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Appendix

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

*Note: 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:

Río Sarstún-Punta de Manabique

Guatemala

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Abstract (in less than 150 words)

In 2009 as part of the Gap Analysis developed by the National Implementation Support Partnership (NISP) for the Program of Work on Protected Areas of the CBD (PoWPA), eleven coastal-marine areas were identified as a priority to be included in the National System of Protected Areas of Guatemala

(SIGAP) to achieve sustainable use of biodiversity. Among these areas, just one was identified in the Caribbean Sea: a marine portion of 318.97 Km² that links two already established coastal protected areas. Thus, the Río Sartstún-Punta de Manabique may be the only area that can be proposed by Guatemala as an Ecologically or Biologically Significant Marine Area (EBSA), increasing the current level of protection within marine protected areas, creating no-fishing areas in the reef and protecting spawning aggregation, in support of the objectives of the Wider Caribbean and Western Mid Atlantic Regional Workshop to be held next February in Recife, Brazil. Finally, it has to be noticed that no work has been done yet to officially identify marine areas beyond national jurisdiction neither in the Pacific Ocean nor in the Caribbean Sea.

Introduction

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

The proposed Río Sarstún-Punta de Manabique EBSA was identified during an Ecoregional Assessment developed by The Nature Conservancy (TNC) and World Wildlife Fund (WWF) as part of the Mesoamerican Reef Program (MAR) in 2006. The marine boundaries of the planning area extended to the 200 m depth contour (border limit of the continental shelf). Details of the applied methodology and models can be found in “Evaluación Ecorregional para la Conservación de la Biodiversidad Marina en el Pacífico Oriental Tropical (Ecorregiones Panamá Bight, Nicoya y Cocos) y el Caribe de Costa Rica y Panamá” (TNC/MAC, 2007).

The oceanographic characteristics of the Amatique Bay are influenced by the Sarstún River, Río Dulce and systems: Graciosa Bay and Santo Tomás de Castilla Bay. The waters in the area are warm (29 °C) with a range in the water column between 25.2 and 32.8 °C, the thermocline is usually located at 10 m depth. The months with warmer waters occur in August and May showing a surface temperature of 32.6 and 30.8 °C respectively; the cold months from November to February with surface temperatures of 27.3 and 29.4 °C. The salinity in the bay fluctuates during the year between 8 to 35 ppm influenced by input from rivers Sarstún and Río Dulce, where the average value of 32 ppm. The dissolved oxygen values fluctuate between 0.6 to 6.6 mg / l in the water column and pH values ranging between 7.4 to 8.2 (Ixquiac, et al. 2008). The funds of the bay are composed primarily of sand and silts, the result of input from rivers. There are some structures like rocks and small coral formations; the shores of the bay are covered with sea grass (*Thalassia* sp and *Halodule* sp).

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 Río Sarsún-Punta de Manabique proposed EBSA is located in the Caribbean Sea, within Guatemala national jurisdiction (see Number 11 in Annex 1).

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)

The Río Sarsún-Punta de Manabique proposed EBSA comprises 318. 97 Km². Conservation targets identified include (CONAP y MARN, 2009): mangroves, seagrasses, estuaries and coastal lagoons, coral reefs, sandy beaches and manatee habitat. It is an important natural marine production area, in terms of its relevance as breeding or nursery habitats for fishing and maintenance of livelihoods.

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?)

The Mesoamerican Reef Ecoregional Assessment (2008) identified as main threats for the area that includes the Río Sarsún-Punta de Manabique proposed EBSA: global climate change, inadequate aquatic tourism practices, urban development and tourism infrastructure development, sewage and ballast water discharge (contamination source of exotic species and diseases), and solid waste accumulation. Specifically the Río Sarsún-Punta de Manabique proposed EBSA also faces overfishing and the use of inadequate fishing practices (CONAP y MARN, 2009).

Using this threats analysis, objectives and strategies were developed and prioritized, including facilitating civil society participation in the Marine Protected Areas administration process, promote changes in MPA legislation and the harmonization of policies for the management of fisheries, mangroves and land use plans with local actors in order to maintain the natural productivity, livelihoods and industrial fishing. All these actions all fully aligned with the National Policy on Biological Diversity, an initiative led by CONAP and signed last year by the Council of Ministers (the highest government executive level), which proposes a new positive relationship between the human being and economic, social, rural and human development.

In the proposed area there are coral reefs that provide protection and shelter for many species of commercially important fish such as snappers (Lutjanidae), bass (Centropomidae), saws (Scombridae) and jacks (Caranxidae). The coral reef formations in the area are called patch reefs, because of their distribution. Corals in this area are considered resilient because of their ability to recover from anthropogenic and climate disturbances such as high sediment rates, rise in temperature and low salinity.

