Appendix

Template for Submission of Scientific Information

to Describe Ecologically or Biologically Significant Marine Areas

*Note: Please **DO NOT** embed tables, graphs, figures, photos, or other artwork within the text manuscript, but please send these as separate files. Captions for figures should be included at the end of the text file, however.*

Title/Name of the area: Mnazi Bay – Ruvuma Estuary Marine Park (MBREMP)

Presented by (*names, affiliations, title, contact details):*

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Abstract (*in less than 150 words)*

The Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP) is located in the Mtwara Rural District of the Mtwara Region, between $10^0$34'46"S $40^0$16'13" E and $10^0$34'25"S $10^0$16'02" and 10^0 07' 29"S $40^0$28' 10"E and $10^0$09'28"S $40^0$13'56"E. The Park covers approximately 650 km^2 (162,500 acres or 65,000 hectares) of which 220 km^2 is terrestrial and 430 km^2 is aquatic. Mnazi Bay Ruvuma Estuary Marine Park (MBREMP) comprises marine, coastal and terrestrial habitats. The variety of ecosystems that exist in the park supports a great diversity of life. The mangrove forests along the Ruvuma Estuary serve as reproductive and nursery grounds for many finfish and crustaceans. Seagrass beds likewise constitute an important feeding ground for a number of marine species. Biological surveys have found over 250 species of hard coral, 400 species of fish, and 100 species of echinoderms within the Park's reefs. The marine and coastal plants and animals found within the Park are there because of the climate, the physical features, the influences of the Indian Ocean, and the overall integrity of the combination of habitats. Overdependence of local community on coastal and marine resources, lack of enough funding to support conservation efforts and climate change are among the challenges encountered by the park in the day to day management.

1.0 Introduction

(To include: feature type(s) presented, geographic description, depth range, oceanography, general information data reported, availability of models)

Mnazi Bay Ruvuma Estuary Marine Park (MBREMP) comprises marine, coastal and terrestrial habitats. MBREMP has a total area of 650km^2, 430km^2 being aquatic with three small Islands (Namponda, Membelwa/ Mmongo and Kisiwa kidogo) and remaining 220km^2 is terrestrial. Main features within the Park include Msimbati Channel, Mnazi Bay, Ruvula Peninsula and Ruvuma Estuary. The largest tracts of mangrove forests in the park are in the Ruvuma Delta. While Mnazi Bay, Msimbati Channel, and Ruvula Peninsula containing productive coral reefs and seagrass beds. The sand dunes north of the estuary represent a rare ecosystem to the entire East African seaboard, with plant species not found elsewhere in Africa.

The varied ecosystems of the Park support a great diversity of marine life. The mangrove forests (nursery grounds for many fish and crustacean species), Seagrass beds (feeding ground for a number of marine species) and diverse coral reefs with approximately 250 species of hard coral, 400 species of fish, and 100 species of echinoderms, Obura D. (2004). The overall integrity of the combination of habitats, climate, the physical features has resulted to the uniqueness of the marine and coastal plants and animals found within the Park.

1.1. Physical Features

1.1.1. Geology and Topography

The geology of the Park is primarily sedimentary deposits from the Jurassic and Lower Cretaceous periods (approximately 150 million years ago). Within one hundred kilometres of the coast rise the slopes of the Makonde Plateau, over 500 metres above sea level. The Makonde Plateau extends into Mozambique but is bisected by the Ruvuma River, draining Lake Nyasa, as well as a large part of northwest Mozambique through the river's largest tributary, the Lugenda River.

Evidence of previous sedimentation can be seen in the western part of Mnazi Bay, where the cliffs near Mnete show eroded sedimentary layers. The southern portion of the Park, around the headland of Msimbati provides a rare example of sand dunes in Tanzania, probably accumulated over hundreds of thousands of years. The vegetation associated with these 10-15 metre high dunes includes plants that may not occur elsewhere in the East African region.

