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

Title/Name of the area: Protea Seamount – South African EEZ

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Abstract (*in less than 150 words)*
The focus area 'Protea seamount' – South African EEZ – occur off the SSW flank of the Agulhas continental shelf, an oceanic plateau that extends several hundreds of km south of South Africa, in the south Atlantic abyss (S 36° 50' 0'' E 18° 5' 0''). The area were the seamount is located is an important region for Ferro- manganese deposits. Protea seamount is not well known and no records exist on fish or benthic invertebrate species, and especially if reef-like cold water coral habits are present (Seamount Online). Little is known about the diversity on this seamount, particularly with respect to sessile invertebrate organisms and deeper reef habitats. According to a recent analysis to identify priority areas for seabed and pelagic protection within the South African EEZ (Sink et al., 2012), Protea seamount had the highest selection frequency for protection due to its vulnerability to both pelagic fishing and benthic trawling. In summary, it is considered to be highly relevant in terms of the following EBSA criteria: 'Importance for threatened, 'biological diversity' and 'naturalness'

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

The focus area 'Protea seamount – South African EEZ – occurs off the SSW flank of the Agulhas continental shelf, an oceanic plateau that extends several hundreds of km south of South Africa, in the south Atlantic abyss (S 36° 50' 0'' E 18° 5' 0''). The area were the seamount is located is an important region for Ferro- manganese deposits. The seamount is associated with widely distributed Late Eocene volcanism that created a number of clusters of seamounts in the area. Protea seamount, the only named seamount in this area, is about 1500 m high, rising from a basal water depth of 4000 m to a summit depth of 400 m. It is worth noting that mapping of biodiversity features, processes and threats at a national level to identify priority offshore marine protected areas for seabed and pelagic protection (Sink et al., 2012), had Protea seamount as the highest selection frequency for protection due to its vulnerability to both pelagic fishing and benthic trawling. Our understanding of species, communities and connectivity of Protea seamount, along the SSW flank of the agulhas continental shelf is poor, and this precludes any attempt at seamount biodiversity conservation & exploited fisheries management within this highly productive ecosystem. Having said that, implementing measures to avoid significant adverse impacts to this vulnerable marine ecosystem (VME) needs to be implemented as our knowledge of the this seamount ecosystem is still very rudimentary (seamount online). The Agulhas Current, which flows southwestward along the eastern coast of South Africa, has its retroflection in the region where Protea seamount. The location of protea seamount in relation to the agulhas basin, agulhas continental shelf and other seamounts in the chain, and the prevailing retroflective Agulhas current entail that Protea seamount is an important aggregation sites for highly migratory species, such as sharks, tuna and turtles. Knowledge of the Protea seamount ecosystem is extremely important with respect to (1) informing on appropriate conservation management measures (e.g. protected areas or spatial zoning), especially

in light of proposed Ferro-manganese mining, and increase fishing pressure in our national waters, and (2) for testing of ecological, evolutionary and biogeographical theories pertaining to seamounts and there importance. Although there have been a previous scientific expeditions to Protea seamount (in 2001), it was focused on deep-sea pelagic birds. There are no records of fish or other taxa such as benthic invertebrates for Protea seamount.

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 focus area 'Protea Seamount – within the national jurisdiction of South Africa– occurs off the SSW flank of the Agulhas continental shelf, an oceanic plateau that extends several hundreds of km south of South Africa, in the south Atlantic abyss (S 36° 50' 0'' E 18° 5' 0'').

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)

According to a recent analysis to identify priority areas for seabed and pelagic protection within the South African EEZ (Sink et al., 2012), Protea seamount, situated in the Atlantic abyss, was one of 10 regions with the highest selection frequency for protection due to its vulnerability to both pelagic fishing and benthic trawling (see Sink et al., 2012). This area is therefore considered to be highly relevant in terms of the following EBSA criteria: 'Importance for threatened ecosystem', 'nurseries or discrete feeding, or spawning areas', 'biological diversity' and 'possible naturalness'.

South Africa has committed to a representative MPA network (Government of South Africa 2010) and it is envisaged that offshore EBSAs and other forms of effective spatial management can play a role in addressing many of the offshore biodiversity challenges in South Africa (and transboundary within associated LMEs). These include the maintenance of seabed (benthic) habitats and the protection of vulnerable marine ecosystems, such as seamounts.

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. (2012) estimated the threat status of the 60 offshore benthic habitat types identified for South Africa by assessing the cumulative impacts of various pressures (e.g. extractive resource use, pollution and others) on each habitat type. One of the three types of benthic habitat that are most prominent in the focus area, namely Protea Seamount, has been shown to be Critically Endangered in terms of threat status (Sink et al. 2012), indicating that very few (< 20%) of remaining area of this habitat (in the associated bioregion) is in good (natural or pristine) condition. The area is therefore highly vulnerable to exploitation due to its unprotected status.

However, the focus area is one of the few areas where the above threatened habitat types are in a good condition, largely because it has been subjected to relatively little extractive resource use (e.g. fishing, mining) pressure, and is relatively remote and often subjected to high seas with winds of around 50 knots. Thus, the focus area was identified by sink et al., (2012), due to its vulnerability as one of 10 marine 'primary focus areas' for spatial protection and development of an EBSA.

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 No information is available to assess uniqueness or rarity.					
Special importance for life-history stages of species	Areas that is required for a population to survive and thrive.	X			
Explanation for ranking There is no evidence to suggest that the focus area is of special importance for life history stages of any particular species/population, but no evidence exists to conclude otherwise.					
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 One of the three types of benthic habitat that are most prominent in the focus area, namely Protea Seamount, has been shown to be Critically Endangered in terms of threat status (Sink et al. 2012), indicating that very few (< 20%) of remaining area of this habitat is in good (natural or pristine) condition.					
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 Seamounts are considered Vulnerable Marine Ecosystems					
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	X			

Explanation for ranking Seamounts are considered to be relatively productive and highly diverse, but currently there is no evidence that the high levels of diversity or endemism occur on this seamount. No data is available.					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.	X			
Explanation for ranking No data available					
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 The focus area is one of the few areas where the above threatened habitat types are in a good condition, largely because it has been subjected to relatively low levels of anthropogenic pressures.					

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.)

Sink KJ, Attwood CG, Lombard AT, Grantham H, Leslie R, Samaai T, Kerwath S, Majiedt P, Fairweather T, Hutchings L, van der Lingen C, Atkinson LJ, Wilkinson S, Holness S, Wolf T. 2011. Spatial planning to identify focus areas for offshore biodiversity protection in South Africa. Final Report for the Offshore Marine Protected Area Project. Cape Town: South African National Biodiversity Institute.

Sink K, Holness S, Harris L, Majiedt P, Atkinson L, Robinson T, Kirkman S, Hutchings L, Leslie R, Lamberth S, Kerwath S, von der Heyden S, Lombard A, Attwood C, Branch G, Fairweather T, Taljaard S, Weerts S, Cowley P, Awad A, Halpern B, Grantham H, Wolf T. 2012. National Biodiversity Assessment 2011: Technical Report. Volume 4: Marine and Coastal Component. South African National Biodiversity Institute, Pretoria.

Maps and Figures

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