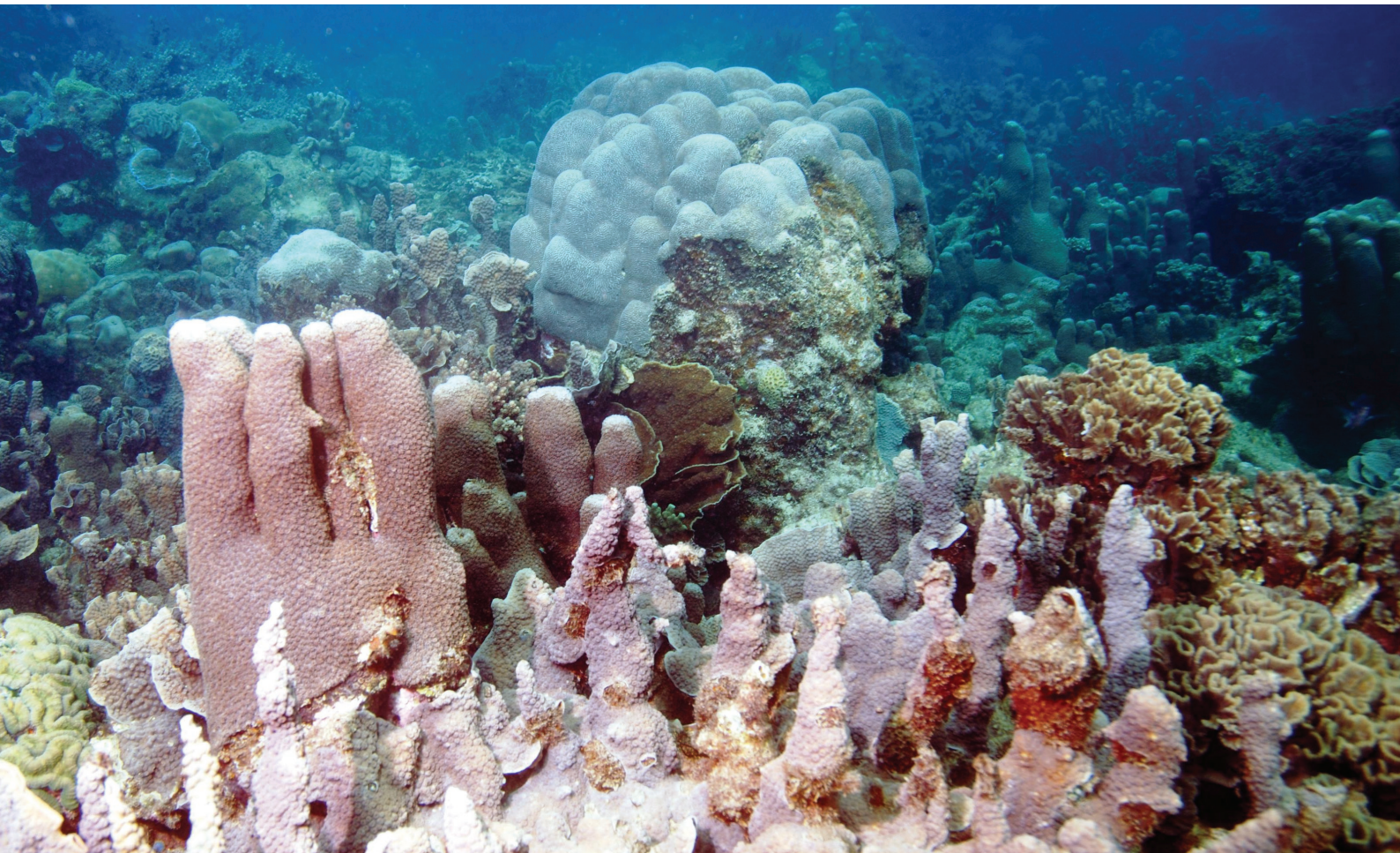
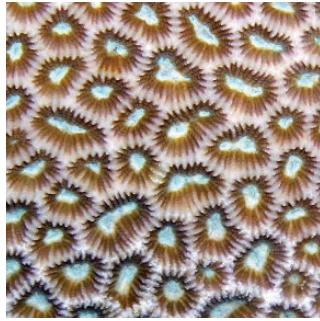