The edge of a rocky limestone platform extends, in two sections, for about 25 kilometres along the outer perimeter of the Park from Ras Msangamkuu in the north to the Ruvuma Estuary at the Mozambique border, bisected by Msimbati Channel. This feature was produced by past coral reef growth, mainly during the Pleistocene epoch (within the last million years), which has since been uplifted. The shorter, southern portion of the ledge runs from east of Msimbati Village, through Lijombe lagoon, to Ras Ruvula. The northern platform extends 20 kilometres, from Namponda Island on the north side of Msimbati Channel to Ras Msangamkuu, including Membelwa Island.

The geophysical configuration of Msimbati Channel and southeast Mnazi Bay is unique in Tanzania. A deep channel runs from open ocean into a large, sheltered bay, with coral patch reefs found along the channel up to 30 metres deep. The southern side of the channel extends for almost five kilometres of patchy coral growth backing onto the sandy beaches of Ruvula.

1.1.2. Oceanography

1.1.2.1. Currents

Three ocean currents – the South Equatorial Current (SEC), East Africa Coastal Current (EACC), and Equatorial Counter Current (ECC) – influence the coastal waters of the MBREMP. Starting in Australia and flowing across the Indian Ocean, the SEC meets the coastline of Africa approximately at the border of Mozambique and Tanzania, at the heart of MBREMP. When the SEC meets the shores of southern Tanzania and northern Mozambique the current divides, with the large portion turning northwards to become the East Africa Coastal Current, and the smaller southern flow forming the Mozambique Current (MC). The north-flowing EACC is a steady current, strongest during the Southern Monsoon when windy conditions can form surface currents that exceed three metres per second. Depending on the strength of the Northeast Monsoon, the EACC can reverse direction, flowing south and offshore as ECC.

These ocean currents are important to the Park, particularly, the SEC, because they enrich the waters of MBREMP. Within the waters of the SEC are the eggs and juvenile stages of thousands of marine animals and plants that are produced among the mangroves, seagrass beds, rocky shores and coral reefs of Indonesia and Australia. Southern Tanzania and northern Mozambique are the first arrival points in Africa for these drifting species and MBREMP is therefore strategically located and very important for the settlement and subsequent dispersal of marine organisms both north and south along the East African coast. MBREMP's location at this arrival point of the SEC is likely the source of the Park's rich marine biodiversity.

1.1.2.2. Tides

In most of Tanzania, including the MBREMP, the maximum tidal range is about 4.5 metres, occurring during spring tides (around the new and full moon). During the low water of spring tides, over 70 km^2 of sand and seagrass beds in Mnazi Bay are exposed. Seawater visibility becomes exceptionally clear at these times.

During spring high tides, seawater enters Mnazi, Mtwara, and Mikindani bays and covers about 80 km^2 of intertidal areas. The 50-metre deep Msimbati Channel is the most prominent of these three channels. The tide flow eastwards, and when the tide is over half way up seawater floods over the eastern reef platform of Mnazi Bay, along Membelwa and Namponda Islands. At its highest speed, seawater flows through the Msimbati Channel at four metres per second.

1.2. Climate

1.2.1. Weather

The southern coast of Tanzania has a tropical climate influenced by the seasonally changing monsoon winds of the Indian Ocean. Two distinct monsoon periods occur, the Northeast Monsoon (*Kasikazi*), which prevails November and March, and the Southeast Monsoon, which blows from April to August (*Kusi*). In between the changing monsoons, an intermediate easterly wind prevails (*Matlai*). The Northeast Monsoon usually brings calm weather, while the Southeast Monsoon is usually windy with cool temperatures and rough seas.

1.2.2. Temperature and Cyclones

The Northeast Monsoon is normally associated with high air temperatures (28-32ºC), high surface water temperatures (up to 31ºC), and few rain showers. Winds are moderate to strong. Beginning in June, in the midst of the Southeast Monsoon, the climate is cooler and drier and the wind blows consistently stronger than any other part of the year. Cyclones in this part of the Indian Ocean occur between January and March, mainly in Madagascar and the Comoros Islands. Fortunately, during the cyclone season the people of the Mtwara Region rarely experience any impact other than occasional days of strong winds.

