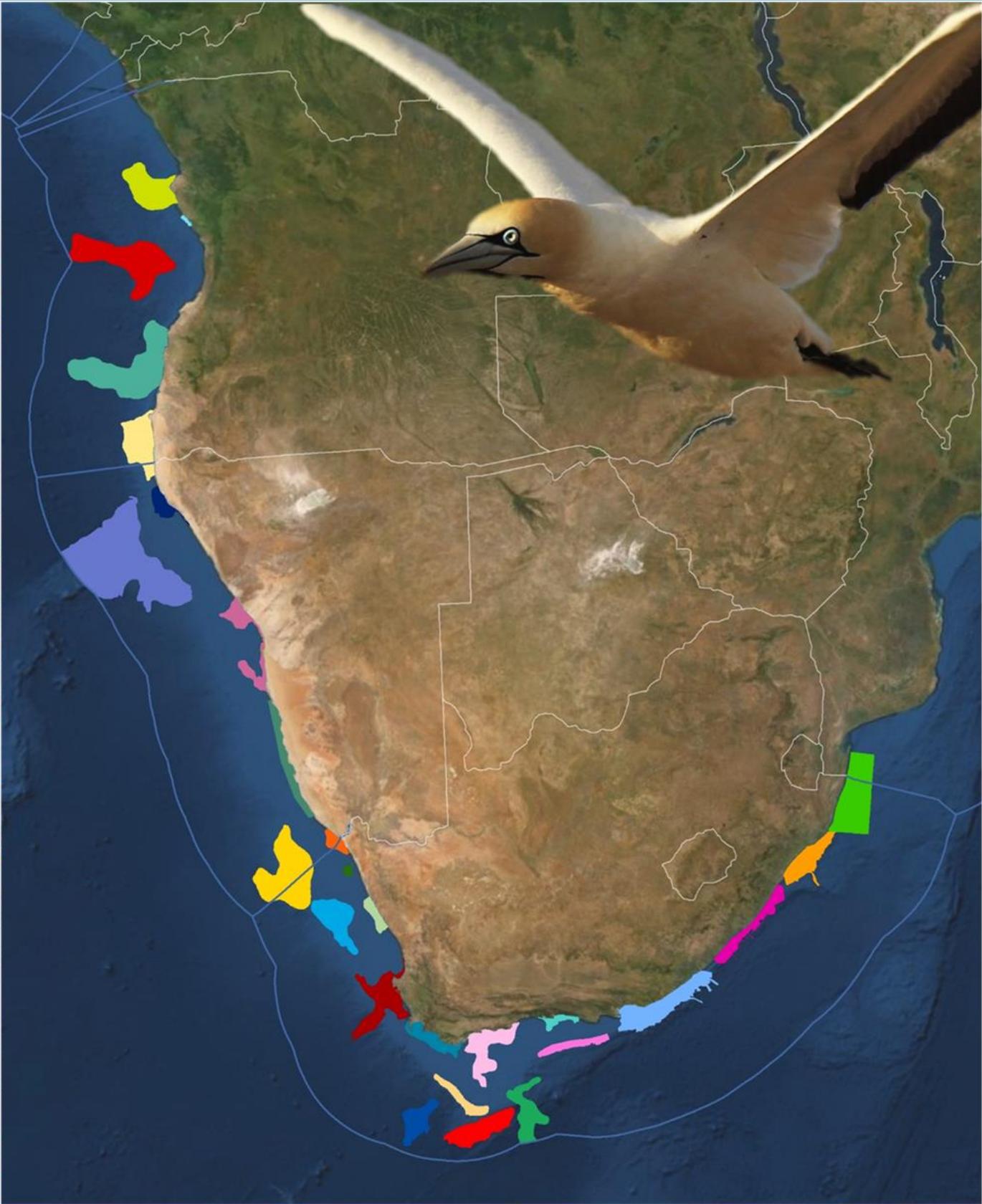


ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS

in the Benguela Current Large Marine Ecosystem



Cape Fria

PROPOSED DESCRIPTION

Cape Fria

Proposed EBSA Description

Abstract

Cape Fria is a coastal EBSA in northern Namibia, 50 km south of the border with Angola. The EBSA encompasses Cape Fria itself, and Angra Fria: a small, prominent bay to the north. Here, the continental shelf is at its narrowest in Namibia, and there is an intense upwelling cell, second only to that found at Lüderitz, which enhances local productivity. Consequently, several top predators use this area as a foraging ground. The EBSA thus extends 100 km along the shore, and 40 km offshore to depths of <250 m in the north (where seals forage) and 5 km offshore in the south (where Damara Terns forage). The upwelling cell also marks the northern boundary of the Benguela Current. Therefore, Cape Fria falls within a biogeographic transition zone, with a relatively high local biodiversity because it comprises species at both the northern and southern limits of their distributions. There is evidence that the area is critical for aggregations of almost the entire global population of Damara Tern, a Benguela System endemic, during specific periods of the year. It is also an important breeding site for Cape fur seals. Given its remote location, the coast is in relatively pristine condition, but may be threatened by industrial development in the future.

