OVERVIEW

Happy Anniversary!

Belize Sea Turtle Conservation Network

Turtle Projects

Historical Importance

Threats

Strandings

Rehabilitation

Acknowledgements

Thank you!
HAPPY ANNIVERSARY!

• 10\textsuperscript{th} Anniversary
  – Protection of all turtles in Belize from 2002-2012

• 20\textsuperscript{th} Anniversary
  – Belize STRAP 1992-2012
BELIZE SEA TURTLE CONSERVATION NETWORK
Founded in the 1990s

Members include:
Government departments
NGOs, and
individuals active in sea turtle conservation and research
BSTCN MEMBERS

Belize Audubon Society
Belize Fisheries Department
Belize Coastal Zone Management Authority & Institute
eco mar
Gales Point Wildlife Sanctuary Management Committee
Environmental Research Institute, University of Belize
Oceanic Society
SEA Belize
TIDE
Wildlife Conservation Society
WWF
NETWORKING

Working together towards common goals we are making a difference!

“How wonderful it is that nobody need wait a single moment before starting to improve the world.”

Anne Frank

“Never believe that a few caring people can't change the world. For, indeed, that's all who ever have.”

Margaret Mead
- Organized by BSTCN Members
- Traveling Turtle Display
- Visited 12 cities
- Students and adults
Sea Turtle Nesting Season

Sea turtles are graceful saltwater reptiles that spend most of their lives swimming in the world’s oceans. Female sea turtles build nests and lay their eggs in a hole they dig on the beach. The most common sea turtles that nest in Belize are the hawksbill, loggerhead and green sea turtles. Each year females lay their eggs and thousands of sea turtles hatch along our beaches. The hawksbill turtle is critically endangered and the green and loggerhead turtles are endangered and could become extinct. It is important to protect these reptiles and the beaches they use for nesting. Here is what you can do to help:

- Turn off your beachfront lights during nesting season.
- Do not disturb sea turtle nests which you find on the beach.
- Do not use flashlights or flash cameras on the beach at night.
- Throw away all of your trash. Sea turtles may eat it and die.
- If you see a turtle on the beach at night, stay away and keep quiet.
- Leave tracks left by sea turtles undisturbed. They are needed to locate nests.

For more information about sea turtles, please call the Fisheries Department at 224-4552.

Sea Turtles

The Living Dinosaur

Sea turtles are our link to dinosaurs. They first appeared about 200 million years ago when dinosaurs still roamed the earth. Sea turtles, the last of the ancient reptiles, are like living fossils.

Adult female turtles lay their leathery ping-pong sized eggs on the beach. Females lay 100 to 200 eggs at a time. However, only a few young turtles will make it to adulthood.

Under natural conditions, hatchling sea turtles find their way to the ocean by moving toward the brightest, most open horizon which is over the ocean. But building lights and street lights along the shoreline may confuse the baby sea turtles causing them to head inland instead of toward the sea.

The adult sea turtles usually weigh 175-350 pounds, baby sea turtles after hatching weigh only about one ounce.
Belize Sea Turtle Expo 2009

Turtle Word Search
How many of the "turtle" words can you find?
- sea turtle
- loggerhead
- flippers
- reptile
- sand
- beach
- ping pong balls
- ocean
- dinosaur
- eggs

How many turtles can you rescue?
Players take turns connecting 2 dots.
Lines go across or down, not diagonally.
Complete as many small squares as you can.
Initial each square you complete and take another turn.
Squares in which turtles are rescued count 5 points.
All other squares count 1 point.

Which Way to the Ocean?
When sea turtles hatch they immediately head to the ocean.
The male sea turtle spends the rest of their lives in the ocean, the females only come out to nest on the same beach where they were born. Can you help the baby sea turtle find its way to the ocean?
CARTOON CHARACTERS
Sea Turtles of Belize

200 million years ago sea turtles evolved. Let’s conserve our living dinosaurs!

