

Status of Antillean Manatees in Belize



Status of Antillean Manatees in Belize

Belize

- regional stronghold of the Antillean Manatee (*Trichechus manatus manatus*)
- Belize population is estimated to be in the region of 800 to 1000 animals
- Highest recent aerial survey count (2014) of just over 500 individuals



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Belize is a signatory of several international commitments to protect threatened species – including Antillean manatees.



- **Convention on Biological Diversity** - obligation to maintain threatened species, including Antillean manatees



- **CITES** - Belize limits international trade in threatened wildlife or wildlife parts, through the CITES permitting system
- **SPAW (Special Protected Areas and Wildlife) Protocol to the Cartagena Convention** – provides support for protection and sustainable management of areas of special value, and threatened or endangered species of flora and fauna

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Wildtracks / Lighthawk

LEGAL FRAMEWORK

Manatee Protection Ordinance of 1933, with a moratorium on hunting declared in 1936.

This was to address a critical decline of this species as a result of hunting pressure.

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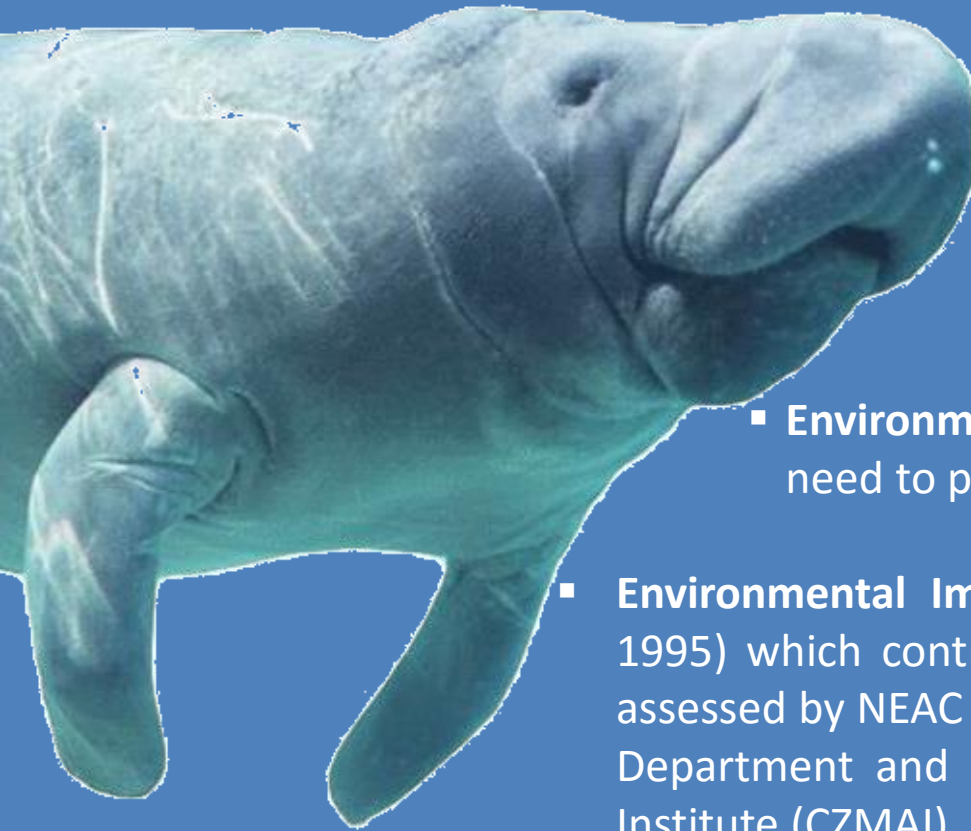
LEGAL FRAMEWORK

The **Belize Forest Department** (Ministry of Forestry, Fisheries and Sustainable Development) - the current legislative body for the protection of Antillean manatees in Belize.

- **Wildlife Protection Act, 1982 (CAP 220, revised 2000)**, addresses the need to protect wildlife resources, whether within or outside protected areas, and includes legal protection of Antillean manatees and other threatened species. Manatees are listed as a protected species on the Wildlife schedule.
- The **Forest Department-Wildlife Program** enforces the regulations



