ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS

in the Benguela Current Large Marine Ecosystem

Seas of Good Hope

PROPOSED DESCRIPTION

Benguela CURRENT CONVENTION

MARISMA
Enabling Sustainable Ocean Use in the Benguela Current Region

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of:
Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
of the Federal Republic of Germany

Ecologically or Biologically Significant Marine Areas in the Benguela Current Large Marine Ecosystem

SEAS OF GOOD HOPE

Proposed Description

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NELSON MANDELA UNIVERSITY

Seas of Good Hope

Proposed EBSA Description

Abstract

The proposed Seas of Good Hope EBSA is located at the coastal tip of Africa, wrapping around Cape Point and Cape Agulhas, within South Africa's EEZ. It extends from the coast to the inner shelf, and includes key islands, two major bays (False Bay and Walker Bay). This EBSA is of key importance for threatened species and habitats, and for supporting life-history stages, notably for some of the threatened species, with Dyer and Geyser Islands being a Ramsar site. The threatened habitats include coastal, inshore and inner shelf ecosystem types. The important life-history stages supported by the area are breeding and/or foraging grounds for a myriad of top predators, including sharks, whales, and seabirds, some of which are threatened species, such as the Endangered African penguin. The EBSA also includes some relatively rare features. For example, it contains one of a few locations where surf diatom accumulations occur in South Africa, which in turn fuel sandy shores with heightened productivity. This EBSA is also the place where the Benguela and Agulhas Currents meet, and thus where the Indian and Atlantic Oceans meet.

Introduction

Seas of Good Hope is a coastal EBSA at the southernmost tip of Africa that includes both benthic and pelagic features, and key links between the terrestrial and marine realms. The proposed EBSA extends from the shore to depths that are mostly shallower than 150 m. The Agulhas and Benguela Currents meet offshore of this EBSA, with the sea surface temperature between Cape Point and Cape Agulhas being generally cooler than that further offshore where the warmer Agulhas Current has a greater influence. The area is important for many commercially important fish species (e.g., Watermeyer et al., 2016), and forms part of their spawning grounds. Consequently, it provides key foraging habitat for numerous top predators, including sharks, whales, seals and seabirds (e.g., Crawford et al., 2008; Pichegru et al., 2010; Best et al., 2015). The EBSA also contains important breeding and resting sites for these top predators, both on the mainland, in bays and on several islands that are contained within the EBSA (e.g., Best 2000; Underhill et al., 2006; Kirkman et al., 2013). Seas of Good Hope also includes areas of high productivity formed by relatively rare surf diatom accumulations. Given the close proximity of the EBSA to key research institutions, and the rich diversity of key marine species and features in the area, there are many datasets available for the site.

