

# B E L I Z E

## Country Report

WIDECAST AGM FEB 2, 2013

Linda Searle ><> Country Coordinator

# **OVERVIEW**

**Happy Anniversary!**

**Belize Sea Turtle Conservation Network**

**Turtle Projects**

**Historical Importance**

**Threats**

**Strandings**

**Rehabilitation**

**Acknowledgements**

**Thank you!**

# HAPPY ANNIVERSARY!

- 10<sup>th</sup> Anniversary
  - Protection of all turtles in Belize from 2002-2012
- 20<sup>th</sup> Anniversary
  - Belize STRAP 1992-2012
  - Protection of hawksbill turtles in Belize from 1993-2013.

# 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



*"Conservation through Education"*

**Gales Point Wildlife Sanctuary  
Management Committee**



# 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*

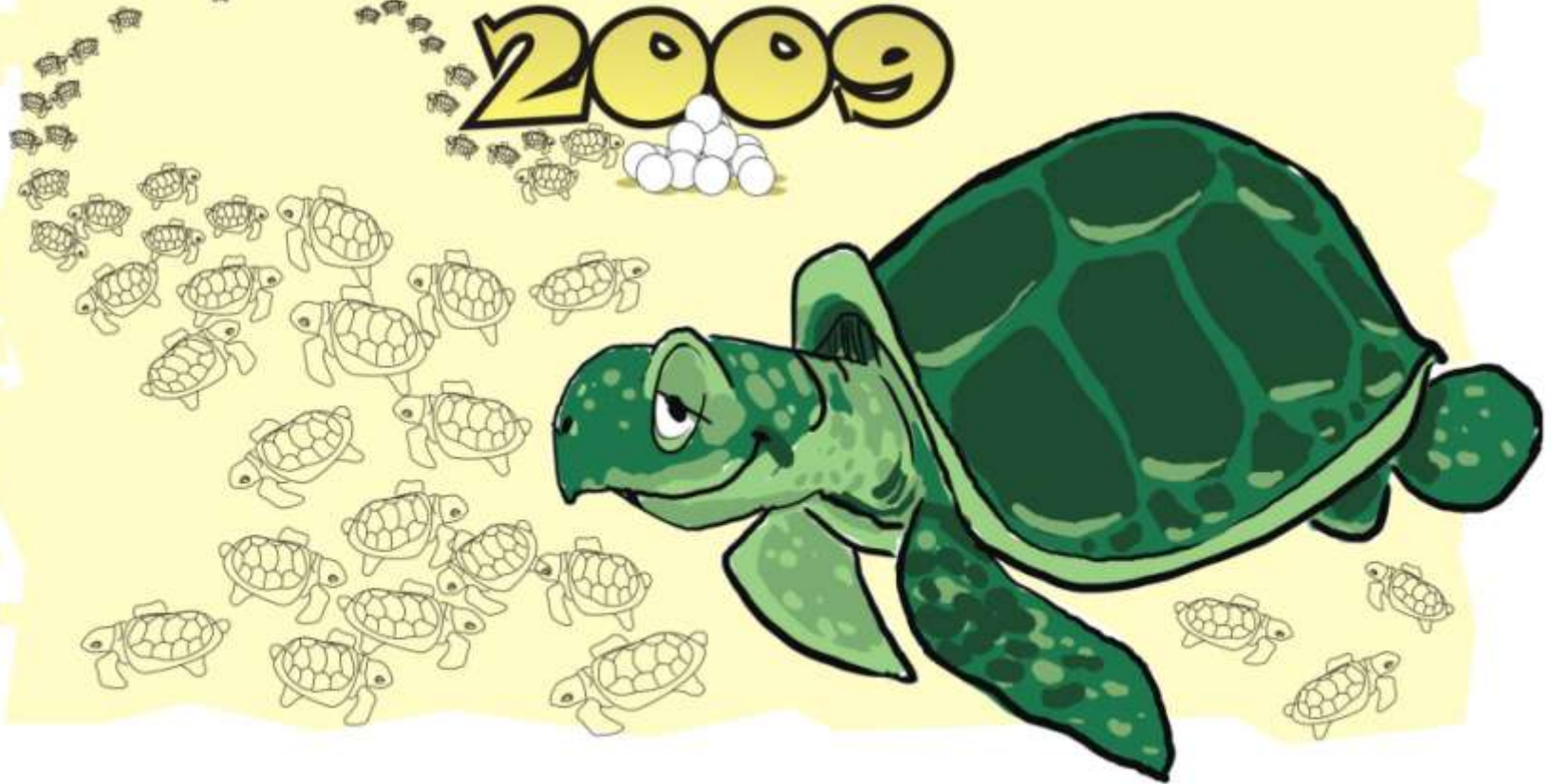
*“Never believe that a few caring people can't change the world. For, indeed, that's all who ever have.”*

*Margaret Mead*

# Belize

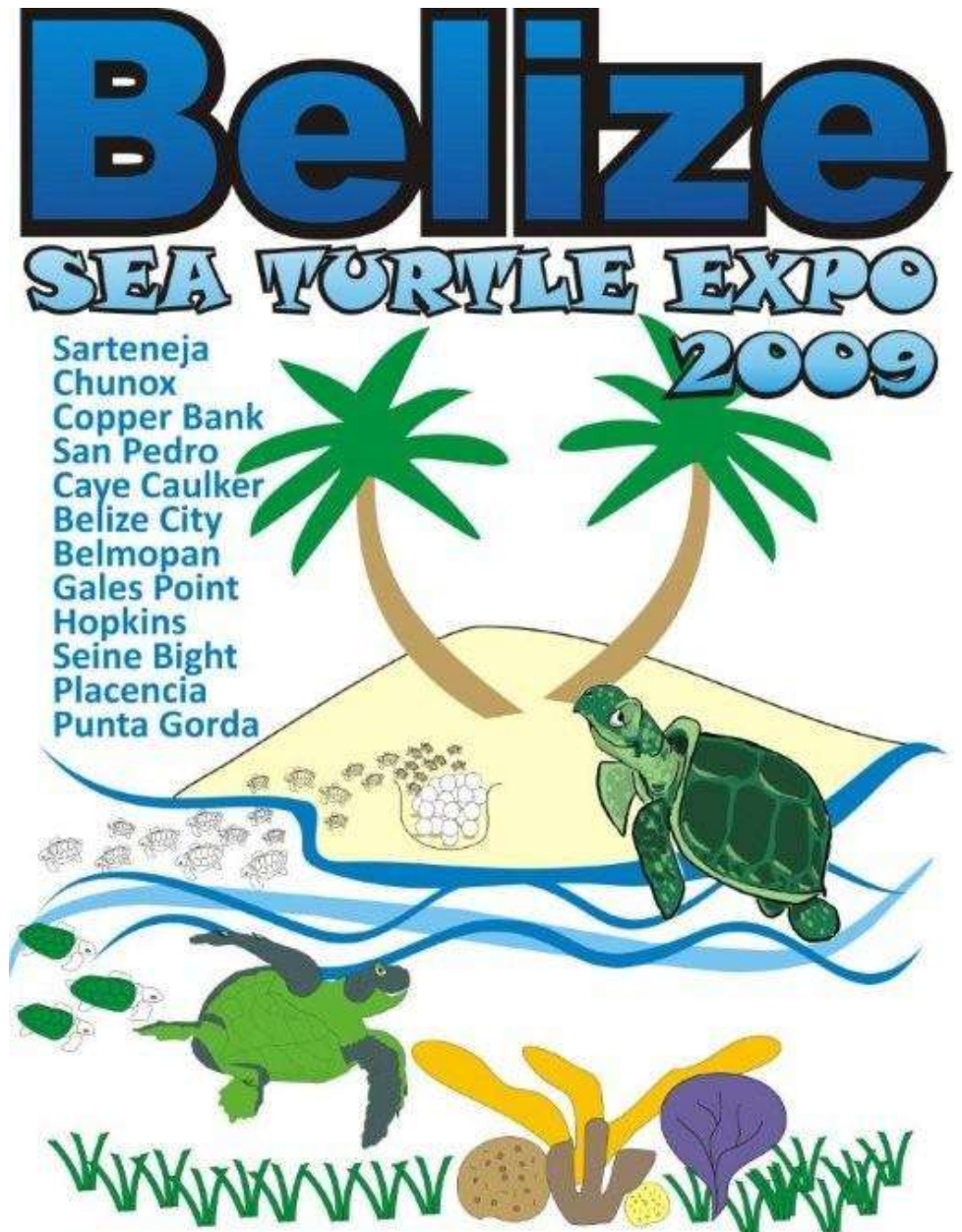
## SEA TURTLE EXPO

2009





- Organized by BSTCN Members
- Traveling Turtle Display
- Visited 12 cities
- Students and adults



Fisheries laws now protect ALL species of sea turtles year round in Belize.  
Contact your local Fisheries Department Office or NGO to find out how you can  
help support sea turtle conservation efforts!



# Belize Sea Turtle Expo 2009



## 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.

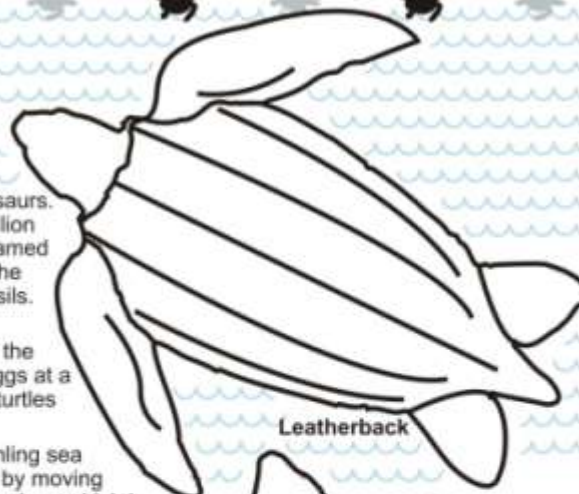
## Sea Turtles *The Living Dinosaur*

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.

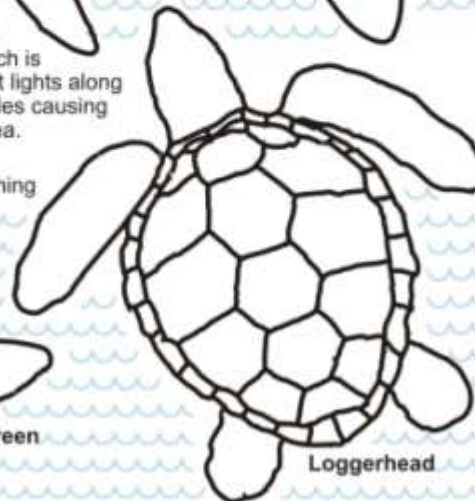
Adult female turtles lay their leathery ping-pong sized eggs on the beach. Females lay 100 to 200 eggs at a time. However, only a few young turtles will make it to adulthood.

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.

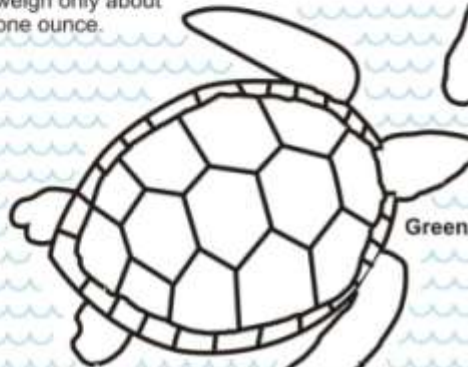
The adult sea turtles usually weigh 175-350 pounds, baby sea turtles after hatching weigh only about one ounce.



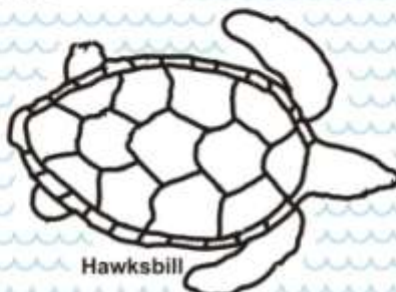
Leatherback



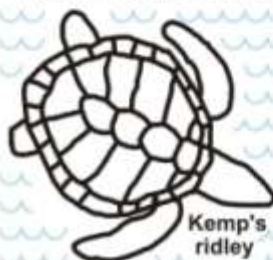
Loggerhead



Green



Hawksbill



Kemp's  
ridley





# 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

A	W	F	E	E	R	S	S	T	E	G	G	S	W
A	P	T	D	C	E	L	T	R	U	T	A	E	S
Q	U	I	A	V	M	A	A	E	R	H	N	K	W
E	E	X	N	Z	X	A	H	I	I	A	A	R	E
Z	F	L	O	G	G	E	R	H	E	A	D	R	O
E	T	L	G	U	P	T	K	O	O	E	E	U	C
E	A	A	I	I	V	O	U	I	C	E	I	A	E
L	A	S	N	P	K	T	N	E	B	U	U	S	A
I	L	S	E	D	P	G	W	G	R	Y	U	O	N
T	H	O	N	W	L	E	Y	E	B	E	I	N	Z
P	Y	A	E	G	Y	L	R	A	A	A	Q	I	A
E	S	V	B	V	D	F	Z	S	E	N	L	D	A
R	S	E	H	C	A	E	B	J	E	U	I	L	E
W	F	X	J	C	G	N	S	S	R	I	G	E	S

## How many turtles can you rescue?

Players take turns connecting 2 dots.

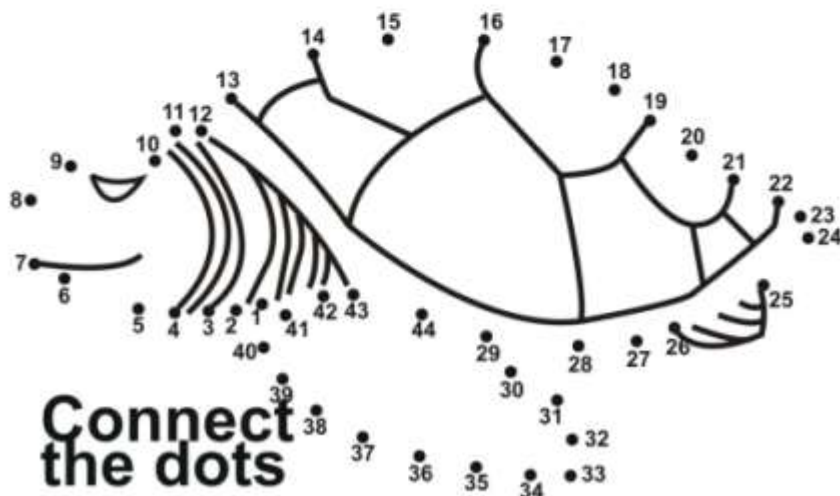
Lines go across or down, not diagonally.