**Hawksbill Turtle**
- **Named After:** Color of shell
- **Local Name:** Testudincin
- **Size:** Up to 200 pounds & shell to 3 feet
- **Identification:** 8 pairs of laterally scutes overlapping 1 pair of pleurosternals scutes; 2 pairs of 1st & 2nd marginals
- **Characteristics:** Shell resembles beauty of a hawksbill
- **Habitat:** Coral reefs
- **Feeds On:** Sponges

**Green Turtle**
- **Named After:** Color of shell
- **Local Name:** Turtle or White Turtle or Turtle
- **Size:** Up to 600 lbs & shell greater than 3 ft
- **Identification:** 8 pairs of latral scutes, 1 pair of pleurosternals scutes; no overlapping shell scutes
- **Characteristics:** Shell resembles beauty of the hawksbill
- **Habitat:** Coral reefs and seagrass beds
- **Feeds On:** Seagrass

**Loggerhead Turtle**
- **Named After:** Large head
- **Local Name:** Lograhead, Logga or 4 shuamna
- **Size:** Up to 450 pounds & shell to 3 1/2 feet
- **Identification:** 5 pairs of latral scutes; large head; carapace longer than wide
- **Characteristics:** Coral Reefs
- **Feeds On:** Crustaceans & molluscs

**Leatherback Turtle**
- **Named After:** Type of carapace
- **Local Name:** 3 Keel or Trunk Turtle
- **Size:** Up to 1100 lbs & shell to 6 ft
- **Identification:** Soft carapace, black with white spots, prominent ridges run down back of carapace
- **Characteristics:** Open ocean
- **Feeds On:** Jellyfish

Belize Fisheries Regulations prohibits harvest of ALL sea turtles in Belize

*Images: Linda Winter, Martin Godfrey*
Sea Turtle Life Cycle
Sea Turtles live over 100 years!
Respect your Elders!

Nesting Beach
Several clutches of eggs are laid

Hatchlings Leave Nest
1 in 1000 hatchlings survive to adulthood

Return to Feeding Areas
Breeding Migration occurs at 2-8 year intervals

Adult Females
Mates at 2 week intervals

Open Ocean Surface Feeding
aka “The Lost Years” 1-5 years

Adult Males
After mating return to feeding areas

Immature Turtles
Settle out in coastal areas at basketball size

Coastal Shallow Water Feeding Grounds
Turtles that feed in Belize nest more than 500 miles away in Costa Rica, Mexico & Grand Cayman

Belize Fisheries Regulations prohibits harvest of ALL sea turtles in Belize
UPDATE STRAP

• Draft produced in 2012
• Revision and adoption in 2013
• Assessing goals achieved
• Outlining future goals
TURTLE PROJECTS
FOUNDING PREMISE

Is climate change impacting sea turtles ???

Need to collect baseline data in order to measure impact
Adaptation to Climate Change for Marine Turtles (ACT)

Aim: Reduce the vulnerability of sea turtles and the ecosystems that they use to the negative impacts of climate change
Sea Turtle Census

BELIZE TURTLE WATCH

REPORT ALL
In-Water Observations
Nesting Beach Observations
Stranded Sea Turtles

Report Online:
www.ecomarbelize.org

Or Call/Text: 671-3483

écocmar
“Conservation through Education”

Tel: 224-4552

WWF

PACT

WIDECAST

GCLF

UNEPI

CaMPAM

Network & Forum
2011 YEAR OF THE TURTLE

REPORT ALL:
In-Water Observations
Nesting Beach Observations
Stranded Sea Turtles

We need YOUR help in gathering baseline data on sea turtles that forage and nest in Belize so that changes over time, especially those caused by climate change, can be measured. Please submit your sea turtle observations online at this address and include pictures when possible.

www.ecomarbelize.org/turtlwatch Tel: 223-3022

Fisheries Regulations prohibit harvest of ALL sea turtles!
Report All STRANDED +
SEA TURTLES
STRANDED SEA TURTLES NEED YOUR HELP!

Stranded sea turtles can be found floating at sea or washed ashore. They can be alive, but will be injured or sick, or dead.

