

ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS

in the Benguela Current Large Marine Ecosystem



Namaqua Coastal Area

REVISED DESCRIPTION



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Revised Description



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Namaqua Coastal Area

Revised EBSA Description

General Information

Summary

The Namaqua Coastal Area is on the west coast of South Africa, within the Namaqua bioregion, and is characterized by high productivity and community biomass along its shores. A large proportion of the area is characterized by habitat that is in relatively good (natural/pristine) condition due to much lower levels of anthropogenic pressures relative to other coastal areas in the Northern Cape Province. Consequently, the area is important for several threatened ecosystem types represented there (including two Endangered and four Vulnerable ecosystem types). The area is also important for conservation of estuarine areas and coastal fish species. In summary, the area is highly relevant in terms of the following EBSA criteria: “productivity”, “importance for threatened, endangered or declining species and/or habitats” and “naturalness”. Since its original delineation, the boundary of this EBSA has been extended further offshore by approximately 7-20 km to better align with the underlying biodiversity features following recent research, rather than following an old proposed MPA boundary that was not adopted nor proclaimed.

Introduction of the area

The Namaqua Coastal Area is located from the estuary of the Spoeg River to the estuary of the Sout River in the Namaqua bioregion of South Africa (Sink et al., 2012), and from the dune base to approximately 33-36 km offshore. It consists of Namaqua coastal, inner, mid and outer shelf ecosystem types (Sink et al., 2019). The associated pelagic environment is characterized by upwelling, giving rise to very cold waters with very high productivity/chlorophyll levels (Lagabrielle 2009, Roberson et al., 2017). Altogether, the area includes three estuaries (van Niekerk and Turpie, 2012).