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.



## Connect the dots

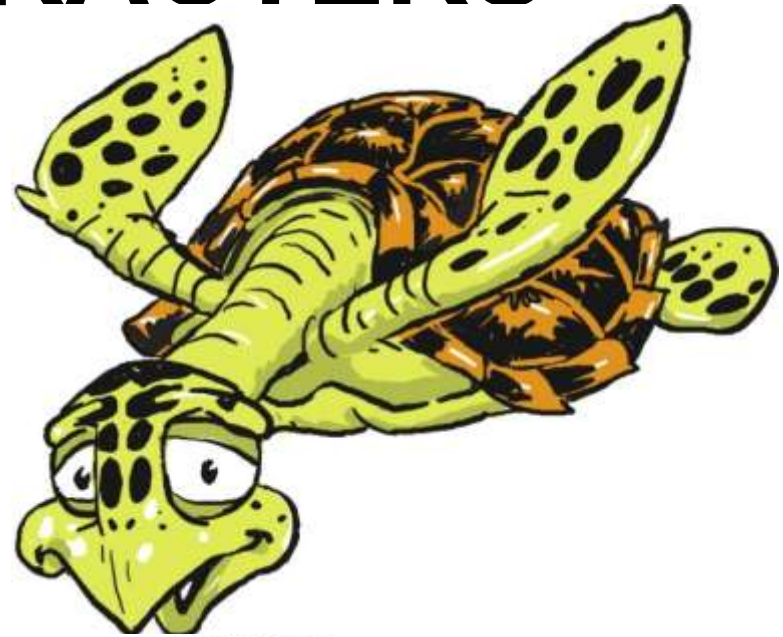
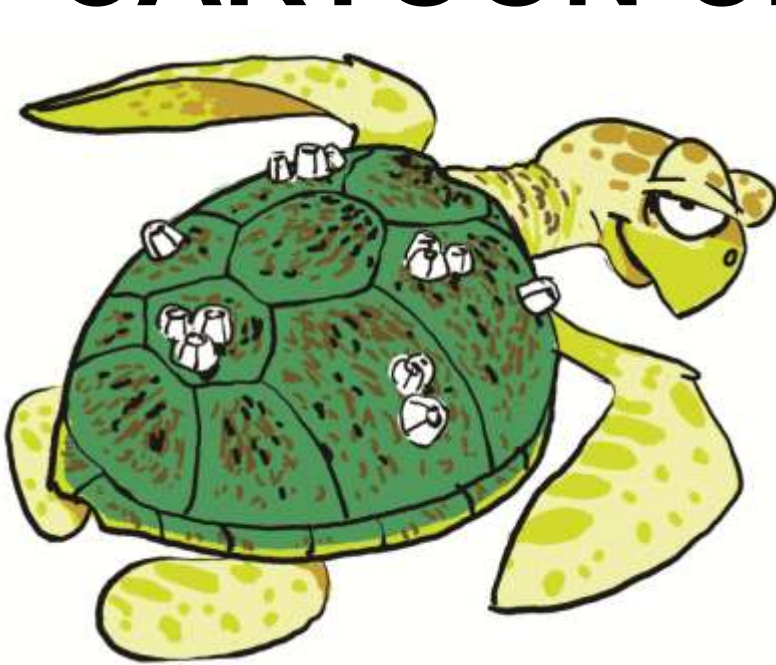
## Which Way to the Ocean?

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?



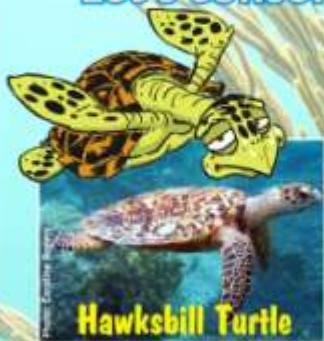
# CARTOON CHARACTERS





# Sea Turtles of Belize

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



**Hawksbill Turtle**

**NAMED AFTER** Hawk-like beak

**LOCAL NAME** Oxbill

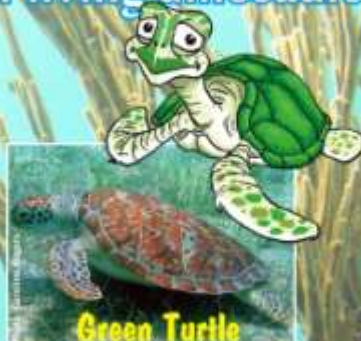
**SIZE** Up to 200 pounds & shell to 3 feet

**IDENTIFICATION** 3 pairs lateral scutes, overlapping scutes, jagged marginal scutes, 2 pairs prefrontal scales, beak-like nose with over-bite.

**CHARACTERISTICS**

**HABITAT** Coral Reefs

**FEEDS ON** Sponges



**Green Turtle**

**NAMED AFTER** Color of fat

**LOCAL NAME** Turtle or White Turtle or Turkle

**SIZE** Up to 500 lbs & shell greater than 3 ft

**IDENTIFICATION** 4 pairs of lateral scutes, 1 pair of prefrontal scales, no overlapping shell scutes, shell resembles beauty of hawksbill

**CHARACTERISTICS**

**HABITAT** Coral reefs and seagrass beds

**FEEDS ON** Seagrass



**Loggerhead Turtle**

**NAMED AFTER** Large head

**LOCAL NAME** Loggrahead, Logga or Cahuama

**SIZE** Up to 450 pounds & shell to 3 1/2 feet

**IDENTIFICATION** 5 pairs lateral scutes, large head, carapace longer than wide

**CHARACTERISTICS**

**HABITAT** 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**

**HABITAT** Open ocean

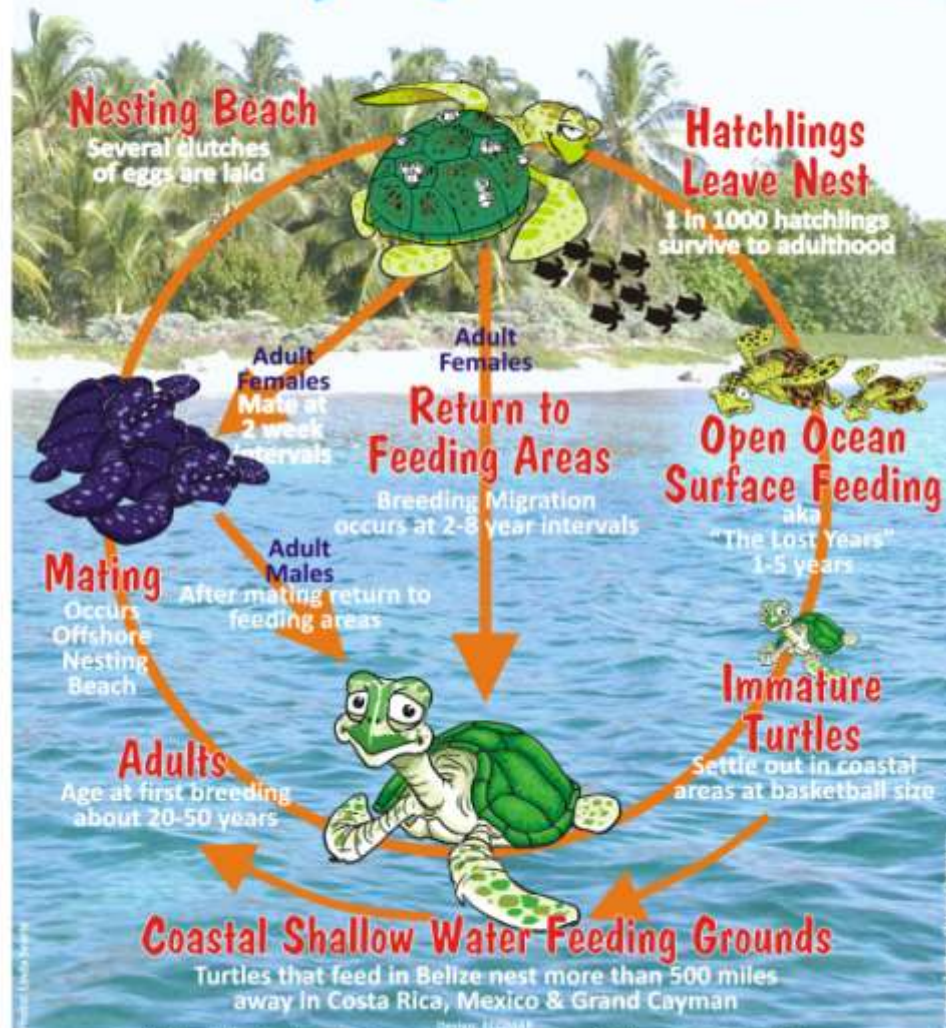
**FEEDS ON** Jellyfish

Belize Fisheries Regulations prohibits harvest of ALL sea turtles in Belize



# Sea Turtle Life Cycle

Sea Turtles live over 100 years!  
Respect your Elders!



Belize Fisheries Regulations prohibits harvest of ALL sea turtles in Belize







# CATCHING

**ON THE BEACH**  
During breeding season, female spotted sea turtles often lay their nesting beaches during the day, but they also lay their eggs at night.  
• Do not wear large shoes or flip-flops, sandals or swimming trunks on nesting beaches at night - these can damage the eggs and the nesting beach.  
• Do not walk on the beach at night or use a flashlight to look at the eggs.  
• Do not use a flashlight to look at the eggs at night or use a flashlight to look at the eggs at night.  
• Do not use a flashlight to look at the eggs at night or use a flashlight to look at the eggs at night.

**WATCHING NESTING TURTLES**  
Watching an adult turtle come to the beach to lay her eggs is an unforgettable experience. However, the best time to watch is at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active.

**PHOTOGRAPHY**  
Flash photography of nesting turtles is not allowed. To see the turtles, you should go to the beach at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active.

**PROTECTING TURTLES**  
To protect the turtles, you should go to the beach at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active. To see the turtles, you should go to the beach at night, when the turtles are most active.

by: BELIZE FISHERIES DEPT

PA

CONSUMERS

4.45 0 990 1.780 2.470 3.500





# UPDATE STRAP

- Draft produced in 2012
- Revision and adoption in 2013
- Assessing goals achieved
- Outlining future goals

# **TURTLE PROJECTS**

# BELIZE TURTLE WATCH



Protecting Turtles Today for Tomorrow

# FOUNDING PREMISE

***Is climate change impacting  
sea turtles ???***

**Need to collect baseline data  
in order to measure impact**







# Adaptation to **C**limate Change for Marine **T**urtles (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**



**Tel: 224-4552**



**REPORT ALL**

**In-Water Observations  
Nesting Beach Observations  
Stranded Sea Turtles**

**Report Online:  
[www.ecomarbelize.org](http://www.ecomarbelize.org)**

**Or Call/Text: 671-3483**



*"Conservation through Education"*





# SEA TURTLE CENSUS



## 2011 YEAR OF THE TURTLE REPORT ALL:

**In-Water Observations  
Nesting Beach Observations  
Stranded Sea Turtles**

**BELIZE  
TURTLE WATCH**



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/turtlewatch](http://www.ecomarbelize.org/turtlewatch) Tel: 223-3022



Tel: 224-4552

**ecomar**  
"Conservation through Education"

**PACT**  
Protected Areas Conservation Trust



**Fisheries Regulations prohibit harvest of ALL sea turtles!**

**BELIZE  
TURTLE WATCH**



**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.**

Funded by PACT & WWF  
Photos: Nicole Espinoza  
Design: SC1AAA6



**Report  
Stranded  
Sea Turtles:  
TEL: 224-4552**

**Belize Fisheries Regulations prohibit harvest of ALL sea turtles**



**PACT**  
Protected Areas Conservation Trust

**ecomar**  
"Conservation through Education"

[www.ecomarbelize.org/turtlewatch](http://www.ecomarbelize.org/turtlewatch)







**Volunteers monitor their adopted beach and submit regular reports**





# SEA TURTLE CENSUS

## Nesting Beach Observations

**Green**

**Hawksbill**

**Loggerhead**

**Leatherback**

**Olive Ridley**

**Kemp's Ridley**

**Asymmetrical**

**Loggerhead**  
**Hawksbill**

**Symmetrical**

**Green**  
**Leatherback**

*Also asymmetrical but smaller are the olive and kemp's ridley tracks but these nest in arribadas*

**Hatchling Tracks**

## 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 you help in "Protecting Turtles Today for Tomorrow!"

## SAMPLE

In the blank space record species observed.

<b>Y</b>	<b>N</b>	<b>N</b>

Was the beach monitored this day?      Were any turtle tracks found on the beach?      Was a nest found on the beach?

## KEY

Y = Yes, N = No  
? = Unconfirmed

Did anyone take pictures?  
Circle if Yes, or cross out if No.

### Moon Symbols

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

PO Box 1234, Belize City  
turtletwatch@ecomarbelize.org  
TEL: + (501) 671-3483

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







# 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.



Measure this  
Distance

GPS

Nest

High-Water Mark

## 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.

## Where do turtles 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.



"Conservation through Education"





**...and Help Make a Difference,  
One Reef at a Time!**

# **Volunteers Submit Reports of their Observations Regularly**







# SEA TURTLE CENSUS

## In-Water Observations

*Adapt a Reef*  
Protecting the World's  
Most Endangered  
Marine Ecosystems



### 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, size, if large, male or female
- presence of tags or other distinguishing features
- if you don't visit the reef, put an "X" over that day
- if you only visit the reef one time per day put an X over Site 1
- if you don't see any turtle leave the space empty.

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

Do record unusual markings, missing flippers, barnacles 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 and email, or mail, 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  
Q = Olive Ridley  
K = Kemp's Ridley  
? = 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)  
? = Unconfirmed

### SAMPLE

Site name, time day, began & visibility

From the boat

Sites Details:	
1. Mermad's Cattle 10:00 am / 100 ft	
2. Shark Chute 2:30 pm / 75 ft	
G-2	H-2
X	LG-3-Ad
	G-1-?

Did anyone take pictures?  
If YES, circle, if NO cross out.

Vegetation in the water?

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



Record species, size and sex of turtles sighted from the boat. Use a dash "-" to separate turtle details. Only record sex if turtle was a large adult.