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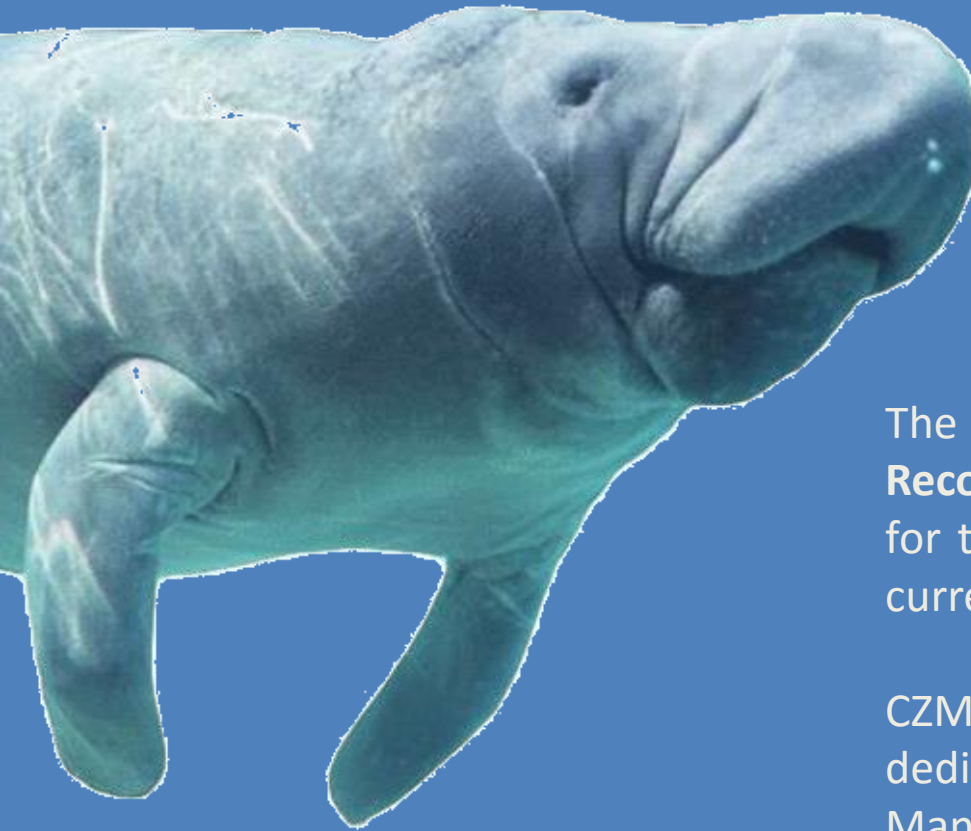
LEGAL FRAMEWORK

The **Department of the Environment** (Ministry of Forestry, Fisheries and Sustainable Development) regulates coastal development.

- **Environmental Protection Act (1992)**, addresses the need to protect the environment.
- **Environmental Impact Assessment Regulations** (SI 105 of 1995) which control and regulate the EIA process. EIAs are assessed by NEAC – membership on NEAC includes the Forest Department and Coastal Zone Management Authority and Institute (CZMAI)
- When an EIA is accepted, an **Environmental Compliance Plan** is drawn up – a legal agreement between Government and developer, which will contain mitigation actions for minimizing impacts to manatees



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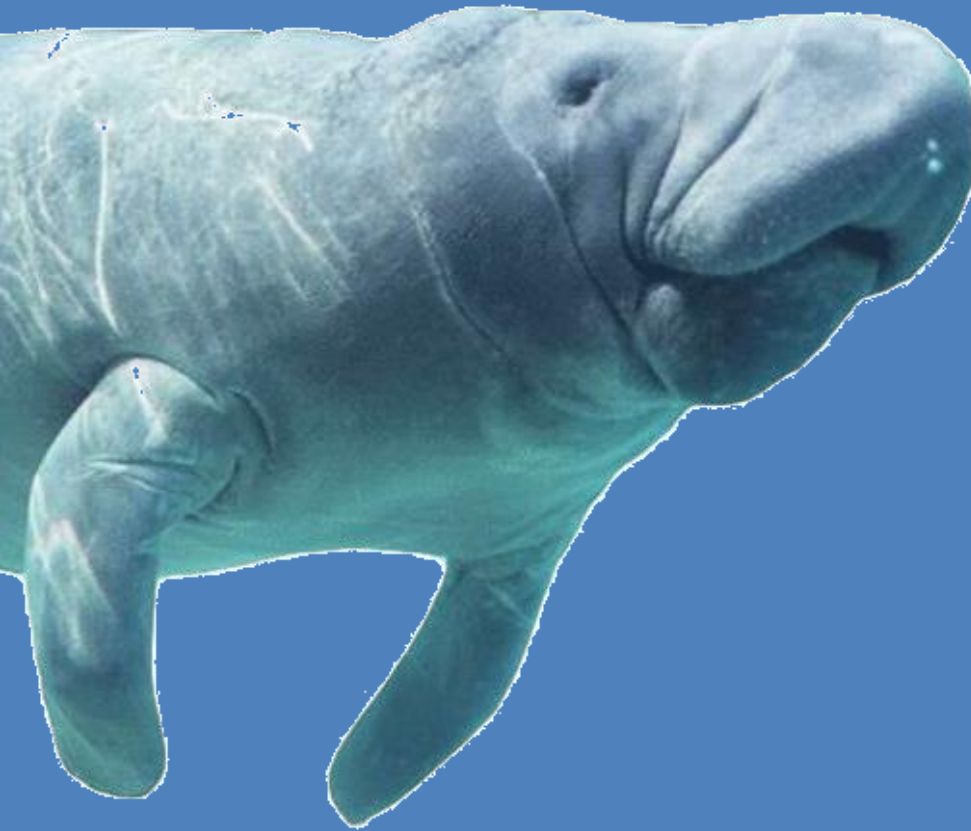
The **Coastal Zone Management Authority and Institute (CZMAI)**, whilst not legally responsible for the West Indian manatee, is responsible for planning in the coastal zone in Belize.

The CZMAI developed the **Belize Manatee Recovery Plan** in 1998 to provide a framework for the implementation of key strategies. This is currently being updated.

CZMAI hosts the **Manatee Programme**, with a dedicated officer housed in the Coastal Zone Management Authority and Institute (CZMAI).



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BELIZE MANATEE RECOVERY PLAN (1998)

Key Strategies

- Establish key protected areas
- Establish the National Manatee Working Group
- Capacity building of community-based protected area co-management partners
- Establish the Manatee Rehabilitation Centre

**BELIZE MANATEE RECOVERY
PLAN (1998)**

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ESTABLISH KEY PROTECTED AREAS

In Belize, areas protected for specific species or ecosystems fall under the category “Wildlife Sanctuary”

There are two categories under the “Wildlife Sanctuary designation:

Wildlife Sanctuary 1:

No natural resource extraction. Permitted activities are tourism, education and research.

