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Original: ENGLISH

Proposed areas for inclusion in the SPAW list
ANNOTATED FORMAT FOR PRESENTATION REPORT FOR:

**Hol Chan Marine Reserve
Belize**

Date when making the proposal : *October 5th, 2010*

CRITERIA SATISFIED :

Ecological criteria

Representativeness

Conservation value

Critical habitats

Cultural and socio-economic criteria

Cultural and traditional use

Area name: Hol Chan Marine Reserve

Country: Belize

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SUMMARY

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ANNEXED DOCUMENTS

Chapter 1. IDENTIFICATION

a - Country:

Belize

b - Name of the area:

Hol Chan Marine Reserve

c - Administrative region:

Belize District

d - Date of establishment:

7/1/87

e - If different, date of legal declaration:

not specified

f - Geographic location

Longitude X: -88.020058

Latitude Y: 17.875184

g - Size:

55 sq. km

h - Contacts

Contact adress: Caribena Street - San Pedro Town - Belize

Website: <http://www.fisheries.gov.bz/>

Email address: mikeobze@yahoo.com

i - Marine ecoregion

68. Western Caribbean

Comment, optional

none

Chapter 2. EXECUTIVE SUMMARY

Present briefly the proposed area and its principal characteristics, and specify the objectives that motivated its creation :

The Hol Chan Marine Reserve (HCMR) was established in 1987 to conserve a small but representative portion of Belize's coastal ecosystem. The process of establishing the marine protected area involved a complex set of consultations and compromises between tour guides, fishermen, conservationists and government. ultimately the Marine Reserve was created through a collective initiative.

The HCMR was created under the Fisheries Act as a multi-use protected area. A zoning scheme was developed in order to ensure sustainable use and guarantee its conservation. Hol Chan is divided into four zones. Zone A includes the coral reef and is the no-take zone where only recreational activities are allowed. Zone B protects the sea grass beds. Fishing is allowed but only to traditional users. Spear fishing and netting are prohibited. Zone C provides protection to the mangrove wetlands. sport fishing is a common practice in this area. Zone D is a special management area that was annexed to Hol Chan in 1999. Traditional users are allowed to continue their fishing practice except in the "Exclusive Recreational Area' of Shark Ray Ally.

The marine reserve has become an important snorkel and dive site due to its diversity, size and number of fish found in the area. management have capitalized on tourism by levying a fee on foreign tourist. Revenues from the visitor's fee are reinvested into management activities of the protected area. This has allowed the marine reserve to finance most of its operations. Currently, there is a permanent staff of 16 individual working in enforcement, environmental education and monitoring and research. The marine reserve operates offices and visitors' center from San Pedro town and Caye Caulker.

The HCMR falls under the Fisheries Department and management is conducted through the Hol Chan Marine Reserve Board of Trustees. This is a legal entity created by the Government of Belize to manage the affairs of the marine protected area. The Board of Trustees is made up of private and public sector entities and meet quarterly to deal with issues of the marine reserve.

Explain why the proposed area should be proposed for inclusion in the SPAW list

The need to establish protected areas along the Belize Barrier Reef complex is an important management initiative to preserve this valuable national heritage. The need to protect the reef is particularly urgent in Ambergris Caye where further tourism development seems to be imminent.

Marine Reserves can guarantee the protection of genetic diversity by maintaining critical ecosystems and species in a healthy and viable form. They provide breeding and nursery areas for juveniles of many species. They also serve as seeding ground for area that have been depleted from overfishing. Additionally, they are a major attraction for tourism activities since they are perceive as having a higher quality of marine life and overall experience.

Due to the dynamic nature of coastal management issues in Ambergris Caye, the marine reserve has been in constant evolution to adopt to current management needs. One major change with the size of the protected area. Originally the marine reserve was only 18 square kilometers. In 2008 it was expanded and now it is almost 54 square kilometers or a almost three times its original size.

According to you, to which Criteria it conforms (Guidelines and Criteria B Paragraph 2)

Representativeness
Conservation value
Critical habitats

Cultural and socio-economic criteria

Cultural and traditional use

Chapter 3. SITE DESCRIPTION

a - General features of the site

Terrestrial surface under sovereignty, excluding wetlands:

0 sq. km

Wetland surface:

900 ha

Marine surface:

42 sq. km

b - Physical features

Brief description of the main physical characteristics in the area:

See items below

Geology:

Geological Aspects: The Belize Shelf is divided into distinct northern and southern halves. Its edge is characterized by a series of five discontinuous ridges that trend northeast and which are thought to be fault controlled. The least defined ridge lies along the northern edge of the barrier reef and Ambergris Caye, encompassing the Hol Chan area. (James and Ginsburg 1979). The Belize Shelf is the drowned expression of a low-relief karst surface, on which sinkholes have locally developed (Mazullo and Reid 1985). Examples of these can be seen in the channels of the Boca Chica area, which probably represent drowned river channels or solution beds, and the Boca Ciega 'Blue hole' which is a collapsed sink hole. This sinkhole opens into a large cavern, the extent of which has not been fully explored.