Record species, size and sex of turtles observed in the water. Use a comma (,) to separate sightings.



Immediately contact the Fisheries Department to report any dead or alive stranded sea turtles or if anyone is seen harassing turtles at TEL: 224-4552




































































































PO Box 1234, Belize City  
turtlewatch@ecomarbelize.org  
www.ecomarbelize.org  
TEL: +(501) 671-3483

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.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>Organization:</b>  <b>Submitted By:</b>	<b>Important Dates</b> 24: Christmas Eve 25: Christmas Day 26: Boxing Day 31: New Years Eve	<b>Moon Symbols</b> ● New Moon ○ Full Moon ☾ 1st Quarter ☾ 3rd Quarter		Sites: 1 	Sites: 2  	Sites: 3 
				 	 	 
Sites: 4 	Sites: 5 	Sites: 6 	Sites: 7 	Sites: 8 	Sites: 9 	Sites: 10  
 	 	 	 	 	 	 
Sites: 11 	Sites: 12 	Sites: 13 	Sites: 14 	Sites: 15 	Sites: 16 	Sites: 17  
 	 	 	 	 	 	 
Sites: 18 	Sites: 19 	Sites: 20 	Sites: 21 	Sites: 22 	Sites: 23 	Sites: 24  
 	 	 	 	 	 	 
Sites: 25 	Sites: 26 	Sites: 27 	Sites: 28 	Sites: 29 	Sites: 30 	Sites: 31 
 	 	 	 	 	 	 

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](http://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



**TEL: 223-3022**

Organization \_\_\_\_\_

Boat \_\_\_\_\_

Dates \_\_\_\_\_

Location \_\_\_\_\_



**PACT**  
Protected Areas Conservation Trust



**ecomar**  
[www.ecomarbelize.org](http://www.ecomarbelize.org)





# TURTLE WATCHING



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 (WIDECAST), 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

Participating in turtle watching programmes actually helps to protect turtles by raising awareness about them

Be sure to find out about local laws and regulations, as they may differ from these general guidelines



## 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



The Coral Reef Alliance (CORAL) is a member-supported, non-profit international organization dedicated to keeping coral reefs alive around the world. Visit our website <http://www.coral.org>



Visit the Wider Caribbean Sea Turtle Conservation Network (WIDECAST) website at <http://www.widecast.org> for more information on marine turtles and turtle conservation

© CORAL. These guidelines may be reproduced and distributed freely so long as they are reproduced in their entirety and the CORAL copyright is included. Suggestions for improving these guidelines should be sent to [info@coral.org](mailto:info@coral.org)

CORAL 06/11/2006

## Belize Field Representative

Valentine Rosado, San Pedro  
Email: [grosado@coral.org](mailto:grosado@coral.org)  
TEL: 602-2100



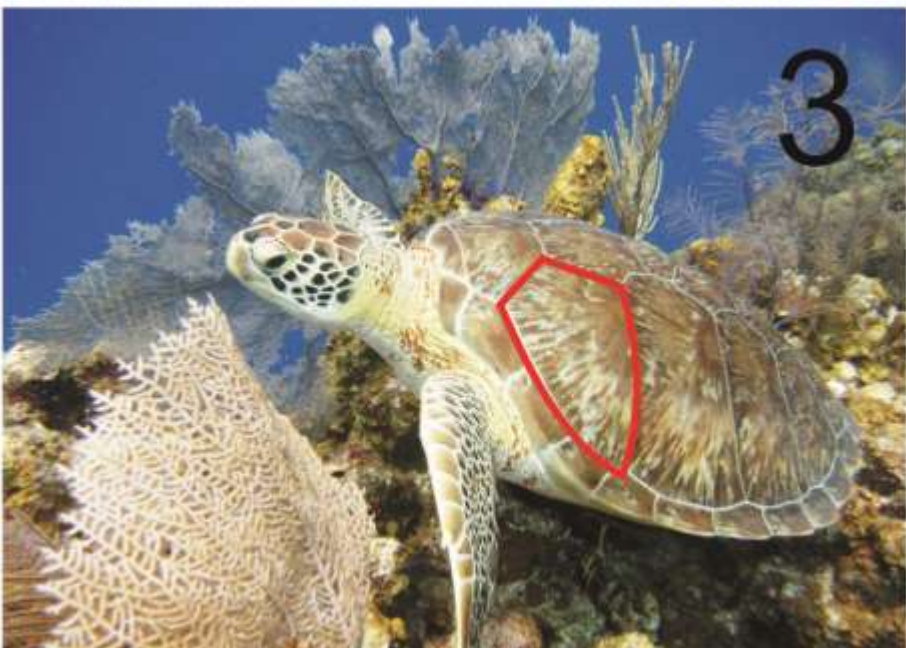
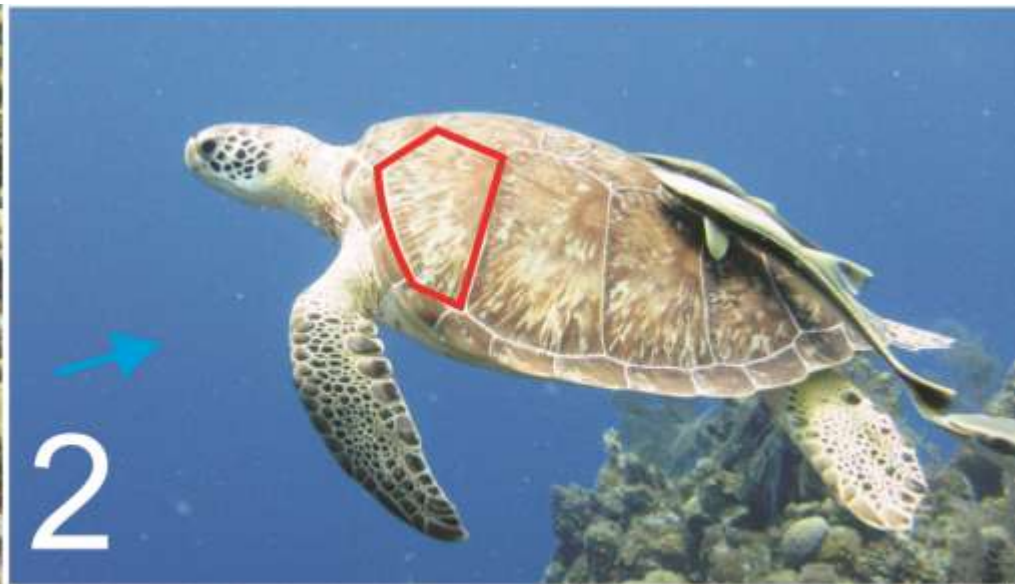
## Belize Country Coordinator

Linda Searle, Belize City  
Email: [linda@ecomarbelize.org](mailto:linda@ecomarbelize.org)  
TEL: 671-3483

