

WHEATSTONE PROJECT C

UNDERSTANDING AND MANAGING CRITICAL HABITAT FOR MARINE MAMMALS IN THE PILBARA

ANNUAL REPORT

2014/15

August 2015



Department of
Parks and Wildlife



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1 Introduction

Condition 22 of Ministerial Statement 873 for the Wheatstone Development – Gas Processing, Export Facilities and Infrastructure requires the proponent to contribute funding to seven projects. A memorandum of understanding (“MOU”) between Chevron Australia Pty Ltd in its capacity as operator of the Wheatstone Project (“Chevron”) and the State of Western Australia acting through the Chief Executive Officer of the Department of Environment and Conservation, now the Department of Parks and Wildlife (“Parks and Wildlife”), was signed on the 30 April 2012. The MOU consists of funding for two of these projects; Project B (Connectivity) and Project C (marine fauna). As part of the CEO’s obligations outlined in section 3.1 of the MOU, Parks and Wildlife is required to provide Chevron with a Program Annual Report each year of the Program within one month of the Department’s annual report being tabled in Parliament. The Program Annual Report is to include a summary of the following:

- (i) Opening balance, income, expenditure and closing balance of the Project Accounts;
- (ii) Description of the Program activities undertaken over the last year;
- (iii) Results of the Program activities undertaken over the last year; and
- (iv) A summary of the Program activities anticipated to be undertaken in the following year.

This document is the Program Annual Report for Project C for the period 1 July 2014 to 30 June 2015.

The focus of Project C is the *“Identification and improved management of critical habitat for the following threatened marine species: 1) humpback whales; 2) dugong and 3) snubfin dolphins in Pilbara waters”*. There are a number of species of marine mammal that are of State, national and international conservation significance that reside in, or use, the coastal waters of the Pilbara Region, e.g. humpback whales, dugong and dolphins. These species may be impacted by industrial development activities, however, currently there is limited information on their abundance, distribution and habitat use throughout the Pilbara. The purpose of this research program is to improve the knowledge base and management of regionally critical habitat for these species, which will rely on a sound understanding of species populations, movement patterns and ecology.

2 Wheatstone Offset Project 'C' Program Activities 2014/2015

- The Science Plan for Wheatstone Offset Project C was approved by Department of Parks and Wildlife in September 2014. (The Science Plan was provided as an attachment to 2013/14 annual report and can be provided again, on request, if required.) The Plan identifies four areas of research: dolphin ecology and population dynamics, dugong ecology and habitat characterisation, humpback whale critical habitat and spatial risk assessment. A prioritisation process undertaken to develop the Plan identified the dolphin research program as a high priority given the lack of knowledge of these species across the Pilbara. Consequently it is the largest research element in the Plan, with a multi-year focus and several components to the research. As such, the initial focus in implementation of the Science Plan has been on getting the establishment of the dolphin research program and initiation of field work.
- The Research Scientist employed in 2013 has continued to implement the research outlined in the Science Plan and has led the planning and implementation of the dolphin research program. More detail on the progress in the dolphin research program is provided below.
- Data has been sought from Chevron on dugong distribution and movements and benthic habitat, particularly seagrass. These data from existing research programs and their outputs will inform the research planning for the dugong research program.
- Discussions are underway over implementing additional elements of the Science Plan with the emphasis for 2015/16 on seagrass habitat for dugong and establishing a framework for the spatial risk assessment project which will focus on dugongs and humpback whales and utilise existing datasets.

Dolphin research program

- Work on the program has focussed on surveys of dolphins through boat based and aerial methodologies.
- Field work commenced for the inshore dolphin program in October 2014. Two boat-based survey expeditions led by the Research Scientist were conducted in October 2014 and March 2015 based from Onslow. During the two week field trips for each, transects were run in the near-shore waters around Onslow and Thevenard Island and all dolphin sightings were recorded, including capture of photo identification images.
- A purpose built database for dolphin survey and photo-identification data (developed by the Northern Territory Government) has been acquired by Parks and Wildlife and modified to suit data collection and analysis for the dolphin program. All data from boat based field trips has been entered into this database post field work and is awaiting further analysis.
- The first of three annual aerial surveys for dolphins in the Pilbara coastal waters was undertaken in May/June 2015. The aerial survey, coordinated by the Research Scientist, involved a team of 4 observers and a team leader in the field for a 3 week period. Transects have been designed to be complimentary to the extensive aerial

survey work already undertaken by Chevron. All transects from the northern end of Barrow Island through to Port Hedland were successfully completed during this initial survey. Additional data is collected on sighting of dugongs and other marine mammals.