Wildlife Sanctuary 2

Traditional natural resource extraction permitted, if based on a sustainable use management plan and well regulated. Other permitted activities are tourism, education and research.

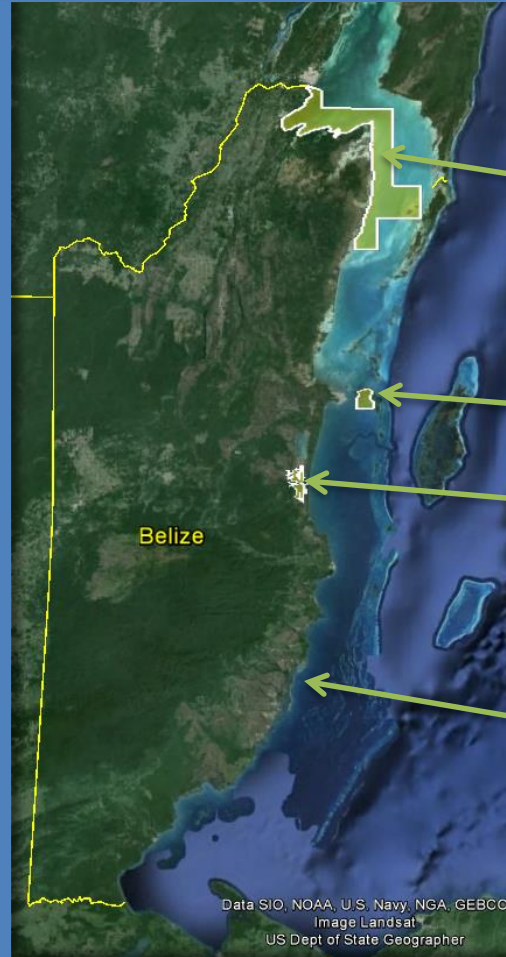
**BELIZE MANATEE RECOVERY
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ESTABLISH KEY PROTECTED AREAS

Designation of three protected areas considered critical for continued viability of national manatee populations.

A fourth key area – Placencia Lagoon – is currently awaiting designation



Corozal Bay Wildlife Sanctuary 2

Swallow Caye Wildlife Sanctuary 1

Southern Lagoon (Gales Point)
Wildlife Sanctuary 2

Placencia Lagoon

**BELIZE MANATEE RECOVERY
PLAN (1998)**

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Corozal Bay Wildlife Sanctuary



Size: 178,000 acres (72,000 ha)

Statutory Instrument: SI 48 of 1998

IUCN Category: IV

Management Authority:

Forest Department

Co-management Partner:

Sarteneja Alliance for
Conservation and Development
(SACD)

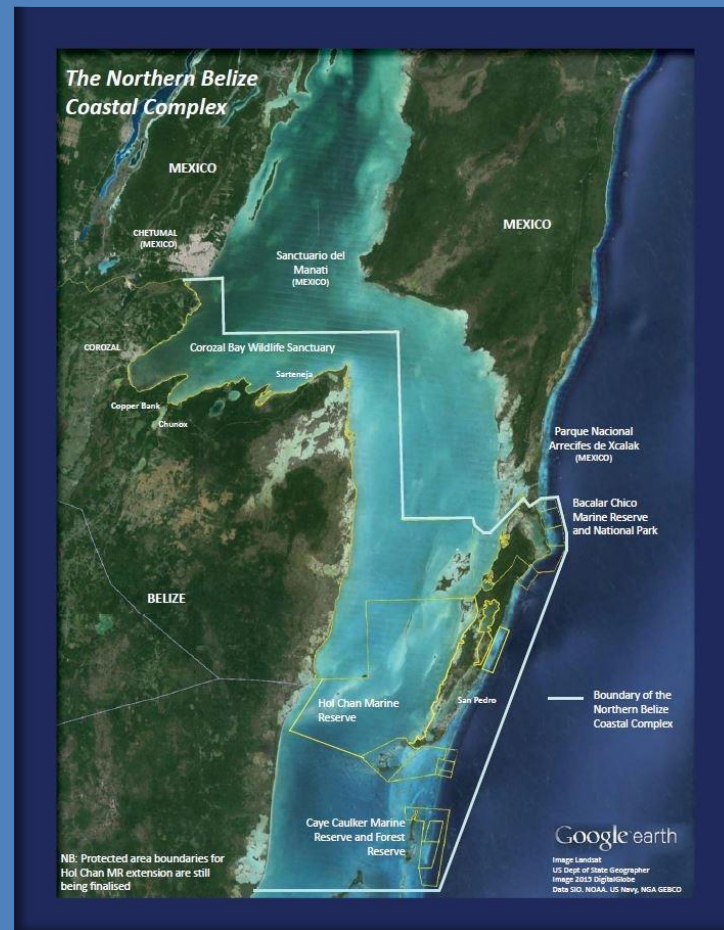
Management effectiveness (2009):

MODERATE

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Corozal Bay Wildlife Sanctuary

Part of a larger, system level transboundary / planning initiative



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Gales Point Wildlife Sanctuary



Size: 9,097 acres (3,680 ha)

Statutory Instrument: SI 92 of 1998

IUCN Category: IV

Management Authority:

Forest Department

Co-management Partner:

Gales Point Wildlife Sanctuary

Community Management

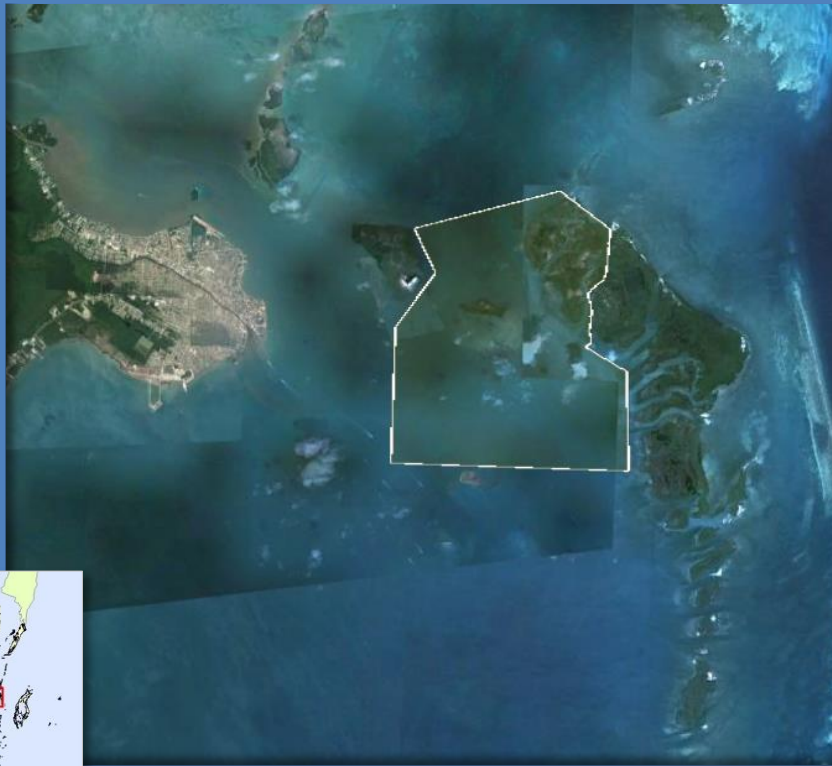
Committee (GPWSCMC)

Management Effectiveness (2009):

POOR

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Swallow Caye Wildlife Sanctuary



Size: 8,972 acres (3,630 ha)

Statutory Instrument: SI 102 of 2002

IUCN Category: IV

Management Authority:

Forest Department

Co-management Partner:

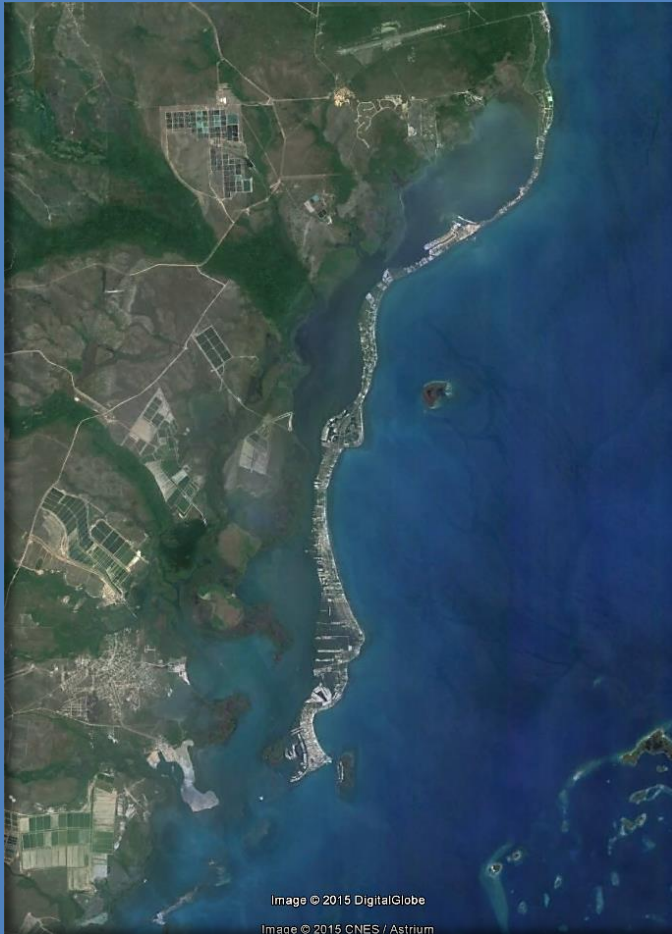
Friends of Swallow Caye (FOSC)

Management Effectiveness (2009):