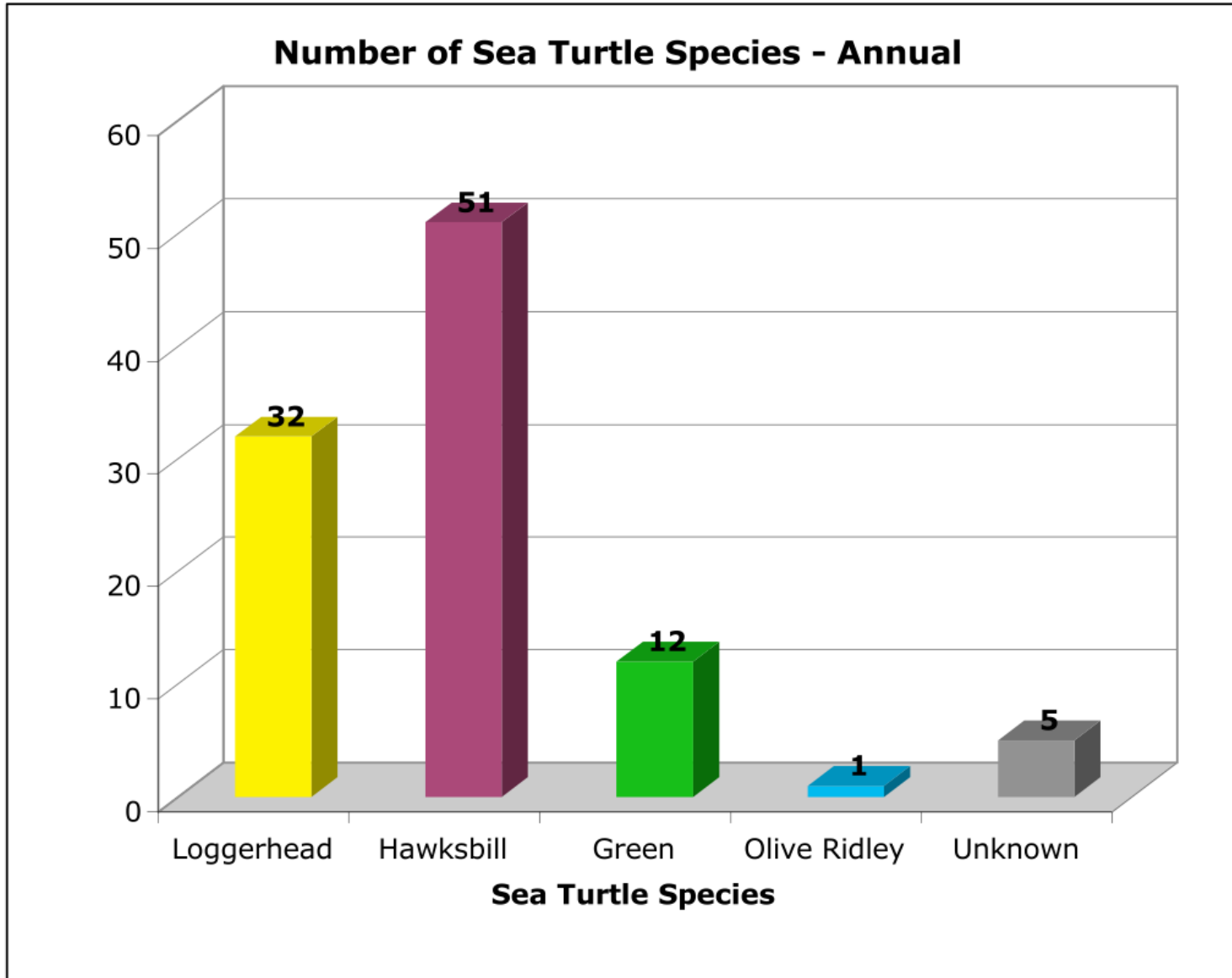




# PHOTO ID



# RESULTS 2011



# PADI Distinctive Specialty

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



**PADI**®  
**padi.com**



# 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 :(



**BELIZE**  
TURTLE WATCH



*Certificate of Appreciation*  
**Mr. Francis Zuniga**

**Special Constable, Hopkins Police Department**

*For Protecting Sea Turtles in 2012*



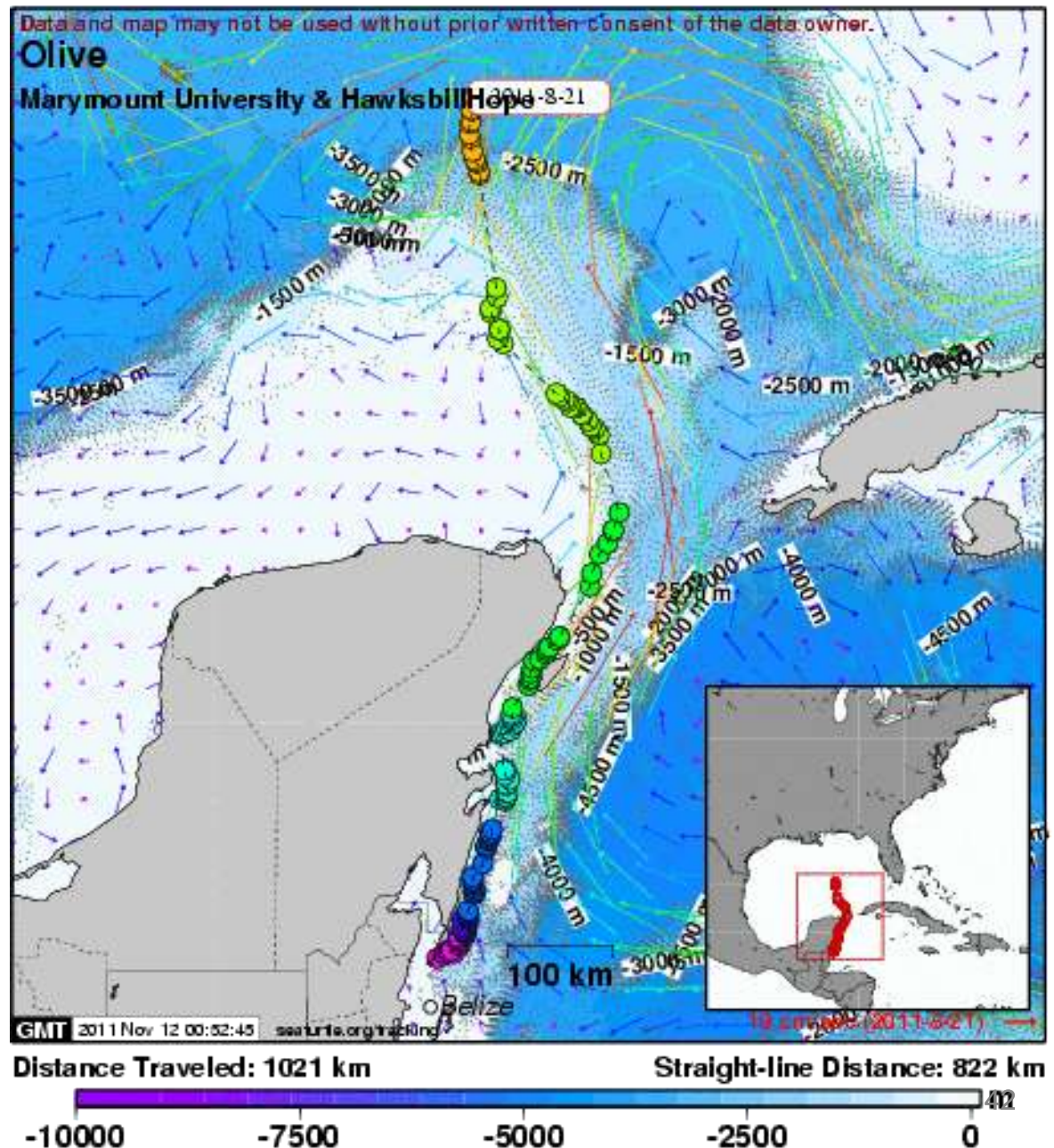






# 1st Olive Ridley Recorded Found Stranded in Fishing Line

- 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





# BELIZE

Turtle Nesting Areas



Gales Point  
Mullins River

Hopkins

Seine Bight  
Placencia

Monkey River

Punta  
Ycacos

Bacalar  
Chico

Ambergris  
Caye

Blackbird  
Caye

Calabash  
Caye

Key  
Bokel Lighthouse  
Reef Cayes

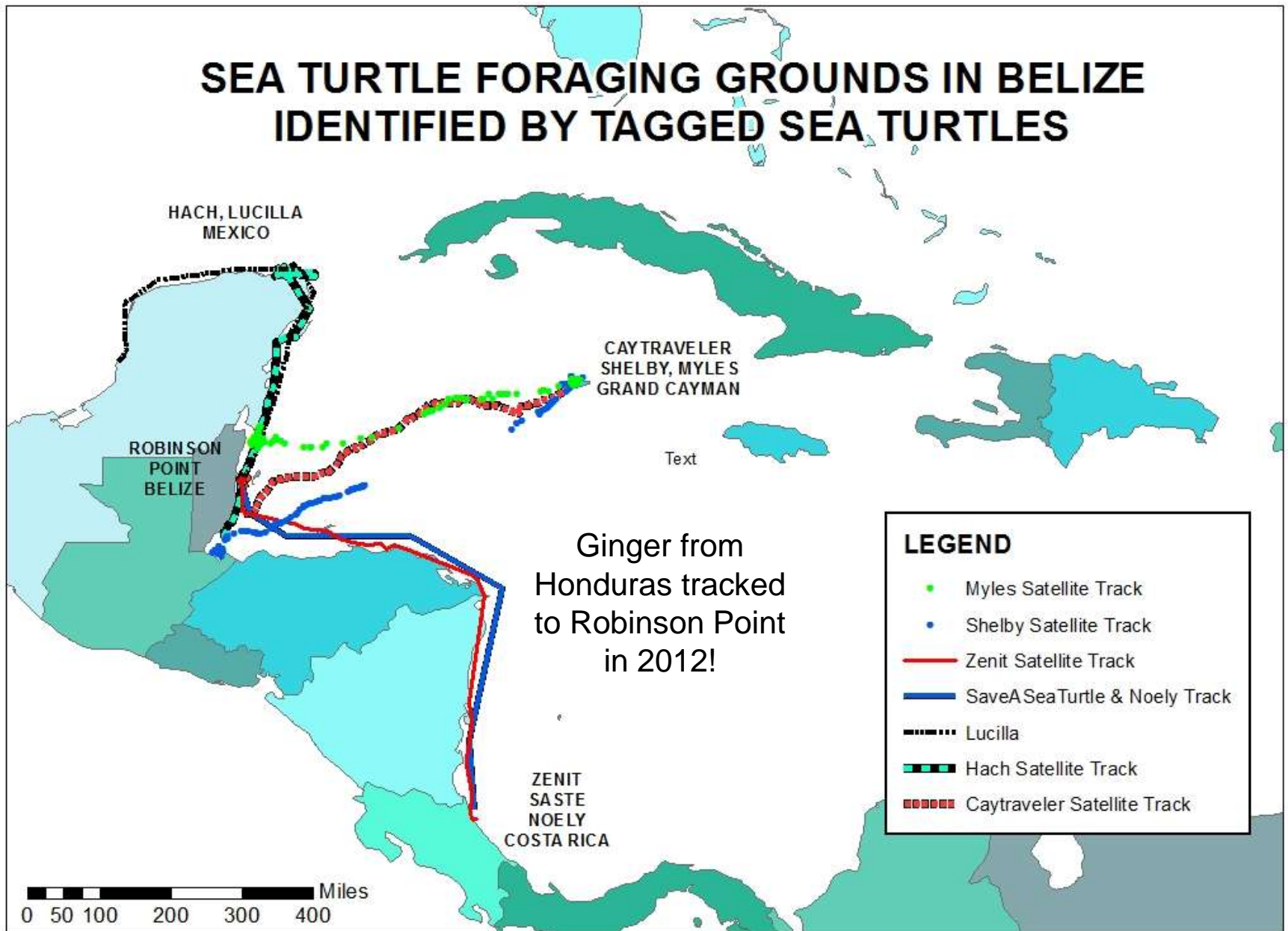
Glovers  
Reef  
Cayes

Tobacco  
& South  
Water  
Cayes

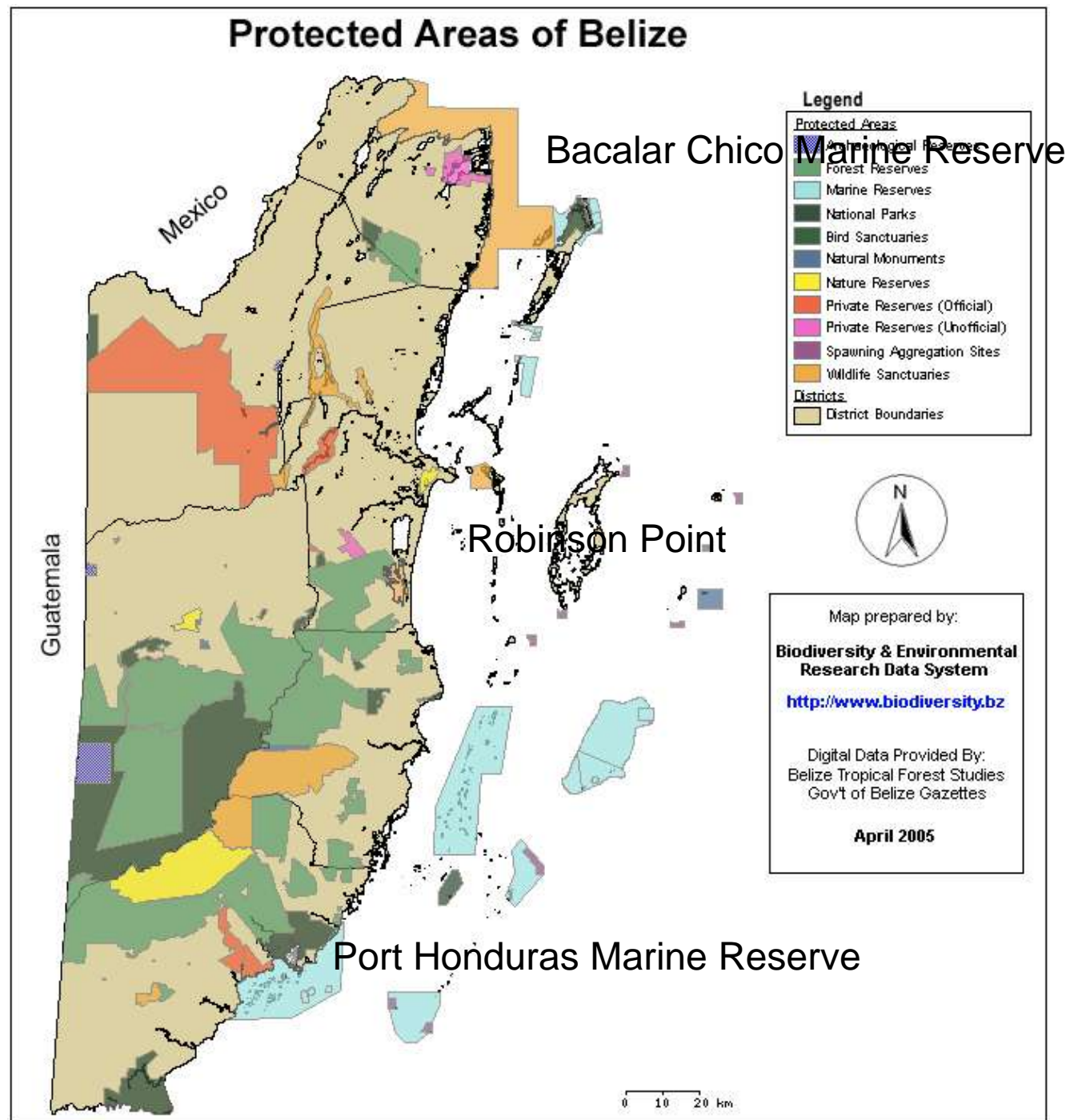
Sapodilla  
Cayes



# SEA TURTLE FORAGING GROUNDS IN BELIZE IDENTIFIED BY TAGGED SEA TURTLES



# Protected Areas of Belize



# 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



**BELIZE**  
TURTLE WATCH



**WWF**







# National Sea Turtle In-Water Survey Data Sheet



## TURTLE DETAILS DATA SHEET



STUDY LOCATION: \_\_\_\_\_

### SITE DETAILS

Site Name \_\_\_\_\_ Date \_\_\_\_\_

Reef Zone \_\_\_\_\_ Depth \_\_\_\_\_ ft \_\_\_\_\_ m

### TEAM DETAILS

Boat Captain \_\_\_\_\_ Researcher Name \_\_\_\_\_

Other Team Members \_\_\_\_\_

### SURVEY DETAILS

Time Survey Start \_\_\_\_\_ GPS Point Start N \_\_\_\_\_ W \_\_\_\_\_

Time Survey End \_\_\_\_\_ GPS Point End N \_\_\_\_\_ W \_\_\_\_\_

Total Time of Survey \_\_\_\_\_ Distance Surveyed \_\_\_\_\_ mls \_\_\_\_\_ km

### TURTLES OBSERVED DURING SURVEY (If more space is needed for additional turtles observed please complete another form)

Species	Size	Captured	Sex	Tags	Fibro papilloma	Unique Markings (please describe)
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	
EI CM CC	S M L XL	Y N	M F U	Y N	Y N	

CAPTURE DATE: (write out month)

CAPTURE LOCATION:

GPS (Capture): \_\_\_\_\_ ° N \_\_\_\_\_ ° W

DATA RECORDED BY: \_\_\_\_\_ Capture Time: \_\_\_\_\_

TAG(S) ON LEFT at capture: \_\_\_\_\_ at release: \_\_\_\_\_

TAG(S) ON RIGHT at capture: \_\_\_\_\_ at release: \_\_\_\_\_

PIT TAG NUMBER at capture: \_\_\_\_\_ at release: \_\_\_\_\_ Pit Tag Location: RF LF

SPECIES (circle) CM EI CC FIBROPAPILLOMA Y N

OBSERVATION TYPE: First Recapture Stranding Tag-Return

Curved Carapace Length (notch-to-notch in cm)

Curved Carapace Width (cm)

STRAIGHT CARAPACE LENGTH (notch-to-notch in cm)

STRAIGHT CARAPACE WIDTH (cm)

PLASTRON LENGTH (cm)

PLASTRON-TO-CLOACA (cm)

PLASTRON-TO-TAIL-TIP (cm)

WEIGHT (kg)

SEX: M F U BLOOD/TISSUE SAMPLE: (circle) W S L N O B

(W = Whole S = Serum L = Lysis N = No Sample O = Other B = Skin Biopsy)

RELEASE LOCATION:

GPS (Release): \_\_\_\_\_ ° N \_\_\_\_\_ ° W

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.



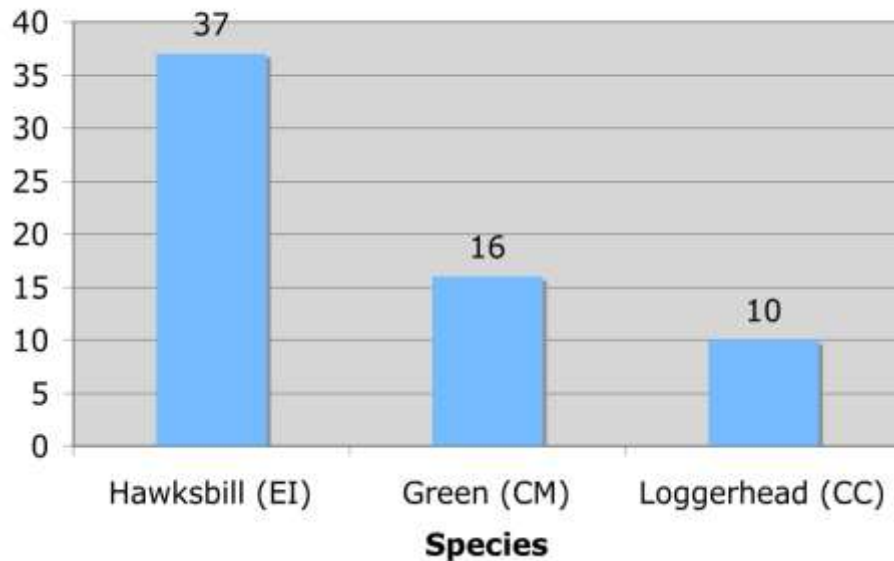
Please return form to Linda Searle at ECOMAR. Call 671-3483 or fax to 223-7007  
or scan and email to linda@ecomarbelize.org.