1.2.3. Rainfall and Sediments

Rainfall is generally low, usually between 500 and 1,000 millimetres per year, with most precipitation falling over a short period from April to May. The Ruvuma River is the largest source of freshwater in the Park. During the wet season, the river floods across the narrow causeway linking Msimbati Peninsula to the mainland. For the rest of the year, there is only one small river near Mnazi village and some seasonal streams draining upland areas to the west.

Prolonged rainfall during the wet season swells the volume and strength of the Ruvuma River and its tributaries, increasing erosion and washing sediment into the river and then into the sea. When the Ruvuma River meets seawater, the sediment-laden outflow spreads north, along Msimbati Peninsula. The smaller Mnazi River also carries heavy sediment loads during the wet season into the southeast portion of Mnazi Bay. While the sediment increases the productivity of the Park's mangrove forests, seagrass beds, and plankton communities, excess sedimentation can damage reef habitat by hindering coral photosynthesis. Natural erosion rates are magnified by poor agricultural practices in the Ruvuma River basin.

2.0. Location

(Indicate the geographic location of the area/feature. This should include a location map. It should state if the area is within or outside national jurisdiction, or straddling both. It should also state if the area is wholly or partly in an area that is subject to a submission to the Commission on the Limits of the Continental Shelf)

The Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP) is located in the Mtwara Rural District of the Mtwara Region, between 10^0 34' 46"S 40^0 16' 13" E and 10^0 34' 25"S 10^0 16' 02" and 10^0 07' 29"S 40^0 28' 10"E and 10^0 09' 28"S 40^0 13' 56"E. Mtwara Rural is the southernmost coastal District in Tanzania. The Park covers approximately 650 km^2 (162,500 acres or 65,000 hectares) of which 220 km^2 is terrestrial land and 430 km^2 is marine area. Beginning in the north, the Park extends south from the head lands at Ras Msangamkuu along 45 km coastline to the Ruvuma River, which serves as the border with Mozambique, and then inland along the river to Mahurunga Village.

3.0. Feature description of the proposed area

(This should include information about the characteristics of the feature to be proposed, e.g. in terms of physical description (water column feature, benthic feature, or both), biological communities, role in ecosystem function, and then refer to the data/information that is available to support the proposal and whether models are available in the absence of data. This needs to be supported where possible with maps, models, reference to analysis, or the level of research in the area)

3.1. Bathymetry

Mnazi Bay encompasses about 70 square kilometres. The depth, or bathymetry, of the bay averages less than 25 metres deep, with the northern portion generally shallower, where the substrate is predominantly sand. Towards the southern end, a distinctive line of three coralline patch reefs of between 400-1,000 metres in width extend for six kilometres from the south eastern portion of the bay towards Namponda Island.

The patch reef closest to Namponda is called Chamba cha Lusale, and is irregularly shaped, about a thousand metres wide, with reef slopes extending 25 metres to the sandy bottom. The other two patch reefs, Chamba cha Chumbo and Ilili, have rocky coral outcrops exposed during extreme low tides, and run to a depth of nine to sixteen metres. Numerous small coral patch reefs are scattered in the shallower waters (five to nine metres deep) amongst these larger reefs. One of the most distinctive and probably the largest of these smaller patch reefs is Matenga, near the existing gas well off of Ruvula Peninsula. The water in the shallow southern part of Mnazi Bay is generally more turbid than other parts of the Bay, due to inputs from three small mangrove creeks (Mnazi, Kilindi and Mlamba) and the muddy surrounding intertidal area.

3.2. Coastal Forests and Shrubs

Coastal forests constitute an important fresh water catchment for the Park environment. These forests occur as small patches ranging from two to six hundred hectares. These coastal forests are remnants of the once continuous East African coastal forest that extended throughout the region. Scientific assessments have documented 254 species of plants in the Park area, representing 248 taxa, including 119 various taxa of trees.

About 35 species of plants, including coconut and casuarinas, have been classified as exotic, although none of these foreign species are considered “virulent.” Most of the exotics are either crop plants or exotic ornamentals, like the sweet smelling tree near Latham's house, *Millingtoni ahortense*.

