CSIR Report No. ENV-D-C 2005-013, Durban, South Africa.

18. LAND USE PLANNING

The previous sections of the report discussed the use of land in the study area and gave an indication of the general direction in which the use of land is expected to move into the future. These patterns represent the pressures that are exerted on the area's natural resources and ecosystems and they cause environmental change, sometimes with undesirable consequences. The current socio-economic landscape in the study area gives a further indication of the human-nature interface and the extent to which development pressure are expected to increase. It is clear that the demand for land and resources are growing. There is also evidence of resource limits. The City of uMhlathuze is therefore faced with an enormous challenge of trying to meet human needs while staying within ecological limits. The following phases of the EMF will take a closer look at future development plans in respect of the Port expansion and the IDZ in order to create a sense of future development scenarios in the study area.

18.1 The harbour extension plans

The proposed harbour extension plans have been addressed under section 18 of this report. These plans have the potential to negatively affect hydrological systems and sensitive ecosystems. The comprehensive Due Diligence Investigations are in the process of finalization and the final documentation will be released at the end of November 2009. To date these plans have changed considerably. A more detailed account of the harbour extension plans will be summarised for the purpose of the EMF once the information is released.

18.2 Industrial development

The slow implementation of the IDZ has also been ascribed to other factors such as slow progress in finalizing the management arrangements as required by the relevant legislation. Recent organizational developments indicate that the IDZ's business and infrastructural plans are being concluded and a land use plan and priority sectors have been identified for the various IDZ phases (**Table 18**)⁵.

⁵ Information obtained from a presentation outline presented to the uThungulu Growth and Development Summit held on 5 November 2009.

Table 1: IDZ Land Use Plan and Priority Sectors

IDZ PHASES	INITIALLY PROCLAIMED LAND (ha)	REMAINING OR AVAILABLE LAND (ha)	LAND USE/SECTOR
1A	95	95	Light manufacturing (clean industries)
1B	57	11	Beneficiation of mineral resources & raw materials
1C	37	37	Chemical related
1D	142	81	Timber & Forestry
1E	43	0	Not developable – wetlands
1F	176	121	Medium & heavy industries.
Total	550	345	

18.3 Business development with a focus on tourism

In line with the economic characteristics noted above “The city should have a well diversified economic structure (Coetzee, 2009)” and the City’s Vision “*The City of Umhlatuze, as a port city will offer improved quality of life for all its citizens through sustainable development. It will be a renowned centre for Trade, Tourism and Nature-lovers, Coastal Recreation, Commerce, Industry, Forestry and Agriculture*”, the municipality has embraced this objective by initiating the development of a Tourism Strategy and Policy document, to increase tourism in the area.

The beaches are significant tourism assets for the municipality attracting an annual beach festival (Alkantstrand), and providing a seasonal holiday destination and ongoing recreational amenity. The importance of protecting the beaches, to minimise significant shoreline changes has been identified in the Beach Erosion Study recently undertaken by Aurecon. The coastal area 1600m north of the northern breakwater has been recommended for rehabilitation and development. A second area 6km north of the northern breakwater from Five Mile Beach to the Municipal boundary has also been identified.

Other tourism assets worthy of preservation and of recreational significance include:

- The area’s lakes and indigenous forests
- Conservation areas such as the Southern Mzingazi Nature Area, the
- Sanctuary, the Richards Bay game reserve and the coastal dune zone

The proposed development of a marina and waterfront facilities in the sheltered bay and at Pelican Island, with a view turning the bayside area into a vibrant tourist playground will require consideration in the identification of environmental assets requiring protection.

18.4 Residential and related development

There is a housing shortage across all the income categories in the City of uMhlathuze⁶. There is also insufficient land within the existing urban footprint to accommodate the housing demand due to City growth. Limitations such as private land ownership, lack of suitable infrastructure and environmental considerations (e.g. wetlands and geotechnical constraints) influence the demand. As the demand is expected to grow the Municipality is looking at densification options⁷.

⁶ uMhlathuze Municipality (2005) *Housing Needs Assessment*. Report prepared by Helgaard Botha Associated: Property Development Consultants and dated August 2005.

⁷ uMhlathuze Municipality (2007) *Addendum to the Spatial Development Framework*. Report produced by Brenda Strachan, Inhloso Planning and dated 31 July 2007.