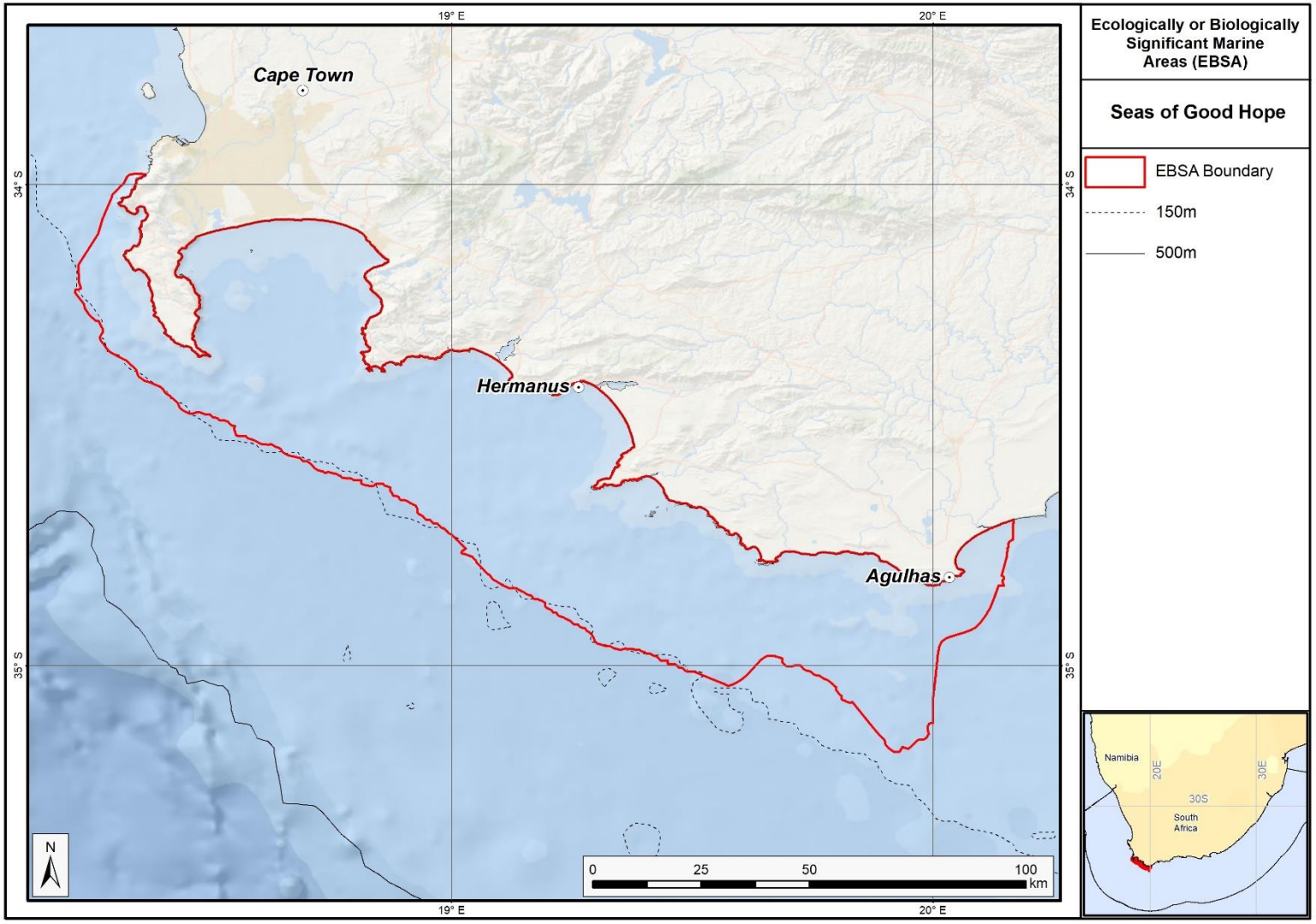
The reason this site was not part of the original list of EBSAs first proposed in the South Eastern Atlantic EBSA Identification Workshop in 2013 (UNEP/CBD/RW/EBSA/SEA/1/4) is because the value of the area was recognised only afterwards in a gap analysis. The delineation was based on the best available data (e.g., Harris et al., 2019; Holness et al., 2014; Majiedt et al., 2013; Sink et al., 2012, 2019). It is presented as a Type 2 EBSA because it contains "spatially stable features whose individual positions are known, but a number of individual cases are being grouped" (sensu Johnson et al., 2018).

EBSA Region

South-Eastern Atlantic

Location

The proposed Seas of Good Hope EBSA is located at the coastal tip of Africa, within South Africa's EEZ. It starts just south of Camps Bay, wraps around the tip of Cape Point, extends along the shore to the



Proposed boundaries of the Seas of Good Hope EBSA.

western end of the terrestrial De Mond Nature Reserve in Struisbaai, just past Cape Agulhas. It extends from the dune base to the inner shelf, mostly following the -150m isobath.

Feature description of the proposed area

Seas of Good Hope is important for both benthic and pelagic features. The benthic features include ecosystem types comprising mosaics of sand and reef, kelp beds, and several islands (Seal Island, Dyer Island, Geyser Rock, Quoin Rock; (Sink et al., 2019), and shore habitats including rocky, sandy, mixed and estuarine shores (Harris et al., 2019); the pelagic features include important spawning and foraging grounds for a variety of fish and top predators, and areas of high primary productivity. Benthic-pelagic coupling is also a key feature of this EBSA, particularly important in the two important bay systems that are in the EBSA, and for land-sea connectivity among ecosystem types. Overall, the EBSA's most key attributes are that it includes many threatened species and 23 threatened ecosystem types, and supports important life-history stages of many species, including some of the threatened taxa. The site also include the Dyer Island Provincial Nature Reserve and Geyser Island Provincial Nature Reserve (https://rsis.ramsar.org/ris/2384).