Scientific studies in the park identified some plants that were new to the region, including *Veprislance olata*, *Cassipourea mossambicensis, Pentarhopalopilia umbellulata, Aloe massawana, Psydraxre curvifolia*, *Phellocalyx vollesenii, Psilanthu s*sp., *Tarenna littoralis*, and one potential discovery of a tree,*Diospyro squiloensis* (named after the port of Kilwa*)*, which has not been collected in Tanzania for over 100 years (White, 1996). Other potential new discoveries included the climbing orchid *Vanilla roscheri* and a sedge that could be a rare species *Remirea maritime* (Haines & Lye, 1983). Other records of interest included the white flowered twiner, *Derris trifoliate* (former source of the insecticide “Derris powder”), the yellow flowered shrub *Hugonia busseana*, and the tree *Strychnos cocculoides* (Luke, 2004).

Trees formerly endemic to Tanzania, including *Baphiam acrocalyx, Berlinia orientalis, Commiphora madagascariensis* and the extremely rare endemic shrub, *Premnahans joachimii*, were also recorded, representing perhaps the last stands of such trees in Tanzania (Luke, 2004).

3.3. Sand Dunes and Beaches

The impressive sand dunes extending about 3 kilometres along the coast of Msimbati Peninsula are over fifteen meters high in places. The specialised plant community associated with these dunes is unique to the country, adding to the special status of the Park. The dunes and dune vegetation also attract specific communities of birds and insects that are unique to the park.

Sand beaches are common within the Park and occur in two main areas. A twelve-kilometre section of beach runs along the eastern shores of the Msimbati Peninsula and around Ruvula. Strong currents between Lijombe and Ras Mivinjeni lagoons are creating visible beach erosion problems, including parts of local coconut plantations. A more sheltered, fifteen-kilometre section of beach runs continuous along the part of Sinde and Mnazi Bay. Vast expanses of open sand are also exposed during low tides in central parts of Sinde Bay to Mnazi Village and between Namponda and Membelwa Islands. These intertidal areas greatly contribute to the diversity of habitats in the Park.

Beaches are especially important for nesting turtles, with green and hawksbill turtles annually nesting in the Park. Ghost crabs, sand crabs, sand hoppers, and butterfly shells (*Donax* spp.) also inhabit these sandy areas, along other molluscs and polychaete worms below the surface. These invertebrates are an important food source for shorebirds, such as crab plovers, whimbrel, and yellow-billed storks.

3.4. Mangrove Forests

Of the nine mangrove species found in Tanzania, seven species have been reported in MBREMP: *Avicennia marina*, *Xylocarpus granatum*, *Rhizophora mucronata*, *Ceriops tagal, Sonneratia alba*, *Bruguiera gymnorrhiza*, and *Heritiera littoralis*. There are approximately 70 km^2 (or 7,000 hectares) of mangrove forest in the Park, accounting for nearly a tenth of all the mangrove forests of Tanzania (Wagner *et al*., 2004).

Ecologically, mangrove forests form an integral part of coastal and marine ecosystems. Mangroves are highly productive, producing large quantities of organic matter that serves as food for many resident and non-resident organisms. Mangroves also serve as breeding and nursery grounds for a great variety of invertebrates and fishes on which Park residents depend on. Moreover, mangroves trap river sediments that can otherwise smother seagrass beds and coral reefs. Similarly, mangroves play an important role in stabilizing the coastline, by preventing shoreline erosion from wave action and changing sea levels.

Mangrove forests also have significant socio-economic value. Park residents use mangroves as a source of firewood, charcoal, home and boat building materials. These forests and the animal life they support can also be great tourist attractions.

The largest continuous mangrove forest in MBREMP is located in the northern portion of the Ruvuma Estuary (*see* Figure 5). Within this area, the densest stands are adjacent to the Ruvuma River, between the river's confluences with the Litokoto and Lidengo rivers. Here, the forest is comprised of mixed stands of healthy, mature trees, including *Heritiera littoralis* – a species that has suffered greatly in the Rufiji Delta forests. In terms of density and tree size, measured by basal area, the mangrove forest in this part of the Park (with an average basal area of 1,015 square centimetres per square metre) rivals the better parts of the Rufiji delta forest (average basal area 1,261 square centimetres per square metre) (Wagner *et al*., 2004).