19. PUBLIC AND STAKEHOLDER PARTICIPATION PROCESS

An EMF brings out new possibilities for the general public to participate in the production of facts, values and visions about the landscape.

19.1 Background Information Document

A Background Information Document (BID) was prepared and distributed to all stakeholders on the project database, including members of the public, the municipality, national and provincial government departments, relevant departments within the local and district municipality and key industry representatives of the area. The purpose of the BID was to inform stakeholders of the project.

Meetings with Transnet National Ports Authority

A meeting with Transnet National Ports Authority (TNPA) was arranged early in the project. Regular interaction takes place between the project team and Transnet Ports Authority as well as the Due Diligence Investigations team. Key issues that were raised to date include:

- The need for port expansion is driven by national imperatives and the projected increase of containers.
- There is a need to consider land available for industrial development to support port activities
- The availability of land to accommodate port expansion.
- The feasibility of off-set development.

Meetings with uMhlatuze City Officials

Regular interaction takes place between the project team and City officials. A record of meetings is available. The following issues:

- Concern about the rationale for the small study area.
- Concerns about the availability of land for residential expansion.
- Uncertainty in respect of the future of the IDZ.
- Water availability for further expansions

19.4 Public meetings

Interested and affected parties were invited⁸ to attend a Public meeting on 16 September 2009. The purpose of the meeting was to introduce and inform the public about the project. A participatory GIS approach was introduced at this meeting whereby the public were invited to locate their contributions on a map (**Figure 55**). A record of the meeting is available. Procedural questions and matters of process and application of the EMF dominated the meeting. Key issues that were raised include:

⁸ The public meeting was advertised in local and regional newspapers in both English and isiZulu on 4 September 2009.

- Concern that the small study boundary is unable to respond to the nature of ecological systems, i.e. it cuts major wetland into half.
- Concern that the EMF may be biased towards certain types of development because of the study area size.
- A formal appeal to expand the study area to include the whole of the municipality.

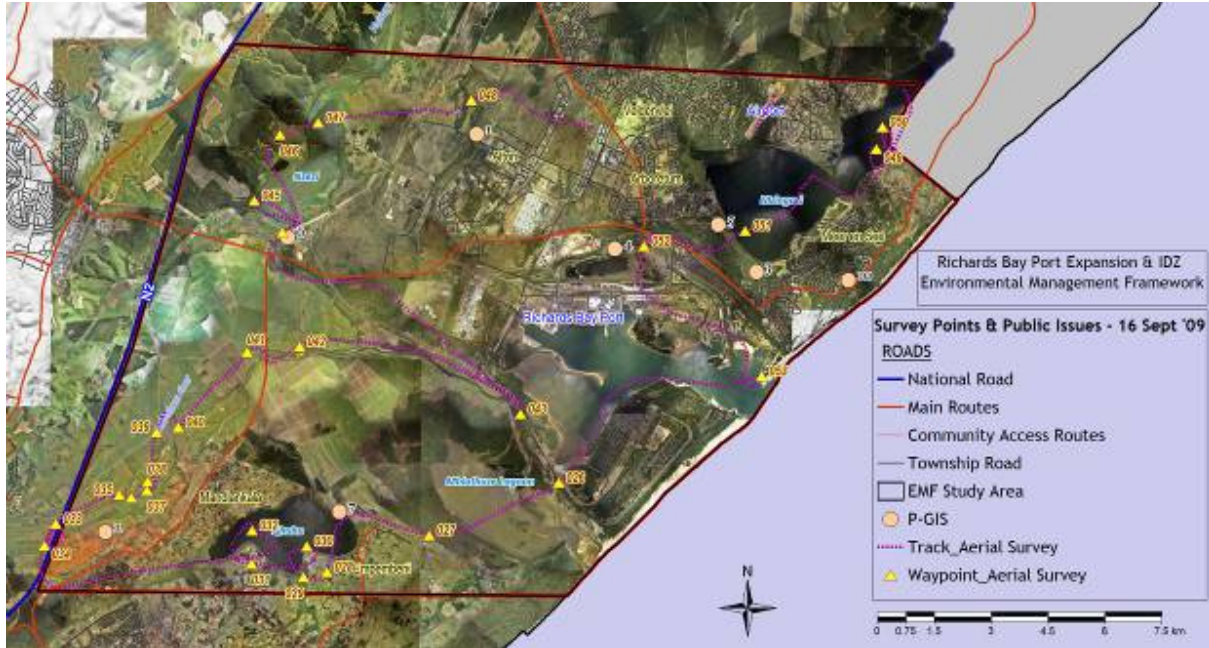


Figure 2: Participatory map-making at a public meeting

20. OPPORTUNITIES IDENTIFIED TO DATE

The project will soon start to *combine* the baseline assessment datasets to create new ones. This will identify the opportunities for development in the area. Opportunities as perceived by various stakeholders in the area are reflected briefly discussed.