Introduction

Cape Fria, also known as Cape Frio, is located along the northern Namibian coast, adjacent to the Skeleton Coast Park. This site was not included in the initial set of EBSAs proposed for Namibia because: it was identified only during a gap analysis of the Namibian EBSA network; local knowledge of the Damara Tern aggregations (see below) was not available at the original South Eastern Atlantic EBSA Workshop in 2013 (UNEP/CBD/RW/EBSA/SEA/1/4); and data and information on the area are both relatively limited because it is so remote. During the gap analysis, it was determined that Cape Fria is a separate EBSA from the Namibe EBSA (previously named: Kunene-Tigres), rather than an extension of it, because it is centred around a separate upwelling cell that is not connected to the upwelling cell that enhances productivity in Namibe.

The Cape Fria EBSA lies at the northern limit of the Benguela Current, possibly influenced by the Angola-Benguela Frontal Zone, and thus within the transition zone between the temperate and sub-tropical bioregions. The larger component extends 40 km offshore, and includes inshore waters on the narrowest portion of the Namibian shelf, spanning a depth range of 0-250 m. It also includes a narrower coastal extension for approximately 60 km alongshore to the south, and approximately 5 km offshore. The unusual shape of this EBSA reflects the foraging ranges of different species that are responding to the upwelling-driven productivity. The broad northern portion is the foraging range of Cape fur seals, because that area supports an important breeding Cape fur seal colony. The narrower southern portion represents the foraging range of Damara Terns that rest on the adjacent shore. Interestingly, this EBSA appears to contain almost the entire global population of Damara Tern on a seasonal basis. Cape Fria EBSA also includes important threatened benthic shelf habitats. This site comprises a collection of features and ecosystems that are connected by the same ecological processes, but some features (e.g., the Damara Tern aggregations) are ephemeral; therefore, it is proposed as a Type 2/3 EBSA (*sensu* Johnson et al., 2018).