Description of the location

EBSA Region

South-Eastern Atlantic

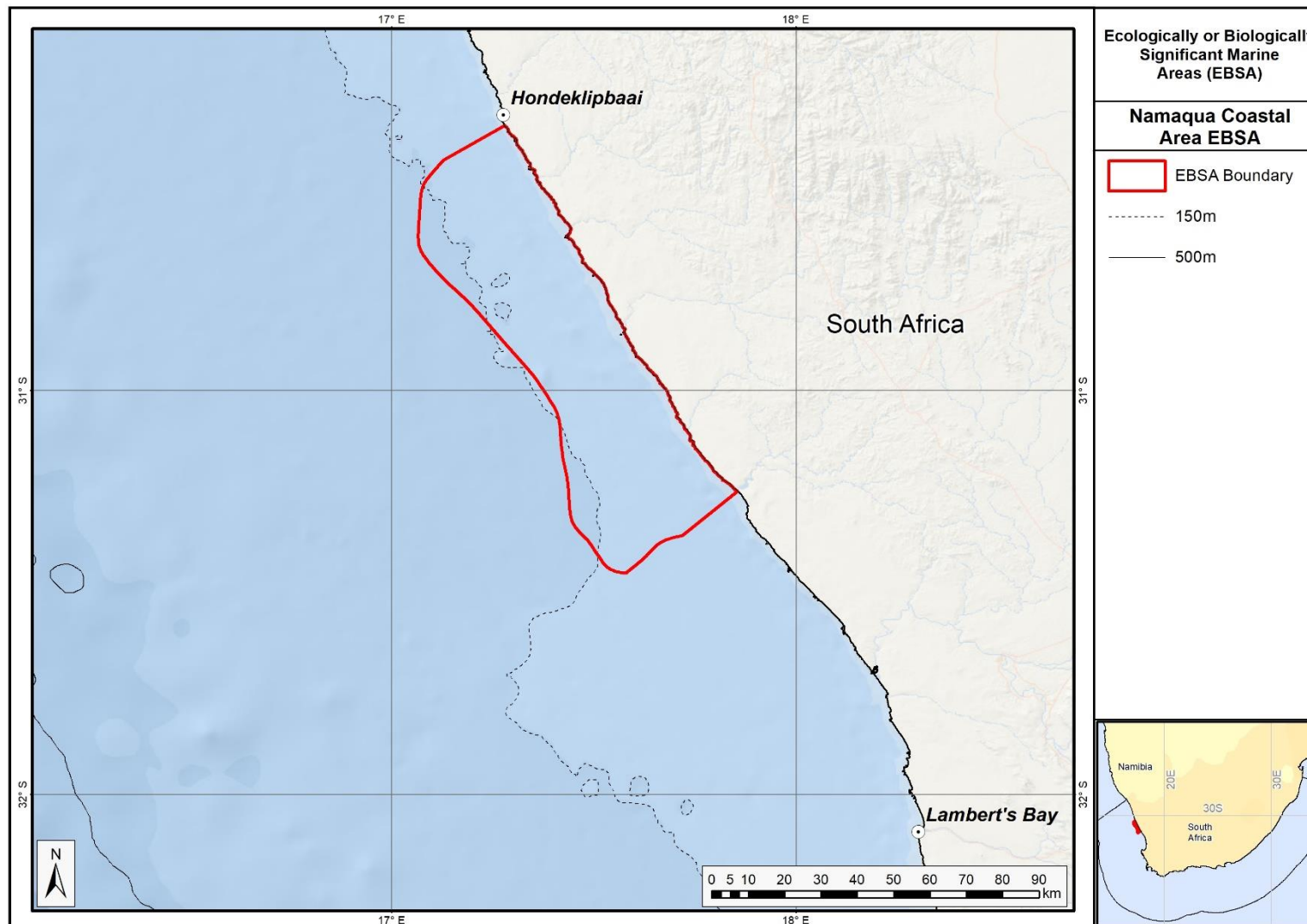
Description of location

The area is within the national jurisdiction of South Africa, occurring on the west coast, in the Namaqua bioregion. It is bounded to the north and south by the Spoeg and the Sout estuaries, respectively, extending offshore by approximately 33-36 km.

Area Details

Feature description of the area

The area consists of Namaqua coastal, inner, mid and outer shelf ecosystem types (Sink et al., 2019). There are also three estuaries in the area (van Niekerk and Turpie 2011). The associated pelagic environment is characterized by very high productivity, high chlorophyll and very cold water (mean



Proposed boundaries of the Namaqua Coastal Area EBSA.

SST = 15.2°C) caused by upwelling (Lagabrielle 2009, Roberson et al., 2017), also serving as an important area for coastal fish (Turpie et al., 2000). There is a small part of the EBSA (midway along the shore) that was recently declared as a marine protected area that came into effect in 2019. The terrestrial habitat adjacent to the part of the EBSA that stretches between the Groen and Spoeg estuaries is within the Namaqua National Park and is, therefore, also protected.

Since original description, the EBSA has been extended offshore by approximately 7-20 km so that the new offshore extent is 36 km at its widest point. The alongshore extent remains the same as before between the Spoeg and Sout estuaries. The extension was based on better alignment with the features comprising the EBSA, and their condition and threat status, based on the best available information (e.g., Holness et al., 2014; Majiedt et al., 2013; Sink et al., 2012, 2019). This was also based on new research (Karenji 2014) that has allowed better ecosystem mapping in the area, thus affording more accuracy in the EBSA boundary rather than following an old proposed MPA boundary that was not adopted. New fine-scale mapping of the coast (Harris et al., 2019) also allowed a more accurate coastal boundary to be delineated. The site is presented as a Type 1 EBSA because it contains “Spatially stable features whose positions are known and individually resolved on the maps” (sensu Johnson et al., 2018).

Feature conditions and future outlook of the proposed area

Sink et al. (2012, 2019) determined the threat status of coastal and marine ecosystem types in South Africa by assessing the (weighted) cumulative impacts of various pressures (e.g., extractive resource use, pollution, development, and others) on each ecosystem type. Six of the ecosystem types represented in the area are threatened, including two Endangered (Cool Temperate Arid Predominantly Closed Estuary; Southern Benguela Reflective Sandy Shore) and four Vulnerable types (Namaqua Exposed Rocky Shore; Namaqua Kelp Forest; Namaqua Mixed Shore; Namaqua Very Exposed Rocky Shore; Southern Benguela Intermediate Sandy Shore). This implies that there has been substantial degradation in natural/pristine condition of these ecosystem types, and it is expected that important components of biodiversity pattern have been lost and that ecological processes have been moderately to heavily modified.