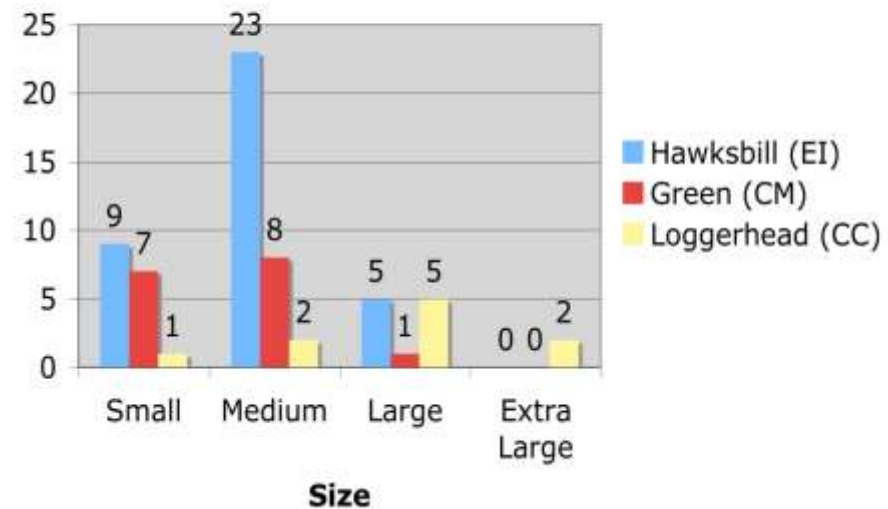


# IN-WATER SURVEY RESULTS

**Species Observed During All Surveys**



**Size of All Turtles Observed During Surveys**





# BSTCN MEMBER PROJECTS



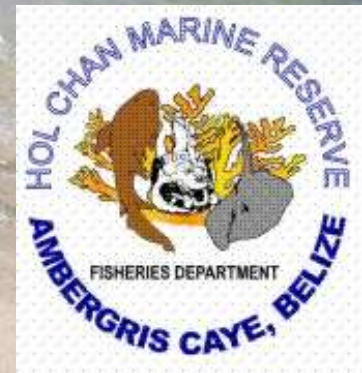
**BACALAR CHICO**

# 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

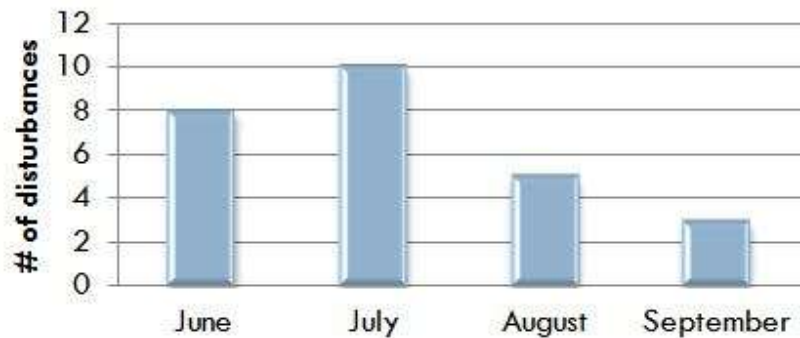




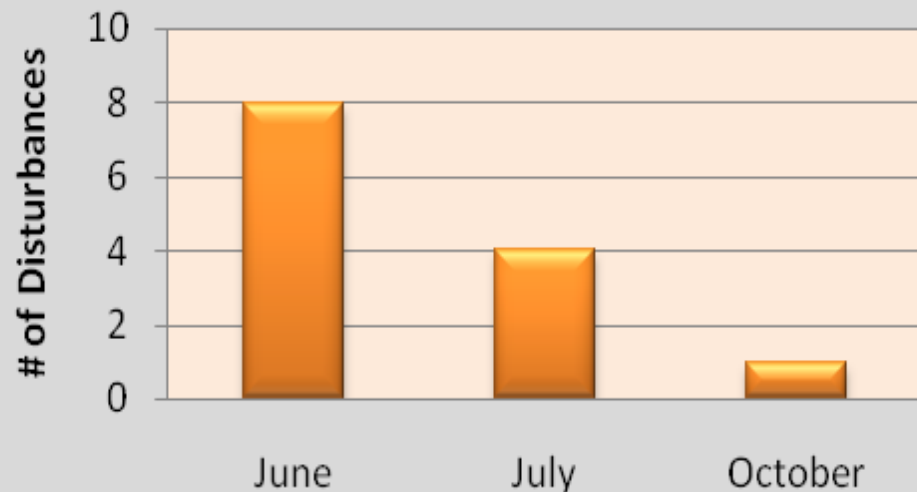


# Nesting at Half Moon Caye Lighthouse Reef Atoll

## 2010 Turtle Disturbances




## 2011 Turtle Disturbances







A photograph of a Loggerhead Turtle nesting on a sandy beach. The turtle is positioned in the center-right of the frame, facing left. Its head is visible, showing a yellowish-orange pattern. The shell is a mottled brown and tan. The turtle is surrounded by dry palm fronds, some green vegetation, and scattered debris, including a plastic bottle and a piece of white foam. In the background, a palm tree trunk is visible. The text "Traditionally green turtles nested during the daytime" is overlaid on the left side of the image.

**Traditionally  
green turtles  
nested during  
the daytime**

**Loggerhead Turtle  
Daytime Nesting  
in 2012!**



# GALLOW'S POINT



# Gallow's Point Turtle Project Survey #1 & #2

Reef Crest

South Gallow's Point-o-Reef

1E <sup>SG 1 E</sup>

2E <sup>SG 2 E</sup>

2B <sup>SG 2 B</sup>

<sup>SG 1 B</sup>  
1B

Drop-Off

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image © 2009 DigitalGlobe

©2009 Google

ry Date: Dec 13, 2002

17°27'39.81" N 88°02'11.99" W

Eye alt 7291



# In-Water Surveys

- Local fishermen and marine guides assist





- Supports primarily juvenile hawksbills







- Fishermen learn about sea turtle conservation







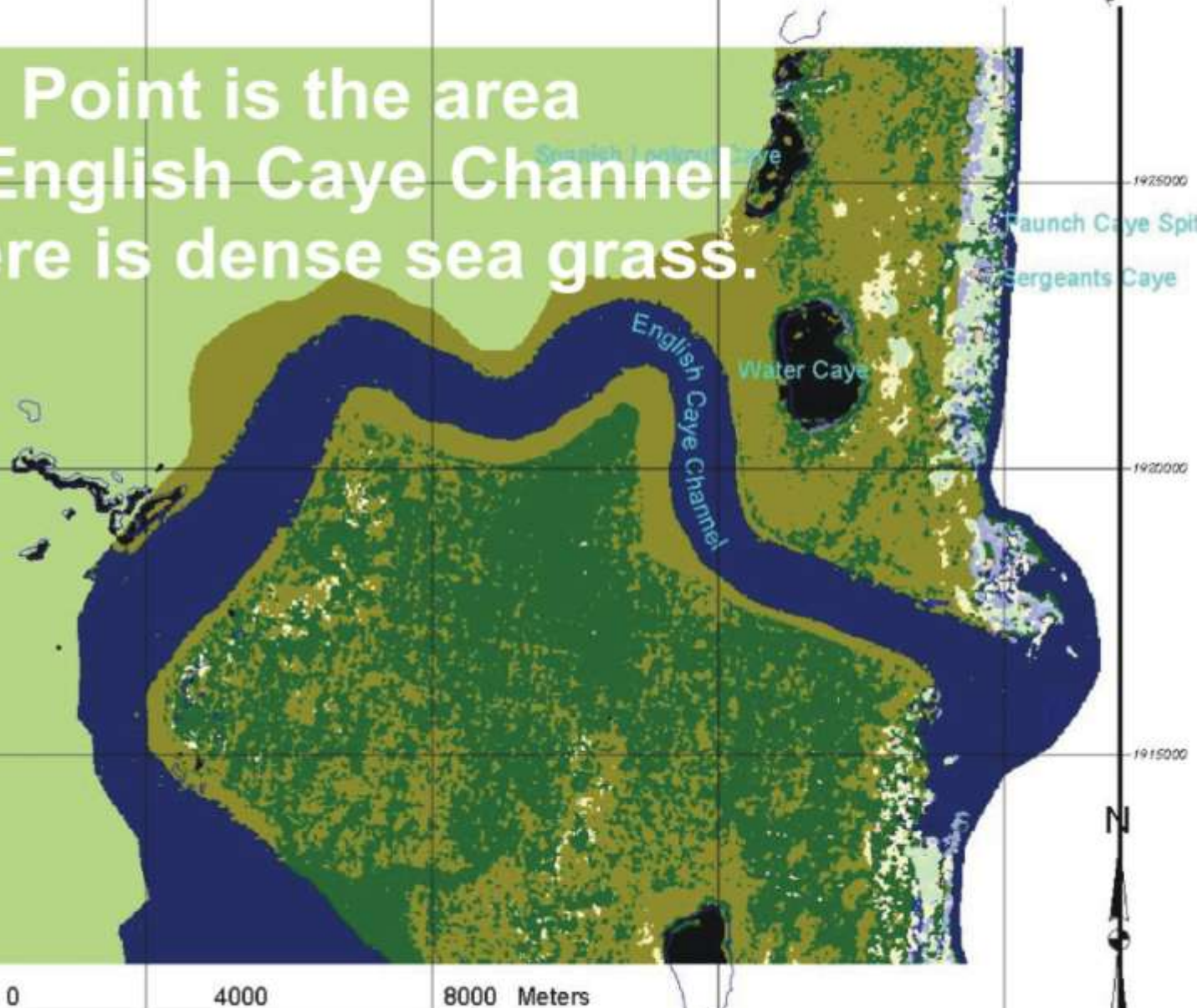
# ROBINSON POINT



# Belize Marine Habitat Map SouthEast of Belize City



Robinson Point is the area south of English Caye Channel where there is dense sea grass.





# ROBINSON POINT FORAGING GROUND

Belize City

English Caye  
Channel

2008-2009  
Study Area

Robinson  
Point  
Study Site

Data U.S. Navy

Image © 2009 DigitalGlobe

©2009 Google

6.41 mi

Image Dates: Dec 13, 2002 - Mar 13, 2006

17°23'26.25" N 88°08'12.95" W

Eye alt 22.15 m



# TURTLES TRACKED TO ROBINSON POINT

**San Lorenzo  
Campeche, Mexico**

**LUCILLA**

**Hawksbill Turtle**

**Flipper Tagged JUN 15 '08**

**Captured & Released**

**in Belize FEB 8 '09**

**ROBINSON  
POINT  
FORAGING  
GROUND  
BELIZE**

**Grand Cayman  
Cayman Islands**

**CAY TRAVELER**

**Green Turtle**

**Satellite Tagged JUL 24 '05**

**Arrived in Belize on AUG 31 '05**

**ZENIT**

**Green Turtle**

**Satellite Tagged JUL 20 '00**

**Arrived Belize AUG 30 '00**

**Tortuguero  
Costa Rica**

**Ginger from  
Honduras tracked to  
Robinson Point in  
2012!**

636 mi

Image © 2009 TerraMetrics  
Image © 2009 DigitalGlobe  
Data U.S. Navy

16°21'13.87" N 81°45'56.24" W

©2009 Google

Eye alt 1774





# IN THE FIELD

## Setting Nets



## Measuring Turtles





# Tagging Turtles



DNA Tissue

Disease





# GLOVER'S ATOLL

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



**WILDLIFE  
CONSERVATION  
SOCIETY**



# 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





**WILDLIFE  
CONSERVATION  
SOCIETY**

# 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

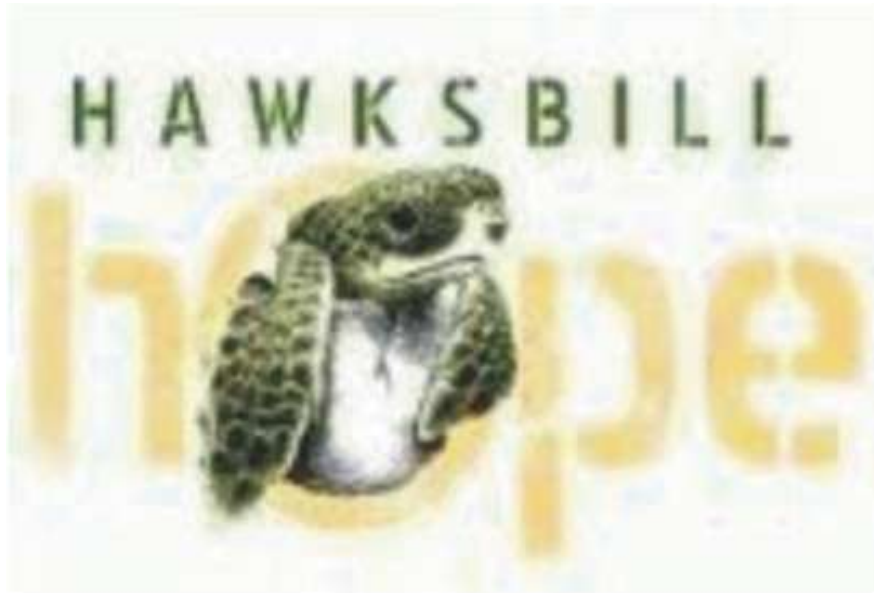
- The juvenile and sub-adult hawksbill turtles remain for at least 3 years.
- Genetic analyses conducted by partners from the University of Puerto Rico suggest that the Glover's Reef Atoll represents an important area for the development of hawksbills from different areas in the Caribbean, but particularly 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**













Data and map may not be used without prior written consent of the data owner.