POOR

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Placencia Lagoon

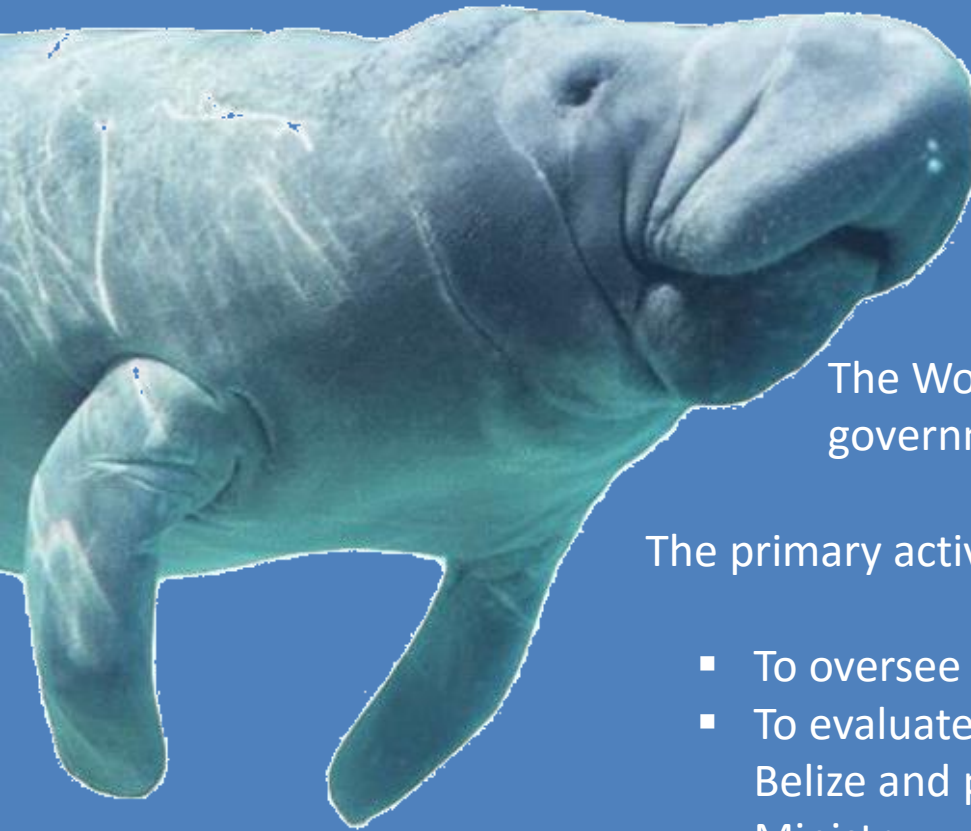


Proposed as a Wildlife Sanctuary 2 based on importance for:

- manatees and other threatened species
- traditional fishermen
- local tourism
- Current and anticipated threats from coastal development and establishment of cruise ship terminal

Part of a larger, system level management unit – the Southern Belize Reef Complex

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THE NATIONAL MANATEE WORKING GROUP

Acts as an oversight committee for the CZMAI Manatee Project.

The Working Group includes government, non-government and research representation.

The primary activities of the Working Group are:

- To oversee the CZMAI National Manatee Project
- To evaluate all proposed manatee research projects in Belize and provide recommendations to the relevant Ministry
- To review legislation concerning manatees and provide recommendations to the Ministry
- To ensure sound management plans are produced for protected areas

**BELIZE MANATEE RECOVERY
PLAN (1998)**

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CAPACITY BUILDING OF COMMUNITY-BASED PROTECTED AREA CO-MANAGEMENT PARTNERS: Example

Corozal Bay Wildlife Sanctuary

Research and Monitoring Plan



SACD | Sarteneja Alliance for Conservation and Development



Capacity building through conservation planning for the manatee population in the Corozal Bay Wildlife Sanctuary, evaluating the status of the manatee population and identifying those parameters considered critical for optimum conditions.

2.1 West Indian Manatee

The West Indian manatee (*Trichechus manatus*) is recognized as a globally vulnerable species under the IUCN Redlist (IUCN, 2008). Of the two sub-species, the Antillean manatee (*Trichechus manatus manatus*) is found in Belize, and protected under the Wildlife Protection Act, No. 4 of 1991. Corozal Bay Wildlife Sanctuary was designated as one of three core areas in Belize considered important for maintaining viable populations of manatees, and is highlighted as particularly important for mating and calving (Ayll, 2008). Despite these designated protected areas, and the laws that protect manatees, the national population is being impacted as a result of the boat collisions, loss of seagrass areas and continued poaching, exacerbated by limited law enforcement due to limited resources.

Corozal Bay is contiguous with Chetumal Bay to the north, on the Mexican side of the border, and manatees, not recognizing international borders, have been tracked moving from one side of

the bay to the other (Ayll, 2008; Castañeda et al., 2012). Both protected areas (Corozal Bay Wildlife Sanctuary and Sagumal del Mar) were established as part of a transboundary initiative to protect this species. During the management planning process for Corozal Bay Wildlife Sanctuary, community meetings were held in Sarteneja, Chunux and Copper Bank to identify those areas particularly important for the manatee population, for informed creation of no-wake zones, guiding targeted patrols and providing a focus for monitoring activities.

Management Goal: Protection of the West Indian Manatee through improved information, focusing on maintaining and improving the manatee population within Corozal Bay Wildlife Sanctuary, whilst reducing potential threats to this species.



	Current Rating	Goal	Justification
Manatee: Viability	GOOD	GOOD	Justification: Reproducing population – mother and calves, relatively few <u>apprehensions</u> . Population is relatively stable.
	Functioning within its range of acceptable variation; may require some human intervention	Functioning within its range of acceptable variation; may require some human intervention	Aerial surveys show at least 40 resident to 100+ with mating in recent years. Poaching for last year was 0, reduced generally over last 4 years. Majority of users are aware of boat impacts on manatees and respect no-wake zones. Indicators: • Tri-Annual aerial survey results • Results from resting holes monitoring • Standing results (live and carcass) • Community survey results on population • Seagrass indicators

West Indian Manatee

Current Status:

The current population size of West Indian manatee within the Corozal Bay Wildlife Sanctuary is estimated at between 100 to 120 individuals, extrapolating from the highest count of 50 individuals in highest numbers being recorded during the open season (January / February).