Of the 32 ecosystem types represented in Seas of Good Hope, two thirds (n=23) are threatened, including one Critically Endangered and eight Endangered and 14 Vulnerable types (Sink et al., 2019). By implication, these support biological communities that are also threatened. The EBSA forms part of the spawning grounds for many commercially important fish species (e.g., Watermeyer et al., 2016). Consequently, it provides key foraging habitat for numerous top predators, including sharks, whales, seals and seabirds (e.g., Crawford et al., 2008; Pichegru et al., 2010; Best et al., 2013, Kock et al., 2018), many of which species are also threatened. It also contains important breeding and resting sites for top predators in bays, on the islands and the mainland. For example, it contains island-based (Seal Island, Dyer Island, Geyser Rock) and the only mainland-based (Boulders Beach, Stony Point) colonies of breeding Endangered African penguins (Underhill et al., 2006), and Seal Island, Geyser Rock and Quoin Rock support breeding colonies of Cape fur seals (Kirkman et al., 2013). The EBSA may also include areas where southern right whales give birth to and nurse their calves, and possibly mate (Best 2000).

Secondary attributes of Seas of Good Hope support all other EBSA criteria except for Naturalness. The EBSA includes relatively rare surf diatom accumulations that are present at a few sites along the South African south coast, and only several other places, globally (Campbell & Bate., 1988, Campbell 1996). These surf diatom accumulations fuel sandy beach food webs with particularly high productivity. The kelp beds in the adjacent habitat also provide beach-cast kelp wrack, which also creates particularly productive sandy shore systems (e.g., Dugan et al., 2003; Rodil et al., 2018). Cape Point is a biogeographic break between the warm and cold temperate coastal systems (Sink et al., 2012, 2019), and thus diversity at this site is comparatively higher than adjacent sites because it includes representatives from both bioregions. And finally, the reef and hard ground habitats all support fragile species, that are slow growing and sensitive to disturbance.

Feature condition and future outlook of the proposed area

Although the Cape peninsula is protected in a marine protected area, there are numerous threats to the marine environment in this EBSA, particularly within False Bay and Walker Bay. There are several fisheries operating in the area, including those for west coast rock lobster, squid, linefish, and sharks, as well as subsistence and recreational shore and boat-based fishing, kelp harvesting, and bait

collecting (Sink et al., 2012). Given the close proximity to the Cape Town harbour, and the numerous smaller ports within the EBSA, shipping is a relatively high pressure here. The coast is under particular pressure from coastal development (outside the many terrestrial nature reserves in the western half of the EBSA), with associated pressures such as wastewater discharge. There are also several invasive invertebrates that are primarily associated with rocky shores that have affected native populations (Sink et al., 2012, 2019). Global change pressures are affecting the distribution of local fish stocks, which in turn are affecting some of the top predators, including Endangered African penguins, and Endangered Cape gannets (Crawford et al., 2008; Pichegru et al., 2010). A recent assessment of the ecological condition of the marine realm shows that this EBSA is in fair to poor ecological condition (Sink et al., 2019).

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Other relevant website address or attached documents

Summary of ecosystem types and threat status for Seas of Good Hope. Data from Sink et al. (2019).