Soil:

Processes of sedimentation and erosion: Average depth at the reef lagoon is three meters and is not greater than 5.5 meters. The reef edge occupies a narrow strip on the seaward edge of the shelf. On the leeward side of the reef crest, debris accumulates in the reef lagoon as slightly muddy skeletal sand which is stabilized by beds of sea grass. (Miller and

Macintyre 1997).

Topography:

Coastal Geomorphology: Coastal geomorphology is dominated by the Boca Chica and the Cangrejo shoals mudbanks and is located in the southern tip of Ambergris Caye. The shoals cover an area of 12 square kilometers and is composed of 6.7 meters thick of unconsolidated carbonate sediments deposited in a large depression of karsted Pleistocene limestone (Teal 1998). The shoal is dominated by Red Mangrove (*Rizophora mangle*) thickets but they have not trapped enough sediments to form land for Cayo Rombo and Cayo Cangrejo where supratidal flats are present.

Hydrodynamics:

Main water courses (permanent and seasonal): Freshwater drains from the mainland into northern Chetumal Bay and drains southwards along the leeward side of Ambergris Caye.

Underwater formations:

The Barrier reef is the main feature of interest in the marine Reserve. There are approximately 5 kilometers square of coral reef including the main barrier reef and deep fore reef area. The Boca Ciega 'Blue Hole' is a collapsed sinkhole that lead into a large underwater cavern which has not been fully explored.

c - Biological features

Habitats

Brief description of dominant and particular habitats (marine and terrestrial)*: List here the habitats and ecosystems that are representative and/or of importance for the WCR (i.e. mangroves, coral reefs, etc):

The Hol Chan Marine Reserve protects a small but representative portion of the Belize ecosystem, which include coral reef, seagrass beds and mangrove wetlands. The HCMR has been divided into four Zones in order to promote coastal protection and sustainable use of its natural resource. The HCMR has 5 square Km of coral reef including the back reef, reef crest and deep forereef; over 23 square Km of sea grass beds and 18 square km of mangrove wetlands.

Detail for each habitat/ecosystem the area it covers:

<i>Marine / coastal ecosystem categories</i> <i>Detail for each habitat / ecosystem the area covers</i>	Size (estimate)		Description and comments
	unit	Area covered	
Terrestrial ecosystems	Size (estimate)		
	unit	Area covered	

Flora

Brief description of the main plant assemblages significant or particular in the area:

Rizophora mangle is the dominant species found in the area along with Avicenia germinans and Laguncularia racemosa. The marine fauna is dominated by large expanses of the sea grass Thalassia testudinum.

List of plant species within the site that are in SPAW Annex I

List of species in SPAW annex I	Estimate of population size	Comments if any
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List of plant species within the site that are in SPAW Annex III

List of species in SPAW annex III	Estimate of population size	Comments if any
Compositae : Laguncularia racemosa	not given	
Hydrocharitaceae: Thalassia testudinum	not given	

List of plant species within the site that are in the IUCN Red List. UICN red list : <http://www.iucnredlist.org/apps/redlist/search> You will specify the IUCN Status (CR:critically endangered; EN:endangered; VU:vulnerable).

List of species in IUCN red list that are present in your site	IUCN Status	Estimate of population size	Comments if any
Laguncularia : racemosa	Unknown	not given	White Mangrove
Thalassia : Testidinum	Unknown	not given	Sea Grass

List of plant species within the site that are in the national list of protected species

List of species in the national list of protected species that are present in your site	Estimate of population size	Comments if any
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Fauna

Brief descript° of the main fauna populations and/or those of particular importance present (resident or migratory) in the area:

The main fauna population in the marine reserve marine including fish, Cnidarians and other invertebrates. Commercially valuable species include various species of fin fish, spiny lobster and queen conch. Also found at the marine reserve are the endangered manatee and marine turtle including the hawksbill, logger head and green turtles.

List of animal species within the site that are in SPAW Annex II

List of species in SPAW annex II	Estimate of population size	Comments if any
Reptiles: Crocodylus acutus	not given	American crocodile
Reptiles: Caretta caretta	not given	Loggerhead
Reptiles: Chelonia mydas	not given	Green Turtle
Reptiles: Eretmochelys imbricata	not given	Hawksbill Turtle
Mammals: Trichechus manatus	not given	

List of animal species within the site that are in SPAW Annex III

List of species in SPAW annex III	Estimate of population size	Comments if any
Hydrozoa: Milleporidae	not given	
Hydrozoa: Stylasteridae	not given	
Anthozoa : Antipatharia	not given	
Anthozoa : Gorgonacea	not given	
Anthozoa : Scleractinia	not given	

List of animal species within the site that are in the IUCN Red List. IUCN Red List : <http://www.iucnredlist.org/apps/redlist/search> You will specify the IUCN Status (CR:critically endangered; EN:endangered; VU:vulnerable).

