

Pilbara Marine Conservation Partnership

Annual Report

1 July 2014 – 30 June 2015



THE UNIVERSITY OF
WESTERN AUSTRALIA

Table of contents

<u>1.</u>	<u>Executive Summary.....</u>	<u>3</u>
<u>2.</u>	<u>Introduction.....</u>	<u>4</u>
<u>3.</u>	<u>Commentary.....</u>	<u>5</u>
3.1.	<i>Financial performance 2014/15.....</i>	<i>5</i>
3.2.	<i>Milestone performance 2014/15.....</i>	<i>6</i>
3.3.	<i>Media achievement 2014/15.....</i>	<i>8</i>
3.4.	<i>Outputs reporting 2014/15 (based on milestones).....</i>	<i>8</i>
3.5.	<i>Planned activities 2015/16.....</i>	<i>12</i>
<u>4.</u>	<u>Conclusion.....</u>	<u>15</u>
	<i>Appendix 1.....</i>	<i>16</i>

1. Executive Summary

This annual report for the Pilbara Marine Partnership Project covers the period 1 July 2014 to 30 June 2015.

A total of \$1,987,658 of Net Conservation Benefits (NCB) funds was expended against the \$1,567,082 NCB budget available for the project in 2014/15, leaving a cash balance carry forward into 2015/16 of \$215,979.

Of the 11 milestones scheduled for 2014/15, nine were successfully completed and two are underway, with one of these ongoing.

The focus during 2014/15 remained on field work but activities now include a much greater emphasis on data curation and analysis, as well as the preparation of research products such as peer reviewed publications. This is reflected in the PMCP data workshop in September 2014, and the PMCP symposium in November 2014, which was attended by over 100 representatives from 22 state agencies, research organisations and industry. There continues to be strong collaboration, consultation and mutual support between PMCP partners and DPAW staff, both in the Marine Science section and at regional levels. Examples of this are found in activities such as joint field trips to survey crown-of-thorns starfish (COTS) in the Barrow/Montebello Is region, and deployment of PMCP oceanographic sensors at DPAW coral recruitment sites in the Onslow region. There has been close collaboration in the planning and implementation of field work in terms of methodology, timing and site selection, and data has been freely provided to DPAW to assist their efforts in the regional reporting context, as well as in more strategic science initiatives such as the Ningaloo fish meta-analysis.

Field work is advancing according to schedule across the project, with oceanographic instruments deployed during cyclone Olwyn, seasonal sampling at Ningaloo, surveys of COTS, establishment of long-term monitoring sites and stratified BRUV surveys of fish along the length of the west Pilbara all being successfully completed. The establishment of databases and storage procedures for the data being provided by the PMCP has been a complex task but is now operational and data are now available to other users through metadata records and directly through the RDSI storage facility at the Pawsey Centre.

In 2015/16 the emphasis will be on further data analysis, communication of results directly to counterparts in DPAW, and production of publications across the range of remote sensing, modelling, and ecological aspects of the PMCP program.

2. Introduction

The Pilbara Marine Conservation Partnership (PMCP) between CSIRO and UWA was approved on 9 February 2012 by the Minister for Environment who approved funding of \$7,224,356 over five years for the first phase of the PMCP project.

Four specific project elements were created for phase 1 of the project enabling expenditure and milestone performance to be tracked. These are broadly outlined as part of the contract between DPaW and CSIRO. Also, communications are specifically identified as an additional project element. Table 1 below identifies the project elements which commenced in 2012/13 and have been implemented through to 2014/15.

Table 1: Project elements to be implemented over 2012-15

Project Element 2012-15	Activity within Project Summary
1. Coral Reef Health	Staff salaries and costs, Operational costs
2. Fish and Sharks	Staff salaries and costs, Operational Costs
3. Connectivity	Staff salaries and costs, Operational Costs
4. Biodiversity mapping	Staff salaries and costs, Operational Costs
5. Communications	Staff salaries and costs, Operational Costs

Meeting reporting requirements for the project include an annual report detailing performance (expenditure outputs and milestones) of the project to be submitted to the Advisory Board; this document fulfils the annual reporting requirements for 2014/15 as well as the quarterly update reporting requirements for the fourth quarter of the 2014/15 financial year.