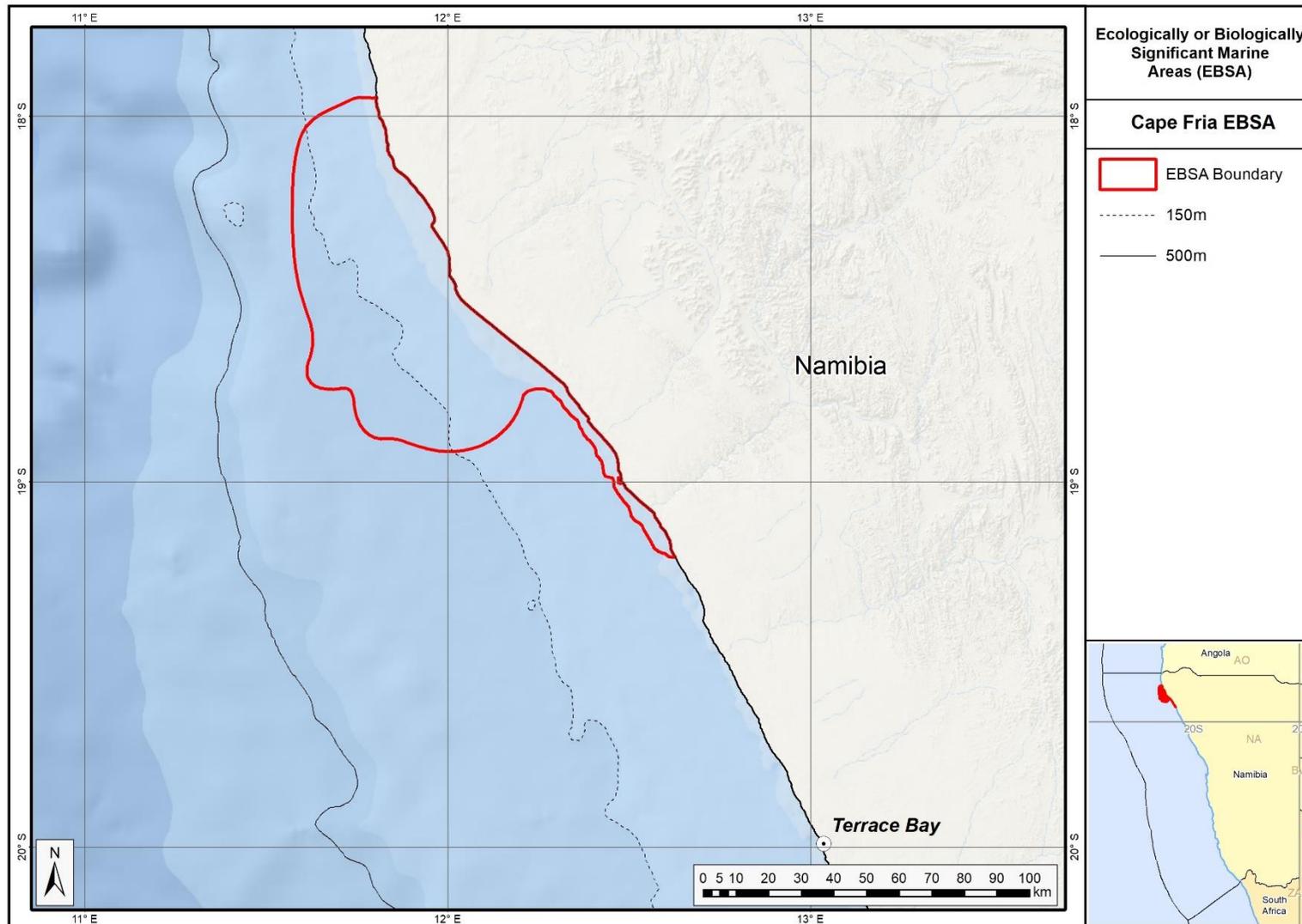
Description of the location

EBSA Region

South-Eastern Atlantic

Location

Cape Fria is located about 50 km south of the border between Namibia and Angola. The main body of the Cape Fria EBSA extends 40 km offshore and 100 km along the coast, while an additional section of inshore habitat extends alongshore for approximately 60 km southwards and has a width of approximately 5 km offshore. It lies entirely within Namibia's national jurisdiction.



Proposed delineation of the Cape Fria EBSA.

Feature description of the proposed area

The Cape Fria EBSA includes coastal and nearshore elements, and thus described for both benthic and pelagic features. It was identified in a gap analysis (using a systematic conservation planning approach) as an important inshore focus area for conservation of biodiversity features that are not yet sufficiently represented in the existing Namibian EBSA and marine protected area network (Holness et al., 2014). Local habitat heterogeneity is relatively high in this area, with 17 ecosystem types identified (Holness et al., 2014; Table in the Other relevant website address or attached documents section). Two of these habitats are Endangered: Central Namib Outer Shelf and Kunene Outer Shelf, with the EBSA being particularly important for the latter. In addition, a small portion of the Vulnerable Kunene Shelf Edge ecosystem type is also found within the Cape Fria EBSA. These threat statuses were determined by assessing the weighted cumulative impacts of various pressures (e.g., extractive resource use, pollution, development, and others) on each ecosystem type for Namibia (Holness et al., 2014; Table in the Other relevant website address or attached documents section).

Importantly, productivity offshore of Cape Fria is high because it is the site of the second-most intensive upwelling cell in Namibia. Here upwelling is driven both by wind and bottom topography because the site is at the narrowest portion of the continental shelf (Sakko, 1998); further, the wind shadow and poleward currents also contribute to phytoplankton blooms (Jury, 2017). This elevated productivity is at the heart of the EBSA, because it consequently forms a key foraging area for several top predators. The Cape Fria coast supports an important breeding site for Cape fur seals, *Arctocephalus pusillus pusillus*, with an increasing local population, compared to largely declining populations in southern Namibia (Kirkman et al., 2012). These seals spend time foraging in the northern portion of the EBSA. Cape Fria also supports several species of shore- and seabirds, including over-wintering Palearctic migrant bird species. Most notably, there is evidence that Cape Fria may contain, either seasonally or episodically, almost the entire global population of Damara Tern, *Sternula balaenarum*, a vulnerable species, endemic to the Benguela System (Braby et al., 1992). The focus area appears to be an annual congregation site prior to the flock migrating northwards. It has been suggested that this is likely to be linked to high food availability, i.e., a high-energy coastline with a presumably reliable food source that is available at night and within about 5 km of the shore. Damara Terns forage more in the southern portion of the EBSA, closer to the shore compared to that of the seals.

