Concept Plan SP 2017-058

Aerial survey of marine turtle rookeries of the Pilbara Region of Western Australia

Marine Science

Project Core Team

Supervising Scientist	Sabrina Fossette-Halot
Data Custodian	Sabrina Fossette-Halot
Site Custodian	

Project status as of Feb. 4, 2020, 2:48 p.m.

New project, pending concept plan approval

Document endorsements and approvals as of Feb. 4, 2020, 2:48 p.m.

Project Team	granted
Program Leader	granted
Directorate	required

Aerial survey of marine turtle rookeries of the Pilbara Region of Western Australia

Biodiversity and Conservation Science Program

Marine Science

Departmental Service

None

Background

The North West Shelf Flatback Turtle Conservation Program (NWSFTCP) is one of two additional conservation programs delivered from the Gorgon Gas Project via the Variation Agreement (2009) of the Barrow Island Act (2003). It is a AUD32 million, 30-year program which aims at 1) increasing the conservation and protection of the North West Shelf flatback turtle population; and 2) providing sufficient data to allow the Advisory Committee to assess whether the Gorgon project is having a "significant" impact on the North West Shelf flatback turtle population.

Flatback turtles are endemic to Australia and listed as data deficient on the IUCN red list. Basic information about their life cycle, distribution, ecology, and demographic trends is still missing. In particular, knowledge about their spatio-temporal distribution on the North West Shelf is limited. A comprehensive list of all nesting grounds on the North West Shelf and their relative density in terms of nesting female turtles is essential baseline information for establishing a long-term management plan.

As the scale of the North West Shelf does not allow typical on-ground monitoring, new techniques need to be explored. The use of an aerial survey recording aerial imagery that can be analysed post-survey was identified as the most suitable method.

Aims

- Produce an inventory of flatback turtle nesting locations and seasonality (spatial and temporal distribution) on the North West Shelf
- Test new research methodologies that will improve monitoring efficiency, i.e. aerial survey and aerial imagery

Expected outcome

This project will provide us with a better understanding of the spatio-temporal distribution of flatback nesting activity on the North West Shelf. It will also provide us with information about nesting activity of the other species of turtles found in this area, i.e. green and hawksbill turtles. In particular, this project will provide us with:

- Map of presence/absence of turtle activity on the North West Shelf.
- Map of turtle nesting densities on the North West Shelf.
- Aerial imagery to develop an algorithm to automatically detect and identify turtle tracks.

Strategic context

This project fulfils two goals of the NWSFTCP's Strategic Conservation Plan: NdS OA R1, NdS OA R14

The outcomes of this project will inform the National recovery plan for marine turtles in Australia as well as the IUCN database.

Expected collaborations

The first two steps of the project will not require external collaborations. The third step of the project, i.e. development of the algorithm, will be a collaboration with Outline Global Imagery, who are experts in the collection and analysis of geospatial imagery

Proposed period of the project

None – None

Staff time allocation

Role	Year 1	Year 2	Year 3
Scientist	0.02	0.05	0.05
Technical			
Volunteer		0.05	0.05
Collaborator			

Indicative operating budget

Source	Year 1	Year 2	Year 3
Consolidated Funds (DPaW)			
External Funding	63,567.99		