The importance of three resting sites along the eastern coastline has been confirmed, with as many as 16 individuals being seen at one site at any one time.

Aerial Surveys: A series of aerial surveys have been conducted with Wildtracks to provide baseline information, scheduled for dry, wet and open seasons, with three replicates per season.

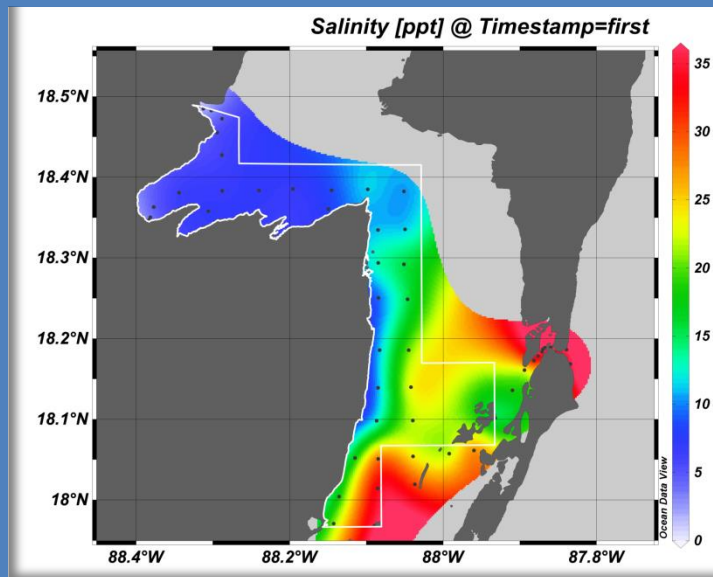
Resting holes: Manatees are monitored at the three resting holes on the east coast – these are characterized by depressions in the from wave action, abundance of seagrass and less boating traffic. The physical characteristics of these, as well as the number of manatees that are using them, are being monitored on a regular basis.

Opportunistic sightings: Opportunistic sightings are recorded during patrols and other water-based activities.

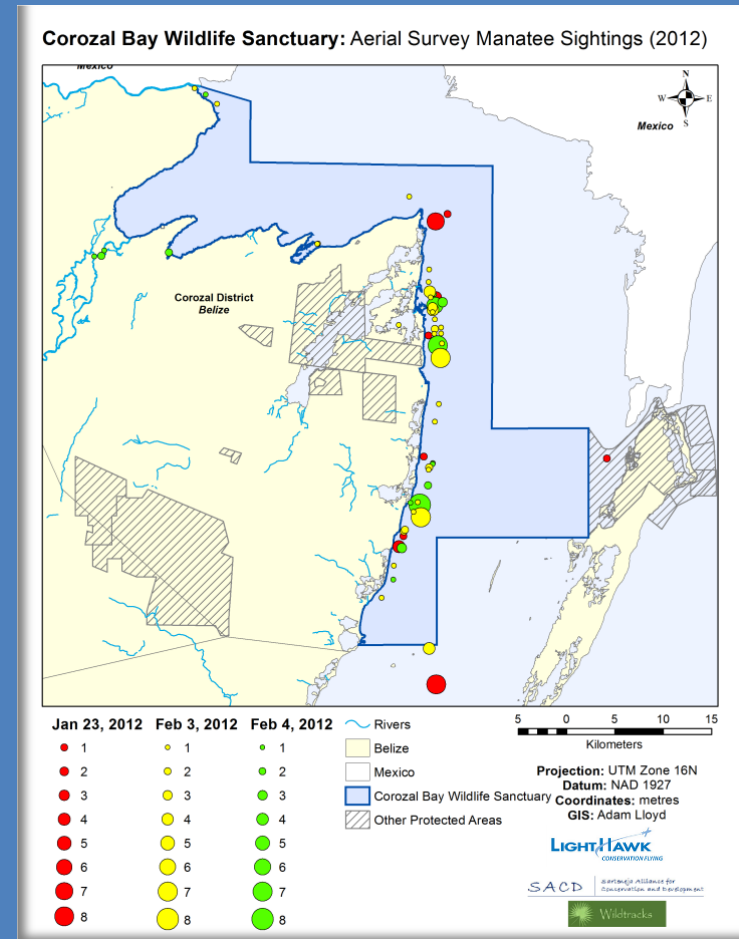
	Ecosystem requirements	Details
Basic needs	Seagrass and other aquatic vegetation beds	Condition of seagrass, micronutrients, diversity of diet, preference of one species over another, etc.
	Shelter – quiet places for resting	Resting holes/areas, calving/new-born areas, shelter from catastrophic events, nursery areas, etc.
	Fresh water	River mouths and upstream, salinity measures in the Bay
	Clean water	Away from nutrient loads from agricultural and chemical run-off, free of parasite-causing agents
Also need to consider...	Warmer temperature	Lagoon temperature can go down to 16°C, manatees will move to warmer waters
	Travel corridors	Safe passage between areas of usage (within & outside the CBWS)
	Justification of resources	Reasonably close areas of seagrass, resting, fresh water, etc. if populations recover and grow, resources should be identified based on the ecosystem requirements above

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CAPACITY BUILDING OF COMMUNITY-BASED PROTECTED AREA CO-MANAGEMENT PARTNERS: Example: SACD