20.1 Conservation

The study area has a unique landscape being at the southern section of the East African Coastal Plain where it forms a transition zone that is characterised by unique ecological systems and biodiversity features. The nature of this diversity offers opportunities for conservation. These opportunities must be seen within the context of the area's greater significance and contribution to the global reservoir of biodiversity. Significant potential areas have been identified that are suitable for the expansion of protected areas.

20.2 Agriculture

High potential agricultural land contributes to provincial food security priorities and objectives. The proposed rehabilitation of land at the Hillendale Mine for future agricultural use will support provincial priorities. There are also opportunities to support subsistence farming in the southern parts of the study area.

20.3 Tourism

The natural resource base and diversity in scenery offers significant tourism potential in the area. The potential to develop linkages with the Hluhluwe-uMfolozi Park and the iSimangaliso Wetland Park exist. There are opportunities to expand the current "Avitourism" potential.

20.4 Mining

The presence of mineral resources in the coastal dunes of the area offers opportunities for local economic development and job creation in the Esikhawini area where unemployment levels are high. It also supports the promotion of industrial development in the area. Rehabilitation success stories in the RBM mines is an added advantaged.

20.5 Industry and Commerce

There are opportunities to expand the industrial development zone due to inter alia its strategic location, access to raw materials and markets, the presence of world-class infrastructure and incentives to increase competitiveness. Value-adding, packaging and storage facilitates are opportunities to be further explore. An over supply of commercially zoned land offers further opportunities to advance business in Richards Bay.

20.6 Port Expansion

The location and characteristics of the existing Richards Bay Port and Harbour creates huge opportunities for expansion to support the National Container Strategy. The floodplain of the study area can accommodate port expansion. However, there are sensitive environmental features that create constraints.

20.7 Sustainable Livelihoods

The wealth of natural resources in the study area has the potential to support social development. There are a number of existing initiatives that support sustainable livelihoods in the area that could be strengthened. Large industries could play a key role through their Corporate Social Investment Initiatives.

21. CONSTRAINTS IDENTIFIED TO DATE

22.1 Sensitive environments

It is evident from the baseline situation reflected in this report that the study area comprises a number of sensitive environments. The geographical location and topographic nature of the study area makes it inherently vulnerable to change. A longer term perspective that considers the potential impacts of climate change increases the risk of development on the Mhlathuze floodplain. An interim assessment of the hydrological and geotechnical attributes (**Figure 51**) allows the team to reflect strategic development constraints.