All coastal residents are asked to survey the beaches near their property for stranded sea turtles especially during periods of strong winds.

If you see a stranded sea turtle, alive or dead, contact the Belize Fisheries Department immediately.

Report Stranded Sea Turtles:
TEL: 224-4552

Belize Fisheries Regulations prohibit harvest of ALL sea turtles
Volunteers monitor their adopted beach and submit regular reports
SEA TURTLE CENSUS
Nesting Beach Observations

INSTRUCTIONS
The Nesting Beach Observation Calendar was designed for Turtle Watch Volunteers to easily record ALL observations of sea turtle activity on your beach including:
- turtle tracks
- turtle nests
- hatchlings
- stranded turtles
In the day space you can record positively identified species, or use a question mark (?) if you the species was not confirmed.

Please share your observations and photos with everyone on our Facebook page (search for “Belize Turtle Watch Program”). At the beginning of each month scan and email, or mail the previous monthly calendar sheet to us so we can compile your information in our database. Please contact us with any questions you have, thank you for your help in “Protecting Turtles Today for Tomorrow!”

SAMPLE
In the blank space record species observed.

KEY
Y = Yes, N = No
? = Unconfirmed
Did anyone take pictures? Circle if Yes, or cross out if No.

Moon Symbols
New Moon
First Quarter
Full Moon
Quarter

Contact the Fisheries Department to report any dead or alive stranded sea turtles or if anyone is seen harassing turtles.
Toll: +(501) 224-4552

Fisheries Regulations Prohibit Harvest & Harassment of ALL Sea Turtles
### Important Dates
- 24: Christmas Eve
- 25: Christmas Day
- 26: Boxing Day
- 31: New Years Eve

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There has only been one report of an olive ridley turtle in Belize and leatherbacks are observed occasionally in the open ocean and Victoria Channel.
Nesting Beach Characteristics

What Makes A Good Nest Site?
A sandy beach easily accessible from the sea makes the best sites for nesting turtles. The angle of the beach must be high enough or the beach extends far enough back so that high tide won’t flood the nest. The sand that the turtle nests in must be moist enough to prevent collapse and porous enough to allow gas diffusion during incubation. Many islands in Belize are built atop conch shells and coconuts and other debris. Turtles will not be able to dig through this type of habitat and will attempt to nest, but will end up in a false crawl. These are still important to record, so all nesting activity must be reported.

Which part of the beach should I monitor?
Leatherback, loggerhead and green turtles tend to nest in open habitat while hawksbills like to nest under vegetation in the littoral forest. So as you walk along the beach look for turtle crawls up and down the beach and if spotted follow them to where they end.

Where do turtle nest in Belize? Turtles nest just about everywhere there is natural beach. Hawksbills have been recorded nesting on the small offshore islands and at Gales Point. Green turtles are reported nesting in the Bacalar Chico Marine Reserve. Loggerheads have been reported nesting throughout Belize. There have been no reports yet of leatherbacks nesting on the beach but they do nest in neighboring Mexico and Guatemala so everyone is asked to especially look out for 5 ft wide tracks on their beach that lead to water!

How will I know if there’s a nest if I don’t see the turtle lay eggs? A member of the Belize Sea Turtle Conservation Network will visit your beach and confirm if there is a nest and provide you with the estimated date of hatching.

What should I measure?
Nearest landmark or natural vegetation i.e. tall coconut tree. Distance from the HIGH tide water mark to nest. GPS Point if available.

Measure this Distance

GPS
Nest
High-Water Mark
Adopt a Reef
...and Help Make a Difference, One Reef at a Time!
Volunteers Submit Reports of their Observations Regularly
**Helpful Reminders...**

The In-Water Observation Calendar was designed for Turtle Watch Volunteers to easily record all sea turtle observations each day you visit the reef. Please be sure to include:

- Site details: name, time in, visibility
- Number of turtles sighted from the boat and in water
- Species: if large, male or female
- Presence of tags or other distinguishing features

Never chase or attempt to grab turtles in order to collect information for the Sea Turtle Census. Turtles should not be fed as this changes their natural behavior.

