Night Patrol Protocol

Playa Norte Marine Turtle Conservation & Monitoring Programme

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Night Patrol Data

- Track(s) record
- Number of eggs laid
- Triangulation data
- Tagging information
- Biometric data

Plus: Maintain our presence on the beach in hopes of deterring poaching
General survey data

- Date (DD/MM/YY)
- Start time (24 hour clock)
- End time (24 hour clock)
- Miles walked
- Patrol team’s initials (PL first)

Example of mile markers located at every 1/8th mile.
Human survey data

Every night walk

- Nº of locals
- Nº of tourists
- Nº of mobile white lights
- Nº of mobile red lights
- Nº of fires

Satellite tagged Green released by the CCC on Tortuguero in 2009

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Personal kit

- Torch with red filter
- Dark (long sleeved) shirt
- Close-toed shoes (optional)
- Full-length Trousers
- Rain jacket or poncho
- 1-2 litres of water
- Snacks (optional)
General rules

• Patrollers may not be intoxicated before patrol, nor at any point during the patrol

• Patrols should meet a minimum of 30 minutes prior to departure time

• Bug repellant use **prohibited** before or during patrol

• No Ipods, cameras, etc. allowed on patrol
Equipment

• Kit 1: Egg counting & Body measure
• Kit 2: Triangulation
• Kit 3: Tagging
• Kit 4: General

On survey all kit and separate equipment should be sealed in dry bags
Egg counting & Body measure Kit

- Medical (latex)Gloves
- Dirty glove bag
- Maria
- 300 / 150 cm measuring tape

Images taken & modified from Night Protocol 2009
Triangulation Kit

- 50m tape measure
- Extra flagging tape
- Permanent marker
- Prepared flagging tape

Image taken & modified from Night Protocol 2009
Triangulation

Flagging tapes:

- Station Name (in Spanish)
- Nest ID
- Northern (N), central (C) or southern (S)

Image taken & modified from Night Protocol 2009
Triangulation

Image taken & modified from Night Protocol 2009
Tagging Kit

• Tags & Tagging Pliers
• Tag Removal Pliers

Images reproduced and modified from Night Protocol 2009
General kit

- Radio
- First aid kit
- GPS & extra batteries
- Turtle notebook & pencils
- Egg relocation bag & black bin bag
- Compass
On the beach...
Beach rules

- Stay behind/beside the PL
- Use little to no light
- Walk below the most recent high tide line
- Keep quiet when you encounter a turtle
- Avoid walking on top of turtle nests
- Avoid walking in front of turtle or shining light in her eyes
- If you find poachers tell the PL, never approach them
When encountering a track...

- The PL will approach a track alone – this is to ensure the least potential disturbance to the turtle if she’s present
- The PL will return to inform the patrol if the turtle is on the beach or not
Record types

- HLF - Half moon (even if you see the turtle /even if she has tags)
- NST - Nesting turtle that wasn’t seen or it was seen but had no tags
- REC - Newly tagged turtle (always a nest)
- REM - Previously tagged turtle (always a nest)
- DEC - Deceased turtle
- LIF - Lifted turtle
- HAT - Hatchling tracks (*that can’t be traced back to a recorded nest*)
Determining whether a track is a HLF or NST when you did not see the turtle......
Nest data

- Record type
- Species of turtle
- Encounter time
- GPS and closest northern mile marker
- Vertical position (O, B, V: also called “Zone”)
- Any evidence of poaching, predation, or erosion
Vertical Position = Zone

Images taken & modified from Night Protocol 2009
Half moon data

- Record type
- Species of turtle
- Encounter time
- GPS and closest northern mile marker
- Attempted nest?
Lifted turtle

• Record type
• Species of turtle
• Encounter time
• Whether the turtle has nested or not
• GPS and closest northern mile marker
• Vertical position (if she nested)
• Comments

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“Working a turtle”
EIGHT activity stages:

1. Emerging from the sea
2. Selecting nest site
3. Digging body pit
4. Digging egg chamber
5. Oviposition
6. Covering egg chamber
7. Disguising nest
8. Returning to the sea

If in doubt..... WAIT!!
Emerging from the sea

If we see a turtle in this stage we will wait a discrete distance away in order not to potentially disturb her.
Selecting a nest site

If we see a turtle in this stage we will wait a good distance away in order not to scare her
While digging a turtle may still be wet, will have little sand spray around and may have little sand on her carapace.