List of species in IUCN red list that are present in your site	IUCN Status	Estimate of population size	Comments if any
Trichechus : manatus	VU - Vulnerable	not given	West indian manatee
Eretmochelys : imbricata	CR - Critically endangered	not given	Hawksbill turtle
Caretta : caretta	EN - Endangered	not given	Loggerhead
Chelonia : mydas	EN - Endangered	not given	Green Turtle

List of animal species within the site that are in the national list of protected species

List of species in the national list of protected species that are present in your site	Estimate of population size	Comments if any

d - Human population and current activities

Inhabitants inside the area or in the zone of potential direct impact on the protected area:

	Inside the area		In the zone of potential direct impact	
	Permanent	Seasonal	Permanent	Seasonal
Inhabitants	not given	not given	22500	not given

Comments about the previous table:

There are no human settlement within the protected area but there are two neighboring communities. HCMR is in the southern tip of Ambergris Caye and San Pedro Town is the only settlement on the island.

Description of population, current human uses and development:

San Pedro Town has an estimated population of approximately 20,000 permanent residents, but this fluctuates with tourism seasons. Tourism is the principal economic activity on the island. In 2007 there were a total of 99 registered hotels. Fishing is still an important activity but to a smaller scale. Most fishermen are permanent tour guides. Others work as fishermen part time only and mainly during the opening of the lobster and conch fishing season. Fulltime fishers are a minority.

Caye Caulker is a neighboring island with a small village community of about 2500 inhabitants. Tourism is an important economic activity but is not as developed as in Ambergris Caye. The village had 73 hotels in 2007, but are smaller than the hotels in San Pedro. Fishing is still a common economic activity in this community however many fishers are also part time tour guides.

Human presence in the MPA is by daily recreational users who access the Marine Reserve to snorkel and dive. In 2009 a total of 58206 visitors went to the Marine Reserve. Of this total 86% were snorkelers and 14% were diver. Tourist generally are from overnight visitors at San Pedro Town and Caye Caulker. Visitors from San Pedro represent 77% and Caye Caulker 23%.

Activities	Current human uses	Possible development	Description / comments, if any
Tourism	unknown	unknown	- 58,206 in 2009. - Snorkeling and diving There are two recreational areas in the back reef and seven dive sites in the deeper fore reef. Mooring buoys are provided for recreational vessels. Anchoring is not allowed
Fishing	unknown	unknown	- Not more than 30 fishermen Local commercial. - Lobster closed season : February 15th to June 14th Conch closed season: July 1st to September 30th
Agriculture	unknown	unknown	None
Industry	unknown	unknown	None
Forestry	unknown	unknown	None
Others	very important	unknown	Recreational Snorkeling and Diving: Snorkeling and diving are the main activities practiced at the marine reserve. There are two recreational areas in the barrier reef of the HCMR. These are the Hol Chan Cut and Shark Ray Alley. In 2009 over 58000 visitors went to the HCMR to snorkel or dive.

e - Other relevant features

Tourism is the principal economic activity in the marine reserve. Tour operators and tour guides are dependent of the protected area to conduct their snorkeling and diving tours.

There are almost 400 tour guide in San Pedro and 80 in Caye Caulker Village.

At a smaller scale commercial fishing is another traditional use in the protected area. Fishermen who have been using the area for many years are allowed to continue their fishing practices. They mainly fish for lobster and queen conch.

Aesthetic Interest : The principal area of aesthetic interest is the barrier reef which is also the no-take zone. The HCMR also include a large expanse of pristine mangrove islands with seagrass flats where tarpon, permit and bonefish are commonly found. Amongst the mangrove islands are deep water channel that are inhabited by the endangered West Indian Manatee.

Educational feature:

The marine protected area is an important asset for environmental education awareness. Community members are engaged in environmental education through activities center in conservation of coastal and marine ecosystem and management of the marine reserve. Environmental education is a key component of our management activities. The HCMR has an active environmental education program with stakeholders and the community of San Pedro and Caye Caulker. Two permanent staff members work on the education program which target schools, tour guide and the community as a whole. First hand learning activities such as school trips to the protected area is an important educational activity that is appreciated by those who participate. The education program components include school activities, seminars with tour guides, environmental and volunteer groups.

Scientific feature:

The HCMR conducts a yearly environmental monitoring program to determine health and condition of the area over time. Two permanent biologists are responsible for the environmental monitoring program. The program focuses coral reef, seagrass and mangrove. Commercially valuable species such as lobster and conch are also monitored yearly.