3. Commentary

3.1. Financial performance 2014/15

Summary

Table 2: Summary of the Operating Account Activity 2011-15

	Income (2011-15)	Expenditure (2011-15)	Closing balance (30 June 2015)
Installments	4,670,616		
Interest			
Expenditure		4,454,637	
Total	4,670,616	4,454,637	215,979

3.2.1. NCB detailed expenditure

Table 3: Summary of expenditure 2011-15

Item	Budget	Actual Expenditure	Percentage
Overall Project Budget (NCB)	\$7,224,356	\$4,454,637	62%
Overall Project Budget (in-kind)	\$4,859,132	\$3,342,557	69%
Project Budget to end of current financial year (NCB) (3 Years)	\$5,148,318	\$4,454,637	87%
Project Budget to end of current financial year (in-kind) (3 Years)	\$3,462,778	\$3,342,557	97%
2014/15 Budget (NCB) including 2013/14 CF	\$2,555,857	\$1,987,658	78%
2014/15 Budget (In-Kind) including 2013/14 CF	\$1,426,038	\$1,180,335	83%
Current Quarter Budget nominal (NCB)	\$638,964	\$628,806	98%
Current Quarter Budget nominal (in-kind)	\$356,509	\$357,095	100%

A more comprehensive 'Whole of Life' financial report is included as Appendix 1.

3.2. Milestone performance 2014/15

An updated summary of the milestone performance for the year 2014/15 is provided in Table 4. All milestones are on target or close to completion.

■ Completed; ■ Ongoing or provisional.

Table 4: Summary of milestone performance, during 2014/15, by project element

YEAR	MILESTONES	COMPLETION DATE	COMMENT
3.1	Preparation and submission of the 2013-2014 Annual Report to the Project Steering Committee, the State and the NCB Advisory Board (Outcome & Output 5).	31 August 2014	Completed
3.2	Annual revision of a Detailed Work Plan for 2014-2015 (section 10.4) (Outcome & Output 1).	31 May 2014	Completed
3.3	<i>Coral Reef Health</i> Continue annual assessments at candidate sites (Outcome & Output 2).	30 June 2015	Completed
3.4	Begin field manipulations to investigate recovery rates and context dependent effects (Outcome & Output 2).	30 June 2015	Completed
3.5	<i>Fish and shark assemblages</i> Continue region-wide assessments (Outcome & Output 2).	30 June 2015	Completed
3.6	Conduct seasonal on-shore to offshore islands study, focusing on ontogenetic shifts (Outcome & Output 2).	30 June 2015	Completed

YEAR	MILESTONES	COMPLETION DATE	COMMENT
3.7	<i>Environmental Pressures</i> Completion of final report on regional habitat and biodiversity characterization, and biophysical analyses and mapping (Outcome & Output 2).	30 June 2015	Underway
3.8	Ongoing <i>in situ</i> environmental data collection and predictive trajectories of change (Outcome & Output 2).	30 June 2015	Completed
3.9	Integrate environmental data and productivity with KPI assessments and experimental studies (Outcome & Output 2).	30 June 2015	Completed
3.10	All data stored in database and provided to external parties (Outcome & Output 2).	30 June 2015	Underway and ongoing
3.11	Presentation of interim and annual updates to the Project Steering Committee and the NCB Advisory Board (section 10.5) including a half yearly progress update (Outcome & Output 4)	31 October 2014 31 January 2015 30 April 2015 31 July 2015	Completed

3.3. Media achievement 2014/15

In addition to items recorded in previous quarterly reports, the following media activity has been achieved this financial year:

- Significant interest from media in relation to COTS survey and COTS outbreak in Montebello and Barrow Islands with several interview with radio (ABC RN, News Radio, State and regional radio in WA, ABC TV).
- Fish and Shark group gained 333 likes on Facebook, with each post now reaching in excess of 1000 people.
- Channel 9 evening news feature on PMCP surveys of COTS outbreaks in the Montebello and Barrow Islands. (Channel 9 report: <https://www.youtube.com/watch?v=KuToGv8jd38>).