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 oceanographic features.		X		
<i>Explanation for ranking</i> As this is the only marine area of Guatemala in the Caribbean Sea, there is no other place in the country in which coral reefs of its kind, seagrass beds and manatee habitat can be found.					
Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.	X			
<i>Explanation for ranking</i> It can be presumed that the area contains significant reef fish spawning aggregation sites, but there is no scientific information to support it. Besides, literature reports that seagrasses are important growing habitat for fishes and invertebrates, some of them important for local economies and livelihoods; research about this topic is needed in Guatemala. The fishery resources of the area are diverse and with a very high geographical turnover rate, due to the proximity of reef systems, estuaries, rivers, lakes and ocean currents that make this system a refuge area for breeding and growth of several species of the region. No wonder that in such a small space there is a very big fishing effort, diverse and very dynamic during the annual cycle. In this context, all the available coral reefs and nursery habitats for fish populations, should be considered as key habitats for fisheries and human communities' livelihoods.					
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
<i>Explanation for ranking</i> The area contains mangroves, estuaries and coastal lagoons, migratory birds stop over sites and sea turtle nesting sites. All of them are ecosystems and species considered as threatened and/or endangered in the country.					
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				X

	by natural events) or with slow recovery.				
<i>Explanation for ranking</i>					
<ul style="list-style-type: none"> The population of Manatee (<i>Trichechus manatus</i>) in the Caribbean of Guatemala has been declining during the last decades. This species with low recovery can be considered functionally fragile in the area, mainly because habitat loss and illegal poaching. Beach and dune systems in the area serve as nesting habitat for four species of sea turtles: Green (<i>Chelonia mydas</i>), Leatherback (<i>Dermochelys coriacea</i>), Hawksbill (<i>Eretmochelys imbricata</i>) and Loggerhead (<i>Caretta caretta</i>). All of them are included in CITES and the Red List of IUCN. Coral reefs are ecosystems very sensitive to sedimentation and pollution; the watershed of Motagua River (one of the biggest and most polluted in the country) discharges sediments, agrochemical and solid wastes in the Caribbean. Since the extension of coral reefs in the area is limited, its vulnerability can be considered very high. 					
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	X			
<i>Explanation for ranking</i>					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.			X	
<i>Explanation for ranking</i>					
Although there is no specific information for the site, the area in which is included is part of one of the largest reef systems in the world The Mesoamerican Reef, with 64 species of corals and around 500 species of fishes.					
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		
<i>Explanation for ranking</i>					
There is a high level of human-induced degradation in this relatively small marine area.					

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
Equitable Access and Benefit Sharing (ABS) for all goods from nature (oceans).	It is important to find a right balance between the natural productivity of the sea for industry and local livelihoods especially in areas beyond national jurisdiction, in accordance with national and regional policies and the CBD objectives.	X			
<i>Explanation for ranking</i>					
Countries as Guatemala need to develop more research in natural sea production, especially for industrial					

fishery and livelihoods. Scientific and traditional knowledge should be merged and find new proposals to resolve conflicts about equity, access and benefit sharing from natural sea production.

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.)

Arrivillaga, A. and N. Windevoxhel. 2008. Mesoamerican Reef Ecoregional Assessment: Marine Conservation Plan. The Nature Conservancy, Guatemala. 30p. + Annexes.

CONAP y MARN. 2009. Biodiversidad Marina de Guatemala: Análisis de Vacíos y Estrategias para su Conservación. Consejo Nacional de Áreas Protegidas, Ministerio de Ambiente y Recursos Naturales, The Nature Conservancy. Guatemala. 152p.

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CONAP. 2011. Política Nacional de Diversidad Biológica. Acuerdo Gubernativo 220-2011. Consejo Nacional de Áreas Protegidas. Guatemala. Políticas, Programas y Proyectos No13 (01-2011). 41p.

Ixquiac, Manuel et al. 2008. "Evaluación y manejo de las comunidades demersales de la Bahía de Amatique Izabal, Guatemala. Estimación de los impactos pesqueros". / Axel Corona Avalos...[et al.]. -- Guatemala : USAC, DIGI, PUIRNA, CEMA, 2008, 59 p.

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Regional Environmental Program for Central America / Protected Areas and Environmental Marketing Components, Fundación Mario Dary. Site Conservation Planning Gulf of Honduras: Belize, Guatemala and Honduras /PROARCA/APM, Guatemala, Guatemala, 2005. 60 p.

Maps and Figures

See Annex 1

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