Archaeological feature:

There are no major archeological features within the protected area but there is a Mayan site approximately half a kilometer from the northern boundary of the marine reserve. This small Mayan archeological site was a small trading post and inhabitants used to harvest conch and other marine products many years ago in water that are now part of the marine reserve. Hol Chan is a Mayan word meaning narrow channel.

f - Impacts and threats affecting the area

Impacts and threats *within* the area

Impact and threats	level	Evolution In the short term	Evolution In the long term	Species affected	Habitats affected	Description / comments
Exploitation of natural resources: Fishing	significant	unknown	unknown			Fishing is allowed in the seagrass beds (Zone C) but only traditional users are allowed in this area. Outside the marine reserve and around Ambergris Caye fishing is still practiced but cannot be considered an intensive form of commercial fishing. Intensive fishing techniques such as long lines are not used. Fishing is mainly done by free diving and lobster traps.
Exploitation of natural resources: Agriculture	limited	not specified	not specified			Not commented
Exploitation of natural resources: Tourism	very important	increase	unknown			Tourism has now become an economic alternative to fishing and many fishermen are now tour guides. However, the current fishing pressure does not allow fish stocks to recover to its natural state.
Exploitation of natural resources: Industry	limited	not specified	not specified			Not commented
Exploitation of natural resources: Forest products	limited	not specified	not specified			Not commented
Increased population	very important	increase	increase			Assess whether the current human presence or an expected increase in visitation (tourism, passage of vehicles and boats) and any human immigration into the area, or plans to build infrastructures, are considered a threat. San Pedro Town and Ambergris Caye is one of the fastest growing communities in the country.

						Expansion in the tourism sector will certainly result in the increase in visitors to the marine reserve. Visitation to the protected area has remained fairly stable over the years and minimal fluctuations have been recorded. If projected tourism development trends continue it will obviously lead to an increase in visitation the marine reserve. Human migration is a reality on the island. Belizeans from the mainland come to the island in search of work and a better way of life. Laborers from other Central American countries are also attracted to the island.
Invasive alien species	very important	increase	increase			In 2009 the Lionfish appeared in the Belize barrier reef. Hundreds have been captured and many more sightings have been reported. Tour guides report that the lion fish are now commonly sighted in the barrier reef.
Pollution	significant	increase	increase			Ambergris Caye is an important tourist destination in northern Belize. San Pedro Town has become a major tourism hub for the country and is rapidly developing into one of the largest towns in the country. Even though there is no development in the marine reserve, San Pedro Town is only seven kilometer away. Tourism's development and town expansion pose a threat to habitat alteration to areas adjacent to the protected area. Coupled to this are issues of solid and liquid waste treatment and disposal and sustainable use of coastal resources.
Other	very important	unknown	unknown			Before the establishment of the protected area in 1987, fishermen and tour operators were in conflict with the proposed size of the reserve. The proposed size had to be reduced in order to take into account the views of the fishermen. Currently the main

						<p>issue of conflict is with tourism development. In 2007 the Government was about to issue several mangrove islands to private interest to develop tourism ventures. However, there was great opposition from tour guides, fishermen and the community that Government had to reverse their original plan. In 2008 those mangrove wetlands were incorporated into the Hol Chan Marine Reserve tripling the size of the protected area. Conflicts with tourism developments still continue since there is a proposed mega tourism development immediately adjacent to the Marine Reserve. The community is in disagreement with this current trend and do not support this type of development. This has led to the formation of a community based organization called the Ambergris Caye Citizens for Sustainable Development (ACCSD).</p>
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Impacts and threats around the area

Impact and threats	Level	Evolution In the short term	Evolution In the long term	Species affected	Habitats affected	Description / comments
Exploitation of natural resources: Fishing	very important	unknown	unknown			Lobster and conch have a no-fishing season and a size limit. Finfish only the nassua grouper has a no-fishing season and a size limit. Permit, tarpon and bone fish can only be caught for the purpose of catch and release. It is illegal to capture or have in possession any marine turtles. Enforcement cannot be considered efficient since there is not sufficient resources to patrol the entire area.
Exploitation of natural resources: Agriculture	limited	not specified	not specified			Not commented