3.4. Outputs reporting 2014/15 (based on milestones)

Management and Coordination

- Through discussions with the NCB board the schedule of milestone payments for the PMCP was revised to better accommodate the needs of the board and the timing of work conducted in the project. This has not affected day to day operations.
- Several collaborative and planning meetings including phone hook-ups were held prior to the PMCP symposium.
- After the symposium, several iterative catch-up meetings between various groups in DPaw and PMCP were held to align field work plans.
- DPaw and PMCP are now sharing field work calendars via Google Calendar.
- Additional within-partnership meetings included:
 - 2/2/2015: Fish and Sharks meeting at DPaw where existing data for fish in the region was presented and long-term monitoring plans for the Montebello's and Barrow region were discussed.
 - 27/3/2015: Coordination team meeting by phone hook-up to discuss progress.
 - 13/5/2015: UWA Environmental Drivers group to discuss the way forward.
 - 20/5/2015: All-PMCP catch up meeting at the Oceans Institute Board Room where phone hook-up was held. Each group gave an update of progress and field work coordination was discussed.
- All work plans for the 2014/15 financial year and half of the 2015/16 financial year have been completed following consultation with relevant DPaw staff and submitted to the steering committee.
- An all-of-PMCP data workshop was organised on 25/09/2014 to initiate the creation of metadata records and upload of data to iVEC. (<http://www.marlin.csiro.au/geonetwork/>).
- An additional 30TB of storage at Pawsey has been allocated to PMCP, taking the total storage to 50TB, mainly consisting of fish video.
- Table 4 provides an overview of the milestone performance to date. Further details are given in the project sections below and the detailed annual report attached.

Communications

- The PMCP organised the first Pilbara Marine Science Symposium in November 2014 that was an overwhelming success. It attracted as many as 100 participants, speakers, and sponsors from 27 institutions, and provided a comprehensive overview of the status of marine research in the Pilbara, as well as networking opportunities for the participants.
- The PMCP Steering Committee met twice on 28/7/2014 and on 17/2/2015 to discuss progress.

- A link to the NCB web page has now been established (see [here](#)).
- Visual material from the project was exchanged with the Gorgon Barrow Island NCB Advisory Board
- The Oceans Institute ran a one-page piece on the PMCP symposium in the 2014 annual report read by over 1000 stakeholders.

Summary of work carried out by specific projects

1. Environmental Pressures

Connectivity Modelling

- 10-year simulation of the shelf circulation of the north-west shelf was carried out producing seasonally averaged modelled ocean surface velocities for the Ningaloo/Pilbara region at 1 km resolution.
- Carried out particle tracking model between coral reefs using the last five years of model simulation results, targeting spawning of corals (*Acropora millepora*) and fish (*Lethrinus nebulosus*).
 - For the coral, a total of 3430 reef release sites within 47 release sub-regions were used. Retention and connectivity statistics were calculated for each reef and each sub-region.
 - Prepared a draft manuscript titled “Ocean circulation, larval retention, and connectivity among coral populations on the Northwest Shelf of Australia” by Feng et al. which is undergoing final preparation for submission. Results were presented at AMSA 2015 Conference (Geelong).
 - For the fish, releases were made throughout the modelled domain at depths 40-100 m, based on expert opinion on where spawning may occur. Releases were made on the 1st of every month from January 2003 through to April 2010. Initial models included three phases of larval development exploiting increasing depth over the c. 35 day larval period (egg, early larva, late larva). Indexing of particle movements has focused on three main settlement sites (Ningaloo, Barrow Island, and Dampier Archipelago).