**Hawksbill Hope & Marymount University**

Olive

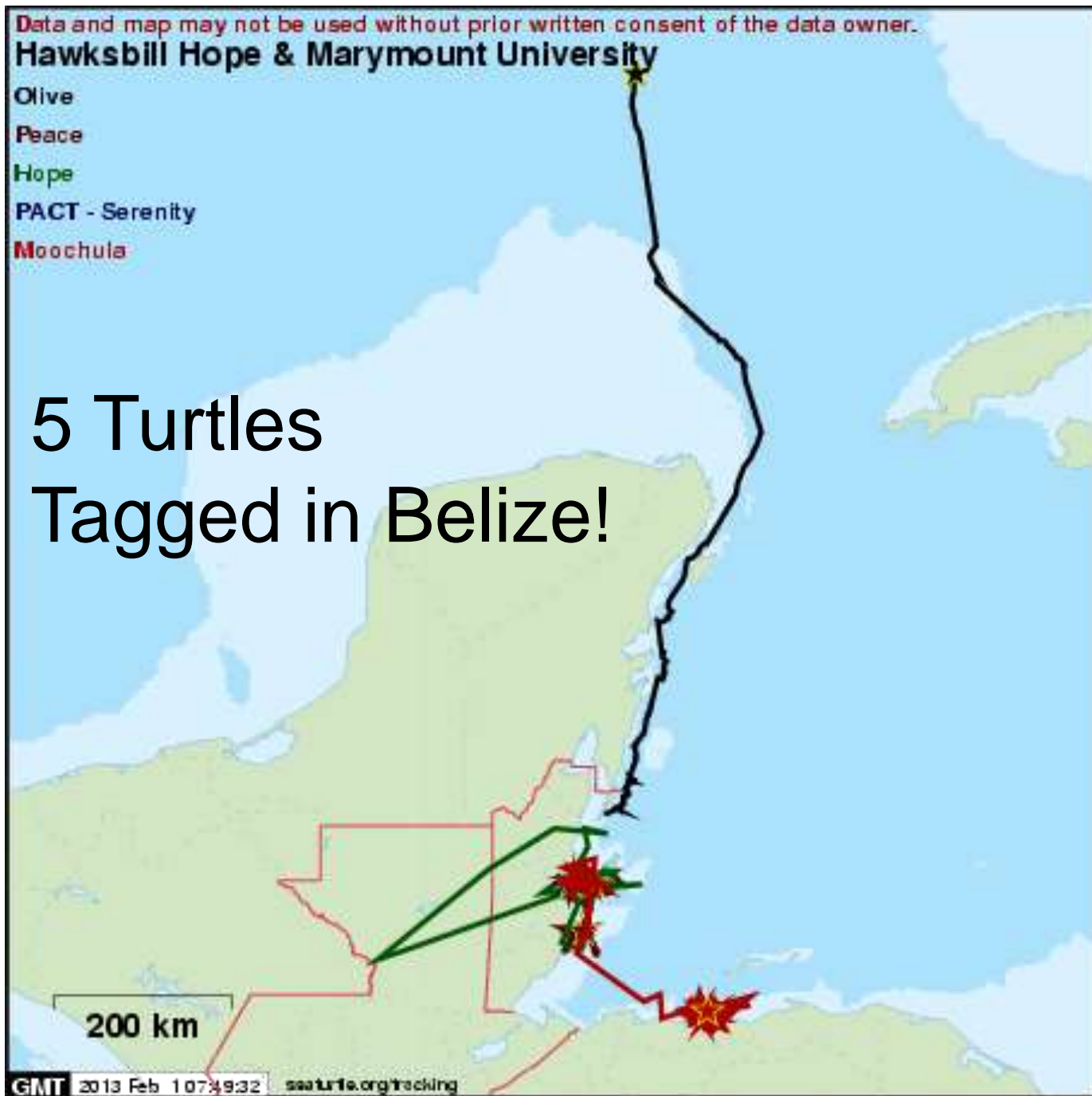
Peace

Hope

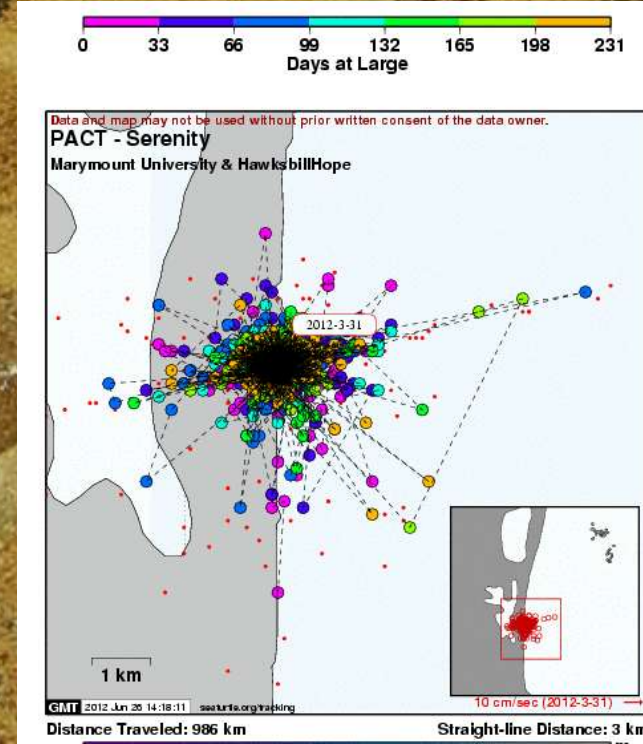
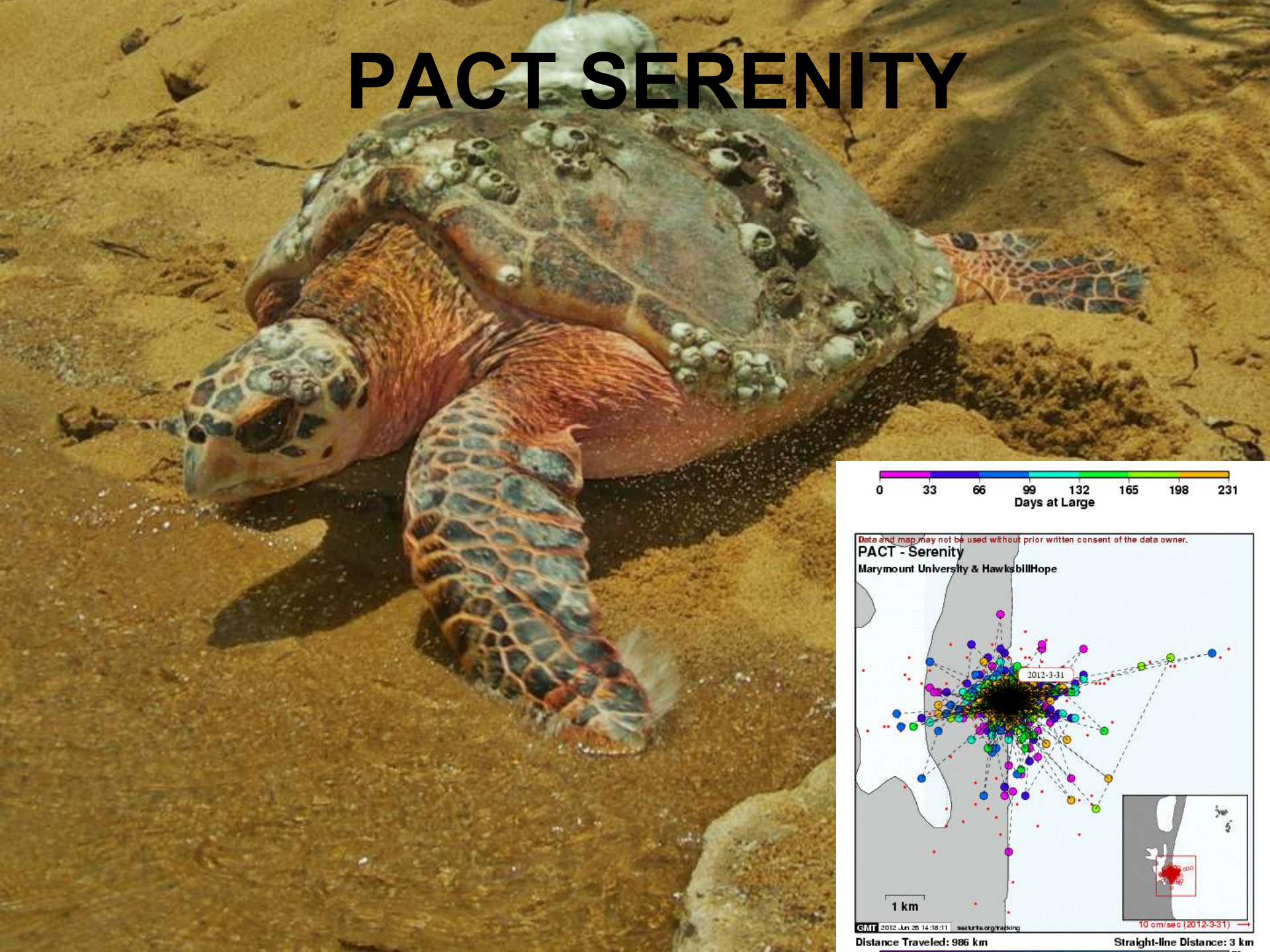
PACT - Serenity

Moochula

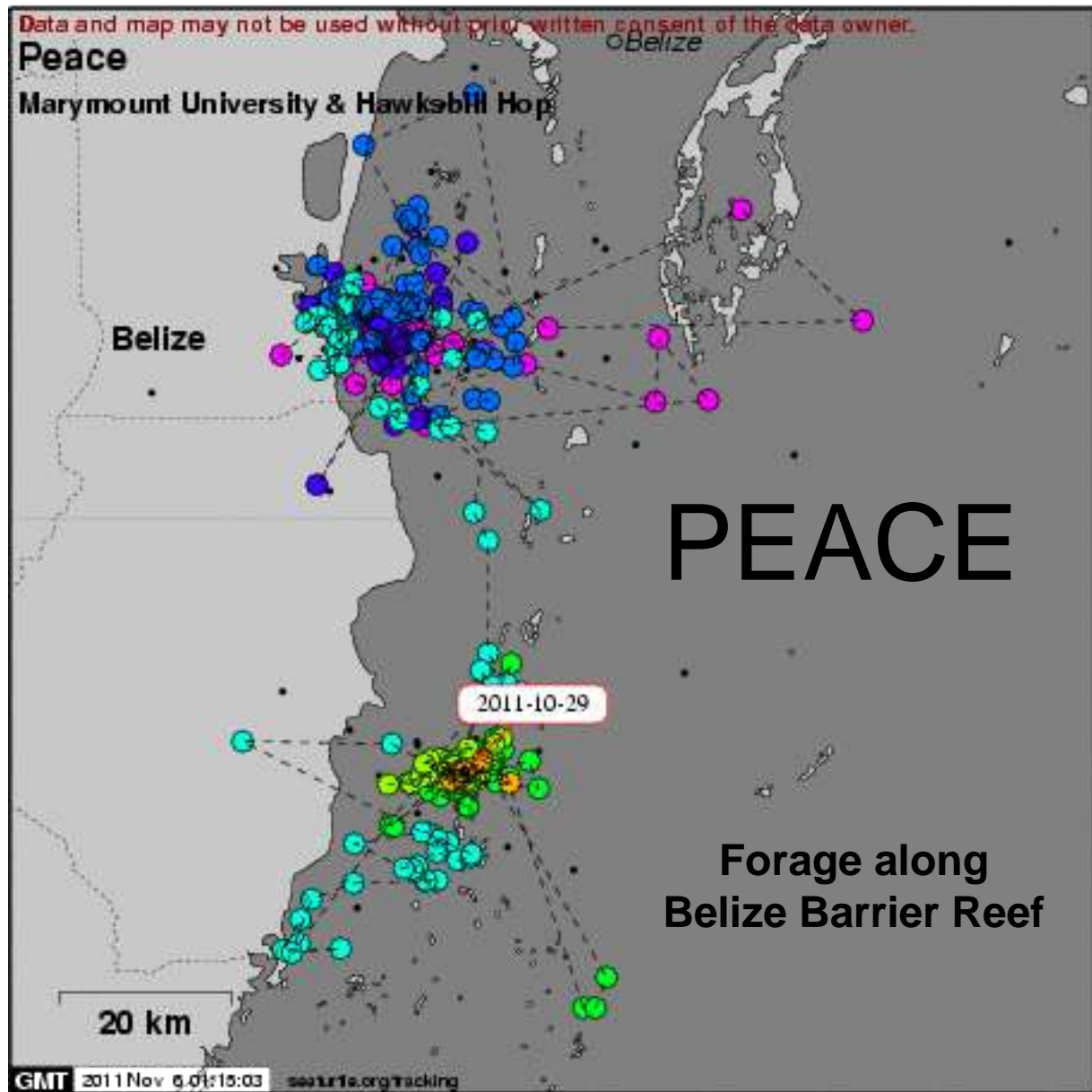
# 5 Turtles Tagged in Belize!



# PACT SERENITY







Distance Traveled: 1478 km

Straight-line Distance: 53 km



Data and map may not be used without prior written consent of the data owner.