- Annual work planning has been undertaken for field work for the dolphin program for 2015/16. This will include 3 boat based survey trips (October 15, April 16 and June 16) and one aerial survey (June 16).

	Milestones / Major activities ¹	Timing (date)	Status
2	July 2014– June 2015		
1. Project planning			
1/1	Complete budget and fieldwork planning for 2014/15 financial year	Oct 2014	100
2. Field program			
2/1	Plan for Oct survey (incl. FOP)	Aug 2014	100
2/2	Oct 2014 survey: Undertake reconnaissance survey to identify key dolphin areas and plan long term survey design and protocol.	Oct 2014	
2/3	Plan for Mar 2015 aerial survey (incl. AOP)	Nov 2014	100
2/4	Plan for Mar 2015 survey (incl. FOP)	Feb 2015	100
2/5	Mar 2015 survey: Survey for dolphin distribution and abundance at key sites in the Pilbara.	Mar 2015	100
3. Annual data analysis complete			
3/1	Process survey data including photo id	Dec 2014	100
3/2	Analyse data for population parameters	Dec 2014	50 (more data required)
4. data management			
4/1	Ensure all data has metadata attached and, in the interim, stored appropriately	Nov 2014	100
4/2	Enter survey data into DolFIN Database	May 2015	100
5. reporting (i.e. outputs)			
5.1 Science			
5/1/1	Complete metadata report for the Oct 14 survey	Nov 14	100
5/1/2	Complete metadata report for the Mar 15 survey	Apr 15	100
5/1/3	Complete an ARAR progress report	June 2015	100
5.2 Communication			
5/2/1	Complete project update to the regional Parks and Wildlife office staff	June 2015	100
5/2/2	Complete annual report to Chevron	August 2015	100
5/2/3	Attend meetings and provide presentations as required to, industry and scientific community	Ongoing	100
5.3 Knowledge Transfer			
5/3/1	Annual data report distributed to the Karratha regional and Exmouth District offices	July 2015	100

3 Wheatstone Offset Project 'C' Program Account 2014/2015.

The Wheatstone Offset Project C Program Account was created by Parks and Wildlife (then DEC) in 2012. In May 2012, Chevron Australia paid \$875,000 and a further \$875,000 in December 2012 into the account before a principal and a research scientist were employed in April and March 2013, respectively. In January 2014 a third payment of \$875,000 was made into the account and \$54,842 of interest has been earned.

A summary of Account activity for 2014/15 is outlined in Table 1 with more detailed expenditure provided in Table 2.

Table 1: Summary of Wheatstone Offset Project C Program Account Activity 2014/15.

Activity	Opening balance (1 July 2014)	Income (2014/15)	Expenditure (2014/15)	Closing balance (30 June 2015)
	\$2,439,247			
Interest		\$70,269		
Deposit by Chevron		\$875,000		
Understanding and managing marine mammals			\$359,327	
Total	\$2,439,247	\$945,269	\$359,327	\$3,025,189

Table 2: Expenditure against the Wheatstone Offset C Project Account 2014/15.

Operating & travel	\$162,685
Plant	
Salary & wages (including O/H)	\$196,642
TOTAL	\$359,327

4 Planned Wheatstone Offset C Project Activities 2015/2016

In 2015/16, it is anticipated that the following activities will be undertaken by Parks and Wildlife in collaboration with a number of external bodies, as elements of the Science Plan:

- At least 3 full vessel based surveys for the dolphin project noted above (estimated to be in October 15, March 16 and June 16);
- At least one aerial survey across the Pilbara region specifically for dolphin distribution and abundance (planned for June 16);
- Planning and contracting for a research project to characterise dugong habitat and map the extent of preferred/optimal habitat across the Pilbara (a combination of field work and desktop analysis); and
- Preparing the annual report to Chevron for Wheatstone Offset C.