Although bird diversity and abundance are fairly low at Cape Fria (Tarr & Tarr, 1987), it may support a relatively high local biodiversity overall because it is situated within the transition zone between the temperate and sub-tropical bioregions (Sakko 1998). Consequently, the communities at Cape Fria comprise species from both bioregions at the northern and southern limits of their respective distributions. This includes various linefish and other commercially important species, such as deep-water hake (Holtzhausen et al., 2001, Kirchner et al., 2011), large-eye dentex (*Dentex macrophthalmus*), thinlip splitfin (*Synagrops microlepis*), longfin bonefish (*Pterothrissus belloci*) and the African mud shrimp (*Soleonocera africana*; Bianchi et al., 1999).

Feature condition and future outlook of the proposed area

Cape Fria and surrounds is a remote coastal area adjacent to the Skeleton Coast National Park. The focus area is inaccessible to the public, with only limited tourism permitted in the area, and consequently, this area is near-pristine. According to data from Holness et al. (2014) nearly 90% of the

area is classified as being in good condition, with almost all of the remaining area classified as being in fair ecological condition. Inshore and coastal habitats are in particularly good condition and are effectively well protected as a result of their remote location and the terrestrial Skeleton Coast National Park. However, pending plans to build an industrial port and associated infrastructure at Cape Fria or Angra Fria (Paterson, 2007) could potentially impact this. Onshore and offshore prospecting and mining (i.e., diamonds, oil, precious metals) is minimal at present but is expected to occur in the future.

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Other relevant website address or attached documents

Summary of ecosystem types and threat status for Cape Fria. Data from Holness et al. (2014).

Threat Status	Ecosystem type	Area (km ²)	Area (%)
Endangered	Central Namib Outer Shelf	243.0	5.0
	Kunene Outer Shelf	1 342.5	27.8
Vulnerable	Kunene Shelf Edge	3.8	0.1
Least Threatened	Central Namib Inner Shelf	829.4	17.2
	Kunene Exposed Rocky Shore	0.3	0.0
	Kunene Inner Shelf	1 551.1	32.2
	Kunene Inshore	275.4	5.7
	Kunene Intermediate Sandy Beach	61.0	1.3
	Kunene Mixed Shore	6.3	0.1
	Kunene Reflective Sandy Beach	1.9	0.0
	Hoanib Dissipative-Intermediate Sandy Beach	9.8	0.2
	Hoanib Dissipative Sandy Beach	7.0	0.1
	Hoanib Exposed Rocky Shore	0.4	0.0
	Hoanib Inshore	445.4	9.2
	Hoanib Intermediate Sandy Beach	38.4	0.8
	Hoanib Mixed Shore	7.9	0.2
	Hoanib Sheltered Rocky Shore	0.03	0.00
Grand Total		4 823.8	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
<i>Explanation for ranking</i>		

Cape Fria is both unique and rare for several reasons. It falls within a transition zone between the temperate and sub-tropical bioregions, and includes a relatively rare upwelling cell, second in intensity only to the Lüderitz upwelling cell. Further, a systematic conservation planning assessment (that was undertaken as a gap analysis) identified Cape Fria as an important inshore focus area for place-based conservation of biodiversity features that were not yet sufficiently represented in the existing Namibian EBSA and marine protected area network (Holness et al., 2014). Portions of this focus area were always required to meet biodiversity conservation targets, and hence it can be considered to be “irreplaceable”. Finally, existing evidence indicates that the area may either seasonally or episodically contain almost the entire global population of Damara Tern, *Sternula balaenarum*, a Benguela System endemic species (Braby et al., 1992). The area appears to be an annual congregation area prior to the flock migrating northwards. It has been suggested that this is likely to be a congregation area linked to high food availability, i.e., a high-energy coastline with a presumably reliable food source that is available at night and within about 5 km of the shore.

Special importance for life-history stages of species	Areas that is required for a population to survive and thrive.	High
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Explanation for ranking

Cape Fria is an important site for Cape fur seals, which, although it was only relatively recently established as a breeding colony, supports an increasing seal population (Kirkman et al., 2012). This site also exhibits strong terrestrial links because the expanding seal colony supports an expanding population of the Endangered Lappet-faced Vulture, *Torgos tracheliotos* (Braby, pers. comm.). The Cape Fria EBSA is also an overwintering site for Palearctic waders, although at fairly low densities (Tarr & Tarr, 1987). Further, as noted previously, Cape Fria hosts almost the entire global population of Damara Tern either seasonally or episodically, in what seems to be an annual congregation area prior to the flock migrating northwards (Braby et al., 1992). It is likely that this is linked to high food availability at the site, i.e., a high-energy coastline with a presumably reliable food source that is available at night, and within about 5 km of the shore. Finally, Cape Fria is a transition zone between the cool, temperate southern areas that are influenced by the Benguela current, and a more sub-tropical climate to the north of Namibia (Tarr 1987), and thus may possibly be an important area for adaptation to climate change and range shifts. This is supported by the fact that the area constitutes the northern or southern limit for a number of fish species (Bianchi et al., 1999; Holtzhausen et al., 2001; Kirchner et al., 2011).