Exploitation of natural resources: Tourism	significant	increase	increase			There are several development plans in wetlands adjacent to the marine reserve. These developments are for marinas, hotels, casino and recreational areas. They require extensive dredging operations to fill the wetlands. Destruction of these critical habit can produce negative impacts to the marine Reserve. Additionally, tourism expansion will create additional strains to inadequate infrastructure in the island. There is no coastal management plan for Ambergris Caye and developers have learned to take advantage of this. Environmental Impact Assessments are flawed or sometime just ignored due to corruption at higher levels of management. Some of the fines are too low such are those for mangrove clearance. Some developer prefer to cut mangrove and pay the fine rather than going through the permitting process.
Exploitation of natural resources: Industry	limited	not specified	not specified			Not commented
Exploitation of natural resources: Forest products	limited	not specified	not specified			Not commented
Increased population	limited	not specified	not specified			Not commented
Invasive alien species	limited	not specified	not specified			Not commented
Pollution	limited	unknown	unknown			There is a sewer treatment plant in Ambergris Caye, however it only services the core area of town. New subdivisions and resorts along the coast of Ambergris caye are not hooked up to the sewer system and use septic tanks to treat sewage. There is no sanitary landfill on the island. Solid waste is collected daily deposited at a

						dump site and burnt. There are plans to transport solid waste to the mainland where there will be a sanitary landfill.
Other	limited	not specified	not specified			Not commented

h - Information and knowledge

Information and knowledge available

List of the main publications

Title	Author	Year	Editor / review
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Briefly indicate in the chart if any regular monitoring is performed and for what groups/species

Species / group monitored (give the scientific name)	Frequency of monitoring (annual / biannual / etc...)	Comments (In particular, you can describe here the monitoring methods that are used)
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Chapter 4. ECOLOGICAL CRITERIA

(Guidelines and Criteria Section B/ Ecological Criteria) Nominated areas must conform to at least one of the eight ecological criteria. Describe how the nominated site satisfies one or more of the following criteria. (Attach in Annex any relevant supporting documents.)

Representativeness:

The HCMR was established to conserve a representative sample of the Belize coastal and marine ecosystem. Initially 1813 ha. in 2008 it was expanded to over 5400 Ha. to include a more representative sample of seagrass and mangrove wetlands. Coral Reef: The HCMR has two zones located on the Barrier Reef. Zone A is completely no-take and only recreational activities are allowed. This area is comprised of 273 Ha. of coral reef including back reef, reef crest and fore reef area. Zone D is also on the barrier reef and has approximately 200 Ha. of coral reef. This a multiuse area and only within the exclusive recreational area of Shark and Ray Alley is no-take. Sea grass beds: The sea grass beds are found in zone B of the marine reserve and cover an area of approximately 2160 Ha. This is a general use zone and fishing is allow to traditional users only. Spear fishing and the use of nets are prohibited. Mangrove Wetlands: Mangroves are included in zone C of the HCMR and consist of about 2370 Ha. with several mangrove island.

Conservation value:

The main fauna population in the marine reserve marine including fish, Cnidarians and other invertebrates. Commercially valuable species include various species of fin fish, spiny lobster and queen conch. Also found at the marine reserve are the endangered manatee and marine turtle including the hawksbill, logger head and green turtles .

Critical habitats:

Wetlands: West Indian Manatees live amongst the channels of the mangrove islands and feed on the seagrasses growing in that area. Due to its protection, manatees are more frequently sighted within the marine reserve. Manatee sighting have been reported even in the barrier reef. Coral Reef: Various endangered species can be found here including marine turtles. Three species are common inhabitants in this area and include the Hawksbill, Logger Head and Green Turtles.

Chapter 5. CULTURAL AND SOCIO-ECONOMIC CRITERIA

(Guidelines and Criteria Section B / Cultural and Socio-Economic Criteria)

Nominated Areas must conform, where applicable, to at least one of the three Cultural and Socio-Economic Criteria. If applicable, describe how the nominated site satisfies one or more of the following three Criteria (Attach in Annex any specific and relevant documents in support of these criteria).

Cultural and traditional use:

Fishing and tourism are the primary Socio-Economic activities in Ambergris Caye and Caye Cualker. These activities are dependent on the coastal and marine resources of the island. Most tourists that visit the area come to dive, snorkel or to engage in sport fishing.

Zone B of the marine reserve provides an area for fishermen to continue their traditional fishing practices. Fishermen who have used this areas before it was protected are allowed to continue commercial fishing for lobster and conch mainly but spear fishing and the use of net are prohibited.

Traditional commercial fishing is was part of the daily life and culture of the inhabitants of the northern islands in Belize. Some older fishermen still maintain their traditional was of fishing and are allowed to continue their fishing practices in Zone C of the marine reserve which is the general use zone.

Chapter 6. MANAGEMENT

a - Legal and policy framework (attach in Annex a copy of original texts, and indicate, if possible, the IUCN status)

National status of your protected area:

The site that is currently the Hol Chan Marine Reserve was a traditional fishing site for residents of San Pedro Town. In May of 1987 the area was officially established as the Hol Chan Marine Reserve under the fisheries act and management through a statutory body legally create by the government of Belize to manage the affairs of the Marine.