Do record annual markings, missing flippers, barbules, as this can be used in photo ID.

Please submit all photos of turtles on our Facebook page (search for "Belize Turtle Watch Program") or send them to us via email.

At the beginning of every month scan the previous month's email, and email, so we can compile your information in our database. Please contact us with any additional questions.

Thank you for your help in "Protecting Turtles Today for Tomorrow!"

**KEY**

- **Species**
  - G = Green
  - H = Hawksbill
  - LG = Loggerhead
  - LB = Leatherback
  - OL = Olive Ridley
  - K = Kemp's Ridley
  - U = Unconfirmed

- **Size**
  - 1 = < 18 in (1/3 m)
  - 2 = 18 in to 36 in (1/3 m to 1 m)
  - 3 = > 36 in (1 m)

- **Site Details:**
  - Name, time in, visibility
  - Number of turtles sighted from the boat and in water

- **Record Species, Sex, Age and Size of Turtles Sighted from the Boat.**
  - Use a slash '/' to separate turtle data.
  - Only record one if turtle was a large adult.

- **Immediate Information:**
  - Do anyone take pictures?
  - Yes, circle, if NO, press start key in the water.

Find the two sites:

- **Site 1**
- **Site 2**

**Fisheries Regulations Prohibit Harvest & Harassment of ALL Sea Turtles**
December 2011

There has only been one report of an olive ridley turtle in Belize and leatherbacks are observed occasionally in the open ocean and Victoria Channel.

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Important Dates</td>
<td>Moon Symbols</td>
<td>Sites:</td>
<td>Sites:</td>
<td>Sites:</td>
<td>Sites:</td>
</tr>
<tr>
<td>Submitted By:</td>
<td>24: Christmas Eve 25: Christmas Day 26: Boxing Day 31: New Years Eve</td>
<td>● New Moon ○ Full Moon • 1st Quarter ○ 3rd Quarter</td>
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</table>
Thank you for volunteering with the Belize Turtle Watch program. The project aims to determine baseline data on sea turtles that forage in Belize by networking with divers and snorkelers and boat captains. We are gathering this information so that changes over time, especially those caused by climate change, can be measured.

www.ecomarbelize.org/turtlewatch

Please remember!!!

Do not harass or attempt to capture sea turtles. All sea turtles are protected in Belize.

Do not chase sea turtles to get information. If you can only confirm it was a turtle this is important to our data collection efforts.

Submit your photos of turtles observed and be sure to include all sighting details.

Record observations while traveling to your destination.

If you don’t see any turtles on your dive, please record this information also.

Only one person should record observations for each dive or snorkel trip.

Thank you!

In-Water Observation Log

BELIZE TURTLE WATCH

Protecting Turtles Today for Tomorrow

TEL: 223-3022

Organization _____________

Boat _________________

Dates _________________

Location _______________

www.ecomarbelize.org
Sea turtles have lived in the world’s oceans for more than 150 million years. Sadly these ancient reptiles are now globally threatened with extinction. Many populations are declining as a result of persistent hunting, increasing coastal development, incidental capture in fisheries, the degradation and destruction of nesting beaches, and marine pollution. You can help to protect them by following these simple guidelines.

Developed in collaboration with the Wider Caribbean Sea Turtle Conservation Network (WIDECASE), these guidelines are intended to give general advice only – be sure to find out about local rules and regulations.