Part of the coastal extent of the area (between the Brak and Sout rivers) is the only stretch of coast in the Northern Cape province of South Africa that is in good (natural/pristine) condition (Sink et al., 2012). This is because very little mining (the most prominent anthropogenic pressure on this coastline) or other pressures have affected this section. Moreover, other habitat in the area (particularly that between the Spoeg and Groen estuaries) was assessed to be mainly in fair condition, with little industry present in the area except for some boat-based mining for which SCUBA is used (Majiedt et al., 2013). Of the three estuaries in the EBSA, two (the Groen and the Spoeg) have been identified as national priorities for estuarine protection (van Niekerk and Turpie 2012). The lack of marine protected areas in South Africa’s Northern Cape province was previously highlighted as an issue of concern (Sink et al., 2012, Majiedt et al., 2013). Considering this and the following characteristics of the area: (i) the threatened ecosystem types represented there, (ii) the relative lack of human industry and consequently the good condition of much of the habitat in the area, (iii) the connectivity between part of the area and an established terrestrial national park, and (iv) the priority for national estuarine

conservation of two of the river mouths in the area, most of the extent of the area has been identified as priority marine/coastal habitat for spatial protection (Sink et al., 2012, Majiedt et al., 2013). Furthermore, a complementarity analysis based on fish distribution data indicated that the coast within the area is a priority area for the conservation of coastal fish species in South Africa (Turpie et al., 2000). Therefore, among the newly proclaimed MPAs in South Africa is a relatively small Namaqua National Park MPA in the middle of this EBSA.

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Other relevant website address or attached documents

Summary of ecosystem types and threat status for the Namaqua Coastal Area. Data from Sink et al. (2019).

Threat Status	Ecosystem Type	Area (km ²)	Area (%)
Endangered	Cool Temperate Arid Predominantly Closed Estuary	0.5	0.0
	Southern Benguela Reflective Sandy Shore	1.4	0.0
Vulnerable	Namaqua Exposed Rocky Shore	12.1	0.3
	Namaqua Kelp Forest	1.7	0.0
	Namaqua Mixed Shore	19.2	0.5
	Namaqua Very Exposed Rocky Shore	1.2	0.0
Near Threatened	Southern Benguela Intermediate Sandy Shore	3.1	0.1
Least Concern	Namaqua Muddy Mid Shelf Mosaic	2333.1	66.5
	Namaqua Sandy Inner Shelf	303.7	8.7
	Namaqua Sandy Mid Shelf	230.9	6.6
	Southern Benguela Dissipative-Intermediate Sandy Shore	4.2	0.1
	Southern Benguela Muddy Sands	345.1	9.8
	Southern Benguela Sandy Outer Shelf	250.6	7.1
Grand Total		3507.1	100.0

Assessment of the area against CBD EBSA criteria

C1: Uniqueness or rarity **Low**

Justification

None of the ecosystem types or features represented in the area are unique to the area (Sink et al., 2012, 2019, Majiedt et al., 2013).

C2: Special importance for life-history stages of species **Medium**

Justification

The area is part of the important west coast nursery area for commercially caught pelagic fish species in South Africa (Hutchings et al., 2002). Further, it includes three estuaries that may also provide nurseries for coastal fish species (van Niekerk and Turpie 2000), many of which species are in an over-exploited state (Mann 2000). The site also includes breeding habitat for birds, such as white breasted cormorants (Crawford et al., 2013) and roost sites for African black oystercatchers (Rao et al., 2014).

C3: Importance for threatened, endangered or declining species and/or habitats High

Justification

Two of the ecosystem types represented in the area (Cool Temperate Arid Predominantly Closed Estuary; Southern Benguela Reflective Sandy Shore) are Endangered (Sink et al., 2019). This implies that very little of the total area of these ecosystem types in South Africa is in natural/pristine ecological condition. The Vulnerable Namaqua Exposed Rocky Shore, Namaqua Kelp Forest, Namaqua Mixed Shore, Namaqua Very Exposed Rocky Shore and Southern Benguela Intermediate Sandy Shore are also found in the area. The portions of these ecosystem types inside the EBSA were all found to be in good ecological condition, therefore emphasizing the importance of the EBSA for the conservation of these threatened ecosystem types (Majiedt et al., 2013). The Namaqua Coastal Area is also important for estuarine conservation, given the presence of three estuaries and the fact that the conservation status of $\pm 80\%$ of South Africa's estuarine area is classified as threatened (van Niekerk and Turpie 2012). Furthermore, populations of many coastal fish species in South Africa are under severe conservation threat, mainly due to overexploitation (Mann 2000), and the Namaqua Coastal Area is a key site for protection of coastal fish species in South Africa (Turpie et al., 2000).

