Tracking Nesting Hawksbills "Chel" and "Ginger" from the Bay Islands, Honduras

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Introduction

The ability to track animal movements can give vital insights into important aspects of life history. Satellite telemetry technology has been a key to broadening our understanding of the migration patterns of nesting sea turtles. However, hawksbill sea turtles (*Eretmochelys imbricata*) have not been studied extensively with this technology (Godley et al. 2008). In this study, we fixed Wildlife Computer Spot 5 satellite tags to two nesting hawksbill sea turtles on the island of Utila, Honduras.

Fig 1. A hawksbill sea turtle covers her nest

Fig 2. Robyn Reeve and Chel Morales attach a flipper tag to Ginger

Methods

- Morphometric data taken and recorded
- Right front and rear flippers tagged (Fig. 2)
- Second vertebral scute cleaned, sanded, scored, and wiped with isopropyl alcohol
- Spot 5 satellite tag attached with Sika Anchorfix epoxy, dried > 30 minutes (Fig. 3)
- Satellite data points mapped are Argos location classes 3, 2, 1, A, and B. Points were discarded if they required a straight-line travel distance of greater than 5 km/hr or were conspicuously erroneous (Hays et al. 2001).

Fig 3. L.E. Damazo epoxies the satellite tag to the second vertebral scute

Discussion

Nesting sea turtles at a given site may come from foraging grounds from many different countries (Blumenthal et al. 2006). Migrating sea turtles have demonstrated fidelity to specific corridors when traveling between their nesting and foraging grounds (Marcovaldi et al. 2010). Thus, greater knowledge of hawksbill migration routes elucidated from satellite telemetry data may enable scientists and conservation managers to implement more effective protections, strengthening conservation efforts for the species both locally and internationally.

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References

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Godley et al. (2008). Satellite tracking of sea turtles: Where have we been and where do we go next? Endangered Species Research 4: 3-22

Hays et al. (2001). The implications of location accuracy for the interpretation of satellite-tracking data. Animal Behaviour 61: 1035-1040

Marcovaldi et al. (2010). Satellite-tracking of female loggerhead turtles highlights fidelity behavior in northeastern Brazil. Endangered Species Research 12: 263-272

"Ginger" launched August 12, 2012

- Ginger left Utila the next day following tagging/nesting (Fig. 4)
- Moved northwest among islands of Belize (Fig. 5)
- Last signal received just south of Belize City, approximately 10 km off the coast (Fig. 6)
- Total distance traveled: 325 km
- Total straight line distance traveled: 181 km
- Average traveling speed: 17 km/day
- Transmission ceased Sept. 3, 2012 after 19 days

Fig 4. L.E. Damazo and Ginger after tag application

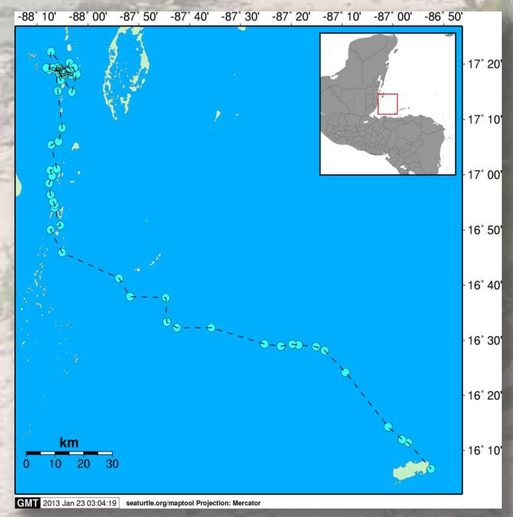

Fig 5. Map of Ginger's travels from Utila to islands off Belize

Fig 6. Satellite image of Ginger's last known location

Fig 7. L.E. Damazo and Chel after she laid her second recorded nest

"Chel" launched July 12, 2012

- Chel spent 10 days around Utila, nesting a second time after satellite tag application (Fig. 7)
- Swam northwest along the coast of Belize (Fig. 8)
- Ended her travels just south of Cozumel, Mexico
- Spent 65 days in the Bahia de la Ascension in Quintana Roo, Mexico (Fig. 9)
- Total distance traveled: 1060 km
- Total straight line distance traveled: 402 km
- Average traveling speed: 15km/day
- Transmission ceased Oct. 9, 2012 after 90 days

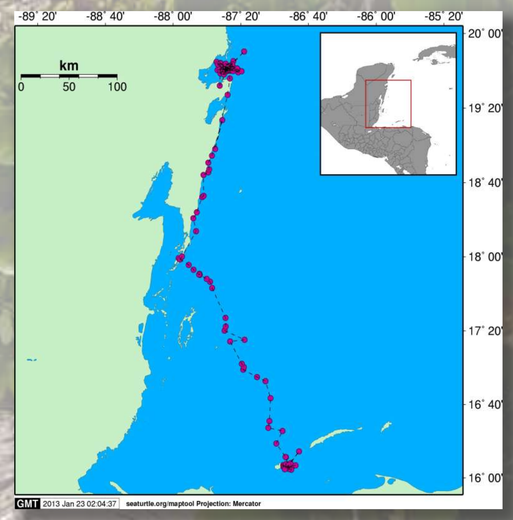

Fig 8. Map of Chel's travels to the coast of Mexico

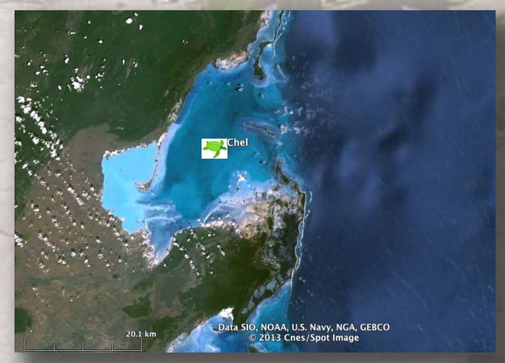

Fig 9. Satellite image of Chel's last known location