IUCN status (please tick the appropriate column if you know the IUCN category of your PA):

II

Comments:

The Hol Chan Marine Reserve can be classified under IUCN category II and is not designated under any international conservation category.

b - Management structure, authority

The HCMR was establish under the Fisheries act and management is through a statutory body legally create by the government of Belize to manage the affairs of the Marine Reserve.

Stakeholders are included as members of the HCMR Board of Trustees.

Local community representatives include a representative of the local tourism sector, a representative of a local NGO, a representative of the local business community, a representative of the fishermen's cooperative and the Mayor of San Pedro Town.

Participants in other committees or bodies such as a scientific committee, advisory board or a body of representatives from the local stakeholders, the public, the professional and non-governmental sectors.

c - Functional management body (with the authority and means to implement the framework)

Description of the management authority

The HCMR was declared a Marine Reserve under the Fisheries Act, Chapter 210 of the laws of Belize. Statutory Instrument Number 57 of 1987 designates the area to be the Hol Chan Marine Reserve and Statutory Instrument Number 107 of 1988 sets the regulation

that are to be applied to the Hol Chan Marine Reserve. Legislation was amended in 1999 with Statutory Instrument Number 100 of 1999 to expand the protected area and include a section called Shark Ray Alley. The legislation was amended again in 2008 to expand the protected area to more than three times its original size.

Statutory Instrument Number 170 of 1994 established the HCMR Board of Trustees which is responsible for the efficient administration of the affairs of the Reserve.

Means to implement the framework

Fishing had been the main source of income for residents however it was unregulated and unsustainable. With the introduction of the fishermen cooperative in the 1960's fishing was more commercialized and fishing in the nearby reefs intensified. The 1970's saw the emergence of a small tourism industry. Tourist came to fish and snorkel the barrier reef. Gradually tourism grew and there was a demand for tour guides. This gap was filled by fishermen.

The area that is now Hol Chan was identified as a site for a protected area since the early 70's but it was not until the 1980's when fishing started to have conflicts with tour guides. The tourism sector requested that a portion of reef be set aside and protected for the benefit of tourism. That same year the Hol Chan received a \$150,000.00 USD grant for the first three years of operation.

Available staff: Assess the adequacy of the human resources available to the management body, in number of employees and training level, both in central headquarters and in the field. Indicate if there is staff training programmes. Currently the HCMR has a total of 16 staff members including seven Park Rangers, a biologist, an environmental educator, three technical assistants, two office assistants, an administrative assistant and a manager. Staff are adequately trained. The manager has a Master's Degree, the biologist is about to complete her Masters Degree program. In addition staff members are training as dive instructors, outboard engine mechanics and graphic design.

We have from time to time volunteer and student that assist the staff of the marine Reserve.

Present financial means: Most of the funding for its operations is generated from a user fee levied to foreign visitors to the marine reserve. Each foreign tourist to the reserve pays a fee of \$10.00 USD per person per day. Special projects, especially for the education program, are funded through grants.

Basic infrastructure and equipment:

- Office and/or laboratory in the field
- Guard post on the main accesses
- Visitors information centre
- Terrestrial vehicles
- Marines vehicles
- Radio and communications
- Environment awareness materials
- Capacity to respond to emergencies

d - Objectives (clarify whether prioritized or of equal importance)

Objective	Top priority	Comment
Zoning	No	
Regulations for each zone	No	
Governing body(s)	No	
Detailed management objectives	No	

e - Brief description of management plan (attach in Annex a copy of the plan)

The HCMR has a management plan that is currently under revision.

Management plan - date of publication

: not specified

Management plan duration

: not specified

Date of Review planned

: not specified

f - Clarify if some species/habitats listed in section III are the subject of more management/recovery/protection measures than others

Habitats

Marine / costal / terrestrial ecosystems	Management measures	Protection measures	Recovery measures	Comments/description of measures
Mangroves	no	no	no	
Coral	no	no	no	
Sea grass beds	no	no	no	
Wetlands	no	no	no	
Forests	no	no	no	
Others	no	no	no	

Flora

Species from SPAW Annex 3 present in your area	Management measures	Protection measures	Recovery measures	Comments/description of measures
Compositae : Laguncularia racemosa	no	no	no	

Hydrocharitaceae: Thalassia testudinum	no	no	no	
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Fauna

Species from SPAW Annex 2 present in your area	Management measures	Protection measures	Recovery measures	Comments/description of measures
Reptiles: Crocodylus acutus	no	no	no	
Reptiles: Caretta caretta	no	no	no	
Reptiles: Chelonia mydas	no	no	no	
Reptiles: Eretmochelys imbricata	no	no	no	
Mammals: Trichechus manatus	no	no	no	
Species from SPAW Annex 3 present in your area	Management measures	Protection measures	Recovery measures	Comments/description of measures
Hydrozoa: Milleporidae	no	no	no	
Hydrozoa: Stylasteridae	no	no	no	
Anthozoa : Antipatharia	no	no	no	
Anthozoa : Gorgonacea	no	no	no	
Anthozoa : Scleractinia	no	no	no	

g - Describe how the protected area is integrated within the country's larger planning framework (if applicable)

not specified

h - Zoning, if applicable, and the basic regulations applied to the zones (attach in Annex a copy of the zoning map)

