

LONG-TERM MONITORING PROGRAM IN THE MONTEBELLO/BARROW ISLANDS MARINE PROTECTED AREAS

SCOPING FIELD TRIP: 8-11 August 2006

Field Program Report: PIO/MBI-2006/01

A collaborative project between the Department of Environment and Conservation
and the Department of Fisheries

Prepared by
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August 2006



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This report may be cited as:

Bancroft, K.P., Simpson, C.J. and Long S. (2006). Long-term monitoring program in the Montebello/Barrow Islands marine protected areas. Scoping field trip: 8-11 August 2006. Field Program Report: PIO/MBI-2006/01. Marine Science Program, Department of Environment and Conservation, Perth, Western Australia (unpublished report)

1 Introduction

The Montebello/Barrow Islands marine protected areas were gazetted in 2005 and are vested in the Marine Parks and Reserves Authority (MPRA). The WA Department of Environment and Conservation (DEC), in collaboration with the Department of Fisheries (DoF), are responsible for the progressive implementation of the reserves' management plan on behalf of the MPRA.

The Department of Environment and Conservation's Marine Science Program, in collaboration with the Pilbara Region, is establishing a long-term monitoring program in the Montebello/Barrow Islands marine protected areas; the Montebello/Barrow Islands MPA Long-Term Monitoring Program (MBILTMP). This program is a requirement of the management plan and will, ultimately, provide time-series data on the condition and pressures on the natural and social attributes of the reserves and the effectiveness of management actions. This information is vital for the conservation and maintenance of the ecological and social values of the reserves and the management of human use of the area. The 2006/07 component of the MBILTMP is focussing on the establishment of permanent monitoring sites within the major benthic communities.

Although major field exercises are currently being planned for late 2006 and 2007, an opportunity arose at very short notice, to undertake a 4-day field trip as part of a joint DEC/DoF field operation. The DoF vessel *PV Walcott* is scheduled to undertake a routine patrol of this area and provides an excellent and cost-effective opportunity to assess the logistical and technical/scientific issues relating to the MBILTMP. Strict quarantine protocols are in place for Barrow Island and extend out to 500 m offshore. It is not intended to enter this zone during this trip.

This field report briefly outlines the rationale, objectives, preliminary work program and expected outputs for the 8-11 August field trip.

2 Objectives

The overall goal of the field trip is to assess the logistical and technical/scientific issues relating to the establishment of a long-term benthic community monitoring program (LTBCMP) in the Montebello/Barrow Islands MPAs. The specific objectives are to:

- Assess the logistical (access, safety etc) constraints in establishing long-term benthic community monitoring sites throughout the MPA in all benthic community habitats (see ecol values list in MPA mgt plan);
- Assess the existing DEC facility on Hermite Island, pearling and tourism accommodation facilities as a base for future field work;
- Trial new marine photographic/benthic community survey equipment;
- Trial field monitoring methods to assist program planning for the LTBCMP, particularly the relocation of sites issue;
- Identify preliminary list of monitoring sites for the LTBCMP;

- Undertake opportunistic collection of benthic habitat data and u/w video of representative benthic communities and sites of particular interest;
- and, if time permits, establish some long-term monitoring sites (acknowledging that MPA monitoring sites need to consider and be integrated with existing and proposed monitoring programs of the industries operating in the area (principally petroleum and pearling) .

3 Outputs

The outputs of the field trip will include:

- An assessment of the logistical (incl. the potential utility of existing infrastructure as future field bases) and technical/scientific constraints relating to the establishing the MBLTMP;
- An assessment of the utility of the equipment and proposed methodologies;
- A preliminary list of monitoring sites;
- Data on benthic communities and human use;
- Video and still photography of natural and human use attributes of the reserves; and (possibly)
- The establishment of several monitoring sites.

4 Personnel

DEC

Due to the short-notice and the coincident timing of a DEC Pilbara Region meeting in Karratha, regional DEC staff are not able to participate in the field exercise with Marine Science Program staff, as would normally be the case.

Dr Chris Simpson (CSI), Program Leader, Marine Science Program
Kevin Bancroft (KBA), Research Scientist, Marine Science Program
Dr Suzanne Long (SLO), Research Scientist, Marine Science Program
Shannon Armstrong (SAR), Research Scientist, Marine Science Program

DoF

Keith Saunders, Steve Rogers and crew of PV Walcott

5 Responsibilities

DEC

Project Leader: Kevin Bancroft
Diving Co-ordination: Kevin Bancroft
Scientific Co-ordination: Suzanne Long
Field Support: Shannon Armstrong, Chris Simpson.

DoF

Boating operations: Steve Rogers, Skipper, *PV Walcott*
Diving operations: Keith Saunders

6 Field Schedule (preliminary)

The field schedule is preliminary only and will accommodate the requirements of the DoF operations as well as considering, on a day to day basis, the local metocean conditions of winds, waves and tides.