The patrol team will wait a discrete distance away from the turtle to prevent potentially disturbing her.
Digging an egg chamber

A turtle digs her egg chamber by alternating with her hind flippers

This is the time that we will start to prepare kit because she will likely lay eggs, but not always
Once a turtle starts laying we will count eggs and triangulate the nest.

For the egg counter, one hand should be placed well under the cloaca to feel the eggs as they are falling. Remember to avoid touching the cloaca as much as possible. Sometimes she will bump into your hand, but do not purposely touch the cloaca.
Oviposition, con’t

Leatherbacks always lay yolked and yolkless eggs while the others usually lay only yolked eggs.

Yolked eggs are counted with the clicker (maria) and yolkless are counted in your head.

Note: You may need to gently hold one flipper out of the way in order to see the eggs drop.
Oviposition, con’t

When finished measure the egg depth

Egg counter will put flagging tape with the nest ID in the sand directly above the eggs

Flagging tape with nest ID #

Image taken & modified from Night Protocol 2009
Triangulation

• Triangulation is done in order to locate the nest for excavation; it is VERY important that it is done correctly

• When possible triangulation will be done for all turtles encountered during oviposition

• Flagging tape is attached to the vegetation at three points (North, Center, & South of the nest)

• Nest number, N, C, or S and station name are written on the flagging tape

• It is important that the tape measure is held straight (but not so tight that the tape measure breaks) so that the measurements are accurate
Triangulation Tips

• Wider angles are better
• Tie to something that will still be there in 2 months (not a palm frond)
• Have a system of how you will hold everything
• Use light only when you have to and with your back to the turtle
• Avoid walking immediately in front of the turtle
• Be sure to read the tape measure correctly (in meters!!)
• Be careful not to let the tape measure get caught on anything
• Wind up tape measure when you move to next tree
Triangulation data

Nest #: 119   Date: 20/07/2010
N: 24.03m
C: 8.35m
S: 15.25m
HTL: 4.40m

Comments:
South marker is large dead tree trunk.
North marker is the 4/8 mile marker.
Nest is between two small palms.

Image taken & modified from Night Protocol 2009
Covering the egg chamber

As soon as the turtle is finished laying the eggs, this is the moment we will check for tags and tag if necessary, measure the carapace and check for abnormalities.
Tagging turtles

- The right flipper is checked for tags and then the left.
- If the turtle has tags the numbers are read by the PL three times and repeated by the person recording.
- The flippers are always checked for Old Tag Holes (OTH) and Old Tag Notches (OTN); write zero if there are none.
- If she has no tags the turtle will be tagged.
- The tag with the lowest number should be tagged on the right flipper and the higher of the two numbers on the left.
Tagging Leatherbacks

- Leatherback turtles are tagged on the membrane located between the tail and rear flippers
- Monel Tags

Note: Tagging is always done by the patrol leader
Tagging Other Species

- Greens, hawksbills and loggerheads are tagged on the front flippers, before or in the primary scale
- Inconel Tags

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Tagging turtles

- Tags are positioned so that approximately 1/3 of the tag hangs off the edge of the flipper thereby preventing friction injuries to the flipper from the tag when the turtle moves.
Removing Tags

Tags are only to be removed if:

- The tag is illegible/damaged
- Harming the individual
- DO NOT remove a tag if it appears to be falling out. Simply place another new tag beside it. Tags can look like they’re about to fall out, yet survive for many years.