Environmental Drivers

- Analysed summer 2014/2015 data set from Ningaloo, including conditions during TC Olwyn.
- Redeployed Ningaloo instruments; surveyed shoreline damage and sediment changes along Ningaloo.
- Retrieved and redeployed instruments from 18 sites across the central Pilbara; collected water quality samples.
- Constructed wind forcing and model grids to simulate TC Olwyn; preliminary wave model developed.
- Acquired cameras, filters, computer and software for a prototype polarization camera to be used in conjunction with standard BRUVs.
- Explored options for obtaining industry *in situ* data sources to validate remote sensing time series models.
- Planned work for the next quarter:
 - Retrieve, service and redeploy instrument moorings in the northern Ningaloo and central Pilbara region; collect water quality samples.
 - Model simulations of impact of TC Olwyn on the Ningaloo region, downscaling from the shelf to local reef areas.
 - Model simulations to assess recent warming events for the Ningaloo-Pilbara region.
 - Construct polarization camera; write control software; validate camera system.
 - Continue efforts to obtain industry *in situ* data for remote sensing validation.
 - Publish remote sensing time series analysis paper.

Biodiversity Mapping

- Essentially completed the sorting and identification of almost all samples (including sponges).
- Essentially completed the estimations of biomass sub-sampling for hard & soft corals, and for sponges.
- Continued identification & taxonomy of sponges. Sponges were the most time-consuming due to their high abundance (they dominated the samples), extreme diversity and complex identification process. To complete by 30th June, remaining samples were identified macroscopically rather than microscopically.
- Accessed all data for coral reef biodiversity analysis.
- Continued transfer of sorting/identification data into database, and data checking.
- Planned work for the next quarter:
 - Complete coral reef biodiversity analysis.
 - Complete remaining identifications for a small number of samples.
 - Continue accessioning specimens into WAM collections.
 - Complete transfer of sorting/identification data into database, and data checking.
 - Proceed with full analyses to predict species and communities distributions, with all available data.

2. Coral Reef Health

- Conducted trips to Ningaloo and the Pilbara from March to May 2015 to establish and survey long term monitoring sites. Star pickets were used to mark 3 x 50 m transects at each of 16 sites and these transects were surveyed for fish (UVC and DOVs), benthos and invertebrates. Eight sites were not able to be done because of poor weather, strong currents and/or poor visibility.
- Entered all UVC data from the March 2015 and April 2015 field trips onto the Oracle database.
- Completed analysis of the photographic benthic transects from the October 2014 Montebello's COTS survey.
- Completed analysis of the photographic benthic transects from the November 2013 and May 2014 surveys and loaded the data onto the Oracle database.
- Completed stable isotope analyses on all algae, fish and seagrass samples collected in 2013-14.
- Completed analysis of *Drupella* grazing rates at Ningaloo.
- Completed analysis of coral recruitment tiles from Dampier Archipelago, an average of less than 10 recruits per tile was recorded.
- Ongoing discussion with DPAW in relation to connectivity projects and coral settlement tile deployment resulting in sharing of settlement tile deployment and collection across 44 sites between Coral Bay and Dampier.
- Conducted November field work for characterization of seasonal variability on Ningaloo reef flats (Bundegi and Mandu).
- Finalised the Oracle database for all PMCP reef fish and benthos, with all data entered and up to date
- Completed the macrophyte dataset from Pilbara November 2013 and May 2014 fieldtrip collections. Data on a range of environmental drivers that may shape macrophyte communities has been compiled. Analyses of spatial distribution of algae (abundance and diversity) and the influence of drivers are 80% complete.
- Began a manuscript detailing the macrophyte communities on Pilbara reefs – abundance, diversity, distribution and drivers.
- Planned work for the next quarter:
 - Conduct analysis of COTS outbreaks and feeding impacts at Montebello and Barrow Islands and complete drafts of two publications.