# Establishing long-term coral community monitoring sites in the Montebello/Barrow Islands marine protected areas: Data collected in December 2006

## Marine Science Program Data Report Series MSPDR4 January 2009

Kevin P Bancroft  
Marine Science Program, Science Division





# **Establishing long-term coral community monitoring sites in the Montebello/Barrow Islands marine protected areas: Data collected in December 2006**

Marine Science Program Data Report Series  
MSPDR4 January 2009

Kevin P Bancroft

Marine Science Program  
Science Division  
Department of Environment and Conservation



Department of  
**Environment and Conservation**

*Our environment, our future* 

**ISSN 1836-5809 (Print) 1836-5817 (Online)**

**This report may be cited as:**

Bancroft, K.P. (2009). Establishing long-term coral community monitoring sites in the Montebello/Barrow Islands marine protected areas: data collected in December 2006. Marine Science Program Data Report Series MSPDR4. January 2009. Marine Science Program, Science Division, Department of Environment and Conservation, Perth, Western Australia. 68p.

---

**Cover photographs:** (small images, L to R) *Rhizophora stylosa* mangal; Faviidae massive coral; Typical Montebello Islands wave cut limestone shoreline; Acroporid reef flat at Wonnich Reef; and (large image) Dugong Reef: highly diverse and abundant in corals. Photos - Department of Environment and Conservation/ Marine Science Program.

## SUMMARY

In December 2006, a field survey was undertaken to establish long-term coral monitoring sites in the Montebello/Barrow Islands marine protected areas (MBIMPA) which comprise the Montebello Island Marine Park, Barrow Island Marine Park (BIMP) and the Barrow Island Marine Management Area (BIMMA).

A baseline of 26 coral community monitoring sites was established for long-term monitoring surveys. In determining where the long-term coral community monitoring sites should be situated, marine ecological community ground-truth data was collected at 637 sites. At some of these sites the substrate was recorded using an underwater drop-down video system.

Video footage of the benthos was recorded along transects at each of the 26 sites and resource and physical data were harvested using AIMS AVTAS protocols. Data on relative finfish diversity and abundance, coral predators and other key invertebrates were also collected at these sites.

This report provides:

1. the context, objectives and methods of the survey;
2. metadata and hard copy archive records of the data; and
3. directions to future researchers or managers as to the storage locations of data, video and images in both hard and digital forms (where applicable).



## TABLE OF CONTENTS

<b>SUMMARY</b> .....	<b>I</b>
<b>TABLE OF CONTENTS</b> .....	<b>II</b>
<b>LIST OF FIGURES</b> .....	<b>III</b>
<b>LIST OF TABLES</b> .....	<b>III</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
<b>2 OBJECTIVES</b> .....	<b>2</b>
<b>3 MATERIALS AND METHODS</b> .....	<b>3</b>
3.1 BENTHOS .....	3
3.2 FINFISH.....	4
3.3 CORAL PREDATORS.....	5
3.4 BENTHIC HABITAT OBSERVATIONS .....	5
<b>4 RESULTS</b> .....	<b>5</b>
4.1 LONG-TERM CORAL COMMUNITY MONITORING.....	5
4.2 FINFISH DATA.....	6
4.3 CORAL PREDATOR DATA .....	6
4.4 MARINE ECOLOGICAL COMMUNITY DATA .....	7
<b>5 DATA MANAGEMENT</b> .....	<b>9</b>
5.1 CORAL COMMUNITY MONITORING DATA.....	9
5.2 FINFISH DATA.....	9
5.3 CORAL PREDATOR DATA .....	9
5.4 MARINE ECOLOGICAL COMMUNITY DATA .....	9
5.5 DIGITAL VIDEO RECORDS .....	9
5.6 STILL IMAGES.....	10
5.7 REPORT ARCHIVAL.....	10
<b>ACKNOWLEDGEMENTS</b> .....	<b>10</b>
<b>6 REFERENCES</b> .....	<b>11</b>
<b>7 APPENDICES</b> .....	<b>13</b>
APPENDIX 1. VISUAL FINFISH CENSUS DATA .....	14
APPENDIX 2. CORAL PREDATOR AND OTHER INVERTEBRATE DATA.....	17
APPENDIX 3. MARINE ECOLOGICAL COMMUNITIES DATA .....	21