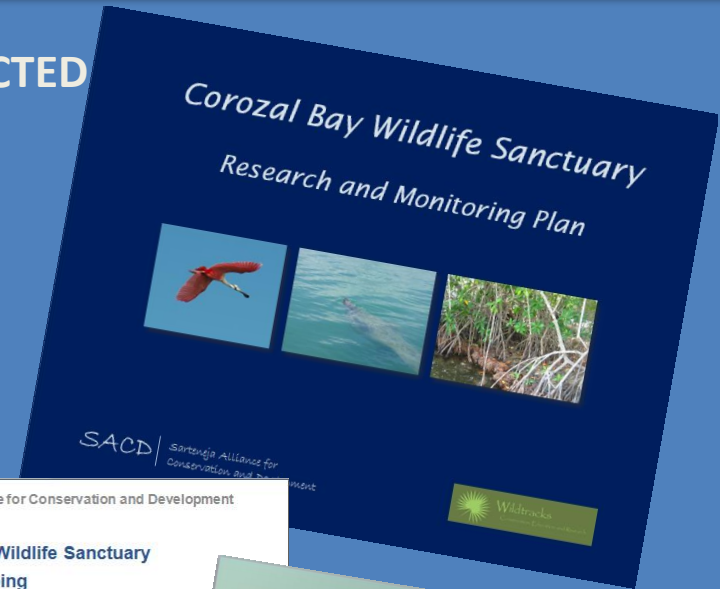
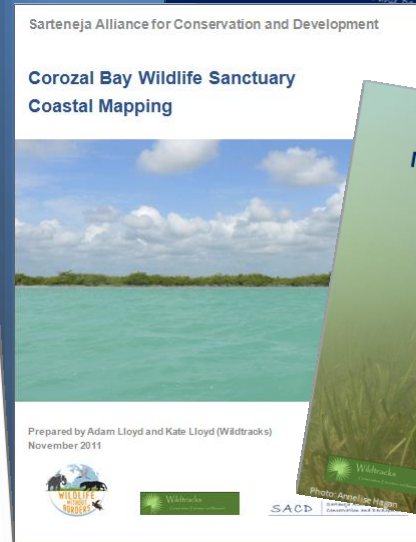
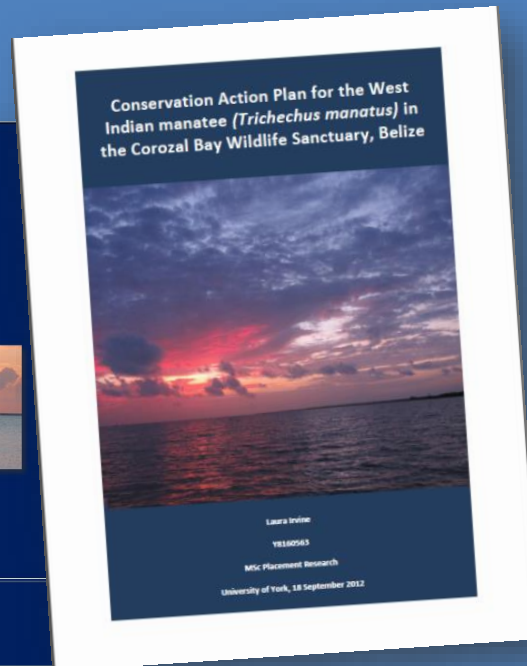
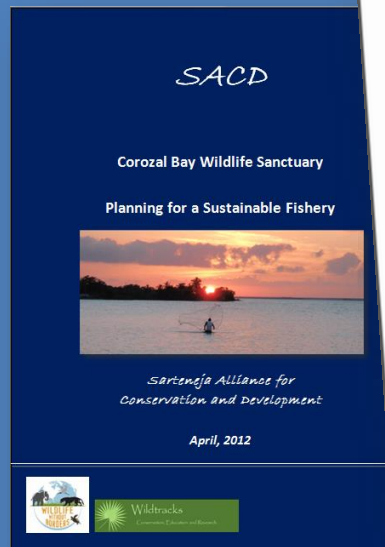
Capacity building in
water quality monitoring
to provide insight into
physical water
parameters



Capacity building in use of aerial
surveys for manatees, in partnership
with Lighthawk

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CAPACITY BUILDING OF COMMUNITY-BASED PROTECTED
AREA CO-MANAGEMENT PARTNERS:
Example: SACD



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ESTABLISHMENT OF THE MANATEE REHABILITATION CENTRE

- Hosted by Wildtracks
- Operates under a Memorandum of Agreement with the Forest Department.
- Provides rehabilitation care for all live strandings that require care.

**BELIZE MANATEE RECOVERY
PLAN (1998)**

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ESTABLISHMENT OF THE MANATEE REHABILITATION CENTRE

Objectives:

1. To rehabilitate, where possible, manatees of Belize for eventual release back into the wild
2. To increase efficiency and effectiveness of manatee management through greater, well defined collaboration between the Forest Department and the Manatee Rehabilitation Centre
3. To provide greater protection to manatee species through conservation, research, education and public awareness



BELIZE MANATEE RECOVERY PLAN (1998)

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ESTABLISHMENT OF THE MANATEE REHABILITATION CENTRE



- 16 manatees have been brought to the Manatee Rehabilitation Centre in the last 16 years
- 5 manatees are currently in rehabilitation care
- 6 manatees have been returned to the wild

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THREATS TO MANATEES IN BELIZE



**Coastal Zone Management Authority & Institute**
Page Liked · 20 March · 

This report just got in. Today would have been the only week without a dead manatee but it literally seems we cannot get out of a week without one. This female manatee got hit by a boat near the river mouth and died leaving the new born calf to fight a losing battle as no way such a young baby would survive alone. Once again there is serious need for urgent effort and response to put a halt to these incidents, soon no effort we put in will be able to recover our already endangered population. Today's two deaths are number 16 and 17 for the year.