- Analyse regional coral and fish distribution patterns, and complete drafts of two publications.
- Finalise first draft of manuscript on macrophytes in the Pilbara.
- Prepare for field trip in October 2015.
- Update metadata records on iVEC/PUMA.

3. Fish and Sharks

- Students
 - Magen Shifiliti completed her Masters project which investigated the learning capability of sharks associating recreational fishing activities with food. The manuscript is in the final stages before submission.
 - Danielle Collins completed her honours project investigating whether footage collected by diver operated stereo-video surveys (stereo-DOVs) sampling fish can be used to measure habitat complexity. The main manuscript is now in the final stages before submission with a further 3 manuscripts in preparation.
 - Katherine Bennett completed her honours project investigating whether stereo-DOVs can be used to collect meaningful data on benthic coral reef communities. The manuscript is in the final stages before submission.
 - Jonathon Mitchell has commenced his PhD project following on from the findings in Magen's Master's project delving further into the question whether sharks are learning to associate recreational fishing vessels with food. Jon is now conducting a 3 week boat ramp survey to collect data on bite-offs from recreational fishermen.
- Outputs
 - Preparing the final stages of a peer-reviewed manuscript on fish abundance distribution and habitat associations across a dynamic biogeographic region.
 - Preparing the initial stages of a manuscript on the first assessment of a shallow network of no-take sanctuaries at the Montebello Islands.
- Field work
 - Undertook a region wide assessment of fish assemblages in April 2015 at PMCP long term monitoring sites using stereo-DOVs. 10 sites were sampled with 120 transects between Exmouth and Dampier.
 - Conducted a further region-wide assessment of fish assemblages in April 2015 at PMCP long term monitoring sites with stereo-BRUVs. 268 deployments were done between Exmouth and Dampier. Including DPaW LTM sites within the Dampier Archipelago.
 - Completed third seasonal dynamics surveys (UVC) at Mandu and Bundegi in April 2015, in conjunction with Coral Reef Health.
- Analysis
 - Completed video analysis of the Montebello Islands cross shelf stereo-BRUVs collected using free ship time from AIMS.
 - Completed video analysis inside and outside Montebellos.
 - Completed video analysis of shallow regions inside and outside Ningaloo.
 - Entered all UVC data into Oracle database.
- Planned work for the next quarter
 - Conduct herbivory assays using modified video technique (18th August to 7th September).
 - Sample the front and back of Ningaloo Reef in collaboration with DPaW (18th August to 7th September).
 - Sample both sides of the Exmouth gulf continuing out past the offshore islands to 60 m (18th August to 7th September).
 - Sample the shallows at Cape Preston combined with cross shelf transects out to 60 m depth (18th August to 7th September).
 - Ongoing video analysis and statistical analysis of results.
 - Preparation and submission of publications.

4. Management implications

- Coral recruitment recorded in the Dampier Archipelago was between 5 and 10 per tile, which is similar to or greater than the levels recorded at Ningaloo. This suggests recovery of corals from recent bleaching in the Dampier should not be unduly affected by lack of larval supply.
- Outbreak densities of COTS have been confirmed on reefs in the south-east of the Montebello Islands and around Barrow Island. These outbreaks will further reduce the already low coral cover and starfish are feeding on non-preferred slow growing corals. Recovery of such coral populations is far slower than for species such as *Acropora*. Three COTS were seen at Ningaloo this year, though not on transects. This level is still low but much higher than previously encountered.
- Density of indicator fish species at Ningaloo is steady but continues to be lower than historically recorded.