C4: Vulnerability, fragility, sensitivity, or slow recovery Medium

Justification

The threatened status of ecosystem types that occur in the EBSA (Sink et al., 2012, 2019), implies that degradation and some loss of ecosystem processes has been associated with these ecosystem types in other areas, and therefore that they are vulnerable to effects of human activities.

C5: Biological productivity High

Justification

The pelagic environment associated with this area is characterized by very cold water, high chlorophyll concentrations and high biological productivity due to wind-induced upwelling (Hutchings et al., 2009, Lagabrielle 2009, Roberson et al., 2017). As a result of the abundance of nutrients associated with the upwelling, the biomass of communities along the shore (intertidal) is significantly higher than that in the other two bioregions of South Africa (Bustamante and Branch 1996).

C6: Biological diversity Low

Justification

Although the productivity and biomass of communities along the shore of the Namaqua bioregion (where the EBSA occurs) is higher than elsewhere in the country, the species diversity is lower than elsewhere (Bustamante and Branch 1996). Notwithstanding, there are 13 ecosystem types present in this EBSA (Sink et al., 2019) that likely harbour a variety of species collectively.

C7: Naturalness High

Justification

There is a relative lack of human activities (past and present) in the Namaqua Coastal Area. A recent analysis of cumulative anthropogenic pressure of South Africa's marine environment showed that 98% of this EBSA is considered in good ecological condition, 2% fair and <1% poor ecological condition (Sink et al., 2019). Consequently, even ecosystem types that are threatened at a national level are in good ecological condition in this area (Sink et al., 2012), and hence have been highlighted as conservation priority areas along the South African west coast (Majiedt et al., 2013).

Status of submission

The Namaqua Coastal Area EBSA was recognized as meeting EBSA criteria by the Conference of the Parties. The revised description and boundaries still need to be submitted to COP for approval.

