

## Concept Plan SP 2018-019

# Cumulative risk assessment model for flatback turtles of the North West Shelf

Marine Science

### Project Core Team

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

### Project status as of Feb. 4, 2020, 2:34 p.m.

New project, pending concept plan approval

### Document endorsements and approvals as of Feb. 4, 2020, 2:34 p.m.

|                |          |
|----------------|----------|
| Project Team   | granted  |
| Program Leader | granted  |
| Directorate    | required |

# Cumulative risk assessment model for flatback turtles of the North West Shelf

## 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, ecology, behaviour and demographic trends is still missing. Information about pressures impacting this stock is also limited and in particular there is no understanding of the cumulative impact of these human pressures on the stock.

A comprehensive spatial and temporal overview of all human pressures impacting this stock is critical to inform the NWSFTCP's next strategic conservation plan.

## Aims

The aim of this project is to build and run a cumulative risk assessment model for flatback turtles on the North West Shelf.

## Expected outcome

The main outcomes of this project will be :

- Data layers of all human pressures affecting the North West Shelf flatback turtle stock.
- Maps showing the cumulative impact of these pressures on the stock and high versus low impacted areas.
- Identification of priority areas on the North West Shelf that need to be managed, monitored and/or protected to increase the conservation of flatback turtles.

## Strategic context

This project will address objective NDS OAR6 of the NWSFTCP Strategic Conservation Plan 2014-2021.

The main management implications for this project are:

- to inform the NWSFTCP's next Strategic Conservation Plan and help prioritise areas requiring management, monitoring and/or protection based on the outputs from our model.
- to inform the next National Recovery Plan for Marine Turtles in Australia. The current plan lists all human pressures affecting the North West Shelf flatback turtle stock individually but does not take into account their cumulative impact. It is critical to identify relatively high and low impacted areas to assist the design of appropriate and effective future management actions.
- to use this project as a template to build similar models for other species of turtles and/or other stocks.

## Expected collaborations

We anticipate a collaboration with researchers from The Nature Conservancy based in the USA. The Nature Conservancy has designed and built the software we are using to run our cumulative risk assessment model. A collaboration with them will help improve our understanding of the software and therefore maximise the outputs from the model.

## Proposed period of the project

April 1, 2018 – June 30, 2019

## Staff time allocation

| Role                    | Year 1 | Year 2 | Year 3 |
|-------------------------|--------|--------|--------|
| Scientist S Fossette    | 0.1    | 0.1    | 0.1    |
| Scientist G. Loewenthal | 0.4    | 1      |        |
| Volunteer               |        |        |        |
| Collaborator            |        |        |        |

## Indicative operating budget

| Source                    | Year 1    | Year 2 | Year 3 |
|---------------------------|-----------|--------|--------|
| Consolidated Funds (DPaW) |           |        |        |
| External Funding          | 34,406.82 |        |        |