3.5. Planned activities 2015/16

The following ongoing milestones will be pursued:

- Milestone 3.7: is classified as ongoing because the full data sets required for analysis have only just been finalised.
- Milestones 3.10, 4:10: maintenance of the databases is an ongoing process that requires continuous updating and fine tuning as data continues to flow in from fieldwork activities.
- Milestones 4.3, 4.4, 4.5, 4.8: represent the field data collection component of the project and as such will be a continuation of the major goals of the program to document temporal variability in coral reef ecosystems of the Pilbara region
- Milestones 4.6, 4.7, 4.9: will involve analysis of spatial and temporal data sets to provide insights into ecological processes and the basis for regionally specific and appropriate management trigger points for coral reef ecosystems in the Pilbara and northern Ningaloo.
- Milestone 4.11: ongoing collaboration and consultation with DPAW partners will continue to be a key focus for PMCP.

The milestones foreseen for 2015/16 are summarized in Table 5 below.

Table 5: Summary of milestones foreseen for 2015/16, by project element

YEAR	MILESTONES	COMPLETION DATE	COMMENT
4.1	Preparation and submission of the 2014-2015 Annual Report to the Project Steering Committee, the State and the NCB Advisory Board (Outcome & Output 5).	31 August 2015	Underway
4.2	Annual revision of a Detailed Work Plan for 2015-2016 (section 10.4) (Outcome & Output 1).	31 May 2015	Completed
4.3	<i>Coral Reef Health</i> Continuation of annual assessments at candidate sites (Outcome & Output 2).	30 June 2016	
4.4	Continuation of ongoing assessments of recovery rates of coral and algae (Outcome & Output 2).	30 June 2016	
4.5	<i>Fish and shark assemblages</i> Completion of final region-wide assessments (Outcome & Output 2).	30 June 2016	
4.6	Refinement of the list of performance measures (Outcome & Output 2).	30 June 2016	
4.7	Refinement of condition indicators for fish and shark assemblage KPIs (Outcome & Output 2).	30 June 2016	
4.8	<i>Environmental Pressures</i> Continuation of environmental data collection and predictive trajectories of change (Outcome & Output 2).	30 June 2016	

YEAR	MILESTONES	COMPLETION DATE	COMMENT
4.9	Commencement of integrating environmental data and productivity with KPI assessments and experimental studies (Outcome & Output 2).	30 June 2016	
4.10	Refinement of database or finalisation of database and hand over to external partners (Outcome & Output 2).	30 June 2016	
4.11	Presentation of interim and annual updates to the Project Steering Committee and the NCB Advisory Board (section 10.5) including a half yearly progress update (Outcome & Output 4).	31 October 2015 31 January 2016 30 April 2016 31 July 2016	

4. Conclusion

A total of \$3,167,993 was expended against the Pilbara Marine Conservation Partnership Project for the period 1 July 2014 to 30 June 2015; including \$1,987,658 of NCB funds and \$1,180,335 of in-kind funds. This included a total of \$628,806 of NCB funds, and \$357,095 of CSIRO/UWA funds expended against the Pilbara Marine Conservation Partnership for the period 1 April 2015 to 30 June 2015.

Project implementation has focussed on field work. Cyclonic activity has impeded progress to some extent in the first months of 2015, however we anticipate being able to make up this shortfall in the coming year.

Biodiversity Mapping and Connectivity projects are both entering their final phase. The Environmental Drivers program has amassed a large amount of data for which analysis is now underway. Coral Health and Fish and Shark field work will continue in parallel with analysis of data already collected. Overall the project is advancing successfully. Analysis of data will be the focus for the next quarter.

Milestones are largely being achieved on schedule. Milestone 2.7 has been slowed by sample processing but this is now complete and final analysis and writing is underway.

In 2015/16, the focus will be on the continuation of sampling activities within all project entailing this kind of activity, and the storage and analysis of data collected. The PMCP should be well placed to participate in the planned WAMSI Pilbara Symposium in 2016.

Identified risks to milestone completion appear low level at this stage and mainly related to operational activities. The project has proved to be resilient in its ability to cope with unexpected weather and other issues, and the planning and execution of field activities in 2014/15 has demonstrated that we have processes and plans in place to ensure effective and reliable field data collection.

