Wildtracks and Manatees

Wildtracks, October 22nd, 2015
Wildtracks was founded in 1990 and established as a non-profit company in 1996.

Mission

*Wildtracks is working towards the sustainable future of the natural resources of Belize, through conservation of species and ecosystems, building awareness, and strengthening capacity towards effective environmental stewardship at all levels.*
Biodiversity Conservation

Protected Areas

Conservation Action Planning

Species Conservation

North East Corridor

Northern Belize Coastal Complex

Corozal Bay Wildlife Sanctuary

Connectivity

Fireburn

Kakantulix

National and site level conservation planning

Wildlife Rehabilitation

Primate Conservation

Manatee Conservation

Threatened Species

Primate Rehabilitation Centre

Manatee Rehabilitation Centre
Goal: By 2020, Wildtracks has contributed effectively to the increased viability of Antillean Manatees in Belize

By the end of 2020, Wildtracks has contributed towards strengthened local and national strategies to increase the long-term viability of Antillean manatees in Belize

By the end of 2018, Wildtracks has expanded its facilities to effectively meet the predicted increasing demand for manatee rehabilitation in Belize
By the end of 2020, Wildtracks has contributed towards strengthened local and national strategies to increase the long-term viability of Antillean manatees in Belize

Management Planning for key manatee areas
- Corozal Bay Wildlife Sanctuary
- Gales Point Wildlife Sanctuary
- Placencia Lagoon

Inclusion of key strategies for manatees in:
- Southern Belize Reef Complex
- Turneffe Atoll Management Plan
- Northern Belize Coastal Complex

Inclusion of manatees in:
- Rationalization for the National Protected Areas System – recommendation for species specific protection needs and establishment of Special Management Areas (incorporated into National Protected Areas System Act, 2015)
Conservation Planning

By the end of 2020, Wildtracks has contributed towards strengthened local and national strategies to increase the long-term viability of Antillean manatees in Belize

- Site specific strengthening of management effectiveness for Corozal Bay Wildlife Sanctuary through:
  - Organizational strengthening and mentoring for SACD
  - Site-specific Conservation Action Planning for manatees of CBWS
  - System-level Conservation Action Planning for the larger seascape – Northern Belize Coastal Complex
  - Monitoring protocols for ongoing monitoring of Antillean manatees and their environment, as part of the integrated Research and Monitoring Plan
  - Partnering with Lighthawk – dry season aerial surveys 2010 to 2015

- Partnering with Lighthawk for regional population surveys
- Facilitating the formation of the Transboundary Working Group to increase communication and collaboration between transboundary protected area management agencies (including Fisheries and Forest Dept, SACD, ECOSUR, SEMA, CONANP, Wildtracks, Blue Ventures)
Corozal Bay Wildlife Sanctuary

- Managed by Sarteneja Alliance for Conservation and Development (SACD)
- Provides critical connectivity between watersheds and the reef
- Mangrove-lined coastal lagoons are identified as critical nursery areas for local commercial fish species – snapper (Lutjanidae), stone bass (Gerridae)
- The lagoons are also identified as important nursery areas for sport fishing species – eg. snook (Centropomus undecimalis) and permit (Trachinotus falcatus)
SACD Board Structure

Sarteneja Alliance for Conservation and Development

- Sarteneja Fishermen Association
- Sarteneja Tour Guide Association
- Local Fishermen
- Sarteneja Education Sector
- Sarteneja Business Sector
- Wildtracks (NGO)
Corozal Bay Wildlife Sanctuary

Research and Monitoring Plan

A Wildtracks / SACD conservation planning exercise was conducted 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.
Identifying Key Manatee Sites

Manatee Distribution

Data from fifteen SACD/Wildtracks aerial surveys of Corozal Bay Wildlife Sanctuary, spanning Norther and Dry Seasons from 2010 to 2015 are analysed to identify the most appropriate release site.

These surveys provided information on manatee congregation sites, and confirmed manatee activity around suspected resting holes.
West Indian Manatee

Conservation Planning for the West Indian Manatee in Corozal Bay Wildlife Sanctuary – 2012

Viability

<table>
<thead>
<tr>
<th>Conservation Targets</th>
<th>Landscape Context</th>
<th>Condition</th>
<th>Size</th>
<th>Viability Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Indian Manatee</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Seagrass</td>
<td>Very Good</td>
<td>Very Good</td>
<td>Very Good</td>
<td>Very Good</td>
</tr>
<tr>
<td>Water Quality</td>
<td>Fair</td>
<td>Fair</td>
<td></td>
<td>Fair</td>
</tr>
</tbody>
</table>

Overall Biodiversity Viability Rank - CBWS: Good
West Indian Manatee

Conservation Planning for the West Indian Manatee in Corozal Bay Wildlife Sanctuary – 2012

Threats

**Conservation Targets:**
- Commercial Fish Species
- **West Indian manatee**
- Mangrove
- Seagrass
- Nesting Bird Cayes
- Elasmobranchs
- Water Quality