**TURTLE FACTS**
- All species of sea turtle are endangered and need our protection
- Turtles breathe air just like us, which means they can drown if they are prevented from reaching the surface of the sea
- Litter is dangerous, especially plastic bags which can be mistaken for jellyfish – a favourite turtle food
- Turtles remain in the same area for years and, as adults, return to the same nesting area year after year – if a nesting colony is destroyed, the turtles may never return

**WHAT YOU CAN DO**
- Support local sea turtle conservation initiatives – consider volunteering!
- Participate in local sighting networks and complete all sighting forms
- Do not buy or sell sea turtle products – turtles are strictly protected under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) and most national laws

**ON THE WATER**
- Keep a good look out for sea turtles while boating – boat strikes can kill
- When in the water, keep your distance and avoid startling turtles; avoid disturbing resting, sleeping or actively feeding turtles
- To ensure that encounters are as unthreatening as possible, approach turtles slowly and calmly and move away if the turtle shows signs of distress
- Never try to spear, harass, catch or ride turtles
- Experts advise not to touch or feed wild turtles
- Take all litter home with you: trash can kill, especially when it is mistaken for food

**ON THE BEACH**
- During breeding seasons, some special considerations apply to turtle nesting beaches.
  - Avoid damage to incubating nests – for example, avoid driving on a turtle nesting beach or using these beaches for camp fires or barbecues
  - Do not leave large items (such as chairs, umbrellas or recreational vehicles) on nesting beaches at night – these can obstruct a turtle’s path and prevent egg-laying
  - Keep pets, especially dogs, away as they can endanger eggs and hatchlings
  - Keep beach lighting to a minimum – artificial lighting disorients turtles
  - Shield or switch off lighting which is visible from the beach

**Watching nesting turtles**
- Seeing an adult turtle come on shore to lay her eggs is an unforgettable experience. However, on land turtles are very vulnerable and if startled, a female turtle may return to the sea before her eggs can be successfully laid. Please follow these simple rules when watching nesting turtles.
  - Keep disturbance to a minimum – stay quiet and move around slowly
  - Do not approach turtles as they arrive from the sea: they are easily frightened off Turtles that have not yet laid their eggs must be left alone
  - Make minimal use of flashlights; never shine lights directly into a turtle’s face
  - Try not to “trap” turtles – approach them from behind and keep low to the ground
  - Move away if the turtle shows signs of distress
  - Turtle eggs and hatchlings should be left undisturbed
  - Consider limiting viewing to 30 minutes at a time

**Photography**
- Flash photography of nesting turtles is a controversial topic. In some places this constitutes harassment and is illegal. If using a camera flash, do so sparingly and:
  - Never take photographs before a turtle has laid her eggs
  - Only take photographs from behind the turtle – the flash will temporarily “blind” her and complicate her return to the sea

**Hatchling turtles**
- Try to shield hatchlings if they appear disoriented by beachfront lighting – place yourself between the hatchlings and the light source, and ask that the lights be turned off long enough for the hatchlings to reach the sea
- Do not interfere with their crawl to the sea as this could jeopardize their survival
- Never photograph hatchlings – they are very sensitive to light
RESULTS 2011

Number of Sea Turtle Species - Annual

- Loggerhead: 32
- Hawksbill: 51
- Green: 12
- Olive Ridley: 1
- Unknown: 5
PADI Distinctive Specialty

- Turtle Watch Specialty
- Divers & non-divers
- In-water and nesting beach
SPECIAL MENTION

• Nests reported by volunteers from areas where nesting would be expected but has not been reported
  – Hopkins - 129 eggs, 99.2 success rate!
  – Placencia - new nesting sites near private homes
  – Punta Ycacos - but disturbed by dogs :(

![Image of a dog lying on the ground]
Certificate of Appreciation
Mr. Francis Zuniga
Special Constable, Hopkins Police Department

For Protecting Sea Turtles in 2012
1st Olive Ridley Recorded Found Stranded in Fishing Line

- Dr. Todd Rimkus,
- Marymount University
- donated satellite tag
BELIZE SEA TURTLE WORKSHOP
Jun 2011

3 Day Workshop
Presentations on Sea Turtle Biology & Conservation
Hands on Necropsy Training
Field work at Gales Point
Nesting Beach Monitoring
Nest relocation
BSTCN Meeting
Measuring Beach Profiles

Using the Abney Level Method

& the Emery Stick Method
2011 BSTCN Meeting GOALS

• Reestablish Baseline Data
  – Nesting Beaches
  – Foraging Areas
  – Threats/Impacts
  – Report ALL Strandings