It is the prerogative of the patrol leader to determine whether or not a tag should be removed. Removed tag numbers are to be recorded as well as the replacement tag numbers.
Measuring the carapace

- Measuring is only done when turtles have tags (either from a previous encounter or new tags)
- The **minimum Curved Carapace Length (CCLmin)** and the **maximum Curved Carapace Width (CCWmax)** are taken
- All measurements are done and recorded three times
- The three measurements should be within **three millimetres**, if not then they must be redone
- Make sure sand is cleared from the carapace before measurement
Measuring the carapace

*CCL – Leatherback*

The metric tape is placed at the beginning of the carapace (where the carapace and skin touch), extending along the right side of the central dorsal ridge, until the tip of the caudal projection.

Image reproduced and modified from Wave Foundation: Sea Turtles; A Journey of Survival
Measuring the carapace

CCL – Green, Hawksbill, Loggerhead

The tape measure is placed at the beginning of the carapace (where the carapace and skin touch), extending along the carapace center until the notch (not the furthest point)
Measuring the carapace

CCW

This measurement is taken along the widest area of the carapace.

For Leatherbacks it is the “shoulder area” (see next slide).

Finding the widest area for other species is not as easily visualized. Rather it is accomplished by holding the tape firmly in both hands on either side of the carapace and sliding the tape up and down until your fingers are pushed to the furthest point.
Measuring CCW

Hawksbills, Greens & Loggerheads

Leatherbacks


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Body check

• Checking for abnormalities / deformities
• Injuries from predators, human activities (i.e. Boats, etc.)
• Mating claw marks
• Unusual amount of barnacles
• Leeches

Record any of the above under the comments section in the data book

Eg. of an injury caused by a boat propeller
Disguising can sometimes be confused with digging a body pit. Helpful tips to discriminate between these stages:

- A turtle disguising usually has a lot of sand on her carapace
- She will be dry and there will be heaps of sand spray in a relatively large area around the individual

If a turtle is found disguising we will read tags or tag her if absent, measure CCL & CCW and check perform a body check.
Checking Data

Check all data before the turtle leaves the beach to ensure nothing has been overlooked.

Never leave anything blank, either fill with an N/A, zero (i.e. in case lacking OTH or OTN) etc.
Returning to the Sea

If we come upon a turtle returning to sea we will attempt to read the tags:

• The PL may attempt stopping the turtle in order to read tag numbers (PL’s discretion)

• To stop the turtle the PL will stand in front of the turtle, cover her eyes and gently push her head down
Disguising the nest

- Disguise as best as possible all evidence of nests and tracks if seen at night or in the morning.
- This is done in an attempt to hide the nests from poachers.

During a busy Green season it may not be possible to cover all tracks at night, in this case mark the tracks in an obvious manner to prevent it being recorded multiple times.
Egg Relocation

• Eggs will be relocated if there is a high risk of poaching or flooding/erosion.

• There are guidelines that should be followed when deciding to relocate but it is at the PL’s discretion to do so.

• If you are present for a relocation be aware that you may not be very involved as only one person will dig the new egg chamber and relocate the eggs.
Egg Relocation

• Measurements of the original nest (depth & width) chamber are taken and replicated as much as possible

• Sometimes not possible to measure original chamber therefore the following depths can be used depending on clutch size

Hawksbill: 55 - 80 cm
Greens & Loggers: 60 - 95 cm
Leatherback: 65 - 110 cm

Note: the distinct boot shape of the Leatherback. It appears that they are “lefties” or “righties” too!

Image reproduced & modified from Chacon et al. 2007
Finishing with a turtle

• Check the data
• Mark or disguise the track & nest
• Make a new turtle page in the notebook
• Check you have all kit
• Find another turtle and do it all again (If you’re lucky!)
Returning to Base
Night Patrols end at the Vista al Mar hut

Complete the general survey data:
• End Time
• Miles Walked

Fill in tourist survey data

Back at Base
• Clean you kit
• Check the data-book
• Enter your data on the board and into the database ready for the morning census team
Kit maintenance

• After every survey all kit must be cleaned, dried and put away neatly.

• Take good care of the GPS and radio. Take batteries out of the GPS and put radio on charger.

• Keep the 50m measuring tape free of sand, clean, dry, and untangled!

AND THEN......
Sleep!

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