Protection and Management of Natural Heritage in Belize

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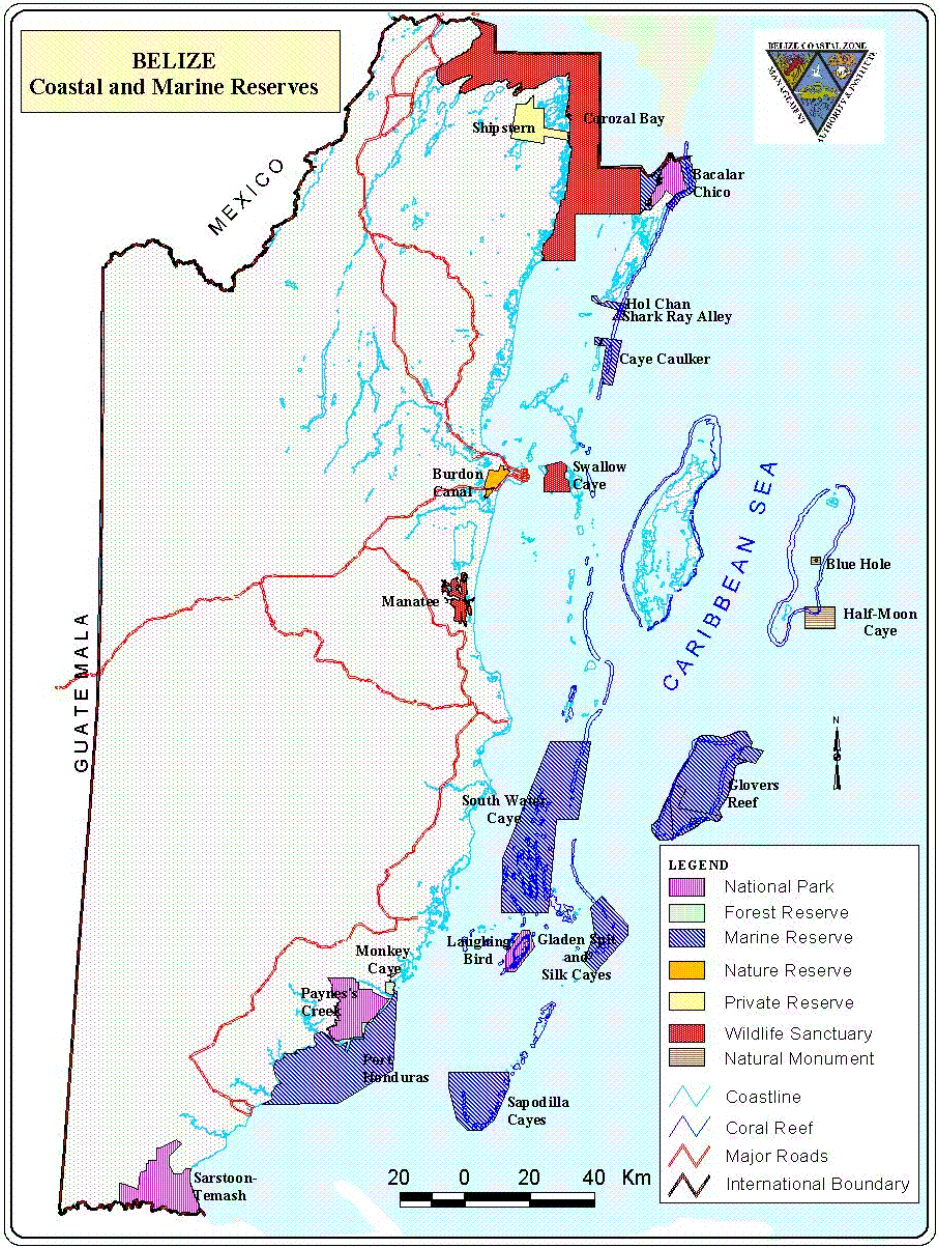
Outline

- Introduction
  - MPAs
- MR in Belize
- Programs and Projects
- Challenges, Plans for future



