THE INDO-PACIFIC SEA TURTLE CONSERVATION GROUP

April 2006 Newsletter

Green turtles: major review of 13 years of Coral Sea data

IPSTCG recently delivered a 76-page report to Commonwealth Government authorities on the data accumulated over 13 years of monitoring turtle nesting at islands in the Coringa-Herald National Nature Reserve, which lie some 400km offshore from Cairns.

Collating data, writing and editing the report proved a mammoth task for the IPSTCG team, comprising Tim Harvey, Sara Townsend, Nicole Kenyon and Grant Redfern.

The report highlights the importance of protecting the Coral Sea breeding population, regarded as a distinct genetic stock (Management Unit) based on studies of mtDNA by Moritz *et al*. (2002).

The authors strongly recommend resumption of annual monitoring of Coringa-Herald breeding sites, which has been interrupted for the past two summers. They also propose an adjustment of timing and duration of surveys to coincide with QPWS monitoring of green turtle nesting in the Great Barrier Reef Region, in order to allow effective comparison of data between sites.

Key results

Only green turtles, *Chelonia mydas*, were recorded nesting in the CH-NNR, although hawksbill turtles, *Eretmochelys imbricata*, were seen foraging in the reef areas surrounding several islands.

Although there were insufficient data to discern an overall pattern in the CH-NNR, it appeared that fluctuations in the number of nesting attempts per night on NE Herald Cay and SW Herald Cay were in synchrony. Fluctuations in nesting attempts on the two cays appeared to be linked to El Nino Southern Oscillation events and showed a similar pattern to that of Raine Island and Heron Island.

One of the Coringa-Herald green turtles recorded during IPSTCG's nesting surveys Tim Harvey photo

The mean Curved Carapace Length (CCL) for all turtles recorded during the entire study was 106.2 cm. There was a significant decline of CCL from 1991/92 to the 2003/04 season.

Nesting adult female green turtles in the CH-NNR had a recorded growth rate of 0.15cm/year.

The mean clutch size for green turtles recorded in the CH-NNR for the entire monitoring period was 105 eggs. The data showed that larger turtles produced larger clutch sizes.

The green turtles recorded in the CH-NNR did not show total fidelity to individual nesting sites, as some moved between islands to make nesting attempts. However none were recorded successfully nesting on more than one island.

The mean hatching success recorded was 87.7%. Where emergence success was measured the mean emergence success recorded was 87%.

Movement between nesting and foraging sites

Fourteen turtles that nested in the CH-NNR during the course of the study period were also recorded at various coastal foraging sites from Papua New Guinea to New South Wales.

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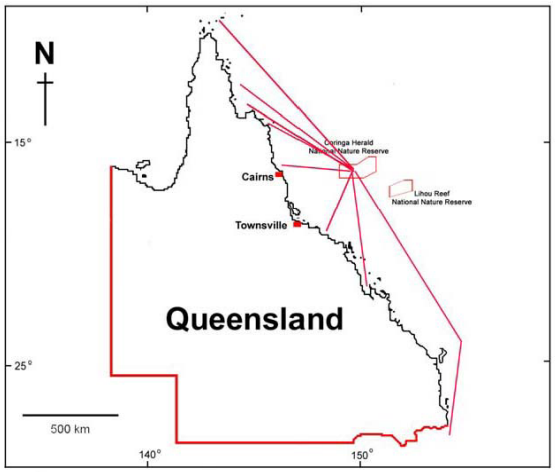
Coral Sea report – *continued from page 1*



Turtles from the Coral Sea nesting population were recorded at diverse coastal foraging sites in Papua New Guinea, Queensland and New South Wales

Sightings in foraging areas included Clack Reef, Princess Charlotte Bay and Combe Reef in the northern GBR, Pickersgill Reef near Cairns; Edgcumbe Bay near Bowen, Shoalwater Bay near Mackay and Fingal in northern NSW. Five Coral Sea nesters were reported to have been killed in the Torres Strait/PNG region.

Disappointing nesting season in the Townsville local area

This summer IPSTCG conducted nesting beach surveys at AIMS beach near Cape Ferguson every night for a fortnight. The scheduled was changed from monitoring weekends only for several months in previous years, in order to bring IPSTCG's program into line with monitoring at other sites along the Queensland coast.

Tim Harvey reports that four flatback turtles were sighted, tagged and measured, and all of them laid. However the group saw no green turtles, and anecdotal reports from other sites monitored in Queensland suggest this summer has been a poor year for green turtle nesting.

The monitoring team returned in February to evaluate hatching success. Only 2 eggs had hatched, out of all the eggs laid in the four nests recorded. The vast majority of eggs had never developed and most were not even fertilized. This also reflected a trend reported by other turtle monitors: Mackay Turtle Watch reported virtually no hatching success for the nests they evaluated.

Nesting flatback harassed at Pallarenda

Distressing harassment of a nesting flatback near Townsville was reported early in the past nesting season. According to the *Townsville Bulletin*, four 'young louts' were observed attacking a turtle that emerged on the beach at Pallarenda.

A man walking his dog reportedly chased off the group who had been tormenting the turtle, and she was then able to finish digging her nest, lay her eggs and return to the sea. QPWS officers were investigating the incident. The newspaper report concluded by quoting QPWS district manager (Marine Parks) Richard Quincey who said that anyone convicted of harming a protected animal in Queensland faced a maximum penalty of $225,000 fine or up to two years' jail.