Appendix 1

Project Element	CSIRO Component		UWA Component		Total Project		Overall
	NCB Funding	In-Kind	NCB Funding	In-Kind	NCB Funding	In-Kind	
Coral Reef Health							
Salary & Overheads	1,292,506	1,160,636	149,987	266,275	1,442,493	1,426,911	2,869,404
Operating	622,225	558,742	728,938	-	1,351,163	558,742	1,909,905
Total	1,914,732	1,719,377	878,925	266,275	2,793,657	1,985,652	4,779,309
Fish and Sharks							
Salary & Overheads	270,151	242,589	149,988	808,668	420,139	1,051,257	1,471,396
Operating	21,918	19,682	1,529,870	-	1,551,788	19,682	1,571,470
Total	292,070	262,270	1,679,858	808,668	1,971,928	1,070,938	3,042,866
Environmental Pressures: Connectivity							
Salary & Overheads	437,351	392,729			437,351	392,729	830,080
Operating	10,538	9,462			10,538	9,462	20,000
Total	447,888	402,192			447,888	402,192	850,080
Environmental Pressures: Habitat and Biodiversity							
Salary & Overheads	953,835	856,517			953,835	856,517	1,810,352
Operating	166,125	149,175			166,125	149,175	315,300
Total	1,119,959	1,005,693			1,119,959	1,005,693	2,125,652
Environmental Pressures: Environmental Drivers							
Salary & Overheads			149,987	394,657	149,987	394,657	544,644
Operating			740,937	-	740,937	-	740,937
Total			890,924	394,657	890,924	394,657	1,285,581
TOTAL	3,774,649	3,389,532	3,449,707	1,469,600	7,224,356	4,859,132	12,083,488

Table 2: Summary of the Total Project Contributions by Year

	2012/13	2013/14	2014/15	2015/16	2016/17	Total
CSIRO Component						
NCB Funding	935,390	1,176,959	717,331	489,000	455,969	3,774,649
In-Kind	839,955	1,056,877	644,143	439,109	409,448	3,389,532
UWA Component						
NCB Funding	499,131	844,274	849,751	1,080,718	175,833	3,449,707
In-Kind	314,924	426,195	306,166	278,142	144,173	1,469,600
Total Project						
NCB Funding	1,434,521	2,021,233	1,567,082	1,569,718	631,802	7,224,356
In-Kind	1,154,879	1,483,072	950,309	717,251	553,621	4,859,132
Overall	2,589,400	3,504,305	2,517,391	2,286,969	1,185,423	12,083,488

Table 3: Summary of the Operating Account Activity - July 2012 to June 2014 (NCB Funding)

	Opening Balance	Income	Expenditure	Closing balance
July - December 2012		2,225,146	232,630	1,992,516
January - June 2013	1,992,516	-	418,460	1,574,057
July 2013 to June 2014	1,574,057	1,672,059	1,815,890	1,430,226
July 2014 to June 2015	1,430,226	773,411	1,987,658	215,979

Table 4: Summary of expenditure Life to Date

Item	Budget	Actual Expenditure 2012-13	Actual Expenditure 2013-14	Actual Expenditure 2014-15	Expenditure Balance
Overall Project Funding (NCB)	7,224,356	651,089	1,815,890	1,987,658	2,769,719
Overall Project Funding (in-kind)	4,859,132	843,502	1,318,720	1,180,335	1,516,575
12-13: 13-14 & 14-15 Funding NCB	5,022,836	651,089	1,815,890	1,987,658	568,199
12-13: 13-14 & 14-15 Funding In-	4,121,023	843,502	1,318,720	1,180,335	778,466