DATE	ACTIVITY
Monday 7 August 2006	<ul style="list-style-type: none"> CSI, SLO, KBA and SAR fly Perth (0950 hrs) to Exmouth (1235 hrs) Met by Alan Kendrick at airport. Pick up equipment from Toll Exmouth (Murat St) Transfer all equipment to <i>PV Walcott</i>, which is berthed in the Exmouth marina Dinner with Jennie Cary, Roland Mau and Alan Kendrick. Overnight on board in marina.
Tuesday 8 August 2006	<ul style="list-style-type: none"> Steam to MBIMCR (3-4 hours). Determine order of site visitation based on prevailing and predicted weather conditions, proximity of safe anchorage, and advice from Fisheries crew. Arrive at first site. Exploratory snorkel, followed by SCUBA-based trial of survey methodology.
Wednesday 9 August 2006	<ul style="list-style-type: none"> Identification of potential long-term monitoring sites Possibly undertake benthic habitat verification and/or establish long term benthic monitoring sites
Thursday 10 August 2006	<ul style="list-style-type: none"> Identification of potential long-term monitoring sites Possibly undertake benthic habitat verification and/or establish long term benthic monitoring sites
Friday 11 August 2006	<ul style="list-style-type: none"> Check out DEC facility on Hermite Island. Around midday, steam to Exmouth (3-4 hours). Overnight on board in marina.
Saturday 12 August 2006	<ul style="list-style-type: none"> Pack equipment for return journey KBA, SLO, SAR and CSI fly Exmouth (1355 hrs) to Perth (1710 hrs).

7 Predicted ocean conditions

The predicted swell, wind and tidal conditions are shown in attachment 1. The swell is approximately 2 m on Monday and slowly increasing to 3 m on Friday. The average wind speed is predicted to increase from 3-5 knots on Monday to 9 knots on Friday and will swing from an easterly to a southerly. Spring tides will occur around the 11-12 of August. The tidal range will be 1.5 m on Monday and will increase to about 3 m on Friday. See attachment 2- tidal range graphic from Seafarer's Tides CD.

Most of the in-water tasks will be undertaken on Monday, Tuesday and Wednesday as the most extreme wave, wind and tide conditions occur on Thursday and Friday.

8 Preliminary Sites

The following locations of interest have been selected *a priori* and are only preliminary:

1. Dugong Reef:
2. Dugong Shelf:
3. Lowendal Shelf:
4. Southwest Reef and North West Reef; and
5. Stephenson Channel mangrove communities within the Montebello Islands.

9 DEC Budget

Item		Salary	Operations
Salary	KBA (6d @ \$341)	2046	
	CSI (6d @ \$500)	3000	
	SLO (6d @ \$304)	1824	
	SAR (6d @ \$222)	1330	
Vessel	<i>RV Walcott</i>		'in kind' from DoF
Victualling	4 Staff (6 d @ \$46.24/head)		1110
Airfares	4 return flights (approx)		3090
Hire car	2d		200
Misc expenses	(misc meals & sundries)		500
Equipment	Still Cameras (6d @ \$100)		600
	Video cameras 2 of 6d @ \$100		1200
	MiniDV video tapes (20 @ \$25)		500
	Misc items		500
	Dive BC & Regs		300
	Tank & fills		'in kind' from DoF
Freight	(two ways)		600
TOTAL		\$8,180	\$8,600

10 Contact details

PV Walcott 0428 940 018 (CDMA)

Steve Rogers (PV Walcott skipper) srogers@fish.wa.gov.au ashore 0419 049 379, on board 0428 940 018

Andy Walker (Fisheries Perth) 9432 8002

Keith Saunders (Senior Fisheries Officer, Karratha) ksaunders@fish.wa.gov.au office 91444 337, mobile 0429 088 210

Rod O'Halloran (Pearling Officer, Karratha) 9193 8630

Jennie Cary 0428 492 604

Roland Mau 0427 171 121

Chris Simpson CDMA 0419964766




Kevin Bancroft CDMA 0429360102













11 Report Distribution

- Dr Neil Burrows, Director, DEC Science Division
- Dr Chris Simpson, Program Leader, Marine Science Program
- Ian Walker, Regional Manager, Pilbara Region
- Jennie Cary, District Manager, Exmouth District
- Alan Kendrick, Regional Marine Ecologist, Pilbara Region
- Peter Dans, Acting Manager Marine Policy and Planning Branch
- Andrew Costen, Senior Marine Conservation Officer (Assessments), Environmental Management Branch
- Steve Rogers, Skipper, *PV Walcott*, Department of Fisheries
- Keith Saunders, Senior Fisheries Officer, Department of Fisheries

