Progress Report SP 2013-002

Understanding movements and identifying important habitats of sea turtles in Western Australia

Marine Science

Project Core Team

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Project status as of July 11, 2016, 1:12 p.m.

Approved and active

Document endorsements and approvals as of July 11, 2016, 1:12 p.m.

Project Team	granted
Program Leader	granted
Directorate	granted

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Context

This project uses satellite telemetry to track turtles that are released to the wild with minimal and extensive rehabilitation. In addition, turtles are tracked to identify connectivity between different habitats in their life stages. Commonly turtles are tracked from nesting beaches to identify internesting habitat, migration routes adn resident foraging grounds. The tracking results identify the geographic range and preferred habitats and provide insight into the viability and survivorship of healthy and rehabilitated turtles in the wild. The identification of preferred habitat allows pressures to be identified and prioritised for different size classes. As tracking results will be broadcast live on the internet (updated daily via seaturtle.org) there is a direct link between Parks and Wildlife science activities and the community. The genetic information (derived from samples collected routinely across a range of projects) will provide another layer of information that helps to describe the spatial range of turtles Western Australia

Aims

- Determine the distribution and movement of sea turtles, particularly juveniles;
- Investigate how components of sea turtle biology (including genetics) influence turtle distribution (including preferred sites), movement and foraging ranges;
- Investigate how environmental drivers, such as oceanographic factors, influence turtle distribution (including preferred sites), movement and foraging ranges; and
- Investigate the viability and survivorship of rehabilitated turtles
- Investigate connnectivity of turtles between habitats with their life stages (commonly between nesting beaches and foraging grounds).

Progress

- Flatback turtles were tracked from four Western Australia nesting locations provided data on migration routes and the locations of internesting habitats and foraging grounds.
- Loggerhead turtles were tracked from two sites. One loggerhead turtle travelled from its nesting beach at the Muiron Islands in Western Australia to the Torres Strait, a distance of 3400 km.
- Hawksbill turtles were tracked from one site.
- One rehabilitated olive ridley turtle was tracked after 20 weeks in care.
- Tracking data from all the turtles can be viewed at www.seaturtle.org.

Management implications

- Understanding spatial use by turtles is essential for management. The current studies have collected data that will enable calculations of time spent inside and outside marine reserves, the identification of high use migration corridors and the locations of important foraging areas ad interesting habitats.
- This study has already identified new key habitats used by the Northwest Shelf flatback turtle stock. These habitats include foraging areas in the southern Pilbara, inshore internesting areas near Onslow and the confirmation of foraging areas in the north Kimberley.
- The movement of loggerhead turtles from WA to the Northern Territory and Queensland has cross jurisdictional implications for the broadscale management of this migratory species and highlights the need for collaboration with other States and Territories.

Future directions

- This project will continue to track turtles to understand the spatial context of habitat use and determine if there are areas that overlap extensively with human pressures.