Template for Submission of Scientific Information

to Describe Ecologically or Biologically Significant Areas

*N.B. Please **DO NOT** embed tables, graphs, figures, photos, or other artwork within the text manuscript, but please send these as separate files. Captions for figures should be included at the end of the text file, however.*

Title/Name of the area: "Parcel do Manuel Luiz e Banco do Álvaro"

Presented by (*names, affiliations,title, contact details)*

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Abstract (*in less than 150 words)*

'Parcel do Manuel Luiz' is the most northern coral communities known in Brazil. In some areas milleporids predominate on the reef walls, followed by the octocoral *Phyllogorgia dilatata* (endemic to Brazil). There are records of 50% of the Brazilian hard corals species in the area, six of which were not previously reported in the Northeastern adjacent coast. The fire coral *Millepora laboreli* is endemic to the area and has been recently included as EN in the Brazilian List of Endangered Species. The presence and great abundance of Caribbean reef organisms, which do not occur along the eastern coast of South America, provide additional evidence that these reefs may be one of the main faunal stepping stones between the Caribbean and the Brazilian coast. The region represents an important area of feeding and reproduction of elasmobranchs. Despite its proximity to the Amazon River mouth, the West flowing Equatorial Current provides the region with clear and saline water. A Marine State Park, covering 354 km^2 and including at least three different formations, has protected this area since 1999 and is a RAMSAR site.

Introduction

'Parcel do Manuel Luiz' harbors a unique coral community established on a rocky structure. It represents the most northern coral communities known in Brazil. There are two main reef areas described: Parcel do Manuel Luiz (69 km^2 centered on 00°50′S, 044 °15′W) and Banco do Álvaro (30 km^2 centered on 00 ° 17.5′S, 044 ° 49.5′W) (Castro & Pires, 2001). The former is located some 86 km offshore, 180 km from the town of São Luís (the nearest large settlement), and 50 km from the edge of the continental shelf. The latter is located 90 km NW from the former. They are constituted by a concentration of isolated pinnacles, each up to 300 m in diameter. These pinnacles may reach the low tide level, but the top of most of them are in depths of up to14 m. Their bases usually lie on a bottom at a depth of 25–45 m. They probably form a coral community flourishing on a rocky substrate, but there have not been any drillings to confirm this. In some areas milleporids predominate on the reefs walls, followed by the octocoral *Phyllogorgia dilatata* (endemic to Brazil) (Castro & Pires, 2001). There are records of 50% of the Brazilian hard corals species in the area, six of which were not previously reported for the Northeastern coast of Brazil (Moura *et al.* 1999, Amaral *et al*., 2007). The fire coral *Millepora laboreli* (Amaral, 2008) is endemic to the 'Parcel do Manuel Luiz' and has been recently included as EN in the Brazilian List of Endangered Species (D. O. Pires pers. comm.). The presence and great abundance of Caribbean reef organisms which do not occur along the eastern coast of South America, such as the purple reeffish *Chromis scotti*, provide additional evidence that the Manuel Luis Reefs may be one of the main faunal stepping stones between the Caribbean and the Brazilian coast (Moura *et al.* 1999). The region represents an important area of feeding and reproduction of sharks, including species of economic value as (*Rhizoprionodon porosus*) and endangered species as (*Ginglymostoma cirratum*) (Motta *et al*.,

2009). Despite its proximity to the Amazon River mouth, the West flowing Equatorial Current provides the region with clear and saline water. The tidal range is about 6.5 m and visibility ranged between 20 and 30 m (Moura *et al.* 1999). A Marine State Park, covering 354 km^2 and including at least three different formations, has protected this area since 1999 and is a RAMSAR site.

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

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. It should also state if the area is wholly or partly in an area that is subject to a submission to the Commission on the Limits of the Continental Shelf]

The proposed EBSA (figure 1) is situated between the following coordinates:

	Latitude	Longitude
1	0°15'S	44°48'W
2	0°15'S	44°51'W
3	0°19'S	44°51'W
4	0°59'S	44°21'W
5	0°59'S	44°8'W
6	0°50'S	44°8'W
7	0°15'S	44°48'W

There are two main reef areas in this EBSA: Parcel do Manuel Luiz (69 km^2 centered on 00°50′S, 044 °15′W) and Banco do Álvaro (30 km^2 centered on 00 ° 17.5′S, 044 ° 49.5′W). The former is located some 86 km offshore, 180 km from the town of São Luís, Maranhão State (the nearest large settlement), and 50 km from the edge of the continental shelf. The latter is located 90 km NW from the former.

