

Ugu Lwethu - Our Coast. A profile of coastal KwaZulu-Natal

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10.4 Marine Protected Areas

Marine protected areas (MPAs), also known as marine reserves or marine parks, are important tools used to conserve the biodiversity of the marine environment and to maintain productivity, especially of harvested fish stocks.¹ The IUCN has defined MPAs as “any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment”.

MPAs may have a number of specific objectives, which can contribute to one or more of three functions: protection, fisheries management and utilisation.²

Protection

MPAs ensure protection of representative sections of the marine environment in all major biogeographic regions; maximise habitat diversity (and thereby species and community diversity) within protected areas; ensure the protection of rare, range-restricted or endemic species

through ensuring protection of their habitats; and protect areas essential for the completion of vulnerable life-history stages of coastal and marine species.

Fisheries management

MPAs also prevent over-exploitation of fisheries by providing refuge areas for exploited sedentary species; they protect vulnerable life-history stages of mobile/migratory exploited species; and improve or sustain yields in adjacent areas and maintain populations of adult, reproductively active species.

Utilisation

MPAs provide undisturbed localities and populations or communities of species for research purposes; promote and facilitate the development of tourism; provide sites for low impact, non-consumptive recreation; provide sites where field-based education can be undertaken; and allow exploitation of selected taxa at a sustainable level. As such, a number of MPAs and Estuarine Protected Areas (EPAs) have been established along the KZN coast³ in order to fulfill these criteria.

Abundant diversity in the Maputaland MPA.



Photo: Camilla Floros

MPAs in KZN

Biologically, the KZN coast represents a sub-tropical transition zone between the tropical Indo-Pacific biota to the north-east and the warm-temperate biota to the south-west.⁴ Research has identified two distinct bioregions along the KZN coast, namely the Delagoa Bioregion from Cape Vidal northwards into southern Mozambique; and the Natal Bioregion from Cape Vidal south to the Bashee River in the Eastern Cape.⁵

In order to effectively protect the marine biodiversity of the KZN coast and to ensure its conservation into the future, a network of MPAs is required. There are two ways of establishing such MPA networks: as many small, strictly protected sites; or as a few large, multiple-use areas which contain strictly protected areas within them.¹ Fortunately, a combination of both have been implemented along the KZN coast, although the province is still far short of achieving internationally recommended targets for coastal protection, of between 10-25%.^{6; 7; 8}

The establishment of marine MPAs has fallen well behind the proclamation of terrestrial protected areas.⁹ Nevertheless, due to the high coastal population and mounting demands made on the marine environment, it was realised in the late 1960s that a system of MPAs was needed.¹⁰ The first progress made in this regard was in 1979 with the establishment of the large St Lucia Marine Reserve (stretching from Cape Vidal to White Sands, just north of Sodwana) on the KZN north coast and the small Trafalgar Marine Reserve (Marina Beach to Palm Beach) on the south coast. This was followed by the proclamation of the Maputaland Marine Reserve in 1986, resulting in the entire coastline from Cape Vidal to the RSA/Mozambique border falling into one contiguous MPA of approximately 145 km, stretching 3 nautical miles (5.4 km) out to sea. At the time, this was the largest MPA in South Africa and it was subsequently incorporated into the iSimangaliso Wetland Park, South Africa's first World Heritage Site, in 2000.

The only other MPA that has subsequently been established along the KZN coast is the Aliwal Shoal MPA, proclaimed in June 2004, which stretches from the Umkomaas River to the Mzimayi River just south of Rocky Bay, and extends 7 km out to sea.

All four of the above-mentioned MPAs have been proclaimed (or re-proclaimed) under Section 43 of the *Marine Living Resources Act* and the two MPAs within the iSimangaliso Wetland Park have also been proclaimed under the *World*

Heritage Convention Act. It is important to note that the Pondoland MPA (currently South Africa's largest MPA in terms of surface area, covering about 900 km²) was also proclaimed in June 2004, just south of the KZN/Eastern Cape border, stretching from the Mzamba River to the Umzimvubu River at Port St Johns. Also of relevance is the recent (2010) proclamation of the Ponto do Ouro Partial Marine Reserve in Mozambique, which extends northwards from the RSA/Mozambique border to Inhaca Island.

Current status

Effective management of MPAs is critical if they are to achieve their stated objectives. It is one thing to proclaim an MPA, but it is an entirely different matter to manage it effectively. In the past two decades we have seen a flurry of MPAs being established around the world, as a consequence of internationally set targets for marine conservation. However, the reality is that many of these protected areas exist only on paper and relatively few are effectively managed.