**Identified Threats**
- mangrove clearing (seagrass and resting) → sedimentation
- boat traffic
- natural events/catastrophes
- dredging (seagrass)
- disturbance at resting/calving areas from increased tourism (inappropriate behaviour)
- maintaining relationship with Sarteneja Tour Guide Association (STGA)
- climate change
- agricultural runoff – possible red tide outbreaks
- sewage and chemical input from Chetumal or other places
- trans-boundary and San Pedro poaching
- fishing net injuries (near Corozal)
- immune system functioning (G. Bossart’s research) - correlation of water quality and parasite/disease resistance
- plastic or fishing line pollution – entanglement, ingestion, etc.
- coastal development

**Priority threats**

1. **Coastal development** (mangrove clearance, sedimentation/runoff, dredging)

2. **Pollution** (agro-chemical/sewage/toxins*/plastics/nets, *bioaccumulation of toxins)

3. **Poor use practices** (nets, boats, tourism)
West Indian Manatee

Mapping critical manatee areas and establishing no-wake zones based on input from local fishermen in Sarteneja, Chunox and Copper Bank.

Conservation Targets:
- Commercial Fish Species
- West Indian manatee
- Mangrove
- Seagrass
- Water Quality
Information from the SACD water quality monitoring programme has provided an insight into freshwater flow into the estuary, and seasonal changes in water parameters.
Natural Resource Management

Baseline mapping of coastal ecosystems, level of disturbance and man made structures
Corozal Bay Wildlife Sanctuary
Part of a larger, system level transboundary / planning initiative
By the end of 2018, Wildtracks has expanded its facilities to effectively meet the predicted increasing demand for manatee rehabilitation in Belize
Facilities – Intensive Care Pool
Facilities – Recovery Pool
Facilities – Large Pool
Facilities – Lagoon Enclosure
Manatee Rehabilitation Centre

- To care for all orphaned or injured manatees found in Belizean waters
- To prepare rehabilitated manatees for integration with wild individuals
- To raise awareness of manatees in the local community (specially children) and visitors
The majority of rescued manatees are calves, averaging an estimated 2 weeks to 2 months old.

Calves are generally dehydrated, very emaciated.

Average of one animal rescued per year since 1999.

The first ten days is critical – if animals survive this period, there is an increased probability that they will thrive, and can be released – but it is never guaranteed.
Some animals are older, with injuries from boat collisions. Generally arrive dehydrated, and emaciated. Rehabilitation is less successful – if they are weak enough to be caught as adults, they are generally in very bad condition. Animals suffer from general debilitation and high parasite load, as well as the original injuries.

Transfer.....
Manatee Rehabilitation Centre
## Manatee Rehabilitation Centre

<table>
<thead>
<tr>
<th>Name</th>
<th>Rescued</th>
<th>Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woody</td>
<td>1998</td>
<td>2000</td>
</tr>
<tr>
<td>Tiny</td>
<td>2003</td>
<td>2005</td>
</tr>
<tr>
<td>Buttons</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Twiggy</td>
<td>2009</td>
<td>2012</td>
</tr>
<tr>
<td>Rhamases</td>
<td>2012</td>
<td>2015</td>
</tr>
<tr>
<td>Khaleesi</td>
<td>2013</td>
<td>In care</td>
</tr>
<tr>
<td>Mitch</td>
<td>2014</td>
<td>In care</td>
</tr>
<tr>
<td>Lucky</td>
<td>2014</td>
<td>In care</td>
</tr>
<tr>
<td>Ben</td>
<td>2015</td>
<td>In care</td>
</tr>
</tbody>
</table>
Manatee Rehabilitation Centre

Improved success....what have we found to make the difference

Addressing social support needs for incoming calves as well as physical health

Providing natural food in natural positions (e.g. seagrass on the floor of the pools)

Capacity building for tube feeding injured non-feeding manatees

In-country and US veterinary support
The release site was selected based on the following criteria:

- It is in one of the areas with most manatee sightings both from aerial and boat surveys
- It is in a very low-anthropogenic impact area with minimal boat traffic
- It lies between two of the most heavily used resting holes
- It is close to a freshwater source
- It is easily accessible from Wildtracks
Soft Release

- Twiggy was fitted with a satellite tag and a 1 year service (supplied by Save the Manatee Club),
- This was attached to a collar around the base of her tail (supplied by Sea to Shore Alliance).
Awareness presentations were given to the schools, and posters placed around Sarteneja, the key stakeholder community.
One knowledge gap for Corozal Bay Wildlife Sanctuary has been for seagrass distribution and condition.

This is being addressed in 2015 / 2016

Georeferenced photographs have been taken along north-south transects of the East Coast to provide the base map for site specific sampling of benthic communities. This is ongoing, and will provide improved ecosystem mapping for the area.
The high definition photographs from the aerial transects have also provide accurate photographic coverage of the coastline, improving ability to track Twiggy during the initial release, and interpret her movements.
Thank you!

Photo: Annelise Hagan