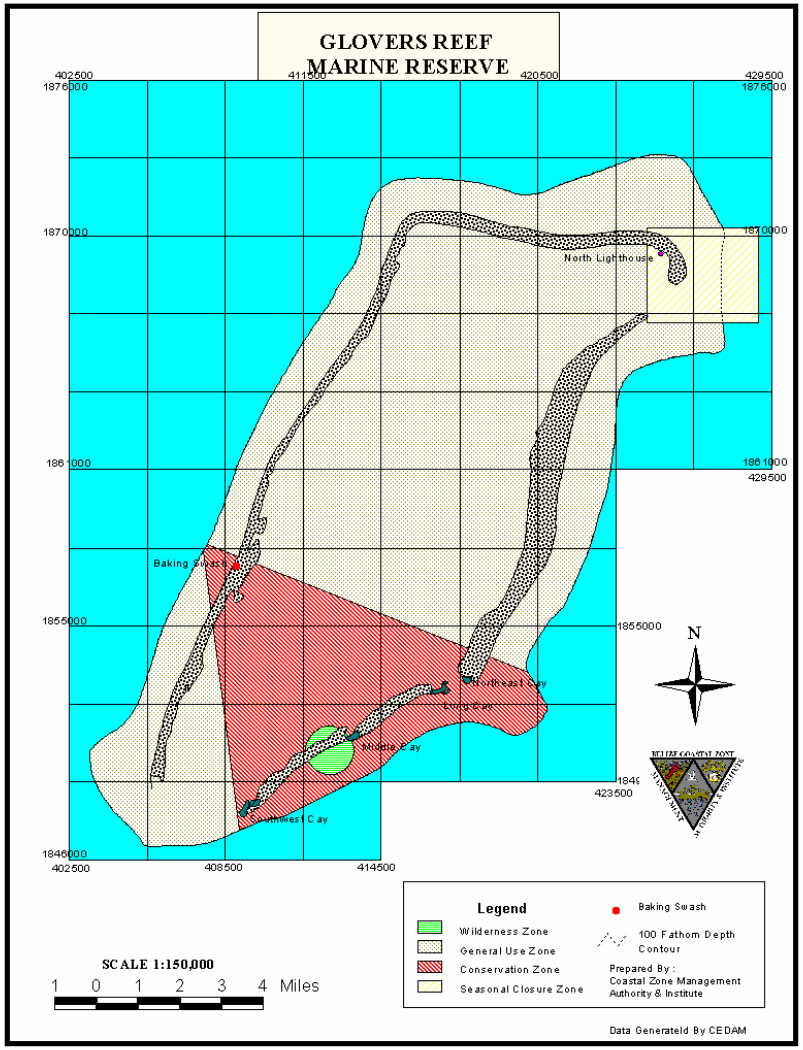
The Marine Protected Areas of Belize

- Various types of MPAs:
- Marine reserves multiple use and no-take
- National Parks
- Natural Monuments
- Wildlife Sanctuary fully no take areas

Co management agreements

BBRRS declared in 1996 a WHS

Zonation of Glover's Reef Marine Reserve



- General Use Zone
- Conservation Zone
- Wilderness Zone
- Spawning Closure Zone

Biodiversity

- Coral reefs

Barrier

Patch

Spur and groove

Atolls

fringing

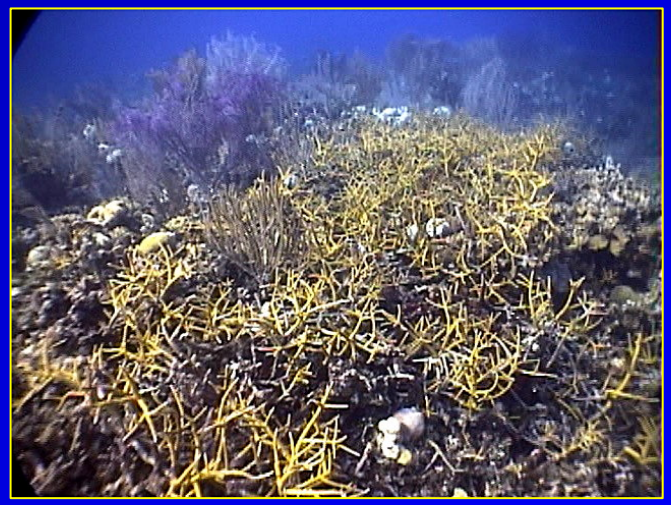
- Fish
- Sea grass

thalassia, syringodium

- Mangroves

3 species and an associate

- Gorgonians
- Invertebrates
- others



Marine Reserve

- General Objectives

1. Biodiversity Protection
2. Fishery Management tool
3. Area for sustainable recreation
4. Scientific research
5. Educational tool