When viewed from a map or the air, the Ruvuma Estuary gives the impression of having four main distributaries but in fact the northern three are tidally influenced and only the southern-most, Chikomolela, is regularly fed by freshwater. The discharge of river-borne nutrients through this channel contributes to the denser stands of mangroves in the southern part of the estuary.

Marine biodiversity in mangrove forests is limited to a few specialist species tolerant to muddy conditions, desiccation, and seasonal freshwater flooding. Approximately fifteen species of crustacean and mollusc and twenty species of fish have been documented in MBREMP's mangrove forests. Notable species include

mud crabs (*Scylla serrate*), penaeid prawns, fiddler crabs (*Uca* spp.), mud snails (*Terebralia palustris*), mullet (*Valamugil saheli*), and seven-spot herring (*Hilsa kelee*). Unidentified monkeys have been heard in the forest.

Mangrove forests are also present in a narrow band along many parts of the south and west shores of Mnazi Bay. The Islands of Namponda and Membelwa have well-developed mangrove forests closer to the ocean, with less mud substrate and freshwater input. This makes these islands unique because mangroves are present on the sheltered western shores and on the more exposed east coast, particularly on Membelwa. The proximity of mangrove forests, seagrass beds, and coral reefs to these islands is a feature of the Park that exists in few other parts of Tanzania.

The portions of the Park on the terrestrial edge of the mangrove forests are generally bare because of the amount of accumulated salt. These areas are flooded far less frequently and only a few specialist plants such as sedges and *Salicornia spp.* can be found here. These barren salt flats cover about 4 km^2 (400 hectares). Seaward of the mangroves, in most parts of the Park, a gently sloping mud flat extends to the sea, commonly covered by seagrass beds closer to the shore and extending into the subtidal area.

3.5. Seagrass Beds

Recent studies have confirmed that both the intertidal and subtidal seagrass beds are in good condition with healthy growth and high biodiversity. Ten species of seagrass have been reported in MBREMP: *Thalassia hemprichi*, *Halodule uninervis*, *H. wrightii*, *Halophila stipulacea*, *H. ovalis*, *Thalassodendron ciliatum*, *Cymodocea rotundata*, *Cymodocea serrulata*, *Syringodium isoetifolium*, and *Zostera capensis*.

Seagrasses need soft substrata for rooting and light. Seagrass beds are present inshore of the reef crest along much of the eastern shores of Msimbati Peninsula, but less along Ruvula. There is a thousand-metre wide tidal expanse of thick, healthy seagrass beds along the northern end of the Msimbati Peninsula. In this area, the shaggy-leaved *Thalassia hemprichi* dominates the seabed. The tip of the beach, known as Mivinjeni, features a cluster of *Sonneratia alba* mangrove trees. Extending west parallel Ruvula Channel, the seabed is steeply sloped with only small patches of *T. Ciliatum* and *S. isoetifolium.*

The seabed of the southern portion of Mnazi Bay is laden with mud and silt, resulting in thinner seagrass beds of *T. Hemprichi* and *C. rotundata*. The western shores of Mnazi and Sinde bays support well-developed seagrass beds along most of their length, beginning about 200 metres from the beach, and extending in places into the subtidal area. Larger, denser beds, about 500 to 1,000 metres wide, mostly of *T. hemprichi,* also exist inside the 20-kilometre rocky reef crest along the seaward side of Namponda and Membelwa islands. These beds are similar to those on Ras Ruvula.

Marine biotas found within the Park's seagrass environments include various echinoderms (e.g., sea cucumbers, starfish and sea urchins), mobile molluscs (e.g., cowries), burying bivalves, and crustaceans (e.g., crabs and shrimp). Many of these animals, as well as some fish species, lay their eggs on and within the seagrass.

3.6. Shallow Subtidal Habitats

The shallow, subtidal area of Mnazi and Sinde bays are predominantly characterized by bare sand. Seagrass beds are common in shallower areas, extending in patches to greater depths. Small coral patch

reefs are common in the southern end of Mnazi Bay, with a larger section of patch reef (Chamba cha Lusale) bordering Msimbati Channel, extending from the low water line to over 30 metres deep.