• Increase Awareness

• Produce Annual Report/Update STRAP
Ginger from Honduras tracked to Robinson Point in 2012!
Nationwide In-Water Surveys

- Country wide in-water surveys
- Conducted by Turtle Network Members
- Trained fishermen and marine guides to assist
- This portion funded by GCFI SGF
# National Sea Turtle In-Water Survey Data Sheet

## Site Details

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Date</th>
<th>Reef Zone</th>
<th>Depth (ft)</th>
<th>m</th>
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## Team Details

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<tr>
<th>Boat Captain</th>
<th>Name</th>
<th>Other Team Members</th>
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## Survey Details

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<th>GPS Point Start N</th>
<th>W</th>
<th>Time Survey End</th>
<th>GPS Point End N</th>
<th>W</th>
<th>Total Time of Survey</th>
<th>Distance Surveyed</th>
<th>mi</th>
<th>km</th>
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## Turtles Observed During Survey

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<tr>
<th>Species</th>
<th>Size</th>
<th>Captured</th>
<th>Sex</th>
<th>Tags</th>
<th>Fibropapilloma</th>
<th>Unique Markings (please describe)</th>
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<tbody>
<tr>
<td>EI CM CC</td>
<td>S M L XL Y N</td>
<td>M F U Y N</td>
<td>Y N</td>
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<tr>
<td>EI CM CC</td>
<td>S M L XL Y N</td>
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<td>M F U Y N</td>
<td>Y N</td>
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</tbody>
</table>

## Turtle Details Data Sheet

**Study Location:**

<table>
<thead>
<tr>
<th>Capture Date:</th>
<th>Capture Location:</th>
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<tbody>
<tr>
<td>(write out month)</td>
<td>GPS (Capture): ___ ___ ___ ___ ___ ___ ' N ___ ___ ___ ___ ___ ' W</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data Recorded By:</th>
<th>Capture Time:</th>
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<tbody>
<tr>
<td>Tag(s) on Left: at capture:</td>
<td>at release:</td>
</tr>
<tr>
<td>Tag(s) on Right: at capture:</td>
<td>at release:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT TAG NUMBER</th>
<th>at capture:</th>
<th>at release:</th>
<th>Pit Tag Location:</th>
</tr>
</thead>
</table>

| Species (circle) | CM | EI | CC | FIBROPAPILOMA | Y | N |

<table>
<thead>
<tr>
<th>Observation Type:</th>
<th>First</th>
<th>Recapture</th>
<th>Stranding</th>
<th>Tag-Return</th>
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<tr>
<td>Curved Carapace Length (notch-to-notch in cm)</td>
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<tr>
<td>Curved Carapace Width (cm)</td>
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<tr>
<td>Straight Carapace Length (notch-to-notch in cm)</td>
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<tr>
<td>Straight Carapace Width (cm)</td>
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<tr>
<td>Plastron Length (cm)</td>
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<tr>
<td>Plastron-to-Cloaca (cm)</td>
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<td>Plastron-to-Tail Tip (cm)</td>
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<tr>
<td>Weight (kg)</td>
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<thead>
<tr>
<th>SEX:</th>
<th>M</th>
<th>F</th>
<th>U</th>
<th>Blood/Tissue Sample:</th>
<th>W</th>
<th>S</th>
<th>L</th>
<th>N</th>
<th>O</th>
<th>B</th>
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<tbody>
<tr>
<td>(W = Whole S = Serum L = Lysis N = No Sample O = Other B = Skin Biopsy)</td>
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</table>

<table>
<thead>
<tr>
<th>GPS (Release):</th>
<th>___ ___ ___ ___ ___ ___ ' N ___ ___ ___ ___ ___ ' W</th>
</tr>
</thead>
</table>

Comments:

Please return your form to Linda Searle at ECOMAR. Call 671-3483 or fax to 223-7007 or scan and email to linda@ecomarbelize.org.
IN-WATER SURVEY RESULTS