What we have

- 270 km long of coral reefs
- Average of 30 %coral cover
- Average of 26.7 coral species
- Coral disease average of 3.4%
- Over 317 species reef fish
- In Belize the fishery sector earned US $35 million shrimp, conch and lobster

MONITORING

- INEXPENSIVE
- Targeted Species
- Conch, lobster, finfish
- Visitation
- Catch Per Unit effort
- Synoptic Monitoring Program
- Threatened Species
- Corals, sea turtles, Nassau grouper

Visitation and Impacts

- # of tourist / guide
- # boats in an area
- Any accidents/ incidents
- Regulations adhered
- Fee collection

Targeted Species

- Conch

Abundance, biological and Distribution using 30 m belt transects

Lobster

Abundance, biological and distribution

Catch per Unit effort

- Species
- Quantity
- Legality
- Location
- Area
- Fishermen
- Licenses
- Size
- Anecdotal information

Synoptic Monitoring

- Corals
- Fish

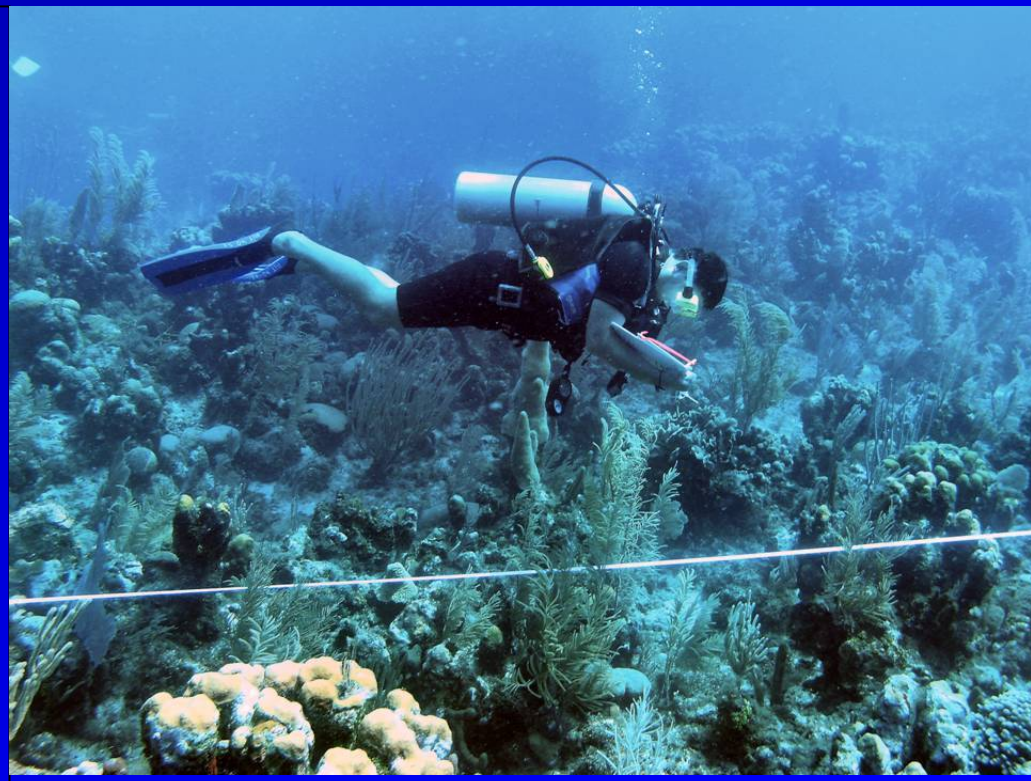
(modified AGRRA)