3.7. Rocky Shores

Rocky shores are found within MBREMP in three different forms. The Pleistocene cliffs of the Membelwa, Namponda, and Kisiwa Kidogo islands support small clumps of red seaweed, snails of the genus *Nerita*, rock oysters (*Crassostrea cucullata*), and weak-shelled rock crabs (*Grapsustenui crustatus*).

On the western shores of the islands, these cliffs extend onto the second form of rocky substrate found in the Park, intertidal rocky flats punctuated by shallow tidal pools. Off Membelwa Island, these rocky flats run offshore for approximately half a kilometre. Smaller patches of rocky flats are found around Namponda and Kiswa Kidogo. Common inhabitants of these rocky flats are cerith snails (*Cerithium* spp.) and red-eyed rock crabs (*Eriphia sebana*), with the red seaweed *Gracilaria salicornia* firmly fixed on rocky edges.

The third form of rocky substrate found in the Park is the reef crest – a one to two hundred -metre wide band of mostly bare, near continuous rock running offshore from the southern part of Msimbati Penisula to Ras Msangamkuu. During low tide, the reef crest provides an important refuge to various species of mobile invertebrates, including crabs, shrimps, snails, starfish, sea cucumbers, and brittle stars. Some marine species, including octopus and certain gastropods, lay their eggs in the boulders and crevices of the reef crest. Smaller examples of a reef crest are also found within Mnazi Bay, along the more sheltered reef out crops of Chamba cha Chumbo and Ilili.

3.8. Coral Reefs

A 2004 study (Obura) confirmed that coral reefs within the Park are among themost diverse hard coral communities in East Africa. This high diversity is probably due to the influence of the South Equatorial Current and the Park's complex range of proximate habitats. In total, 258 species of hard coral in 59 genera from 15 families have been identified in the Park. In comparison, the Mafia Island Marine Park hosts about 270 species and locations in Kenya contain about 225 species. The coral fauna is dominated by species in the Acroporidae and Faviidae families (65 and 64 species, respectively). The abundance of coral genera that are vulnerable to bleaching, such as *Acropora*, *Stylophora* and *Seriatopora*, is notable, particularly in the wake of the bleaching that occurred in 1998 as a result of particularly strong El Niño conditions.

The 2004 study identified four principle reef zones within MBREMP:

- The outer fore reef along the Park's offshore perimeter, extending more than 30 kilometres from Ras Msamgamkuu to the southern part of Msimbati Peninsula.The southern portion of this zone includes the fragmented patch reefs bordering Kipwa Kidogo, Kipwa Kikubwa, and Lijombe Lagoon;
- The deep, sheltered reefs along the southern bank of Msimbati Channel, extending approximately five kilometres;
- The patch reefs within Mnazi Bay, including the larger patch reefs of Chamba cha Lusale, Chamba cha Chumbo, and Matenga, and the smaller coral patch reefs in the the southern end of the bay; and
- The outer shelf reef northwest of Ras Msangamkuu.

Except where destructive fishing practices have damaged the benthic environment, these reefs have high a degree topographic complexity and productivity (*see* Figure 6). Hard coral species cover about 30 percent

of these reefs, with soft corals and rubble each covering another 18 percent. High levels of algal growth or rubble are seen in some locals, indicative of past habitat degradation.

The various types of reef and their physical conditions contribute to the diversity of coral communities in the Park. Within each environment, specific coral communities are able to survive and develop. For example, corals that are found in the clean waters offshore of Membelwa Island are different from the corals growing in the muddy waters of the southern portion of Mnazi Bay. The diversity of coral species and habitat suggest that the Park's marine ecosystem has a high productive capacity (Ngowo 2003).