Table 5: Detailed NCB expenditure against PMCP Program 2012/13, by project element					
Project Element	NCB Budget 2012/13	NCB Expenditure 2012/13	Variance	Carry over to 2013/14	Comments
Coral Reef Health	414,983	152,747	262,236	262,236	
Fish and Sharks	309,020	62,209	246,811	246,811	
Environmental Pressures: Connectivity	175,815	125,888	49,927	49,927	
Environmental Pressures: Habitat and Biodiversity	405,797	306,966	98,832	98,832	
Environmental Pressures: Environmental Drivers	128,906	3,280	125,626	125,626	
TOTAL	1,434,521	651,089	783,432	783,432	

Table 6: Details of Partnership (CSIRO/UWA) In-kind expenditure against PMCP Program 2012/13, by project element					
Project Element	In-Kind Budget 2012/13	In-Kind Expenditure 2012/13	Variance	Carry over to 2013/14	Comments
Coral Reef Health	315,509	186,410	129,098	129,098	
Fish and Sharks	232,526	192,902	39,625	39,625	
Environmental Pressures: Connectivity	157,877	113,044	44,833	44,833	
Environmental Pressures: Habitat and Biodiversity	364,395	275,647	88,748	88,748	
Environmental Pressures: Environmental Drivers	84,572	75,500	9,072	9,072	
TOTAL	1,154,879	843,502	311,377	311,377	

Table 7: Detailed NCB expenditure against PMCP Program 2013/14, by project element					
Project Element	NCB Budget 2013/14	NCB Expenditure 2013/14	Variance	Carry over to 2014/15	Comments
Coral Reef Health	958,101	546,484	411,618	411,618	
Fish and Sharks	721,028	342,705	378,323	378,323	
Environmental Pressures: Connectivity	207,413	168,729	38,684	38,684	
Environmental Pressures: Habitat and Biodiversity	574,453	507,247	67,206	67,206	
Environmental Pressures: Environmental Drivers	343,669	250,725	92,944	92,944	
TOTAL	2,804,665	1,815,890	988,775	988,775	

Table 8: Details of Partnership (CSIRO/UWA) In-kind expenditure against PMCP Program 2013/14, by project element					
Project Element	In-Kind Budget 2013/14	In-Kind Expenditure 2013/14	Variance	Carry over to 2014/15	Comments
Coral Reef Health	638,029	412,812	225,217	225,217	
Fish and Sharks	330,799	221,735	109,065	109,065	
Environmental Pressures: Connectivity	186,252	151,514	34,737	34,737	
Environmental Pressures: Habitat and Biodiversity	515,843	455,494	60,349	60,349	
Environmental Pressures: Environmental Drivers	123,525	77,165	46,360	46,360	
TOTAL	1,794,449	1,318,720	475,728	475,728	

Project Element	NCB Budget 2014/15 Including 2013/14 CF	NCB Expenditure Apr - Jun 2015	NCB Expenditure YTD 2014/15	Balance of LTD Budget	Comments
Coral Reef Health	1,025,620	219,703	638,654	386,966	
Fish and Sharks	848,343	236,412	662,082	186,261	
Environmental Pressures: Connectivity	153,272	13,136	127,145	26,127	
Environmental Pressures: Habitat and Biodiversity	216,221	84,192	236,644	- 20,424	
Environmental Pressures: Environmental Drivers	312,401	75,364	323,132	- 10,731	
TOTAL	2,555,857	628,806	1,987,658	568,199	

Project Element	In-Kind Budget 2014/15 Including 2013/14 CF	In-Kind Expenditure Apr-Jun 2015	In-Kind Expenditure YTD 2014/15	Balance of LTD Budget	Comments
Coral Reef Health	637,635	187,004	474,602	163,033	
Fish and Sharks	328,028	62,974	300,180	27,848	
Environmental Pressures: Connectivity	137,634	11,796	114,173	23,461	
Environmental Pressures: Habitat and Biodiversity	194,160	75,602	212,500	- 18,340	
Environmental Pressures: Environmental Drivers	128,580	19,720	78,880	49,700	
TOTAL	1,426,038	357,095	1,180,335	245,703	