## LIST OF FIGURES

Figure 1. Locality map: The Montebello/Barrow islands marine protected areas. ....	1
Figure 2. Long-term coral community monitoring sites established in the Montebello/Barrow Islands marine protected areas during December 2006. ....	6
Figure 3. Marine ecological community ground-truth sites surveyed in the Montebello/Barrow Islands marine protected areas during December 2006. ....	8

## LIST OF TABLES

Table 1. Coordinates for long-term coral community monitoring sites that were established in the Montebello/Barrow islands marine protected areas in December 2006 (datum GDA94). ....	7
--	---





# 1 INTRODUCTION

The Montebello/Barrow Islands marine protected areas (MBIMPA), incorporating the Montebello Islands Marine Park, Barrow Island Marine Park and the Barrow Island Marine Management Area (Figure 1), are located off the Pilbara coast in northwest Western Australia. The MBIMPA is approximately 1,600 km north of Perth and covers an area of approximately 2,100 km<sup>2</sup>. The Montebello Islands is a complex archipelago of 265 low lying islands and islets, composed of limestone and sandstone. The coastlines of the islands are generally convoluted and the islands are dominated by lagoons, channels, intertidal embayments, barrier and fringing reefs, and undercut shoreline reef platforms. Some of the islands are capped with vegetated sand dunes, however most are bare rock. The Lowendal Islands consist of over 40 limestone islands and islets which are mainly bare, however several are covered with dunes of white sand. Barrow Island complex includes Barrow Island, the largest island in the MBIMPA, and nine other smaller islands (Osborne et al. 2000).