Studies to assess levels of coral bleaching and mortality following the El Niño event of 1998 indicated that coral cover in the reefs of Mnazi Bay had declined by 30 to 50 percent as a result of the rise in sea temperatures (Obura *et al*. 2000). Following that event, average hard coral cover was estimated at between 25 and 30 percent. These found that there was good potential for coral recruitment. Evidence of coral mortality from the El Niño event of 1998 is still apparent, though regrowth and re-colonization by hard and soft corals has been robust. Overall, the 1998 El Niño event demonstrated both the susceptibility and resiliency of Mnazi Bay's reefs to seawater warming.

The variety of benthic environments and the biodiversity of coral communities in MBREMP likely contribute to the productivity and resiliency of local reefs. For example, the high density and diversity of corals in the deeper waters along Msimbati Channel, beyond the impacts of bleaching and dynamite fishing, may act as a reserve for the supply of larval recruits to damaged areas. These conditions suggest a potential high capacity for recovery from bleaching and destructive fishing practices.

Since 1999, the reefs of Mnazi Bay have been included in the Tanzanian coral reef monitoring network, which is administered by scientists at the University of Dar es Salaam's, Institute of Marine Science, Coastal Oceans Research & Development in the Indian Ocean (CORDIO), and volunteers from Frontier-Tanzania

4.0. Feature condition and future outlook of the proposed area

(Description of the current condition of the area – is this static, declining, improving, what are the particular vulnerabilities? Any planned research/programmes/investigations?)

Generally, the status of MBREMP's resources is improving from its initial state as vividly seen from the catch fisheries catch trends, overall reduces environmental destructive gear, observation by divers and reduced incidences of illegal activities.

Recently there is no research activities undertaken in the park area, however, regular monitoring fish catch, and sea turtle nesting sustainably continual to be undertaken within the park boundaries. The park also has sustained regular patrols to ensure compliance of the laws and regulation.

The big challenge is to support community nearby and inside MBREMP border by either facilitating them with better improved equipments to fish offshore or support them to engage in sustainable income generating activities for the purpose of reducing their dependence sea and use of destructive poor fishing techniques.

5.0. Assessment of the area against CBD EBSA Criteria

(Discuss the area in relation to each of the CBD criteria and relate the best available science. Note that a candidate EBSA may qualify on the basis of one or more of the criteria, and that the boundaries of the EBSA need not be defined with exact precision. And modeling may be used to estimate the presence of EBSA attributes. Please note where there are significant information gaps)

CBD EBSA Criteria (Annex I to decision IX/20)	**Description** (Annex I to decision IX/20)	**Ranking of criterion relevance** (please mark one column with an X)			
		Don't Know	**Low**	**Some**	**High**
Uniqueness or rarity	Area contains either (i) unique ("the only one of its kind"), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features.				✖
Explanation for ranking *Presence of undisturbed beach of Ruvula, birds life(IBA no.28), higher rate of coral reefs recovery from bleaching catastrophe occurred in 1998, and Sea turtle nesting sites*					
Special importance for life-history stages of species	Areas that is required for a population to survive and thrive.				✖
Explanation for ranking Replenishment of coral larvae by SEC, and extensive and diverse coral reefs as well as dense mangrove forest at the mouth of Ruvuma river					
Importance for threatened, endangered or declining species and/or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.				✖
Explanation for ranking Existence of potential four sea turtle nesting beaches and potential whales migratory route from July to September each year. Presence of well established patch and fringing reefs and Msimbati channel with diverse coral species					
Vulnerability, fragility, sensitivity, or slow recovery	Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.				✖
Explanation for ranking *Presence of Coral reef area*					

Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.				✖
Explanation for ranking *Mangrove forest which is the feeding, breeding and nursery site for crustacean and finfish*					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.				✖
Explanation for ranking *Diverse of both marine and fresh water species*					
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.				✖
Explanation for ranking *Major part of the park is disturbed by human use practices*					

Sharing experiences and information applying other criteria (Optional)

Other Criteria	**Description**	**Ranking of criterion relevance** (please mark one column with an X)			
		Don't Know	**Low**	**Some**	**High**
Add relevant criteria					
Explanation for ranking					

6.0. References

(e.g. relevant documents and publications, including URL where available; relevant data sets, including where these are located; information pertaining to relevant audio/visual material, video, models, etc.)