MPAs in KZN have primarily been managed by Ezemvelo KZN Wildlife (previously Natal Parks Board) which has a long history of conservation management in this province. Previous assessments of the state of MPA management in South Africa showed that KZN's MPAs are relatively well managed, although there are a number of deficiencies with regard to MPA design, implementation of management plans, socio-economic considerations, staff capacity and monitoring.^{11; 12}

Despite the progress made with regard to the establishment and management of MPAs in KZN and adjacent areas, all of them have been zoned for multiple use and relatively little area has been set aside as "no-take" or "sanctuary areas", where no consumptive resource use is allowed. A substantial body of research¹³ has shown that no-take areas are the most effective in achieving the primary goals of MPAs in terms of biodiversity protection and fisheries management.

In KZN, only about 46 km (8.2%) of the coast falls into no-take protected areas. Furthermore, all of these no-take protected areas, with the exception of the crown area (2.5 km²) and the wreck of the *Produce* within the Aliwal Shoal MPA, are situated within the iSimangaliso Wetland Park north of Cape Vidal (i.e. within the Delagoa Bioregion). This means that the rest of the KZN coast south of Cape Vidal (i.e. within the Natal Bioregion) is still largely unprotected.



In 2008 a National Protected Area Expansion Strategy was developed for South Africa,¹³ with both short term (5 year) and long term (20 year) targets. This strategy set targets for both inshore MPAs (km of coastline) and offshore MPAs (km² of ocean), as well as targets for no-take MPAs and total MPAs.

South Africa is falling short of achieving targets set by the National Protected Area Expansion Strategy (NPAES), particularly for the offshore areas within our EEZ and much work still needs to be done in this regard. In KZN, this situation has led to the development of a systematic marine

conservation planning initiative undertaken by Ezemvelo KZN Wildlife in collaboration with key institutions, experts and stakeholders, called the "SeaPLAN" project.^{14; 15}

This initiative has adopted a holistic, spatial approach and has delineated the entire KZN coast, out to the boundary of the EEZ (200 nautical miles or 360 km offshore), as the planning domain. Using inputs from numerous experts and stakeholders to map the biodiversity elements (species and habitats) and the processes (currents, upwelling, etc.) as well as the utilisation of the marine environment, and the latest

conservation planning software, SeaPLAN has been able to identify focal marine areas along and off the KZN coast that require special protection, both in terms of biodiversity and human induced threats. This planning initiative, linked with other national planning initiatives such as the NPAES¹³ and the National Spatial Diversity Assessment,^{5; 16} has enabled KZN's conservation authorities to plan for the development of a more effective, rational network of MPAs along and offshore of the KZN coast.

Implementation of MPAs is not a simple task. While there may be general public support for the concept of having MPAs established where no or limited marine resource use is allowed, the location of these areas often creates resistance. Furthermore, fishers who will be displaced by the establishment of an MPA generally do not support it, even though they may benefit from it in the long-term. In order to tackle these challenges, the SeaPLAN project has embarked on a programme of active engagement with the public and stakeholders in MPA design, planning, implementation and management. ■

Marine Protected Area targets for South Africa — adapted from NPAES (2010)¹⁴

Summary of marine protected area targets and areas still required to meet targets			
20-year target	Current protection level*	Addition needed to meet 20-year target	Addition needed in next 5 years
Marine inshore**			
No-take: 15%	No-take: 9.1% (334 km)	No-take: 6% (234km)	No-take: 1.5% (59km)
Total: 25%	Total: 21.5% (785 km)	Total: 9.6% (353 km)	Total: 2.4% (88 km)
Marine offshore: mainland EEZ			
No-take: 15%	No-take: 0.16% (1 671 km ²)	No-take: 14.8% (159 111 km ²)	No-take: 3.7% (39 887 km ²)
Total: 20%	Total: 0.4% (4 172 km ²)	Total: 19.6% (210 205 km ²)	Total: 4.9% (52 551 km ²)

* An area is considered protected if it falls within a protected area recognised in the Protected Areas Act.

** Inshore marine targets are measured in kilometres of coastline because of the varying distances that inshore MPAs extend from the coastline. Inshore is considered to mean from the high-water mark to the 30 m depth contour. All inshore MPAs extend at least this far.

Marine protected area targets for inshore marine bioregions in South Africa							
		20-year PA target		Current protected areas			
Bioregion	Length	No-take	Total	No-take		Total	
Namaqua	684 km	15%	25%	0 km	0 %	0 km	0 %
SW Cape	420 km	15%	25%	51 km	12.1%	214 km	51%
Agulhas	1 706 km	15%	25%	197 km	11.5%	275 km	16.1%
Natal	693 km	15%	25%	43 km	6.2%	143 km	20.6%
Delagoa	153 km	15%	25%	43 km	28.1%	153 km	100%
Total	3 656 km	15%	25%	334 km	9.1%	785 km	21.5%