Threat Status	Ecosystem Type	Area (km^2)	Area (%)
Critically Endangered	Cool Temperate Large Temporarily Closed Estuary	4.4	0.1
Endangered	Agulhas Sheltered Rocky Shore	0.6	0.0
	Cape Island Shore	0.1	0.0
	Cape Sheltered Rocky Shore	0.1	0.0
	Cool Temperate Estuarine Lake	5.0	0.1
	Cool Temperate Predominantly Open Estuary	0.4	0.0
	Cool Temperate Small Temporarily Closed Estuary	2.4	0.0
	Southern Benguela Reflective Sandy Shore	0.1	0.0
	Warm Temperate Estuarine Lake	0.9	0.0
Vulnerable	Agulhas Exposed Rocky Shore	22.6	0.3
	Agulhas Inner Shelf Reef Sand Mosaic	520.8	7.7
	Agulhas Island Shore	3.4	0.1
	Agulhas Kelp Forest	11.7	0.2
	Agulhas Outer Shelf Reef Sand Mosaic	1899.6	28.2
	Agulhas Reflective Sandy Shore	0.8	0.0
	Agulhas Very Exposed Rocky Shore	2.5	0.0
	Cape Boulder Shore	1.0	0.0
	Cape Exposed Rocky Shore	7.7	0.1
	Cape Kelp Forest	3.6	0.1
	Cape Mixed Shore	7.7	0.1
	Cape Rocky Inner Shelf	188.6	2.8
	Cape Rocky Mid Shelf Mosaic	335.1	5.0
	False and Walker Bays	1681.2	24.9
Near Threatened	Agulhas Boulder Shore	0.9	0.0
	Agulhas Dissipative Sandy Shore	21.9	0.3
	Agulhas Mid Shelf Reef Sand Mosaic	1970.5	29.2
	Agulhas Mixed Shore	35.1	0.5
	Cape Very Exposed Rocky Shore	0.3	0.0
	Southern Benguela Intermediate Sandy Shore	0.2	0.0
Least Concern	Agulhas Dissipative-Intermediate Sandy Shore	12.3	0.2
	Agulhas Intermediate Sandy Shore	2.2	0.0
	Southern Benguela Dissipative Sandy Shore	0.3	0.0
	Southern Benguela Dissipative-Intermediate Sandy Shore	0.4	0.0
N/A	Cool Temperate Micro-estuary	0.8	0.0
Grand Total		**6745.5**	**100.0**

Assessment of the area against CBD EBSA Criteria

CBD EBSA Criteria (Annex I to decision IX/20)	Description (Annex I to decision IX/20)	Ranking of criterion relevance
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.	Medium
Explanation for ranking The EBSA contains three of 14 sites in South Africa where surf diatom accumulations are present (Campbell 1996), and the only mainland colonies of Endangered African penguins (Underhill et al., 2006). False Bay and Walker Bay are also relatively rare geomorphic features in the BCLME. It also encompasses the only coastal area where the Indian and Atlantic Oceans meet.		
Special importance for life-history stages of species	Areas that is required for a population to survive and thrive.	High
Explanation for ranking Seas of Good Hope is an important spawning ground for commercially important fish species (e.g., Watermeyer et al., 2016). Consequently, it provides key foraging habitat for numerous top predators, including sharks, whales, seals and seabirds (e.g., Crawford et al., 2008; Pichegru et al., 2010; Best et al., 2013). It also contains important breeding and resting sites for top predators, in bays, on the islands and the mainland. For example, it contains island-based and the only mainland-based colonies of breeding Endangered African penguins (Underhill et al., 2006), and Seal Island, Geyser Rock and Quoin Rock support breeding colonies of Cape fur seals (Kirkman et al., 2013), with Dyer Island and Geyser Island (Rock) being a Ramsar site (https://rsis.ramsar.org/ris/2384). The EBSA may also include areas where southern right whales give birth to and nurse their calves, and possibly mate (Best 2000).		
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.	High
Explanation for ranking There are a number of threatened species that depend on this EBSA for foraging and/or breeding, including Vulnerable white sharks, Endangered Indian Ocean humpback dolphins, Endangered Cape gannets, Endangered African penguins, Endangered Cape cormorants, Endangered bank cormorants, white-breasted cormorants, and Near Threatened crowned cormorants. Importantly, some of these species have high residency within the EBSA, e.g., white sharks have specific locations within False Bay where they have high levels of occurrence (Kock et al., 2018), and are especially resident in inshore areas between Walker Bay and around Cape Agulhas (A. Kock, Unpublished tracking data). The area includes a very high diversity of threatened ecosystem types. Of the 34 ecosystem types in the EBSA, 23 are threatened, including one Critically Endangered, eight Endangered and 14 Vulnerable ecosystem types (Sink et al., 2019). By implication, the biological communities associated with these		