Monitoring hawksbill nesting at Milman Island

Once again Ian Bell led an Earthwatch research team (including some IPSTCG volunteers) on an expedition to survey hawksbill nesting at Milman Island.

Enthusiastic volunteers arrive on Milman Island in the northern GBR to help with research on hawksbill turtles nesting there Ian Bell photo

Ian, who is Senior Conservation Officer responsible for Turtle Research at QPWS in Townsville, is conducting a long term study of the population dynamics of hawksbill turtles of the Great Barrier Reef. He sent us this summary of the latest findings.

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Milman Island – *continued from page 2*

During the 21-day survey in January 2006, the team encountered a total of 271 individual nesting turtles on Milman Island, with hawksbills forming the majority (74%) and the rest green turtles.

Many of the nesting hawksbills (124) were inter-season re-migrants, having been tagged in previous nesting seasons, while 74 were new to the study. Green turtles comprised 39 that had been tagged in a previous season (with 6 of them having subsequently lost their tags) and 31 that were new to the study.

Over the 15 years that this important monitoring program has been running, there has been a downward trend in the number of endangered hawksbills nesting annually.

Ian is working in collaboration with coastal indigenous communities, which have traditionally hunted turtles and collected their eggs. Where possible, Earthwatch is facilitating community participation to develop a broader view of turtle ecology to assist them in determining sustainable hunting quotas, and provides fellowships for indigenous participants in research and monitoring projects.

Picture above: Becky and Ina, Earthwatch volunteers from Thursday Island, recording hawksbill nesting activity at Milman Island in January Ian Bell photo

Picture centre right: Hatchling tracks observed at Rattlesnake Island – one hopeful note alongside extensive signs of nest predation Tim Harvey photo

Picture bottom right: Defence force exercises at potential and actual turtle nesting sites receive special management to reduce environmental disturbance. This photo was taken north of Townsville at Cowley Beach
Able Seaman Yuri Ramsey photo

Turtle nesting in Halifax Bay

During December IPSTCG volunteers assisted with the annual nesting beach surveys at Rattlesnake and Herald Islands in Halifax Bay.

The survey team found evidence of nesting on both islands and counted a total of 49 body pits. Apparently both green turtles and flatbacks had nested, and a few hatchling tracks were noted but hatching success appeared low. Many of the nests were overlaid with goanna tracks and scattered remains of turtle eggs suggested that many had suffered predation by goannas.

The Halifax Bay surveys are part of the Australian Defence Force's environmental monitoring of sensitive areas that are used for military training. Rattlesnake and Herald are small islands to north east of Townsville, which are used for live firing practice and other exercises.

Hope for raising awareness about turtles in tourism hotspots

Hamilton Island in the Whitsundays is a major local and international tourist destination, and its luxurious accommodation, fine cuisine, boutique shopping and resort-style leisure activities have for decades drawn far more attention than any resident wildlife. It seems very few people gave much thought to turtles dependent on Hamilton Island's fringing reefs until recently.

Hamilton Island's high-rise towers and beach of imported white sand have probably drawn more attention than the need to protect turtles that depend on the immediately adjacent fringing reef Julia Hazel photo

A couple of years ago an island resident became concerned about jet-skis operating close to the fringing reef where he had noticed turtles foraging daily. He saw one turtle get hit by a jet ski and witnessed several near misses, but found his reports to management authorities drew responses that apparently focussed more on policies than protection. He was advised that a valid permit was in place for the jet-ski hire enterprise and that the Whitsunday Plan of Management allowed waters around Hamilton Island to be used for intensive tourism and recreation, including high speed motorised water sports.

Fortunately for the Hamilton Island turtles at risk, they had unknowingly attracted a very determined benefactor. He increased his efforts to improve the situation, alerting IPSTCG and other conservation groups and promoting dialogue with key people involved in the island's water sports. As a result there has been encouraging progress recently.

Jet-ski wake shows where the buoyed circuit has been adjusted to skirt the fringing reef at Hamilton Island Julia Hazel photo

Some of the buoys marking the jet-ski circuit were re-positioned to increase their distance from the fringing reef where turtles forage most frequently. Underwater surveys were conducted by IPSTCG and Reef Check and these confirmed the fringing reef to be a regular foraging area for numerous green turtles, both adults and juveniles. At least one hawksbill was also observed on several occasions.

Although extensive stands of macro algae now dominate the fringing reef, the survey team noted that the algae appear to have gained ground relatively recently. Substantial coral structures remain clearly evident under the algae and a wide variety of live coral species persists in small colonies, together with an interesting diversity of fish and invertebrates. This site may be adopted for detailed Reef Check surveys in future and the possibility of offering guided snorkel eco-tours are under consideration.

At this point Hamilton Island turtles still face daunting risks over the long term. However their immediate prospects have taken a hopeful turn. This change is largely thanks to one person taking individual responsibility for ameliorating their plight and persevering, despite the discouraging initial responses he encountered, in his efforts to protect them.

Turtle rehabilitation program resumes at Reef HQ

Good news: Reef HQ in Townsville is re-opening their turtle rehabilitation facility, which has been closed since the aquarium complex underwent major refurbishment work in 2002.

More good news: Students at The Willows State School in Thuringowa have continued their outstanding support for turtle conservation with a donation of $340 to IPSTCG to purchase a turtle stretcher. The stretcher will be a valuable aid for safely transporting injured and sick turtles to the new rehabilitation facilities at Reef HQ.

Look out for more information about the new turtle rehab centre in our next newsletter.