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)

They are constituted by a concentration of isolated pinnacles, each up to 300 m in diameter. These pinnacles may reach the low tide level, but the top of most of them are in depths of up to14 m. Their bases usually lie on a bottom at a depth of 25–45 m. They probably form a coral community flourishing on a rocky substrate, but there have not been any drillings to confirm this (Castro & Pires, 2001).

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?)

Despite its proximity to the Amazon River mouth, the West flowing Equatorial Current provides the region with clear and saline water. The tidal range is about 6.5 m and visibility ranged between 20 and 30 m (Moura *et al.* 1999). There are some isolated research in the area. There is not research program.

Assessment of the area against CBD EBSA Criteria

(Discuss the are 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, 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 oceanographic features			**X**	
Explanation for ranking They are constituted by a concentration of isolated pinnacles, each up to 300 m in diameter. These pinnacles may reach the low tide level, but the top of most of them are in depths of up to14 m. Their bases usually lie on a bottom at a depth of 25–45 m. Coral communities occur on the pinnacles.					
Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.			**X**	
Explanation for ranking This EBSA represents an important area of feeding and reproduction of elasmobranchs, including species of economic value as (*Rhizoprionodon porosus*) and endangered species as (*Ginglymostoma cirratum*) (Motta *et al*., 2009).					
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 The Manuel Luis Reefs region, due to its proximity to the Amazon River, may play a major role in gene flow between northern and southern Western Atlantic reef fauna.					
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 There are 16 species of corals and calcified hydroids. These include records of 50% of the Brazilian hard corals species in the area, six of which were not previously reported for the Northeastern coast					

of Brazil (Moura *et al.* 1999, Amaral *et al.*, 2007).
Favia leptophylla, endemic to Brazil, was known only 2000 km south, in the coast of Bahia State and Espírito Santo State. It was recently registered in this EBSA.
Coura, M. (pers. comm.) observed that in some areas of Banco do Álvaro milleporids predominate on the reefs walls, followed by the octocoral *Phyllogorgia dilatata* (endemic to Brazil).
In the southwestern part of Parcel do Manuel Luiz, Coura, M. described a predominance of *P. dilatata* on top and walls in depths of up to 15 m, with corals, sponges, and algae dominating the slopes (approx. 30 m).
The fire coral *Millepora laboreli* (Amaral, 2008) is endemic to the 'Parcel do Manuel Luiz' and has been recently included as EN in the Brazilian List of Endangered Species (D. O. Pires pers. comm.).

Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	**X**			
Explanation for ranking					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.				**X**
Explanation for ranking There are 16 species of corals and calcified hydroids. These include records of 50% of the Brazilian hard corals species in the area, six of which were not previously reported for the Northeastern coast of Brazil (Moura *et al.* 1999, Amaral *et al.*, 2007). The presence and great abundance of Caribbean reef organisms which do not occur along the eastern coast of South America provide additional evidence that the Manuel Luis Reefs may be one of the main faunal stepping stones between the Caribbean and the Brazilian coast (Moura *et al.* 1999).					
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 It is an oceanic area, far from the coast. The "Parcel do Manuel Luis is located some 86 km offshore, 180 km from the town of São Luís (the nearest large settlement), Maranhão State and 50 km from the edge of the continental shelf. The "Banco do Álvaro" is located 90 km NW from the "Parcel".					

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**
Add relevant criteria					
Explanation for ranking					

References

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

Amaral F. D., Broadhurst M. K., Cairns S. D., Schlenz E. 2002. Skeletal morphometry of *Millepora* occurring in Brazil, including a previously undescribed species. Proceedings of the Biological Society of Washington 115 (3): 681-695.

Amaral, F. D., Hudson, M. M., Steiner, A. Q. & RAMOS, C.A.C. 2007. Corals and calcified hydroids of the Manuel Luiz Marine State Park (State of Maranhão, Northeast Brazil). Biota Neotropica v7 (n3) http://www.biotaneotropica.org.br/v7n3/en/abstract?article+bn00907032007.

Castro C. B. & Pires D. O. 2001. Brazilian coral reefs: what we already know and what is still missing. Bulletin of Marine Science 69(2): 357-371.

Motta, F. S., Moura, R. L., Francini-Filho & R. B.,Namora, R. C. 2009. Notas sobre a biologia reprodutiva e alimentar de elasmobrânquios no Parque Estadual Marinho Parcel Manoel Luís, Maranhão – Brasil. Pan-American Journal of Aquatic Sciences 4(4): 593-598.

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