ecosystems are also likely to be threatened. There are also a further six ecosystem types in the EBSA that are considered Near Threatened (Sink et al., 2019).		
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.	Medium
Explanation for ranking The top predators represented in this EBSA have a slow recovery time following impacts to their respective populations. Further, the reefs and hard grounds contain fragile species that are slow growing, and sensitive to disturbance.		
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	Medium
Explanation for ranking The kelp beds and surf diatom accumulations contribute to elevated productivity for coastal ecosystems, notably the sandy shores (Campbell and Bate, 1988, Rodil et al., 2018). As a spawning area for commercially important fish species, productivity across the shelf is also relatively high.		
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.	High
Explanation for ranking The Agulhas and Benguela Currents also meet in the broader area surrounding the EBSA. Consequently, Cape Point is a biogeographic break between the warm and cold temperate bioregions, and thus biodiversity in the area is expected to relatively higher here compared to that of surrounding areas. This is additionally true because the conditions range from fully sheltered within the bays, to fully exposed on the open coast, and because it contains 34 different ecosystem types, each likely supporting their own biological communities (Sink et al., 2019). The EBSA is also known to support diverse assemblages of key species (e.g., Best et al., 2013).		
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.	Low
Explanation for ranking Although there are some areas that are protected or under relatively low pressure within this EBSA, the bays in particular are under high pressure from human activities, and the condition of the ecosystem types across the EBSA as a whole is generally quite poor (Sink et al., 2012, 2019). Global change pressures are also strongly felt in this area, with the knock-on effects observed at the top-predator level (Crawford et al., 2008; Pichegru et al., 2010). Only 1% of the area is in good ecological condition; 46% is fair and 53% is in poor ecological condition (Sink et al., 2019).		

Status of submission

Area to be submitted to the Conference of the Parties for acknowledgement of meeting EBSA criteria once review process is finalized.

COP Decision

Not yet submitted.

End of proposed EBSA revised description

Motivation for Submission

Expert and systematic review of gaps in the EBSA network highlighted the requirements for the Seas of Good Hope EBSA. The area had high selection frequency in spatial assessments (Majiedt et al., 2013; Holness et al., 2014) and contained a number of threatened ecosystem types identified in the National Biodiversity Assessment 2011, 2018 (Sink et al., 2012, 2019). Initial draft EBSA boundaries were determined, and these were then evaluated against the EBSA criteria. Once it was determined that the area would meet EBSA criteria, a formal boundary delineation and evaluation process was undertaken. The delineation process included an initial stakeholder review, a technical mapping process and then an expert review workshop where boundary delineation options were discussed. The boundaries were revised a final time to accommodate the latest NBA 2018 assessment results (Sink et al., 2019) and the review workshop discussion. The delineation process used a combination of Systematic Conservation Planning and Multi-Criteria Analysis methods. The features used in the analysis were:

- Key physical features (i.e. islands) from the National Biodiversity Assessment 2011, 2018 (Sink et al., 2012, 2019) and BCC spatial mapping project (Holness et al., 2014) were incorporated. In addition, bays were mapped and included as these have been identified as important features in the new National Biodiversity Assessment 2018 (Sink et al., 2019). Fine-scale coastal mapping was also included (Harris et al., 2019).
- Delineations and threat status of consitituent ecosystem types in the area were included in the analysis and used to refine the boundary of the EBSA (Sink et al., 2019).
- Irreplaceable and near irreplaceable (i.e. very high selection frequency) sites that relate closely to the EBSA criteria of “Uniqueness and rarity” from the Systematic Conservation Planning process undertaken for Majiedt et al. (2013) and the BCLME by Holness et al. (2014).
- Areas of high relative naturalness 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. Both pelagic and benthic and coastal condition were incorporated.
- Distributions of known fragile, vulnerable and sensitive habitat-forming species were included (Unpublished SANBI and SAEON data).
- Areas important for threatened and special species were included. The priority areas and buffer distances around colonies were from Holness et al. (2014). Note that the full extent of the buffer was not necessarily included in the EBSA. Features included in the analysis were:
    - African Penguin colonies and a 20 km buffer.
    - Bank Cormorant, Cape Cormorant, White Breasted Cormorant and Crowned Cormorant colonies and a 40 km buffer.
    - Seal Colonies and a 20 km buffer.

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.