Name	Basic regulation applied to the zone
Zone A	Includes the barrier reef and the fore reef. This is a no-take zone and only nonextractive recreational activities are allowed within this zone.
Zone B	The sea grass beds. This is the general use zone where fishing is allowed by traditional users only. Spear fishing and the use of nets is prohibited.
Zone C	The Mangrove wetlands. This area was set aside for the protection of the Mangroves. Sport fishing is allowed amongst the channels and flats.
Zone D	A special conservation area where fishing is allowed to traditional fishermen only except on the Exclusive Recreational Area of Shark Ray Alley.

i - Enforcement measures and policies

Zones are clearly demarcated with marker buoys.

Institutions that share the responsibility for protection and surveillance include the Police Department, The National Coast Guard, the Fisheries Department, the Department of the

Environment and the Forest Department.

Currently, the HCMR has a staff of six Park Rangers who are responsible for surveillance and enforcement of the Reserve regulations. These Rangers work on a shift basis and patrol the protected area daily from six in the morning to eight at night. Random patrols are also conducted outside of the normal shifts assigned.

Generally, users of the Reserve abide by the rules and regulations and Rangers just ensure that they are followed. Park Rangers are fisheries Officer and can enforce the regulations. Offenders are dealt with through the court system. The Fisheries Department has a prosecution unit that deals with all court cases .

j - International status and dates of designation (e.g. Biosphere Reserve, Ramsar Site, Significant Bird Area, etc.)

International status		Date of designation
Biosphere reserve	no	
Ramsar site	no	
Significant bird area	no	
World heritage site (UNESCO)	no	
Others: IUCN category II	yes	1/1/87

k - Site's contribution to local sustainable development measures or related plans

Tourism has now become an economic alternative to fishing and many fishermen are now tour guides. However, the current fishing pressure does not allow fish stocks to recover to its natural state.

Fishing and tourism are the primary Socio-Economic activities in Ambergris Caye and Caye Cualker. These activities are dependent on the coastal and marine resources of the island. Most tourists that visit the area come to dive, snorkel or to engage in sport fishing. Diving and snorkeling are dependent and take place on the coral reef. Most visitors to the marine reserve are attracted by the coral reef and its associated marine life. The value of the protected area can be appreciated through the benefits obtained by local stakeholders.

Hundreds of tour guides and tour operators are dependent on the protected area for their livelihood. Tourists perceive protected areas as having a higher quality of marine life and overall experience. Catch and release sport fishing is an important tourism economic activity dependent on a healthy mangrove wetlands. Sport fishermen target bonefish, permit and tarpon that are commonly found in shallow semi-enclosed lagoons, shallow flats and deeper channels found amongst the mangrove islands of the marine reserve. Zone B of the marine reserve provides an area for fishermen to continue their traditional fishing practices. Fishermen who have used this areas before it was protected are allowed to continue commercial fishing for lobster and conch mainly but spear fishing and the use of net are prohibited.

I - Available management resources for the area

Ressources		How many/how much	Comments/description
Human ressources	Permanent staff	16	Currently the HCMR has a total of 16 staff members including seven Park Rangers, a biologist, an environmental educator, three technical assistants, two office assistants, an administrative assistant and a manager. Staff are adequately trained. The manager has a Master's Degree, the biologist is about to complete her Masters Degree program. In addition staff members are training as dive instructors, outboard engine mechanics and graphic design. Guard post on the main accesses
	Volunteers		
	Partners		
Physical ressources	Equipments	- Terrestrial vehicles - Marines vehicles - Radio and communications - Environment awareness materials - Capacity to respond to emergencies	
	Infrastructures	- Office and/or laboratory in the field - Visitors information centre	
Financial ressources	Present sources of funding	- Each foreign tourist to the reserve pays a fee of \$10.00 USD per person per day. - Special projects, especially for the education program, are funded through grants.	
	Sources expected in the future		
	Annual budget (USD)		

Conclusion Describe how the management framework outlined above is adequate to achieve the ecological and socio-economic objectives that were established for the site (Guidelines and Criteria Section C/V).

Conclusion

Chapter 7. MONITORING AND EVALUATION

In general, describe how the nominated site addresses monitoring and evaluation

Effectiveness of the conservation and management measures on biophysical features with regard to this objectives; Satisfactory since fish, conch and lobster population within the protected area are very health. Also sea grass beds and mangroves are protected from development. Coral cover is considered as low but it is attributed to bleaching events. The 1998 bleaching event along resulted in over 50% reduction of coral cover.

