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

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

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Abstract (*in less than 150 words)*
Childs Bank is a unique submarine bank feature occurring within South Africa's EEZ rising from 400 m to 200 m on the western continental margin on South Africa. This focus area includes five defined benthic habitat types including the bank itself, the outer shelf and the shelf edge, supporting hard and unconsolidated habitat types. One habitat type within this focus area is assessed to be "Critically Endangered" and another two as "Vulnerable". However, the benthic area of the bank itself is considered to be in "Good" natural state indicating that the ecological patterns and processes are intact. Childs Bank and associated habitats are known to support structurally complex cold water corals, hydrocorals, gorgonians and glass sponges, species that are considered vulnerable marine ecosystems. The Childs Bank focus area is highly relevant in terms of the following EBSA criteria: "Uniqueness or rarity", "Vulnerability, fragility, sensitivity or slow recovery" and "Naturalness".

Introduction
(To include: feature type(s) presented, geographic description, depth range, oceanography, general information data reported, availability of models)

Childs Bank is the only known submarine bank occurring within South Africa's EEZ and occurs on the shelf, close to the shelf edge, on the western continental margin of South Africa. The base of the bank lies in 350 to 400 m water rising to less than 200 m with a large, flattened surface area at the shallowest point. The bank area has been estimated to cover 1450 km^2 (Sink et al. 2012a) however the adjacent habitat towards the shelf edge is considered likely to host vulnerable hard ground species. Childs Bank has been geologically described as a rugged limestone feature, bounded at the outer edges by precipitous cliffs at least 150 m high (Birch and Rogers 1973). The proposed EBSA area includes Childs Bank, the shelf and the shelf edge adjacent to the bank. The sediment adjacent to the bank is predominantly fine sand with approximately 25 % mud and in some locations small amounts of gravel have been detected (Atkinson 2010). This area was identified as a priority area for protection through two planning studies identifying focus areas for offshore protection (Sink et al. 2011, Majiedt et al. 2013). Benthic protection in the region of Childs Bank would ensure protection of the only submarine bank within South Africa's EEZ, some protection of the adjacent shelf edge and protection of areas where coral records have been detected.

Location
(Indicate the geographic location of the area/feature. This should include a location map. It should state if the area is within or outside national jurisdiction, or straddling both.)

The Childs Bank area is located approximately 190 nautical miles off Hondeklipbaai on the west coast of South Africa and lies entirely within national jurisdiction. A map indicating the area is available in Sink et al. 2011.

Feature description of the proposed area
(This should include information about the characteristics of the feature to be proposed, e.g. in terms of physical description (water column feature, benthic feature, or both), biological communities, role in ecosystem function, and then refer to the data/information that is available to support the proposal and whether models are available in the absence of data. This needs to be supported where possible with maps, models, reference to analysis, or the level of research in the area)

Childs Bank is a unique offshore submarine bank habitat type within South Africa's EEZ defined as the Southern Benguela Submarine Bank (Sink et al. 2012a). No other known submarine bank occurs within South Africa's EEZ. The Childs Bank area includes benthic habitats that are characterized by the Southern Benguela Hard Outer Shelf and Hard Shelf Edge and Sandy Outer Shelf and Shelf Edge (Sink et al. 2012a Fig 5). Two areas, defined as Southern Benguela hard shelf edge habitat type, located towards the shelf edge adjacent to Childs Bank are defined as "critically endangered" in South Africa's most recent National Biodiversity Assessment (Sink et al. 2012a). A further two habitat types within the focus area, the Southern Benguela Hard Shelf Edge and Sandy Shelf Edge, are defined as "vulnerable" (Sink et al. 2012a). Sink et al. (2012b) reported that 37% of the Childs Bank slopes (Southern Benguela Submarine Bank habitat type) are trawled and that the potential for areas thereof to be considered vulnerable marine ecosystems is high. Skippers and deck hands from the trawl industry report fragments of corals sometimes caught in isolated locations in this area and that there are several patches of hard ground, requiring additional footrope protection (e.g. bobbins and rockhopper gear, Sink et al. 2012b). The Childs Bank region is known to support structurally complex cold water corals, hydrocorals (e.g. *Stylaster* sp.), gorgonians and glass sponges (Gilchrist 1922, 1925, Van Bonde 1928, Atkinson 2010, Atkinson et al. 2011).

Kirkman et al. 2013 show that the shelf edge area adjacent to Childs Bank is a biodiversity hotspot for demersal fish and cephalopods in the southern Benguela region. Benthic communities sampled adjacent to the Childs Bank mound revealed high abundance and biomass of benthic infauna and epifauna in a study that spanned the southern Benguela region (Atkinson 2010, Atkinson et al. 2011) indicating a rich benthic fauna to occur in this region. Two species of burrowing urchins (*Spatangus capensis* and *Brissopsis lyrifera capensis*) and a burrowing anemone species (*Actinauge granulosus*) were detected in high abundances in the Childs Bank region, contributing to the bioturbation and oxygenation of sediment, an important ecological function. Three species indicative of vulnerable marine ecosystems; cold water coral fragments, gorgonian *Acbaria rubra* and glass sponge *Rosella antarctica*, were sampled at a virtually untrawled site adjacent to Childs Bank (Atkinson 2010).

