

# WEEKLY UPDATE

## The 'Undersea Eye' update for Far Northern Expedition: O306.

The famous Far Northern Expeditions provide divers with the best wilderness and adventure diving experiences in Australia. Undersea Explorer travels up to 400 nautical miles north of Cairns (120 nautical miles from the tip of Australia) to access some of the most pristine and biodiverse reefs on the planet. The apex of this trip is diving Raine Island, a tiny but extremely biologically significant coral cay, closed to all except specially-permitted scientific expeditions. Raine Island is the world's largest nesting site for green turtles (*Chelonia mydas*) and the principle seabird rookery in the Great Barrier Reef World Heritage Area. During the summer months, mass migrations of up to 80,000 green turtles return to Raine Island to lay their eggs. The remarkable ability for sea turtles to navigate back to their birthplace is believed to be partly based on an internal 'magnetic map', which allows them to interpret their geographic position from subtle variations in the Earth's magnetic field.



*A female green turtle returns to sea after a long night of laying eggs on Raine Island.*

This week guests visited many beautiful and exciting dive sites, including a few exploratory areas (places that have never been dived before) where the animals proved just as curious of divers as they were of them. Fortunately, environmental conditions allowed a drift dive through the infamous 'Captain Blood's Wall of Death', which generated excited reactions from all involved. Other highlights included incredible visibility at Jetstream, lots of pelagic action, and a mass schooling event of 50+ female grey reef whalers in shallow waters.

Divers reported small scale damage at the southernmost tip of mantis reef, evidence of cyclone Monica, which battered the north-east coast of Australia in April, 2006. Although sad, we must remember that this sort of damage is natural, and an essential part of a coral reef's cyclic existence. The periodic destruction of reefs from natural causes such as cyclones and crown of thorns starfish are thought to prevent certain types of fast growing corals (e.g. staghorn and plate coral) from overpopulating a reef, which could result in decreased biodiversity. Fortunately, this damage was localized and the surrounding dive sites proved to be characteristically pristine.

Wildlife encountered on this trip included tiger sharks, tawny nurse sharks, leopard sharks, silvertips, grey reef whalers, wobbegongs, manta rays, eagle rays, mobula rays and of course the ever present 'puppy-dogs of the sea', white tip reef sharks. There were ample opportunities to observe turtles at close range, including a record amount of mating behaviour both above and below water (for trip photos go to [http://www.undersea.com.au/index/\\_photographs.htm](http://www.undersea.com.au/index/_photographs.htm)).



*Mating green turtles*



*Tawny nurse shark*



*Feeding lionfish*

**The 'Feature Creature' for this week is the Green Turtle  
(*Chelonia mydas*):**

Did you know.....



*That the temperature of the sand determines the sex of green turtle hatchlings during incubation- males are produced at cooler temperatures (~26-28 °C) and females at warmer temperatures (~28-30°C).*

**Environmental tip of the week:**

Turn appliances off at the wall – the little red light is not your friend! Your TV, microwave, video, DVD, stereo and computer all use up to 80% of their energy when not in use. Unplug mobile phones and electric toothbrushes once they are fully charged to stop them draining electricity and you won't just save the planet - you'll save money too. Find out more about how to care for our planet at [www.allaboutyou.com](http://www.allaboutyou.com).

We hope that you enjoyed your first virtual 'dive on the wild side'. As this is our first log, we would appreciate any feedback, including suggestions on what you as the reader would like to gain from this page. We also encourage you to email any biology questions to [bio@mail.undersea.com.au](mailto:bio@mail.undersea.com.au) and we will select a few to answer each week. Check in with us next time to find out what's new on the Great Barrier Reef and aboard Undersea Explorer.

Written by Jenna Rumney BSc (Hons)

***In the end we conserve only what we love,  
We love only what we understand,  
And we understand only what we are taught....  
- Anon***

**Works Cited:**

Great Barrier Reef Marine Park Authority (1999) The Great Barrier Reef Marine Park Reef Manual, 2nd edn, GBRMPA, Townsville, QLD

Lohmann KJ, Lohmann CMF (1998) Migratory guidance mechanisms in marine turtles Journal of Avian Biology 29: (4) 585-596

<http://www.sutherlandimages.com/raineisland/raineintro.html>