Species Observed During All Surveys

- Hawksbill (EI): 37
- Green (CM): 16
- Loggerhead (CC): 10

Size of All Turtles Observed During Surveys

- Hawksbill (EI): Small: 9, Medium: 7, Large: 8, Extra Large: 2
- Green (CM): Small: 1, Medium: 23, Large: 2
- Loggerhead (CC): Small: 5, Medium: 5, Large: 0, Extra Large: 2
BSTCN MEMBER PROJECTS
BACALAR CHICO
AMBERGRIS CAYE
MARINE TURTLE PROGRAM

Bacalar Chico & Hol Chan
Marine Reserves
Nesting Beach
& In-Water Surveys
Managed by the
Belize Fisheries Department
Hatchlings coming out of the nest
Turtles that did not make it out of the nest were dug out and released at sea.
2012 Nesting Season on Ambergris Caye

- 85 turtle nests were recorded for Bacalar Chico Marine Reserve in 2012
- 43 nests were recorded in 2011
- Indicates 79% increase
LIGHTHOUSE REEF ATOLL
Nesting at Half Moon Caye
Lighthouse Reef Atoll

2010 Turtle Disturbances

2011 Turtle Disturbances
Loggerhead Turtle
Daytime Nesting in 2012!

Traditionally green turtles nested during the daytime.
GALLOW’S POINT

“Conservation through Education”
Gallow's Point Turtle Project Survey #1 & #2

Reef Crest

Drop-Off

South Gallow's Point-o-Reef
In-Water Surveys

• Local fishermen and marine guides assist
• Supports primarily juvenile hawksbills
• Fishermen learn about sea turtle conservation
ROBINSON POINT

“Conservation through Education”
Robinson Point is the area south of English Caye Channel where there is dense sea grass.
Ginger from Honduras tracked to Robinson Point in 2012!
IN THE FIELD

Setting Nets

Measuring Turtles
Tagging Turtles

DNA Tissue Disease
In 2007 the Wildlife Conservation Society in partnership with the Belize Fisheries Department started a long term in-water sea turtle monitoring program at Glover’s Reef Atoll.
IN-WATERS SURVEYS
Objectives

• The main objectives of the in-water sea turtle monitoring program are to:
  – estimate the abundance of sea turtles on the fore-reef habitat of the Glover’s Reef Atoll (GRA).
  – increase our knowledge of sea turtle movements and habitat use
  – assess genetic stock of foraging sea turtles at Glover’s Reef
  – study growth rates of sea turtles at Glover’s Reef
OBJECTIVES (con’t)

• The main objectives of the in-water sea turtle monitoring program are to:
  – build the capacity of stakeholders to collect accurate, reliable and standardized data from foraging index sites
  – several staff from Government and NGOs have been trained which later participated in the nationwide sea turtle surveys
Methodology

• 16 one hour long snorkel surveys

• 6-8 snorkelers swimming parallel to each other trying to sight turtles.

• Depth of water ranges from about 15-60 feet.

• Species of the turtles sighted are recorded.

• Attempt is made to capture the turtle by hand.

• Captured turtles are measured, weighed, tagged and released within 30 minutes.
Results

• Surveys indicate population of turtles is:
  – 85% Hawksbill turtles (*Eretmochelys imbricata*)
  – 10% Green turtles (*Chelonia mydas*)
  – 5% Loggerheads (*Caretta caretta*)

• Population comprised of:
  – Juvenile hawksbills green turtles
  – Sub-adult and adult loggerheads

• Mark and recapture of 18 hawksbills results show that the juvenile and sub-adult hawksbill turtles remain within a fairly specific area, the average distance travelled on the Atoll was 1200 feet.
Results

• The juvenile and sub-adult hawksbill turtles remain for at least 3 years.

• Genetic analyses conducted by partners from the University of Puerto Rico suggest that the Glover’s Reef Atoll represents an important area for the development of hawksbills from different areas in the Caribbean, but particularly from the Tortuguero rookery.

• Conservation of the Glovers juvenile hawksbills will support long-term conservation of Tortuguero nesting stock and other rookeries in the Caribbean.

