

DRAFT

Weipa coast turtle foraging, nesting and threats survey 2003

Executive summary

A survey of the Weipa coast was undertaken in collaboration with Queensland Department of Primary Industries and Land and Sea Rangers from Aurukun and Mapoon Communities to identify marine turtle resources and population threats. Approximately 150 kilometres of coast was surveyed where vessel access and logistics permitted.

Approximately 236 turtle nesting attempt tracks were observed. Evidence of feral pig interference of nests and/or egg predation was recorded for most nests and 100% of the sub-sample turtle nests examined (n = 15). Evidence of extensive feral pig activity, including the “rooting” for ghost crabs was recorded along the entire coast.

A beach washed net (of a size capable of capturing a turtle), was encountered approximately every 140m (n = 1041). Twenty-eight different types of net were described using the WWF net identification key from a total of 39 different samples of net collected. Ten dead turtles (2 greens, 2 flatbacks, 1 olive Ridley, 5 unknown) were recorded in a sub-sample of 45 nets examined for unintentional bi-catch.

One adult green female turtle was caught, using rodeo capture, from a total of 25 turtles observed within inshore waters (21 greens, 4 hawksbill). A range of age classes was observed. All turtles were associated with algal or seagrass foraging habitat. Turtle foraging densities are likely to be underestimated due to the high level of turbidity.

Recommendations

- That as a priority, an effective feral pig reduction programme commence on turtle nesting beaches.
- That a programme be implemented that protects the turtle eggs *in situ* from feral pig predation.
- That nets be removed from nesting beaches to reduce the likelihood of nets being washed off the beach.
- That a long term (min 5 years) marine turtle population monitoring programme be developed on the Pennyfather River to Dyfken Point beach and at Crab Island as comparative index sites for assessing population trends on western Cape York Peninsula.
- The level of traditional turtle and egg harvest and subsequent trade of turtle products with northern peninsula communities is assessed.

Background

Training opportunities are provided to Aboriginal people under the Queensland Government's Cape York Partnerships Program (CYPP). The program comprises a number of Queensland Government departments including the EPA and Queensland Department of Primaries. On invitation from Peter McCulkin (Senior Projects Officer, CYPP, Weipa), a marine turtle nesting and foraging survey was undertaken with Land and Sea Rangers from Aurukun and Mapoon communities.

The purpose of the training was to introduce community rangers to the methodologies of determining and recording the density and distribution of foraging and nesting turtles including the identification of actual and potential threats to the population.

Funding

Operating and travel costs were provided by the QDPI.

Methods

Trip One (Aurukun Community) 25 – 29 August 2003

A base camp was established on the beach approximately 60 km north of Aurukun. From this base, the coastline from Archer River to Boyds Point was surveyed using the QDPI Fisheries Research vessel “Gwendolyn May”. Near shore waters were accessed by tender and 4WD vehicles were used to survey the beach where possible.



Arukun Land and Sea Rangers collecting beach washed nets.

Trip Two (Mapoon Community) 1 – 5 September 2003

The coast from the Pennyfather River to the Skardon River was surveyed utilising the “Gwendolyn May” with access to the beach and near shore waters by tender.

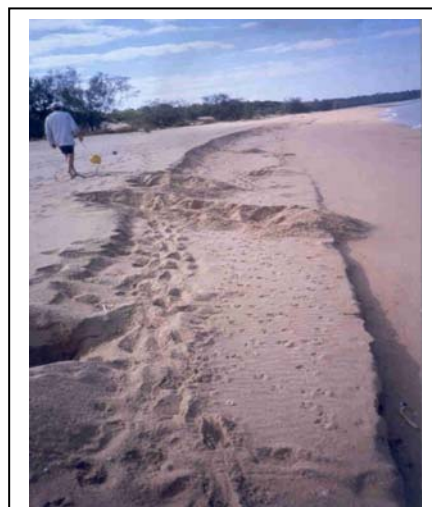
High turbidity restricted surveys to water depths of less than two meters to identify likely foraging habitat and subsequently search for turtles. When encountered, turtle species and age class were recorded and when possible animals were caught using the rodeo capture technique. Observations of nesting tracks were documented and an assessment of the impact of pig predation on individual nests was recorded.

A count of the number of beach washed nets was carried out and where possible the incidental bi-catch from a representative number of nets was completed

Results/Discussion

Evidence of extensive pig predation on turtle nests was apparent along the entire length of coast surveyed. It appears that pigs patrol the beach every evening looking for nesting turtles as new pig tracks were observed each morning. Given the rapid assessment nature of the survey, an estimation of pig density was extremely difficult but likely to number in the thousands to tens of thousands in the area surveyed.

Several beach washed nets were identified as Australian, however the majority originated in adjacent countries. Nets ranged in size from several m² to hundreds of m². Multiple net types (twine and mesh size, colour, strand number) were recorded with monofilament gill nets probably the most hazardous to marine



Extensive pig track and digging for turtle eggs

turtles. Accurate species descriptions were not always possible, given the advanced state of carcasses decomposition, the majority of turtles caught in nets were juvenile green turtles, followed by flatbacks, then a single olive Ridley.

Low numbers of turtles were recorded where suitable foraging habitat existed. Extensive beds of *Sargassum* (*spp*) with patches of coral reef were observed in rocky bays to the north of False Pera Head. These bays also hosted the highest densities of foraging turtles in the study area.



Example of “typical” size of beach washed net

Table 1. Summary of turtle activities

Location	Distance (Kms)	Foraging turtles	Turtle nesting tracks (Approx)	Number of nets (Approx)	Number of dead turtles
Archer River to False Pera Head	35	4	35- flatback	236	1 green (?) 1 olive Ridley
False Pera Head to Boyds Bay	38	10	41- flatback 2- olive Ridley/ hawksbill	189	No nets examined
Pennyfather River to Port Musgrave	39	6	60- flatback 3- olive Ridley/hawksbill	240	1 green (?) 1 unknown
Port Musgrave to the Skardon River	35	5	95- flatback	376	4 unknown 2 flatckback (?)
TOTAL	147	20	236	1041	10

(?) Identification to species was difficult given the advanced level of carcass decomposition.

Conclusion

Feral pig predation of marine turtle eggs on western Cape York is extensive and the greatest threat facing this nesting population. If egg loss mitigation measures are not established rapidly, given that there is little hatchlings recruitment back into the population, this philopatric nesting cohort is likely to decline to a point where recovery will not be possible. This situation has been documented in other marine turtle populations. For example, in 1947 over 40,000 Kemp’s Ridley turtles were recorded in a single night on a beach in Mexico. By the mid 1980’s only several hundred were recorded during the nesting season. The cause of this decline was directly contributed to the harvesting of adults and the incidental bi-catch in the local shrimp trawl fishery.