Like · Comment · Share

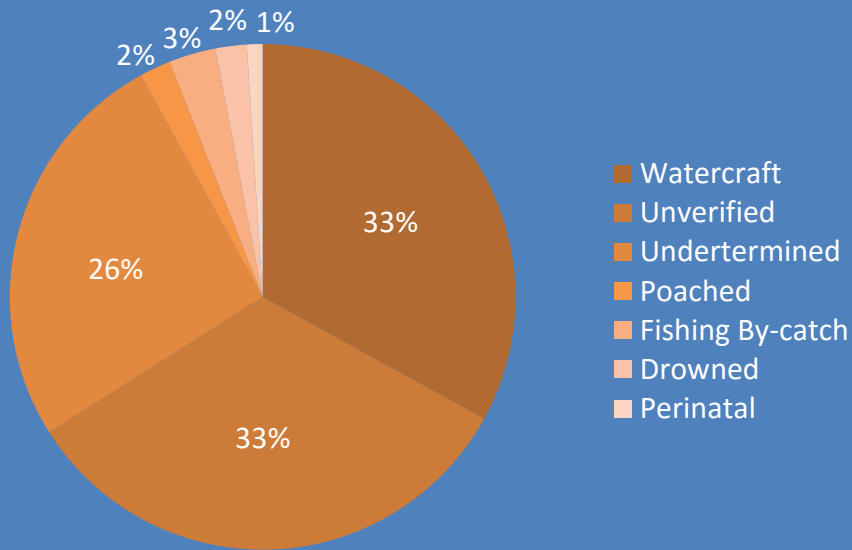
 Eric Angel Ramos, Linda Sea, Darlin Gaitan and 85 others like this.

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 **Virginia Burns Perez** 😊
Like · Reply · 20 March at 13:35

 Write a comment... 

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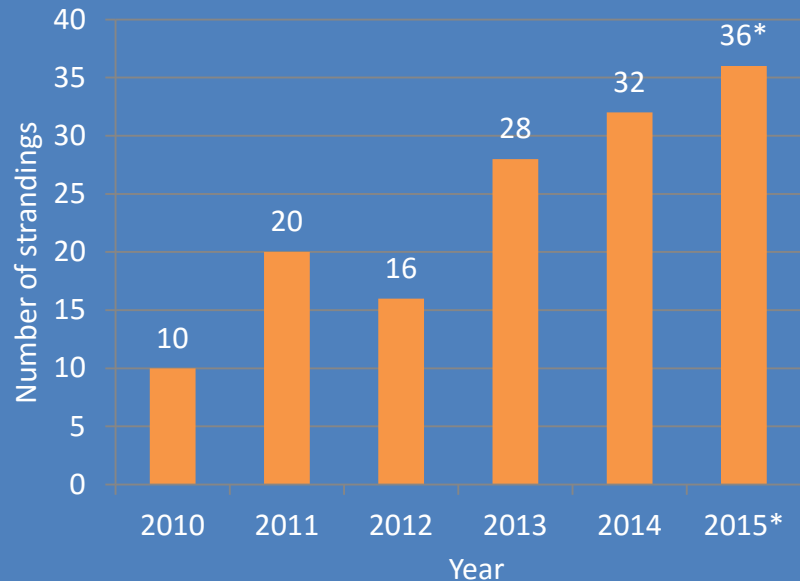
BELIZE MANATEE STRANDING DATA (LIVE AND DEAD)
2010 - 2014
FROM GALVES, 2015

There is an increasing trend of manatee strandings in Belize

- The majority of deaths occur in the Belize City / Belize River waters - a key manatee use area.
- The majority are the result of anthropogenic causes – primarily collisions with watercraft.
- A small number are live strandings: orphaned or abandoned calves, injured juveniles, sub-adults or adults.

THREATS

Status of Antillean Manatees in Belize



*2015 figures are not yet complete

NUMBER OF STRANDINGS PER YEAR (2010 – 2015)
ADAPTED FROM GALVES, 2015

- Between 2010 and mid-2015, 142 manatees have been stranded.
- 87 strandings occurred in the Belize City area
- Boat strikes are confirmed as the primary cause in 33% of strandings. 90% of these were in the Belize City
- Cause of strandings in another 33% of strandings were unverified
- 12% of strandings are live animals
- 36 manatees have already been confirmed as dead so far in 2015

THREATS

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- There are increasing threats from tourism activities in the coastal area, linked to watercraft-incidents and tourism boat-based day trips
- Projected development of two new cruise ship disembarkation points on near-shore cays, both in key manatee areas
 - Belize City/Drowned Cayes
 - Placencia Lagoon / Harvest Caye

THREATS

Status of Antillean Manatees in Belize

Other causes for concern are:

- Pollution - Tissue samples from a juvenile male in Placencia Lagoon were found to have a cobalt concentration ten times higher than the population average, and lead and zinc concentration three times higher (Ramey, 2010)
- There is still illegal hunting of this species for food - verified report from 2010 of a manatee being killed and butchered for meat

THREATS

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THANK YOU!

QUESTIONS?