

# Missing in Action



The Australian east coast population of grey nurse shark (GNS) is listed as Critically Endangered on the IUCN Red List of Threatened Species™. The Red List is widely recognized as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species.

Hunted almost to the point of extinction in the 1950's and 1960's by well-meaning (although misdirected) fishermen, divers and spear fishers, the GNS population plummeted to less than an estimated 1000 individuals on Australia's East coast.



Figure 1: Queensland's known GNS aggregation sites

But this ferocious-looking species is not a man eater; they are timid, gentle giants.

Ecologically, GNS are at the top of the food chain and hence play an important role in regulating the numbers of species in the lower trophic levels.

Of the 6 key aggregation sites in Queensland (see Fig. 1) Wolf Rock is the northernmost. Located just south of Rainbow Beach in Queensland, the site supports half the breeding population of GNS with female sharks remaining at the site for most of their 9- 12 month gestation before migrating south to NSW to pup. Wolf Rock was gazetted as a green zone in 2006 and also regulates diving affording the sharks an added level of protection.

But where do the other 50% of pregnant females go, is there an unidentified missing aggregation site?

GNS have been recorded from more than a dozen different sites in Queensland to date, however except for Wolf Rock; none of them meet this criterion. Anecdotal evidence also seems to suggest that there is at least one missing aggregation site with male GNS travelling northwards as far north as Yeppoon and other sightings around the Capricorn Bunker group of islands and adjacent shoals.

Until the site is located and conservation measures are implemented – 50% of the current breeding population can be considered to be at risk during much of their pregnancy.

For more information on Grey Nurse Shark Watch please contact Deborah Bowden on 0407 649 298 or at [deborah.bowden@uqconnect.edu.au](mailto:deborah.bowden@uqconnect.edu.au) or Carley Bansemmer at [carley.bansemmer@uqconnect.edu.au](mailto:carley.bansemmer@uqconnect.edu.au).



## Overview 2011 - 2014

### The research team aim to:

1. Identify potential aggregation sites for pregnant Grey Nurse Sharks through analysis of available data (satellite imagery, anecdotal sightings and captures, and habitat similarity to other known aggregation sites) and remote sensing.
2. Conduct field verification, mapping and deploy listening stations at potential aggregation sites (conduct GNS photographic identification survey if sharks detected).
3. Attach temporary acoustic and pop-up archival satellite tags to a number of female GNS (with mating scars) to identify potential migration routes and additional gestation sites for pregnant GNS. For this part of the project, the partners are also working with the CSIRO to trial a new timed tether release.

*This project has been generously sponsored by Australian Capital Equity and the Ronald Geoffrey Arnott Foundation (managed by Perpetual). The project is supported by Australia Zoo, the Burnett Mary Regional Group for Natural Resource Management, the Queensland Department of Environment & Heritage Protection and Department of National Parks, Recreation, Sport and Racing, Fauna and Flora International Australia, Lady Elliot Eco Resort, Reef Check Australia, SeaWorld and The University of Queensland.*