BirdLife International (2011) Important Bird Areas factsheet: Mnazi Bay. Downloaded from http://www.birdlife.org on 12/06/2011

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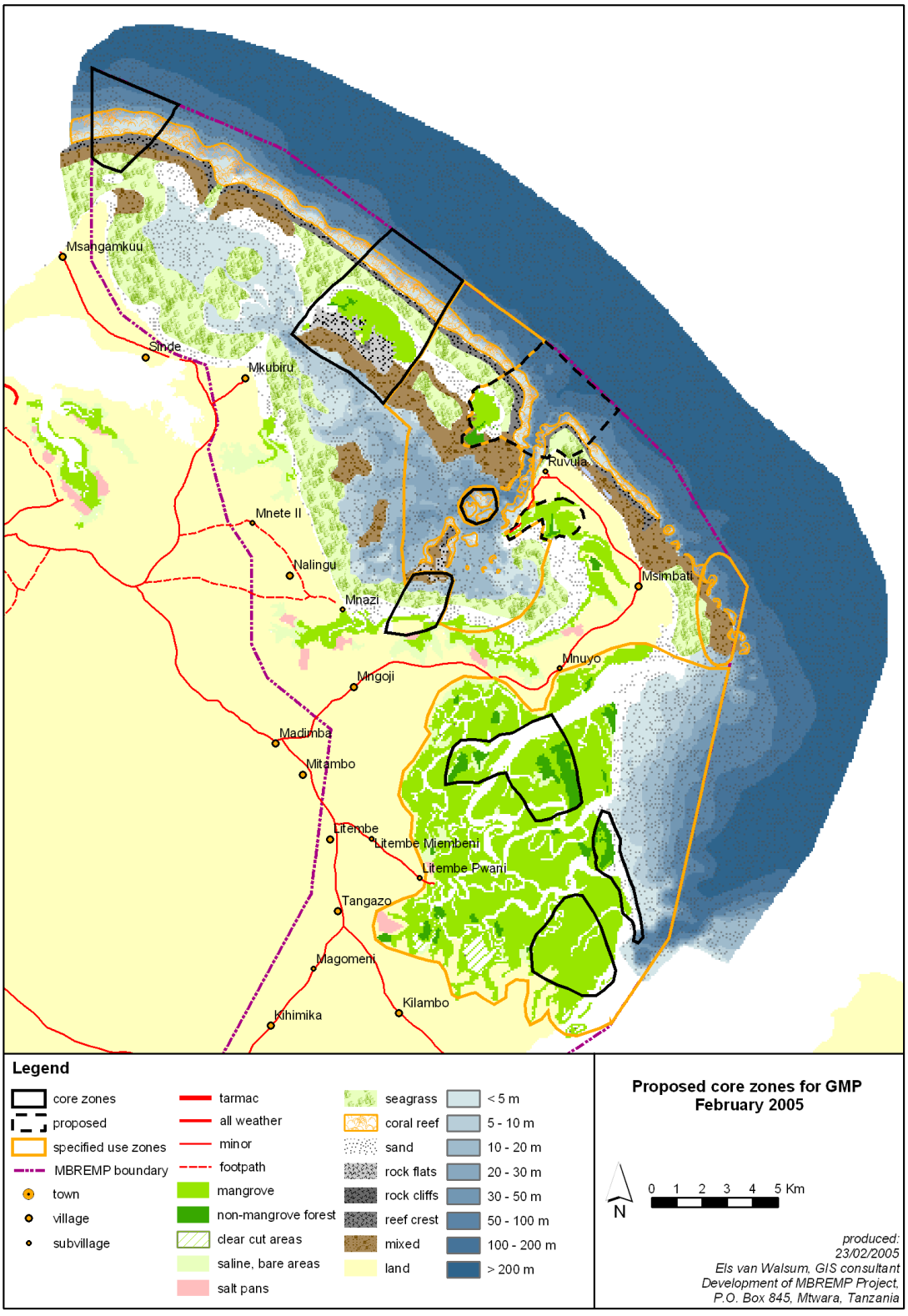
7.0. Maps and Figures



Map of the park showing designated user zones

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