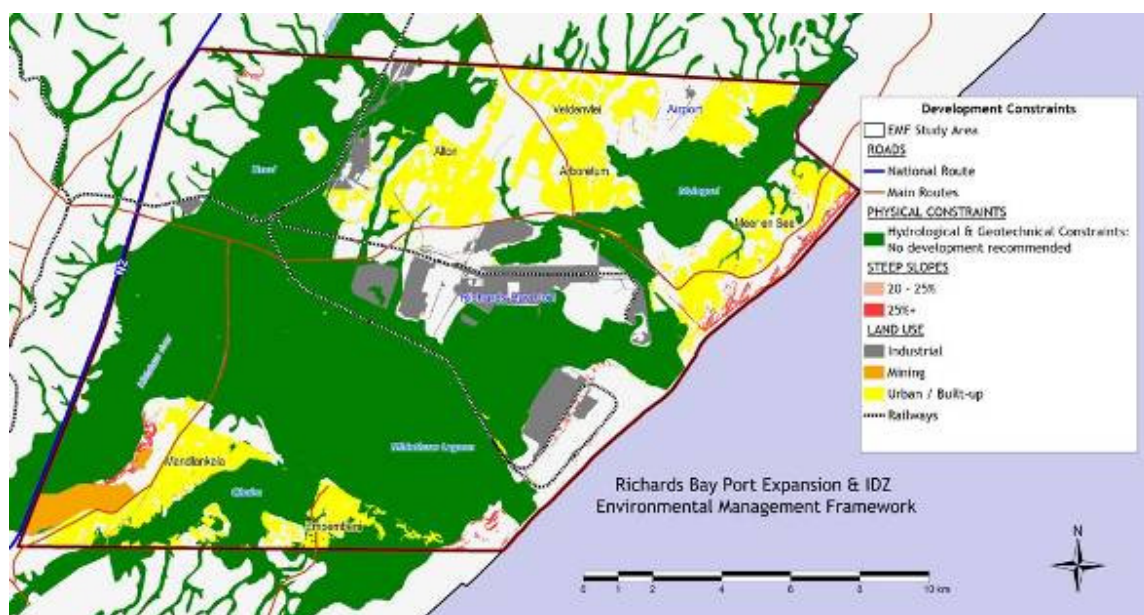


Figure 3: Development constraints (Hydrological & Geotechnical Constraints)

22.2 Air Quality

Air Quality capacity in Richards Bay has been reached and it is unlikely that the situation will change in the foreseeable future. If the air quality limits are exceeded it will add to the growing concern about the incidence of respiratory diseases.

22.3 Industrial Development

The designated IDZ area falls within an area of various development constraints. The existing air quality situation is probably the most significant constraint for industrial development in this area. There is a potential land use conflict in the strategic direction proposed by the Minister of Trade and Industry through the existing IDZ designation. **Table 19** below summarises the current land use and constraints of the various phases of the IDZ.

Table 2: Constraints and Current Land Use Status in the IDZ

IDZ PHASE	CONSTRAINTS IDENTIFIED TO DATE	STATUS
1A	<ul style="list-style-type: none"> • Air quality constraints • Partial geotechnical constraints. • Partial hydrological constraints. 	<ul style="list-style-type: none"> • Current land use: open space & proposed township lay-out
B	<ul style="list-style-type: none"> • Air quality constraints • Partial geotechnical constraints. • Partial hydrological constraints (scattered wetlands) 	<ul style="list-style-type: none"> • Open space
C	<ul style="list-style-type: none"> • Air quality constraints • Partial geotechnical constraints • Partial hydrological (wetland) constraints. 	<ul style="list-style-type: none"> • Current land use: open space & proposed township lay-out
D	<ul style="list-style-type: none"> • Geotechnical and hydrological constraints 	<ul style="list-style-type: none"> • Open space • Proposed rehabilitation plan
E	<ul style="list-style-type: none"> • Air quality constraints • Largely hydrological concerns (Thulazihleka Pan and wetlands) • Geotechnical constraints 	<ul style="list-style-type: none"> • Not proclaimed as part of the IDZ • Open space
F	<ul style="list-style-type: none"> • Air quality constraints • Partial geotechnical constraints. • Partial hydrological constraints. 	<ul style="list-style-type: none"> • Approved township layout: heavy industries • Tata Steel

22.4 Port Development and Expansion

The location of the port and the potential expansion area falls within an area of high conservation value, rare habitats and key hydrological features. These area and the features they contain are sensitive to development.

22.5 Tourism

There is a potential conflict in promoting uMhlatuze as a tourism and industrial investment destination due to visual and nuisance industrial factors.

22.6 Human Vulnerability

The inherent sensitivity of the study area is a factor that may influence the vulnerability of poor people under future conditions of change. High flood risk, weak infrastructure, lack of waste services and pollution are placing constraints on poor communities. Any decrease in access to resources will increase their vulnerability. Industrial development that is capital intensive does not promote pro-poor development.

23. DESIRED STATE OF ENVIRONMENT

23.1 Expectations, opportunities, constraints and potential conflicts

There are divergent expectations (desired state) which represent a deviation between the “what is” vs the “what should be”. The task of the EMF is to close the gap between the current state and the desired state and to provide strategic guidelines to transform the current state into a desired one that represents a sustainable state. These expectations will be further assessed in the next phase of the project to identify the best possible way of overcoming the obstacles presented.

24. STRATEGIC ENVIRONMENTAL PLANNING

The focus of the SEMP part of the EMF will be on the management of the opportunities and constraints. This will for example include:

- Rules of the game based on identified principles and legal obligations;
- Guidelines for the allocation of resources;
- Guidelines to ensure that strategic potential is not lost; and
- An allocation of responsibility and accountability for implementation to specific organisations.