

Concept Plan SP 2023-011

Whale shark behavioural response to tourism interaction in Ningaloo Marine Park and implications for future management

BCS Marine Science

Project Core Team

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Data Custodian Holly Raudino

Project status as of June 12, 2023, 9:18 a.m.

X X New project, pending concept plan approval

Document endorsements and approvals as of June 12, 2023, 9:18 a.m.

X X
Project Team granted
Program Leader required
Directorate required

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Program

BCS Marine Science

Departmental Service

Service 7: Research and Conservation Partnerships

Background

Whale sharks (*Rhincodon typus*) migrate annually to Ningaloo Marine Park (NMP) and surrounding waters to feed in the nutrient rich waters created by upwelling. A nature-based tourism industry has developed around the presence of these animals, taking people to snorkel near the whale sharks in the marine park, between March and June each year. This tourism activity is licensed and managed by DBCA.

The whale shark is a protected species under WA legislation and is considered vulnerable by the Commonwealth under the EPBC Act 1999 and by the IUCN. DBCA's primary role in contributing to international conservation is through effective management based on understanding and ameliorating pressures in WA state waters, education and community engagement.

To address the pressures, present in State waters, the Whale Shark Interaction Management Program No 27 was developed in 1997. A new management plan came into effect in 2013 'Wildlife Management Program no. 57: *Whale shark management with particular reference to Ningaloo Marine Park*'. This updated plan includes strategies for research and monitoring to assess whether wildlife interaction tourism has caused short- or long-term impacts on whale shark behaviour in NMP, and to inform management. Several projects have been undertaken to address priority research needs since the management plan was revised in 2013. However, a stocktake of research is required to assess the completion of management strategies and identify ongoing information needs to best manage the industry. It is also timely to evaluate the effectiveness of management strategies within the plan in minimising impacts to whale sharks from tourism interactions.

Aims

1. Conduct a literature review of all studies on whale sharks post 2012 that link to the management framework to assess which management strategies have been assessed and to identify ongoing information gaps.
2. Develop a Standard Operating Procedure (SOP) for the whale shark data management process.
3. Use data collected through the tourism activities to assess the effectiveness of the current management program in minimising impacts to whale sharks from tourism encounters in NMP. This project will build upon Lester et al (2019) that used data from the 2011/12 seasons, by analysing data over a minimum of 5 years between 2013 and 2019 to determine if potential impacts have occurred in the interactions between whale sharks and commercial tourism activities.

Expected outcome

The project will inform ongoing sustainable management of the whale shark tourism industry within NMP through evaluating the effectiveness of the current management program and making recommendations as required. Improve the efficiency of the whale shark data management process, identify gaps in knowledge and produce a report to support research relevant to whale shark conservation and management. A manuscript for publication will be produced on the management of the whale shark tourism industry and its effectiveness, taking into account environmental parameters as a factor in temporal and spatial distribution.

Strategic context

By collating and analysing data on whale shark/human interactions and using results to assess effectiveness of Wildlife Management program 57, this project aligns directly with DBCA Strategic Directions 2022-5 to: "Conserve, restore and manage plants and animals, ecosystems and landscapes using world recognised science and best practice management", "Collate, manage and share data to support effective decision making and conservation", "Collaborate and partner across government and with community. Industry and other stakeholders". The project also directly addresses strategies in the Ningaloo Marine Park Management Plan to: "Review, and

where necessary update, the Wildlife Management Program for Whale Sharks” and “Continue to monitor the behavioural response of whale sharks to nature-based tourism activities.”

Expected collaborations

This project will be a collaborative effort between the Exmouth District, Marine Science Program and the whale shark tourism industry. MSP staff will provide project oversight and interpretation and presentation of the findings. Regional staff will contribute to guiding the project intent and providing advice and input into project outputs.

Proposed period of the project

March 1, 2022 – Feb. 28, 2024

Staff time allocation

to	X	X	X	X
Role	Year 1	Year 2	Year 3	
Scientist	0.6	0.6		
Technical	0.1	0.1		
Volunteer				
Collaborator				

Indicative operating budget

to	X	X	X	X
Source	Year 1	Year 2	Year 3	
Consolidated Funds (DBCA)	25,000	25,000		
External Funding				