Feature condition and future outlook of the proposed area
(Description of the current condition of the area – is this static, declining, improving, what are the particular vulnerabilities? Any planned research/programmes/investigations?)

Sink et al. (2012a) categorize Childs Bank to currently be in "Good" ecosystem condition, based on cumulative impact scores. "Good" condition sites are those sites which, based on the low levels of pressure, are expected have both biodiversity pattern and process largely intact and hence can be considered to be in a largely "natural" or "pristine" state. However, the area south and towards the shelf edge of Childs Bank were categorized as "Fair" and "Poor", indicating that biodiversity pattern and/or ecological processes are being impacted or degraded (Sink et al. 2012a, fig. 40).

It is reported that the trawl fishing intensity in the northern region of the fishing grounds, including Childs Bank has declined since the mid 1990s (Russell Hall, Sea Harvest pers. comm.) and it is unlikely that this region was as intensively fished as the western grounds, closer to the port of Cape Town. No trawling occurs on the top of the bank with most fishing taking place around the slope where hard ground, supporting vulnerable, habitat forming species are most likely to occur. There is scope to protect this feature with limited, if any adverse impact on the fishery (Sink et al. 2012b).

Sink et al (2011) identified priority offshore habitat types for protection, one of which is the Childs Bank region. Securing protection for Childs Bank is important for meeting conservation targets of benthic protection of the only submarine bank in South Africa's EEZ.

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 proposed area for EBSA description may qualify on the basis of one or more of the criteria, and that the polygons 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)			
		No information	**Low**	**Medium**	**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 oceanographic features.				X
Explanation for ranking The Childs Bank submarine mound is the only such feature known to occur within South Africa's EEZ and therefore represents a highly unique feature in this region.					
Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.		X		
Explanation for ranking There is no evidence to suggest that the Childs Bank area is of particular special importance for life history stages of particular species or populations, however the habitat type is a unique feature within South Africa's EEZ and it is possible it may support key ecological processes as yet unstudied.					
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	
Explanation for ranking Vulnerable marine ecosystem species are known to occur in the region of Childs Bank. These habitat types and some of the species they host are considered threatened. Some long-lived pelagic species (blue shark (IUCN near threatened) and mako shark (IUCN vulnerable)) are caught in fair numbers (~15% of total Atlantic catch) around Childs Bank (DAFF Linefish Section). Populations of these species are believed to be in global decline.					
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
Explanation for ranking This area has hard ground habitats on the outer shelf and shelf edge that are considered sensitive to demersal trawling and mining (Sink et al. 2011, 2012a, 2012b). Samples from of cold water corals, sponges and gorgonians have been reported from this area (Gilchrist 1922, Von Bonde 1928 and Atkinson 2010, 2011) and more recently, skippers and deck hands from commercial trawl vessels have indicated occurrences of such species in their nets when fishing in this area (Sink et al. 2012).					
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.		X		
Explanation for ranking The levels of productivity from around the Childs Bank region are largely unquantified to date.					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.			X	
Explanation for ranking This area is considered to host high levels of biodiversity (e.g. infauna and epifauna – Atkinson 2010, Atkinson et al. 2011, demersal fish and cephalopod – Kirkman et al. 2013) and likely vulnerable marine ecosystems that					

support habitat forming species, associated with high biodiversity.					
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
Explanation for ranking Sink et al. (2012a) categorize Childs Bank to be in "Good" ecosystem condition, based on cumulative impact scores. "Good" condition sites are those sites which, based on the low levels of pressure, are expected have both biodiversity pattern and process largely intact and hence can be considered to be in a largely "natural" or "pristine" state. However, the area south and towards the shelf edge of Childs Bank were categorized as "Fair" and "Poor" indicating that biodiversity pattern and/or ecological processes are being impacted or degraded. See fig. 40, Sink et al. 2012a					

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**	**Medium**	**High**
Add relevant criteria					
Explanation for ranking					

References

(e.g. relevant documents and publications, including URL where available; relevant data sets, including where these are located; information pertaining to relevant audio/visual material, video, models, etc.)

Atkinson 2010. Effects of demersal trawling on marine infaunal, epifaunal and fish assemblages: studies in the southern Benguela and Oslofjord. PhD dissertation, University of Cape Town pp. 141.

Atkinson LJ, Field, JG and Hutchings L. 2011. Effects of demersal trawling along the west coast of southern Africa: multivariate analysis of benthic assemblages. Marine Ecology Progress Series: 430:241- 244. doi:10.3354/meps08956.

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Majiedt P, Holness S, Sink K, Oosthuizen A, Chadwick P. 2013. Systematic Marine Biodiversity Plan for the West Coast of South Africa. South African National Biodiversity Institute, Cape Town.

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Sink KJ, Wilkinson S, Atkinson LJ, Sims PF, Leslie RW, Attwood CG. 2012b. The potential impacts of South Africa's demersal hake trawl fishery on benthic habitats: historical perspectives, spatial analyses, current review and potential management actions. Unpublished report. Cape Town: South African National Biodiversity Institute.

Maps and Figures

Sink et al. 2011a - Figure 22a and b (page 50)
Sink et al. 2012a - Figure 5 (page 58), 40 (page 158), 43 (page 161).
Kirkman et al. 2013 – Figure 4 and 5

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