• No turtles captured have exhibited any signs of fibropapillomatosis.
Adult Loggerhead!
GALES POINT
Wildlife Sanctuary Mgt Commitee

Marymount University
5 Turtles Tagged in Belize!
PACT SERENITY
Peace
Marymount University & Hawksbill Hope

Forage along Belize Barrier Reef

Distance Traveled: 1478 km
Straight-line Distance: 53 km
Foraging in Honduras!

Moochula
Southern Environmental Association
Sites Covered

- Placencia
- Laughing Bird Caye Marine Reserve
- Sapodilla Cayes Marine Reserve
- Gladden Spit & Silk Cayes Marine Reserve
MONITORING PLAN

• Regular data collection
• Strategic monitoring
• Beach characterization
• Threat assessment
• Monitoring hatchlings
Results 2012

• Laughing Bird Caye
  – 5 hawksbill nests
  – 2 successful
    • high success rate of 97 & 98 %
  – 3 unsuccessful
    • sand moist
    • 0% success rate
Placencia Peninsula

• 3 reported
  – 2 false crawls
  – 1 nest, at tideline, 85 eggs out of 106 eggs relocated, 73 unsuccessful, 31 % success rate
Port Honduras Marine Reserve
Fig 7. Sabal beach

Fig 8. Disturbed nest at Sabal Beach

Fig 4. Disturbed nest at Punta Ycacos Beach.

Fig 5. Shells from disturbed nest.
Fig. 3: Total Nesting activity in PHMR 2012

- **Nests with eggs**
- **Non-nesting emergences**

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<th>Month</th>
<th>Nests with eggs</th>
<th>Non-nesting emergences</th>
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<tr>
<td>Sep-12</td>
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</tr>
</tbody>
</table>
Beach Erosion

- Present at West and South Snake Caye
- Nest relocation required to preserve eggs
ANTHROPOGENIC THREATS
HISTORICAL IMPORTANCE

4 Turtle Corrals!
Supported logging industry
Became Belize’s first fishery export
Current Illegal Use

- Jewelry
Illegal harvest

Consumption US $6/pound

Special Report: Fisherman Charged for Harvesting Three Sea Turtles

Report by Toledo Institute for Development & Environment

13th December 2011

In Belize, as well as across the globe, sea turtles face many threats; in fact, two out of three of the species found in Belize are considered "Endangered" by the World Conservation Union. The Belize fisheries laws on Sea turtles states; "No person shall interfere with any turtle nest, no person shall take any species of sea turtles, no person shall buy, sell or have in his possession any part of any sea turtle."
HARRASSMENT

DISTURB
FEEDING

- Occurring in two locations
  - Hol Chan Marine Reserve
  - Turtle Point, near Silk Cayes
AQUARIUM
STRANDED SEA TURTLES
Stranding Details 2011-2012

Number of Sea Turtles Stranded Alive vs Dead

- Alive: 6
- Dead: 12
Location of Stranded Sea Turtles
Species of Sea Turtles found Stranded in Belize

- Green
- Hawksbill
- Loggerhead
- Leatherback
- Olive Ridley
Cause of Sea Turtle Strandings

- Boat Strike
- Drowning
- Entanglement
- Illegal Take
- Oil
- Sick
- Winds
- Unknown

Unknown causes the most strandings.
REHABILITATION

• Currently conducted through the Belize Fisheries Department primarily through the Hol Chan Marine Reserve on San Pedro

• Other BSTCN members actively seeking funding for basic facilities to care for the increasing number of stranded sea turtles.
ACKNOWLEDGEMENTS

Special thanks to the generous donations by the International Sea Turtle Society, U.S. Fish and Wildlife Service, U.S. National Marine Fisheries Service, Ecoteach, Defenders of Wildlife, Sea Turtle Conservancy, Defenders of Wildlife, Lotek, Sirtrack, Telonics and CLS America for making possible my attendance at the 33rd ISTS, and all the partners in the Belize Turtle Watch Program, especially the Turtle Watch Volunteers!
Thank you!