Quality of involvement by the public, local communities, economic sectors, scientific community: Satisfactory. Stakeholder participate and are involved in activities of the protected area such as mooring buoy program with the local tour guide association; Responsible tour guiding Seminar and our volunteer program.

The HCMR has a monitoring program that assesses the condition of the protected area over time in a satisfactory manner.

HCMR staff is responsible for conducting the monitoring program on a yearly basis. Two permanent staff biologist are responsible for conducting this program.

A report is produced yearly to assess the condition of the protected area over time. This report is used to make informed decision on management actions.

What indicators are used to evaluate management effectiveness and conservation success, and the impact of the management plan on the local communities

Indicators by category	Comments
<i>Evaluation of management effectiveness</i>	
Conservation and management measures	
<i>Evaluation of conservation measures on the status of species populations within and around protected area</i>	
Health of populations	Satisfactory since fish, conch and lobster population within the protected area are very health.
<i>Evaluation of conservation measures on the status of habitats within and around the protected area</i>	
Habitats	Also sea grass beds and mangroves are protected from development.
<i>Evaluation of conservation measures on the status of ecological processes within and around the protected area</i>	
Corals health	Coral cover is considered as low but it is attributed to bleaching events. The 1998 bleaching event along resulted in over 50% reduction of coral cover.
<i>Evaluation of the impact of the management plan on the local communities</i>	
Stakeholder	Satisfactory. Stakeholder participate and are involved in activities of the protected area such as mooring buoy program with the local tour guide association; Responsible tour guiding Seminar and our volunteer program.

Chapter 8. STAKEHOLDERS

Describe how the nominated site involves stakeholders and local communities in designation and management, and specify specific coordination measures or mechanisms currently in place

Stackeholders involvement	Involvement	Description of involvement	Specific coordination measures	Comments (if any)
Institutions	yes	Institutions that share the responsibility for protection and surveillance include the Police Department, The National Coast Guard, the Fisheries Department, the Department of the Environment and the Forest Department.	Currently, the HCMR has a staff of six Park Rangers who are responsible for surveillance and enforcement of the Reserve regulations. These Rangers work on a shift basis and patrol the protected area daily from six in the morning to eight at night. Random patrols are also conducted outside of the normal shifts assigned .	Zones are clearly demarcated with marker buoys. Generally, users of the Reserve abide by the rules and regulations and Rangers just ensure that they are followed. Park Rangers are fisheries Officer and can enforce the regulations. Offenders are dealt with through the court system. The Fisheries Department has a prosecution unit that deals with all court cases .
Public	yes	Environmental Club. Volunteer program.	This is a hands on learning activities for volunteers.	
Decision-makers	no			
Economic-sectors	yes	Responsible Tour Guiding Seminars. Visitor's Center.	Responsible Tour Guiding Seminars: Every years we visit dive shops of Ambergris Caye and Caye Caulker to give them refresher courses on the regulations of the marine reserve and do's and don'ts when snorkeling and diving. Visitor's Center: The HCMR has a visitor's center in San Pedro Town and Caye Caulker Village.	

Local communities	yes	Mooring buoy program.	Mooring buoy program with the local tour guide association.	
Others	no			

Chapter 9. IMPLEMENTATION MECHANISM

Describe the mechanisms and programmes that are in place in regard to each of the following management tools in the nominated site (fill only the fields that are relevant for your site)

Management tools	Existing	Mechanisms and programmes in place	Comments (if any)
Public awareness, education, and information dissemination programmes	yes	School visits. Reef Week.	School Visits: Presentations are given to all schools in San Pedro and Caye Caulker and are based on the protected area and the ecosystems. Reef Week: A week long of activities which include a trivia and skit competition amongst school; HCMR open house; essay and slogan competitions and educational trips for teacher to protected areas.
Capacity building of staff and management	no		
Research, data storage, and analysis	no		
Surveillance and enforcement	yes	The Police Department, The National Coast Guard, the Fisheries Department, the Department of the Environment and the Forest Department.	
Participation of exterior users	no		
Alternative and sustainable livelihoods	no		
Adaptative management	no		

Chapter 10. OTHER RELEVANT INFORMATION

Contact addresses

	Name	Position	Contact adress	Email adress
who is submitting the proposal (national focal point)	BELIZE Belize MPA	Focal point		belizempa@mpa.com
who prepared the report (manager)	ALAMILLA Miguel	Manager	Caribena Street - San Pedro Town - Belize	mikeobze@yahoo.com

Date when making the proposal : 10/05/2010

List of annexed documents

Name	Description	Category
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