

Appendix
Template for Submission of Scientific Information
to Describe Ecologically or Biologically Significant Marine Areas

Title/Name of the area: Agulhas Bank, South Africa

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Abstract (in less than 150 words)

The Agulhas Bank is a spawning ground and a nursery area and is the centre of abundance of numerous warm temperate species, including several endemic sparids. The bank is an area of wider shelf along the otherwise narrow east coast shelf of South Africa. It is the only warm temperate nursery area for species that spawn on the narrow shelf in the north and is important for retention, recruitment and food provision. Dense copepod communities provide a rich food source. The area includes unique and threatened high profile volcanic offshore reefs that support coldwater coral communities and critically endangered mud habitats. The spawning area for the threatened endemic reef fish *Petrus rupestris* is within this area. This area has been identified by two systematic planning initiatives, a national plan to identify focus areas for offshore protection and analyses to identify key areas for bycatch management in the demersal trawl fishery.

Introduction

This area with the Agulhas Bank on the southeast coast of South Africa includes benthic and pelagic features (Sink et al. 2011). The area ranges from the 30 m depth contour to approximately 250 m. Key benthic features include critically endangered mud habitats, high profile volcanic deep reefs, low profile deep reefs and rare gravels. The Agulhas Bank is important for numerous ecological processes including spawning, larval retention, recruitment, connectivity and provision of nursery and foraging areas. This area is the centre of abundance of numerous warm temperate species, including several endemic sparids. Some of these species are threatened or overexploited (sparids and sciaenids) and the deep reef habitats are considered important for the recovery of overexploited deep reef fish species. The spawning area for the threatened endemic reef fish *Petrus rupestris* is within this area with recent observations of spawning aggregations on the Agulhas Bank. The Agulhas Bank area has been identified as a priority area a national systematic biodiversity plans and is a focus area for offshore protection (Sink et al. 2011). Hutchings et al. (2002) also emphasise the importance of this area of one of three key nursery areas in South Africa and the only one in the warm temperate ecoregion. This area has been identified by two systematic planning initiatives, a national plan to identify focus areas for offshore protection (Sink et al. 2011) and fine-scale analyses to identify key areas for bycatch management in the demersal trawl fishery (Lombard et al. 2010).

Location

The area is bounded by latitudes of approximately 34°S to 36°S and longitudes of approximately 20°E and 23°E. The area is entirely within the national jurisdiction of South Africa and is within both the territorial sea and Exclusive Economic Zone.

Feature description of the proposed area

Key benthic features include sandy and mud habitats, high profile volcanic deep reefs, low profile deep reefs and rare gravels. The Agulhas bank is an important nursery area for species that spawn on the narrow shelf further north including shad *Pomatomus saltatrix* and the sciaenid *Attractoscion aequidens*. Squid also spawn in this area and their paralarvae that hatch from the benthic eggs are dispersed across the bank feeding on a dense layer of copepods that occur close to the seabed in this area (Hutchings et al. 2002). The Agulhas Bank area is moderately productive but has areas of relatively higher productivity within the broader area. There is a cold ridge of water, that is a prominent subsurface feature during most summers on the central Agulhas Bank (Swart and Largier 1987), that is associated with elevated phytoplankton concentrations (Probyn et al. 1994) and dense concentrations of copepods (Verheye et al. 1994) and clupeoid fish eggs (Roel et al. 1994). Threatened listed habitat types in the area include critically endangered Agulhas muddy inner shelf, endangered Agulhas hard inner shelf and the vulnerable Agulhas hard outer shelf, Agulhas sandy inner shelf and Agulhas gravel outer shelf. (Sink et al. 2012). Overexploited and threatened Linefish include the red steenbras *Petrus rupestris* (EN), Dageraad *Chrysoblephus cristiceps* (EN) and Black musselcracker *Cymatoceps nasutus* (Vu) (Sink et al. 2010, Sink et al. 2012). The area is important for protection of silver kob *Argyrosomus inodorus* and management within this area will contribute to bycatch management of this important sciaenid (Lombard et al. 2010, Attwood et al. 2011, Sink et al. 2011).

Feature condition and future outlook of the proposed area

The National Biodiversity Assessment 2011 (Sink et al. 2012) indicated a range of conditions (fair to poor) in this area (based on pressure data and an ecosystem-pressure matrix) with condition ranging from across this broad area. There are deep reefs that are estimated to be in good condition even though pressures elsewhere have led to these habitats being considered threatened. Key pressures include commercial demersal trawl and longline fisheries, a midwater trawl fishery, trap fisheries for rock lobster, linefishing (targeting sparids and sciaenids), shark fisheries and expanding petroleum activities.

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			x	

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
	oceanographic features.				
Rare habitats: Agulhas muddy inner shelf, Agulhas gravel inner shelf. The volcanic offshore Alghard Bank is a unique feature that supports kelp <i>Ecklonia maxima</i> , soft corals and styalsterine corals (Sink et al. 2010).					
Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.				x
Spawning: Red steenbras - <i>Petrus rupestris</i> (EN) and other linefish species (Hutchings et al. 2002). There have been recent observations of spawning aggregations of the endemic reef fish <i>Petrus rupestris</i> within this area (Sink et al. 2010). Nursery area for silver kob <i>Argyrosomus inodorus</i> (Attwood et al. 2011), geelbek, shad and white stumpnose (Hutchings et al. 2002). This area also supports a relatively high proportion of juvenile hake <i>Merluccius capensis</i> .					
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.				x
Threatened listed habitat types (Sink et al. 2012) CR: Agulhas muddy inner shelf. EN: Agulhas hard inner shelf. VU: Agulhas hard outer shelf, Agulhas sandy inner shelf, Agulhas gravel outer shelf Overexploited and threatened linefish: Red steenbras <i>Petrus rupestris</i> (EN) , Dageraad <i>Chrysoblephus cristiceps</i> (EN), Black musselcracker <i>Cymatoceps nasutus</i> (Vu) (Sink et al. 2010, Sink et al. 2012). The area is important for protection of overexploited silver kob <i>Argyrosomus inodorus</i> .					
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.				x
High profile deep reefs and hard grounds with styalsterine corals, black corals and gorgonians (Sink et al. 2010). It has been estimated that as much as 60% of the broader Agulhas Bank is hard ground (Hutchings et al. 2002)					
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.			x	
The Agulhas Bank area is moderately productive (Hutchings et al. 2002 and references therein) but has areas of relatively higher productivity within the broader area. There is a cold ridge of water, that is a prominent subsurface feature during most summers on the central Agulhas Bank (Swart and Largier 1987), that is associated with elevated phytoplankton concentrations (Probyn et al. 1994) and dense concentrations of copepods (Verheye et al.1994) and clupeoid fish eggs (Roel et al. 1994).					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.			x	

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
High sparid and invertebrate biodiversity (core of the distribution of several endemic species). This area was selected through systematic biodiversity planning because of the relatively higher habitat diversity and opportunities to meet multiple biodiversity targets in this area.							
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.				x		
Only one pelagic habitat type (Ab2) within this area and this is in a good condition. Benthic condition ranges from poor to good (Sink <i>et al.</i> 2012), but a few deep reefs appear untrawled and in a good condition. The Alphonse Banks are in good condition although fishing effort has reduced the population of endemic sparids.							

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
<i>Add relevant criteria</i>							
Important area for bycatch management (inshore trawl fishery) (Lombard et al. 2010, Attwood et al. 2011, Sink et al. 2011)							

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Maps and Figures

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