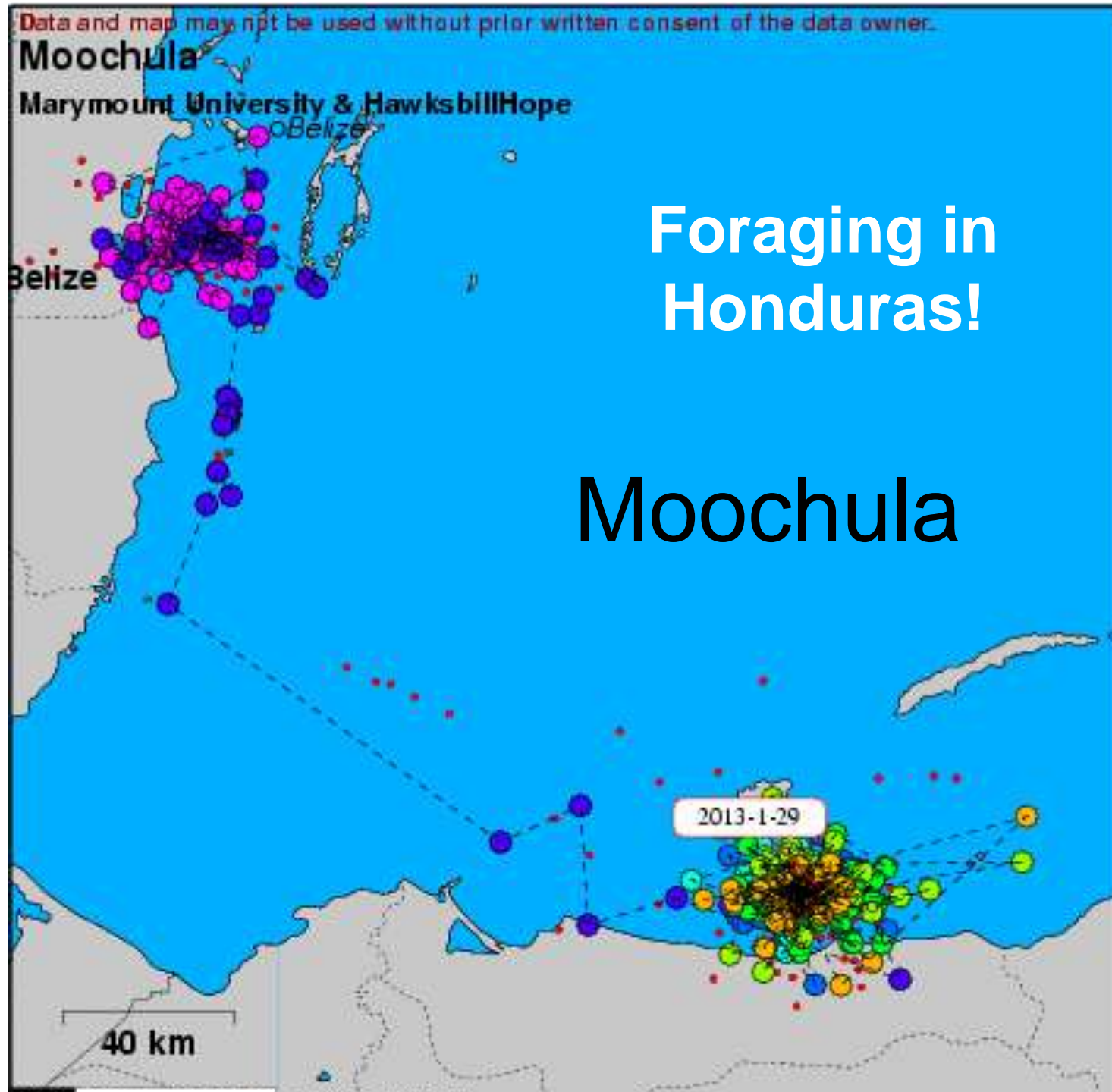
**Moochula**

**Marymount University & Hawksbill Hope**

Belize

**Foraging in  
Honduras!**

**Moochula**





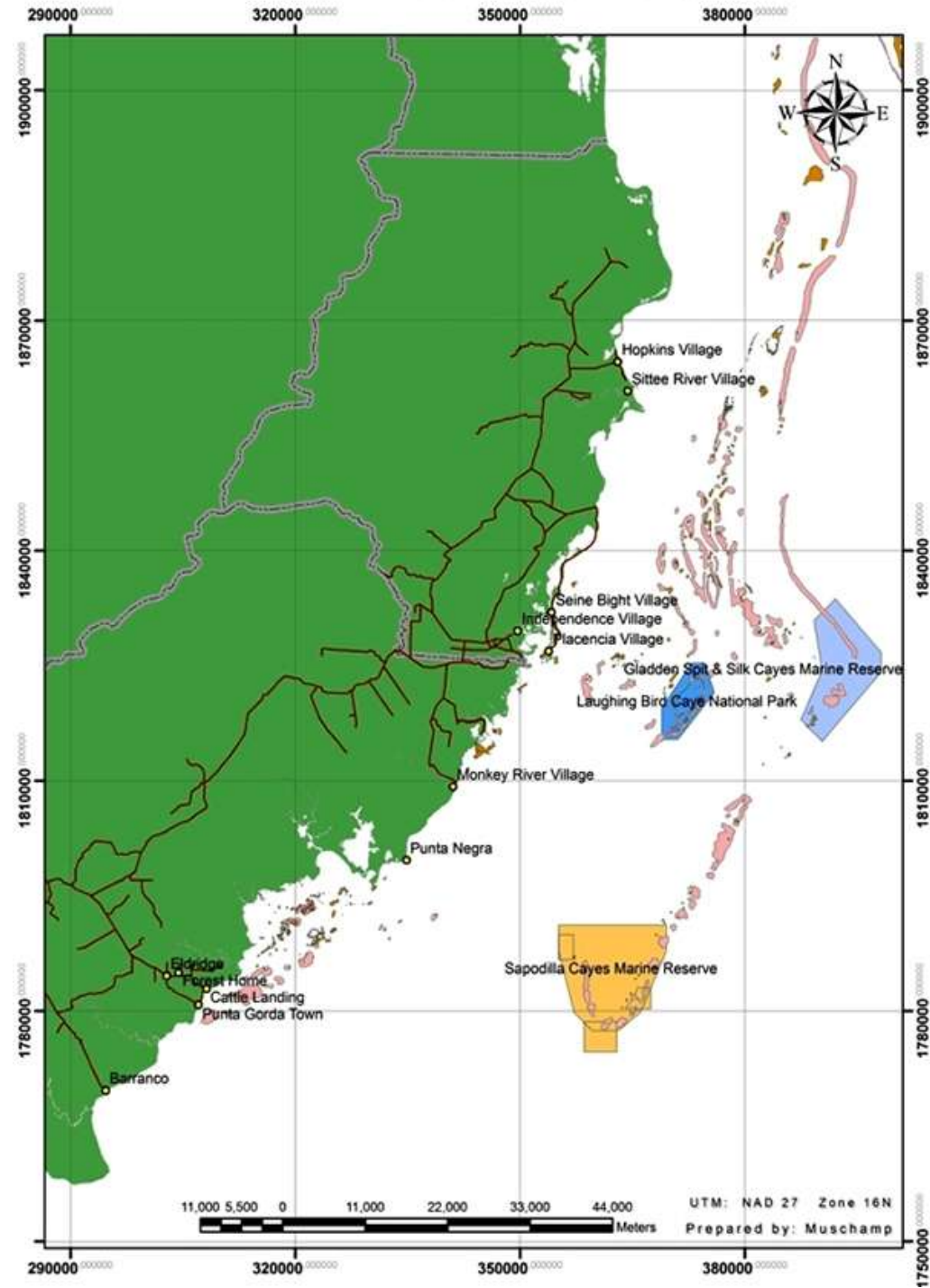


# **Southern Environmental Association**

# 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

# **TIDE**

## **Toledo Institute for Development & Environment**



# Port Honduras Marine Reserve

Monkey River Town

T5\_BP

T4\_SB

T3\_PY

T2\_WSC

T1\_SSC

Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2012 Google  
Image © 2012 DigitalGlobe  
© 2012 Cnes/Spot Image

Google





Fig 7. Sabal beach



Fig 8. Disturbed nest at Sabal Beach

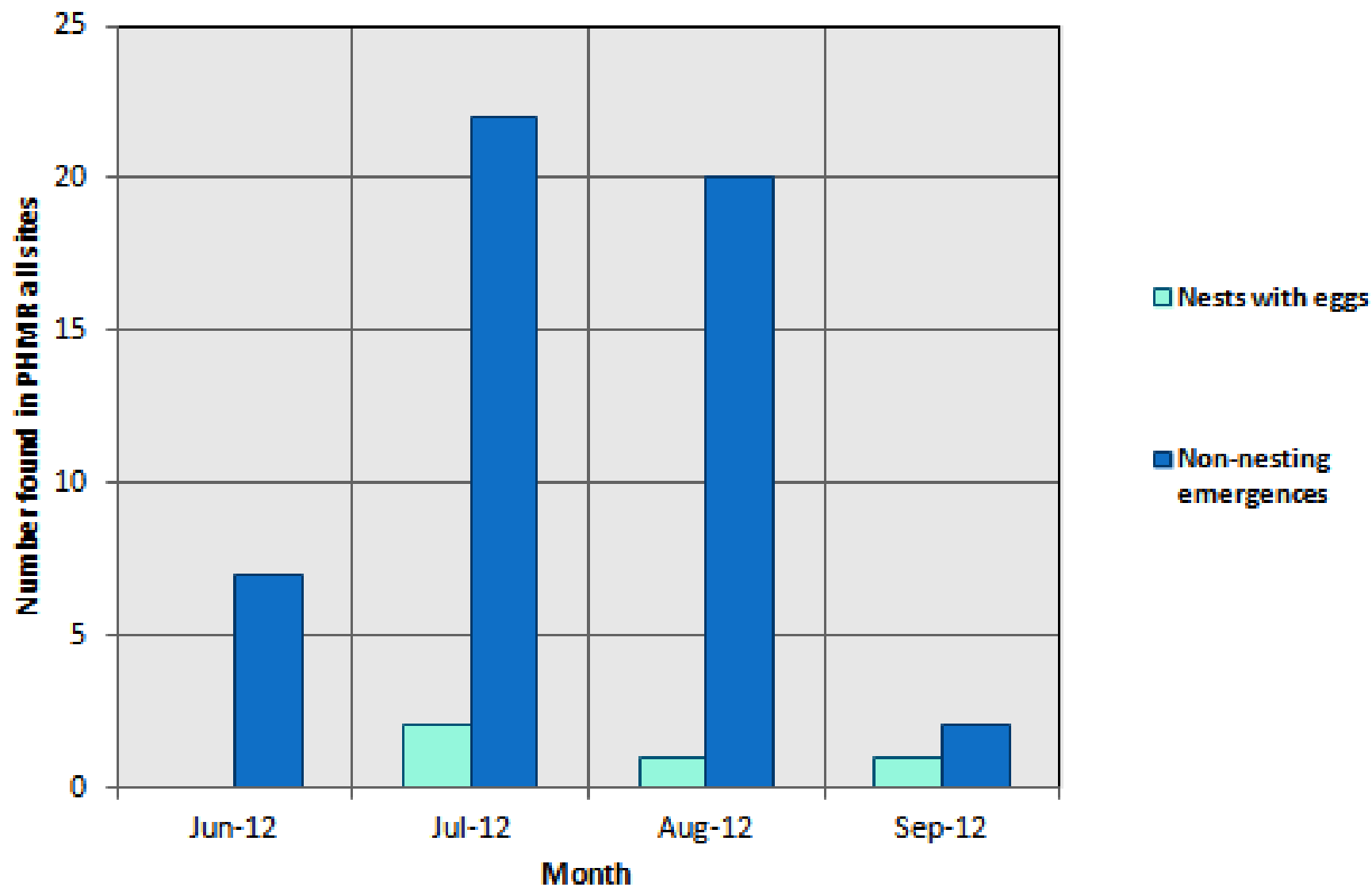


Fig 4. Disturbed nest at Punta Ycacos Beach.



Fig 5. Shells from disturbed nest.

**Fig. 3: Total Nesting activity in PHMR 2012**

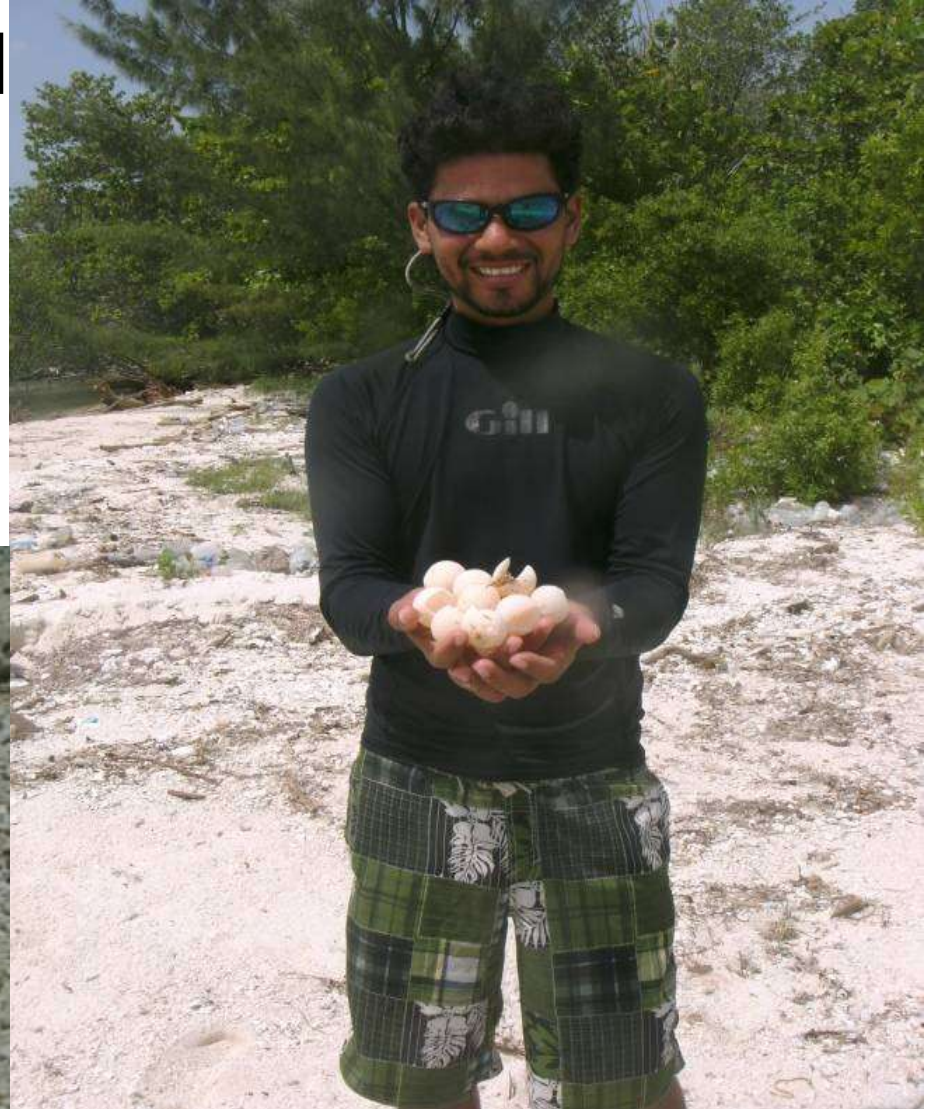






# Beach Erosion

- Present at West and South Snake Caye
- Nest relocation required to preserve eggs



# **ANTHROPOGENIC THREATS**

# HISTORICAL IMPORTANCE



**4 Turtle Corrals!**



# Supported logging industry



Photo courtesy



# 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

13<sup>th</sup> 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



# HARRASSMENT

A photograph of a scuba diver in blue gear and a mask, positioned behind a large sea turtle. The diver's hand is near the turtle's head, suggesting harassment. The scene is underwater with a blue background and some coral visible.

**DISTURB**



# FEEDING

A blue-tinted underwater photograph of a diver reaching out towards a sea turtle. A large red prohibition sign (a circle with a diagonal line) is superimposed over the word 'DISTURB', which is written in bold black capital letters. The background shows a coral reef and other small fish.