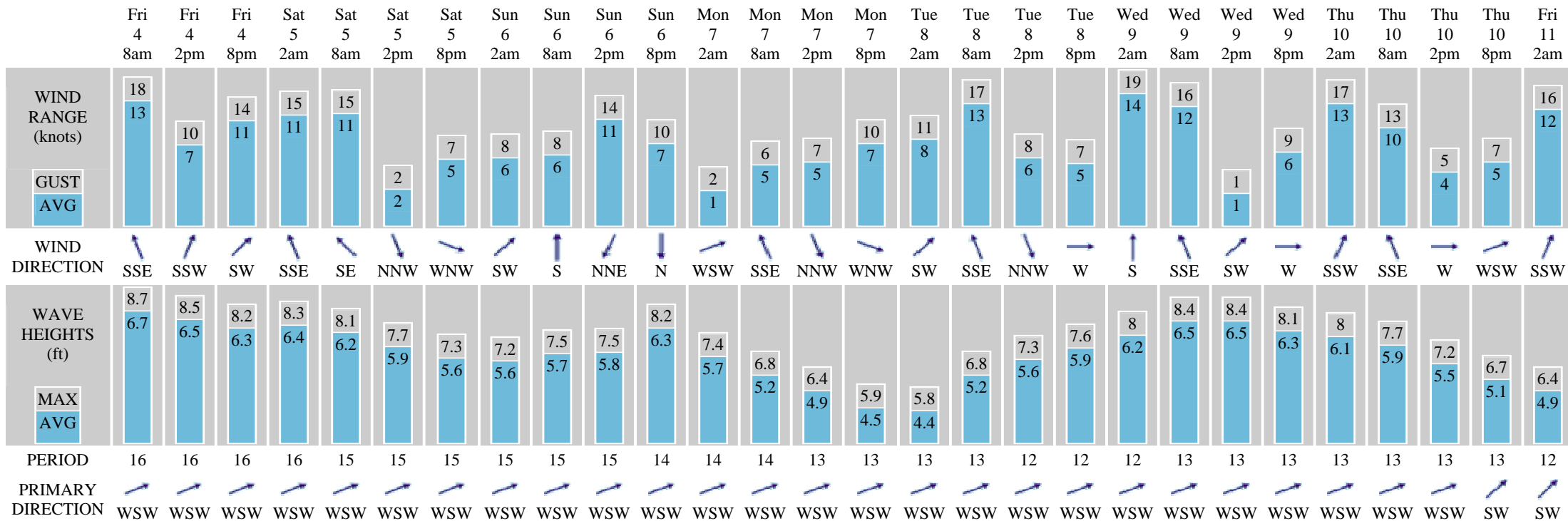
Appendix I

BUOYWEATHER.COM
Virtual Buoy for 21.0° S / 115.0° E
Model Cycle: 2006 AUG 03 18Z
Time Zone: GMT + 8 Hours

-  Conditions suitable for most marine activities
-  Caution. Small Craft Advisory
-  Hazardous Conditions. Use Extreme Caution

Friday 8/4	Saturday 8/5	Sunday 8/6
<p><u>Morning</u> </p> <p>Breezy whitecapping conditions with moderate choppy seas. Moderate long period swell. Winds: SSE 13 to 18 knots Seas: WSW 7 feet at 16 sec.</p> <p><u>Afternoon</u> </p> <p>Light winds with a slight chop. Moderate long period swell. Winds: SSW 7 to 10 knots Seas: WSW 7 feet at 16 sec.</p>	<p><u>Morning</u> </p> <p>Breezy whitecapping conditions with moderate choppy seas. Moderate long period swell. Winds: SE 11 to 15 knots Seas: WSW 6 feet at 15 sec.</p> <p><u>Afternoon</u> </p> <p>Light and variable winds with smooth seas. Small long period swell. Winds: NNW 2 to 2 knots Seas: WSW 6 feet at 15 sec.</p>	<p><u>Morning</u> </p> <p>Light winds with a slight chop. Small long period swell. Winds: S 6 to 8 knots Seas: WSW 6 feet at 15 sec.</p> <p><u>Afternoon</u> </p> <p>Breezy whitecapping conditions with moderate choppy seas. Small long period swell. Winds: NNE 11 to 14 knots Seas: WSW 6 feet at 15 sec.</p>
Monday 8/7	Tuesday 8/8	Wednesday 8/9
<p><u>Morning</u> </p> <p>Light and variable winds with smooth seas. Small long period swell. Winds: SSE 5 to 6 knots Seas: WSW 5 feet at 14 sec.</p> <p><u>Afternoon</u> </p> <p>Light and variable winds with smooth seas. Small long period swell. Winds: NNW 5 to 7 knots Seas: WSW 5 feet at 13 sec.</p>	<p><u>Morning</u> </p> <p>Breezy whitecapping conditions with moderate choppy seas. Small long period swell. Winds: SSE 13 to 17 knots Seas: WSW 5 feet at 13 sec.</p> <p><u>Afternoon</u> </p> <p>Light and variable winds with smooth seas. Small long period swell. Winds: NNW 6 to 8 knots Seas: WSW 6 feet at 12 sec.</p>	<p><u>Morning</u> </p> <p>Breezy whitecapping conditions with moderate choppy seas. Moderate long period swell. Winds: SSE 12 to 16 knots Seas: WSW 6 feet at 13 sec.</p> <p><u>Afternoon</u> </p> <p>Light and variable winds with smooth seas. Moderate long period swell. Winds: SW 1 to 1 knots Seas: WSW 6 feet at 13 sec.</p>

7 DAY FORECAST PLOT



Appendix II