Dolphin research operating	\$350,000
Dugong research operating	\$200,000
Salary & wages (including O/H)	\$250,000
TOTAL	\$800,000

Estimated expenditure 2015/16: \$ 800,000

Proposed Milestones/Major Activities for 2015/16

	Milestones / Major activities ²	Timing (date)	Status
2	July 2015– June 2016		
1. Project planning			
1/1	Complete budget and fieldwork planning for 2015/16 financial year	Aug 2015	100
1/2	Plan dugong research project (desktop component)	Aug 2016	
2. Field program			
2/1	Plan for Oct survey (incl. FOP)	Sept 2015	85
2/2	Spring 2015 boat-based dolphin survey: habitat use, residency, abundance and distribution.	Oct 2015	
2/3	Plan for Mar 2015 aerial marine mammal survey (incl. AOP)	Nov 2015	
2/4	Plan for Mar 2015 dolphin survey (incl. FOP)	Feb 2016	
2/5	Autumn 2015 boat-based dolphin survey: habitat use, residency, abundance and distribution.	Mar 2016	
3. Annual data analysis complete			
3/1	Process boat survey data including photo id	May 2016	
3/2	Analyse data for population parameters	May 2016	
3/3	Process aerial survey data	July 2016	
3/4	Preliminary analysis of aerial survey data	Dec 2016	
4. data management			
4/1	Ensure all data has metadata attached and, in the interim, stored appropriately	June 2016	
4/2	Enter survey data into DolFIN Database	May 2016	
5. reporting (i.e. outputs)			

5.1 Science			
5/1/1	Complete metadata report for the Oct 15 survey	Nov 2015	
5/1/2	Complete metadata report for the Mar 16 survey	Apr 2016	
5/1/3	Complete an ARAR progress report	June 2015	
5.2 Communication			
5/2/1	Complete project update to the regional Parks and Wildlife office staff	July 2016	
5/2/2	Complete annual report to Chevron	August 2016	
5/2/3	Attend meetings and provide presentations as required to, industry and scientific community	Ongoing	
5.3 Knowledge Transfer			
5/3/1	Annual data report distributed to the Karratha regional and Exmouth District offices	July 2016	

5 Conclusion

6.1 Outputs and outcomes from 2014/15

- Three Onslow inshore vessel based dolphin surveys were completed in spring 2014, autumn and winter 2015, respectively. During these surveys, 584km of transect were covered over 44.7hrs. The dolphin encounter rate was 0.05 dolphins per km or 0.7 dolphins an hour. Thevenard Island was surveyed for 147km or 14hrs with an encounter rate of 0.2 dolphins per km or 3 dolphins per hour of survey.
- No snubfin dolphins have been sighted during the dolphin surveys. This may be because the Pilbara represents the extreme limit of their range, with only a small number of vagrant individuals travelling south from the Kimberley or residual populations in the Pilbara at extremely low densities. Additional transects are being established in the lower Exmouth Gulf to investigate whether snubfin dolphins are present there, as they have been sighted during the 2012-2013 dugong aerial surveys conducted by Chevron.
- An electronic photo-identification catalogue has been compiled which includes 35 individually recognisable bottlenose dolphins (seven of which were dependent calves) and eight humpback dolphins (three of which were calves).
- Some bottlenose dolphin mother and calf pairs have been re-sighted on multiple surveys i.e. those sighted in spring and autumn were re-sighted in winter suggesting they are site faithful.
- The minimum linear distance between repeated sightings for three adult females was 1.75km and the maximum 7km. The small distances (<10km) between re-sightings suggest the home range sizes of adult females are likely to be small but more re-sightings are required to confirm this.
- At least one bottlenose dolphin mother calf pair that was sighted during dredging operations in spring 2014 has been re-sighted post dredging in winter 2015.
- There appears to be some movement of individuals between the coastal waters of Onslow and Thevenard Island (~20km offshore) but more data is required to quantify the proportion of the population using both areas.
- A vessel based dolphin reconnaissance survey of the Dampier archipelago was undertaken in May 2015. Approximately 220 km of survey effort was completed over four days. At least 75 individual bottlenose dolphins were identified and added to the database and photo identification catalogue.
- A coastal aerial survey for dolphins was flown from west of Karratha to east of Port Hedland and offshore to approximately the 20 metre bathymetry contour May/June 2015.
- The predominant species recorded in the aerial survey were bottlenose dolphins, with fewer humpback dolphins and dugongs. However, the proportion of humpback dolphins with calves was higher than that for bottlenose dolphins.

6.2 Summary of activities forecast for 2015/16

- Annual aerial survey will be undertaken on the distribution and abundance of inshore dolphins in the upper Pilbara (Karratha to Port Hedland); planned for June 2016.
- Seasonal vessel surveys will be undertaken on dolphin distribution and abundance in the Onslow and Exmouth Gulf area; planned for October, March and June.
- The Dugong research program will be initiated through implementation of a project on the characterisation of dugong habitat in the Pilbara.
- Annual reporting to Wheatstone Joint Venture Partners will be completed by 1 Sept 2016.