**DISTURB**

- Occurring in two locations
  - Hol Chan Marine Reserve
  - Turtle Point, near Silk Cayes



# AQUARIUM



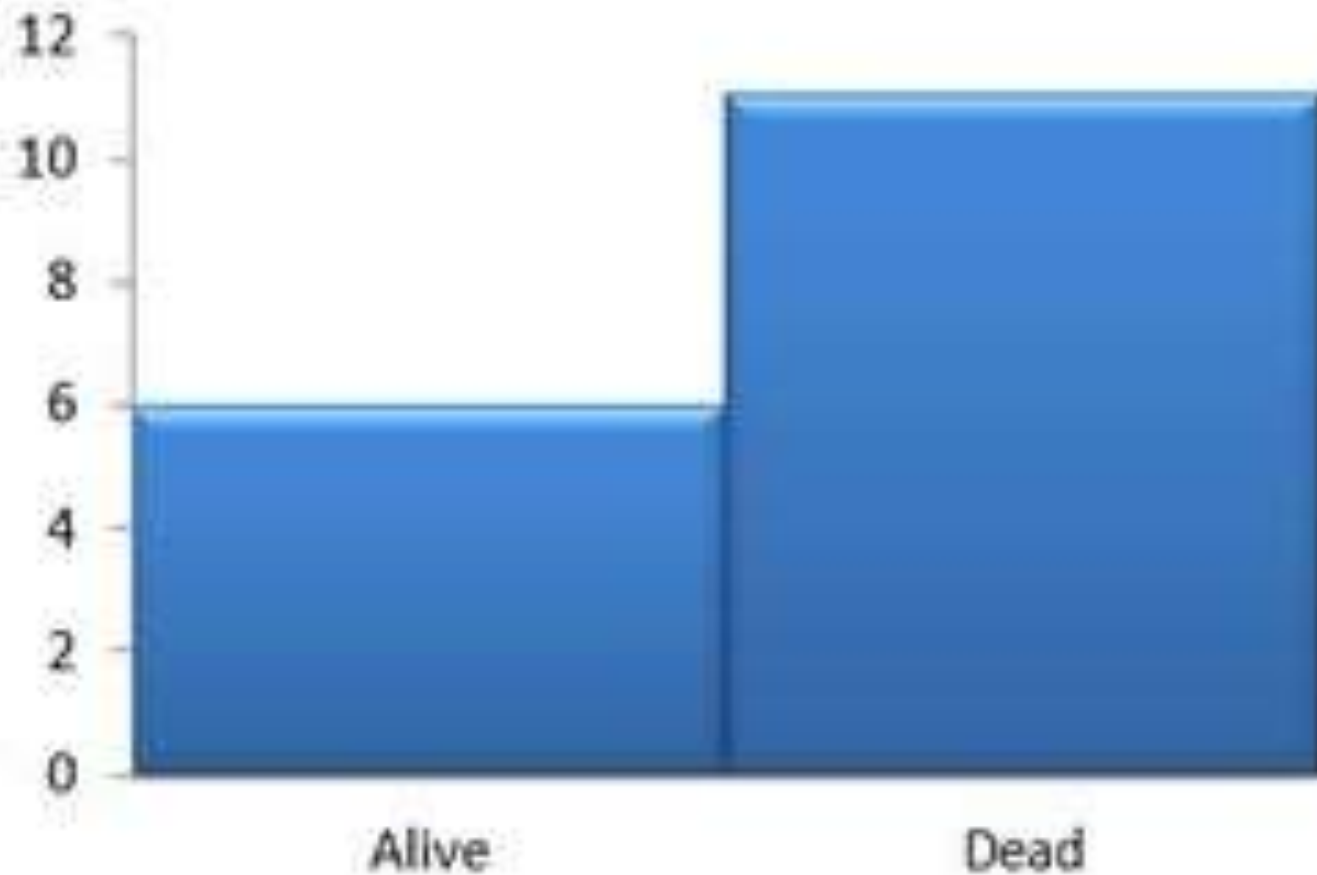
# **STRANDED SEA TURTLES**



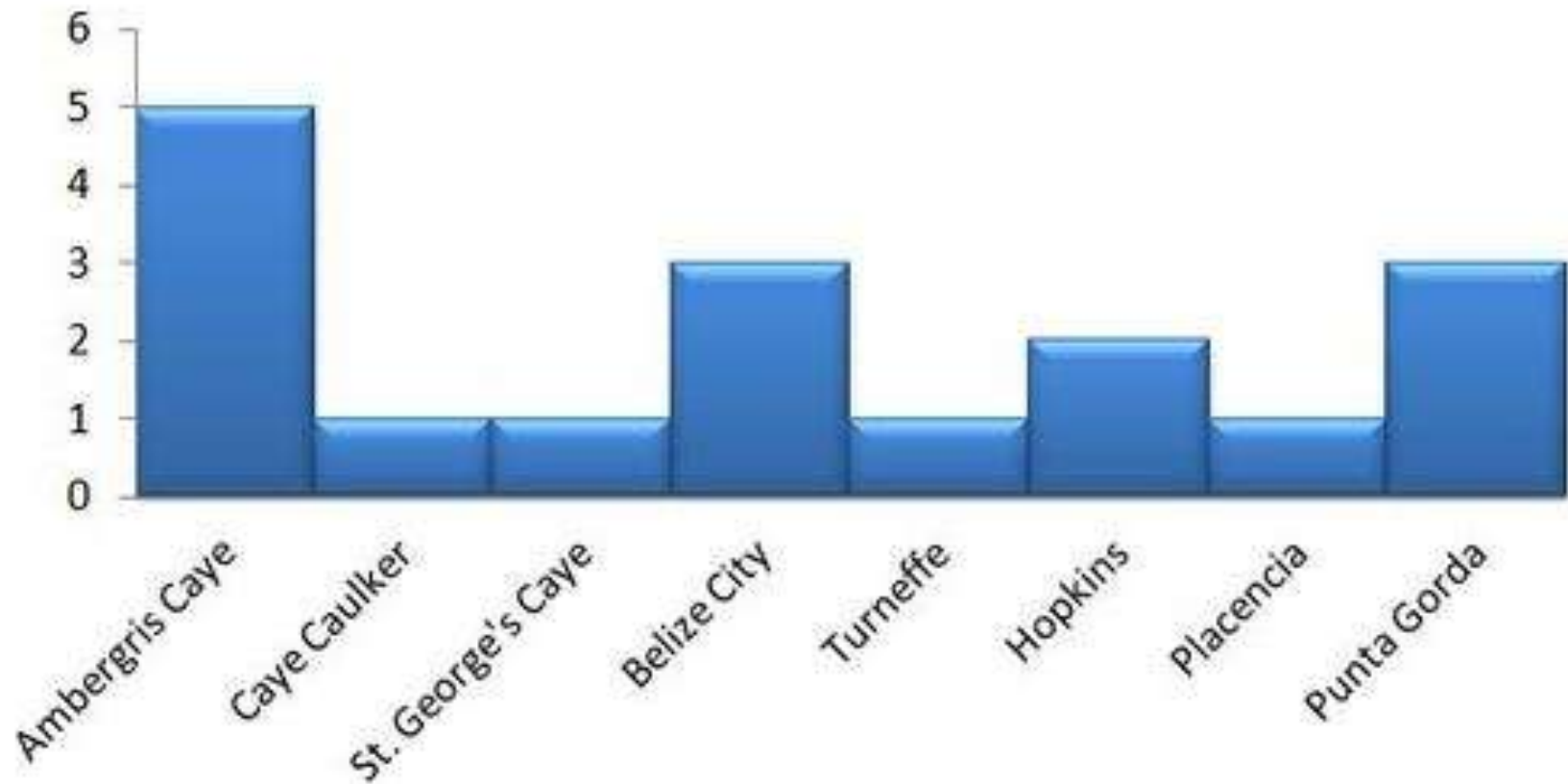


# Stranding Details 2011-2012

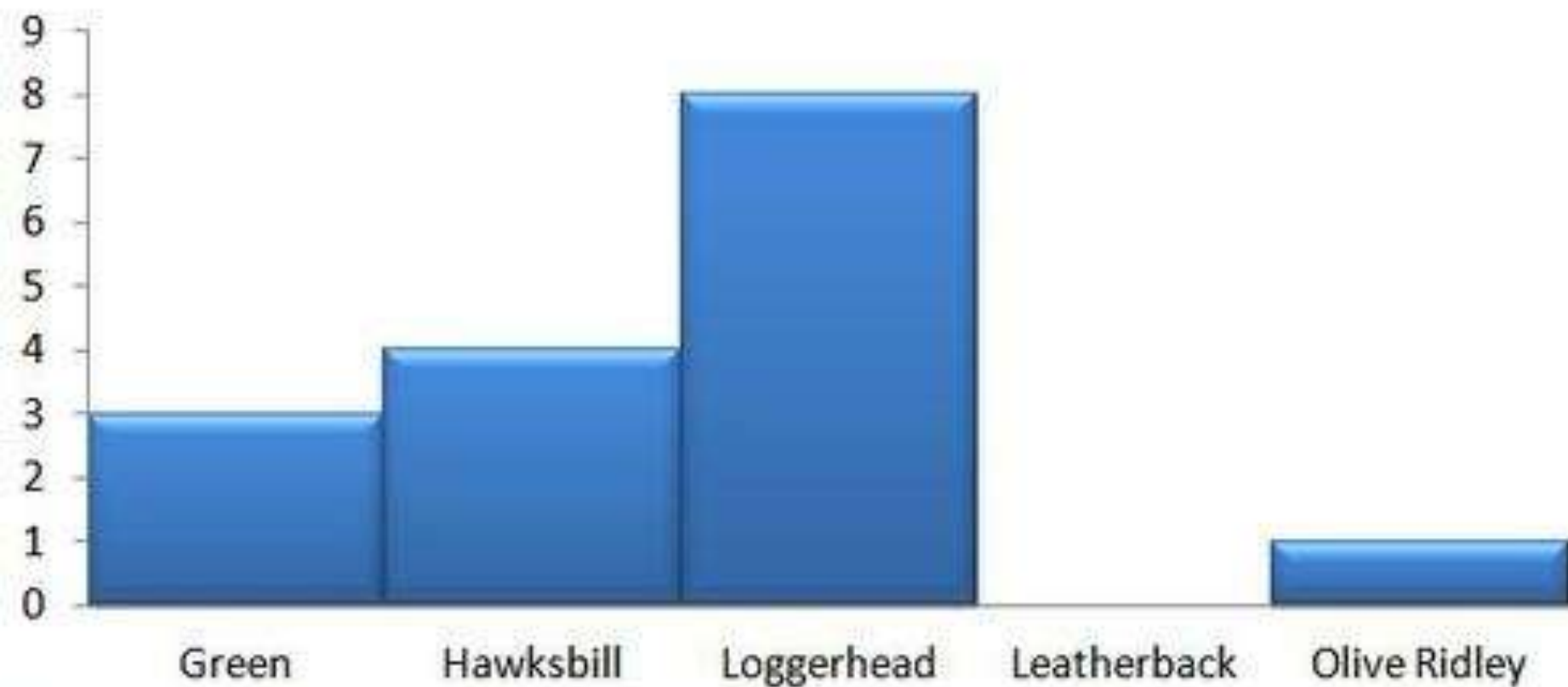
## Number of Sea Turtles Stranded Alive vs Dead



## Location of Stranded Sea Turtles

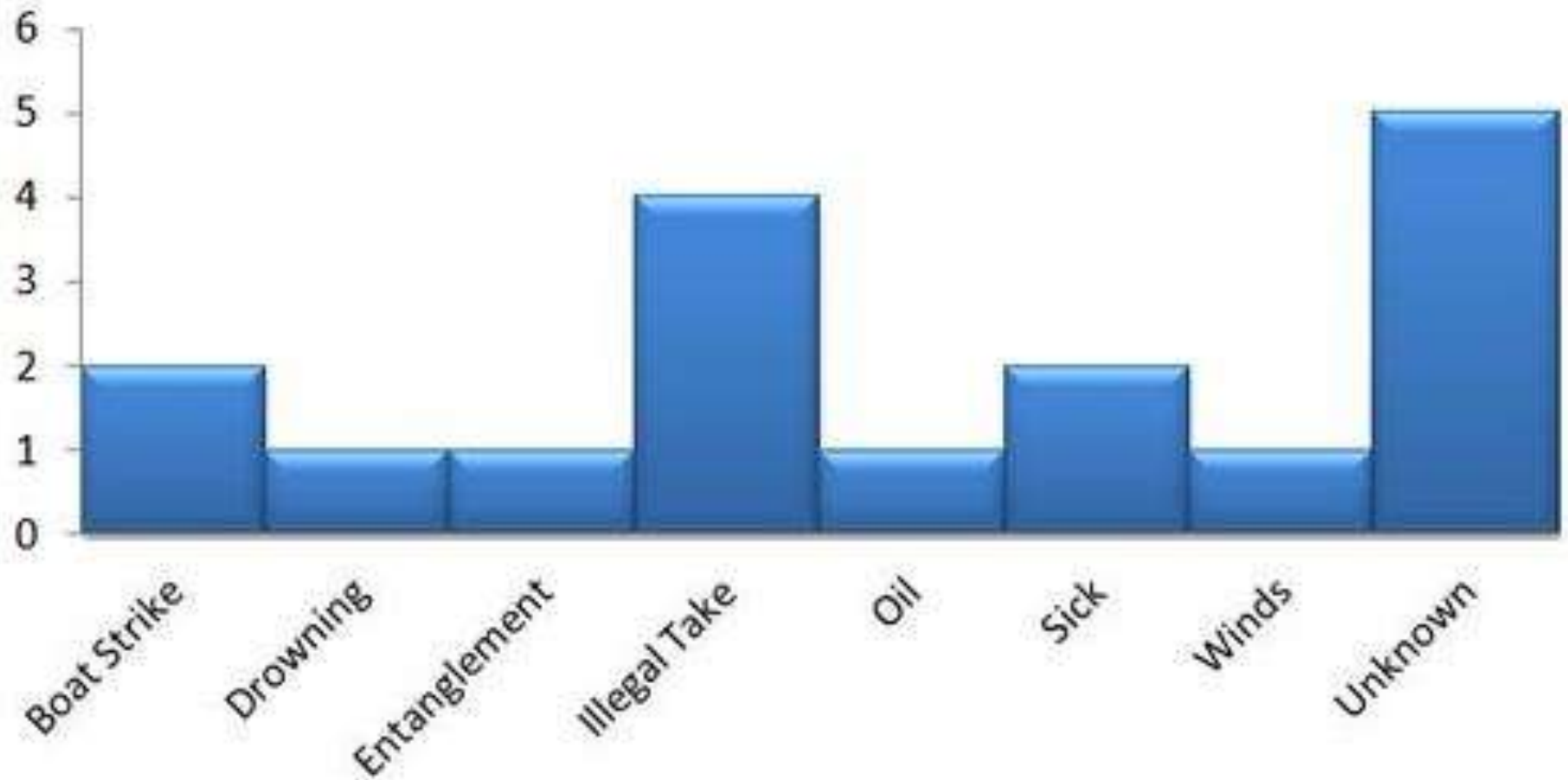


## Species of Sea Turtles found Stranded in Belize





## Cause of Sea Turtle 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 33<sup>rd</sup> ISTS, and all the partners in the Belize Turtle Watch Program, especially the Turtle Watch Volunteers!





**Thank  
you!**