- Seagrass
- Mangroves

(modified CARICOMP)

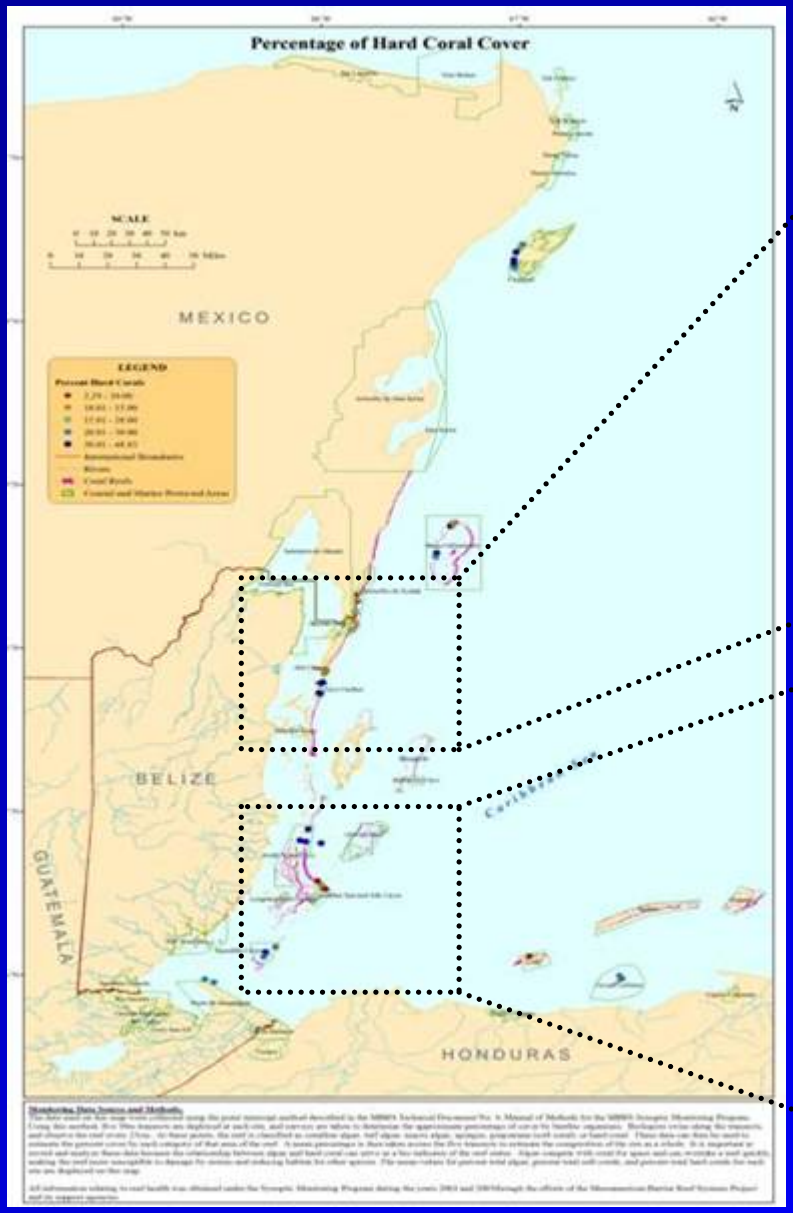
Water Quality

Pollution



Baseline

Coral Cover



Spawning Aggregations

- Cluster of 11 sites declared MR
- Species
- Abundance
- Seasonality
- Behaviour
- Color variations

Targeted Research

- Smithsonian Institute

Several targets

- Wildlife Conservation Society
- Earthwatch
- Reef CI
- University of Belize
- WWF
- TNC

THREATS MONITORING

- Increase in cruise tourism
- Coastal development
- Illegal fishing and over fishing
- Land based pollution sources

CHALLENGES

- Not enough trained human resources
- Minimal financial resources
- Methodology application
- Data management
- Direct benefit to the MR

Thank You

- MBRS
- Fisheries Department
- Daniel Suman