COP Decision

dec-COP-12-DEC-22

End of proposed EBSA revised description

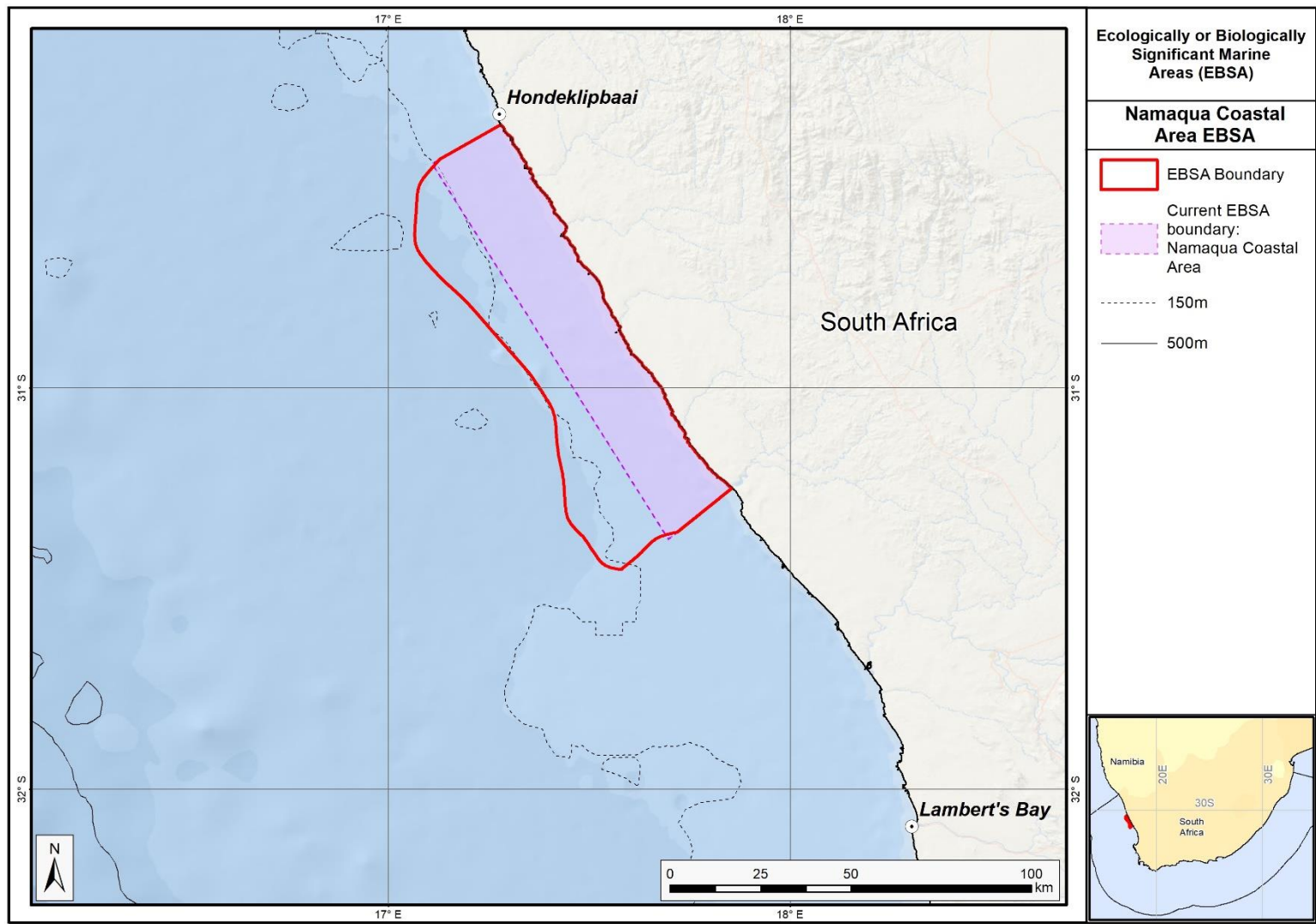
Motivation for Revisions

Some technical revisions and updates to the description were made, even though little additional information was available, and no new research has been carried out in the area since its original adoption in 2014. Small additions were made, but none of these edits were significant enough to drive a change in the EBSA criteria ranks. A supplementary table of the habitats represented in the EBSA and their associated threat status was also included.

The boundary of this EBSA has been refined to focus the EBSA more closely on the key biodiversity features that underlie its EBSA status. The delineation process included an initial stakeholder review, a technical mapping process and then an expert review workshop where boundary delineation options were finalised. The delineation process used a combination of Systematic Conservation Planning and Multi-Criteria Analysis methods. The features used in the analysis were:

- Delineations and threat status of constituent ecosystem types in the area were included in the analysis and used to refine the boundary of the EBSA.
- Irreplaceable and near irreplaceable (i.e. very high selection frequency) sites, as well as focus areas identified in the SCP undertaken for the West Coast by Majiedt et al. (2013) and for the BCLME by Holness et al. (2014) were incorporated.
- Areas of high relative naturalness of benthic and coastal systems identified in the National Biodiversity Assessment 2011 (Sink et al., 2012), the West Coast (Majiedt et al., 2013) and the BCLME spatial assessments (Holness et al., 2014) were included in the analysis.
- Distributions of known fragile, vulnerable and sensitive habitat-forming species were included (Unpublished SANBI and SAEON data).
- The coastal boundary was refined to be more accurate based on new data (Harris et al., 2019).

The multi-criteria analysis resulted in a value surface. The cut-off value used to determine the extent of the EBSA was based on expert input and quantitative analysis of effective inclusion of the above features. This entailed taking an iterative parameter calibration-based approach whereby the spatial efficiency of the inclusion of the targeted features was evaluated. The approach aimed to identify a cut-off that most efficiently included prioritised features while minimizing the inclusion of impacted areas. The final boundaries shown in the map were validated in a national workshop.



The proposed revised boundaries for the Namaqua Coastal Area EBSA in relation to the original boundaries of the EBSA.