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
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Explanation for ranking

The Cape Fria EBSA contains two Endangered ecosystem types: Central Namib Outer Shelf and Kunene Outer Shelf, with the area being particularly important for the latter. In addition, a small

portion of the Vulnerable Kunene Shelf Edge ecosystem type is found in this EBSA. As noted previously, the site is also important for the Vulnerable Damara Tern, *Sternula balaenarum* (Braby et al., 1992), and for Cape fur seals that seem to be generally declining in abundance at rookeries in southern Namibia but increasing here (Kirkman et al., 2014).

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.	Data Deficient
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Explanation for ranking

There is no information to guide ranking the EBSA on this criterion. It could possibly be ranked low because the conditions are unstable and unpredictable, preventing very vulnerable species from persisting (Sakko 1998). However, it could also be argued that the Cape Fria upwelling cell is vulnerable to impacts from climate change.

Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	High
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Explanation for ranking

There is an upwelling cell at Cape Fria that enhances local productivity (Sakko, 1998). Upwelling is year-round, but is intensified in winter and early spring (Hutchings et al., 2006; Jury, 2017). It is driven both by wind and bottom topography because the Namibian continental shelf is at its narrowest around Cape Fria (Sakko, 1998); further, the wind shadow and poleward currents also contribute to the phytoplankton blooms (Jury, 2017). This upwelling cell is second in intensity only to the Lüderitz upwelling cell, and the high productivity here that underpins the top predator foraging areas is at the heart of this site’s value as an EBSA.

Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.	Medium
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Explanation for ranking

Shorebird and coastal seabird diversity and density are relatively low in the focus area (Ryan et al., 1984; Tarr & Tarr, 1987). However, the Cape Fria focus area may be an area of high sub-tidal and coastal biodiversity because it is at the transition between temperate and sub-tropical

biogeographic regions, with communities comprising species at their southern and northern bioregional limits (Sakko 1998). It is possible that this is enhanced by high productivity from the Cape Fria upwelling cell, and the close proximity to the Walvis Ridge, which has high habitat heterogeneity. The speculated higher biodiversity in the area could be locally important because Namibia generally has low marine species richness (Sakko 1998). Local habitat heterogeneity is also high, with 17 habitats represented within the EBSA.

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.	High
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Explanation for ranking

Cape Fria is a remote coastal area adjacent to the Skeleton Coast Park. The focus area is inaccessible to the public, with only limited tourism permitted in the area, and because of this, is currently near-pristine.

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

The Cape Fria area was identified in a gap analysis as one of the two highest priority potential EBSA areas (along with Walvis Ridge Namibia) screened by the national EBSA process (including review of the spatial data from Holness et al. (2014) and inputs from expert workshops). The candidate EBSA was screened against the CBD criteria. Initial assessments indicated that it warranted inclusion. A final delineation and evaluation process was then undertaken, which resulted in the current description of the EBSA.

The delineation process used a combination of Systematic Conservation Planning (SCP) and Multi-Criteria Analysis methods. The key features used in the analysis were:

- Irreplaceable and near irreplaceable (i.e. very high selection frequency) sites, as well as primary and secondary focus areas identified in the SCP undertaken for the BCLME by Holness et al. (2014).

- Threatened Benthic and Coastal Ecosystems. The analysis focussed on the inclusion of the most threatened ecosystem types found in the area. These types are highlighted in the table in the Other relevant website address or attached documents section. Key threatened ecosystem types were the endangered Central Namib Outer Shelf and the Kunene Outer Shelf, and the vulnerable Kunene Shelf Edge. Delineations and ecosystem threat status from Holness et al. (2014).
- 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 20km buffer.
 - Bank Cormorant, Cape Cormorant, White Breasted Cormorant and Crowned Cormorant colonies and a 40km buffer.
 - Gannet colonies with a 40km buffer.
 - High density and diversity bird sites.
 - Seal Colonies and a 20km buffer.
- Areas of high relative naturalness identified in the SCP undertaken for the BCLME by Holness et al. (2014).
- Additional expert identified areas important for key bird species (especially Damara Tern, see Braby et al., 1992).

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 below were validated in an expert workshop.