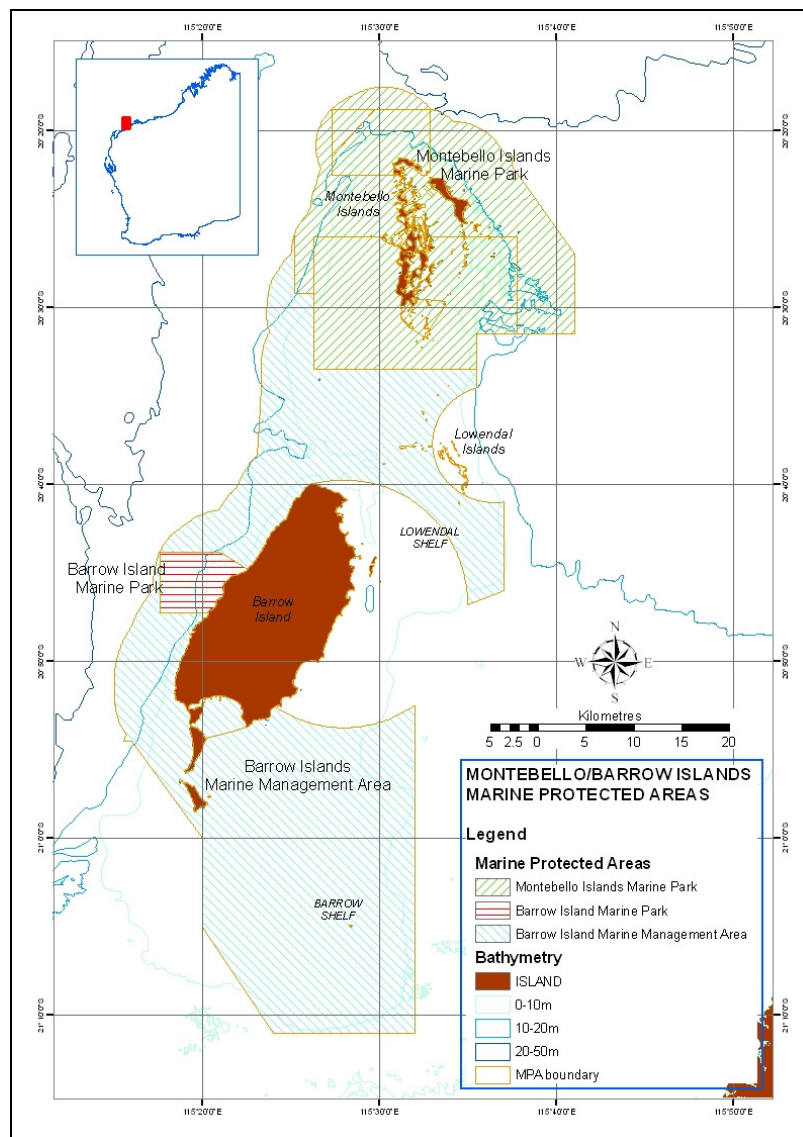


Figure 1. Locality map: The Montebello/Barrow islands marine protected areas.

The marine flora and fauna of the MBIMPA are predominantly tropical. Recent oceanographic modelling (Connle) undertaken by the CSIRO (Condie et al. 2006; Condie et al. 2005) suggests the MBIMPA may have biological connectivity to tropical coral reefs on the mainland and to the north. The MBIMPA may be a source of larval recruitment for coral reefs further south such as the Pilbara inshore islands, Muiron Islands and Ningaloo reef (Bancroft & Long 2008), transported by the polar flowing, relatively low salinity and warmer waters of the Leeuwin Current. Macroalgae-dominated limestone reef and subtidal reef/sand are the dominant benthic habitats, however coral reef, mangrove and sand are also major habitat types at the MBIMPA (Department of Environment and Conservation 2007).

The MBIMPA 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), is responsible for the progressive implementation of the MBIMPAs' management plan (Department of Environment and Conservation 2007) on behalf of the MPRA.

DEC's Marine Science Program, in collaboration with DEC's Pilbara Region, is establishing a comprehensive long-term monitoring program in the MBIMPA. Monitoring programs are a requirement stated in all WA marine protected area management plans and will, ultimately, provide long-term time-series data on the condition of and pressure(s) on the ecological values/assets of the marine protected areas (MPAs) and the effectiveness of management actions to ameliorate these pressures. Key Performance Indicators such as coral reef communities, have been identified (Department of Environment and Conservation 2007) and are regarded as the highest monitoring priority.

Significant oil and gas production facilities have operated for over two decades within and immediately outside the boundaries of the MBIMPA (Department of Environment and Conservation 2007). Currently, there is a major gas development proposal for Barrow Island which involves a gas condensate plant, power generation plant, desalination plant, >4 km loading jetty and associated infrastructure and a 18-20 month dredging program (Chevron Australia Pty Ltd 2005a; 2005b; 2005c). The companies involved have undertaken significant research and compliance monitoring programs over this period and have extensive time series data of great scientific value (Chevron Australia Pty Ltd 2005d; 2005e; Cohen 2002; Nielsen 2001; Ryan 2006). These data will be used, with appropriate permission, to complement data gathered in DEC marine monitoring programs.

A scoping field trip was undertaken in August 2006 by the Marine Science Program to identify possible monitoring sites for key benthic communities, particularly coral reef communities at the MBIMPA (Bancroft *et al.* 2006). In December 2006, a survey was undertaken to implement the first phase of a multi-year program to establish a comprehensive suite of long-term monitoring sites in the MBIMPA and focussed on establishing sites within representative coral reef communities on the northern and eastern coral reefs. Future surveys will complete the spatial coverage of the coral reef component of the monitoring program (on the south, southwest and western reefs) and also establish monitoring for other key performance indicators of management (e.g. macroalgae and seagrass communities, mangroves, water quality, turtles, and dugong).

This report provides: the context, objectives and methods of the survey; hard copy archival of the data; and metadata to direct future researchers or managers to the storage location of data, video and images in both hard and digital forms (where applicable).

## 2 OBJECTIVES

The primary objectives of the December 2006 survey were: (i) to select representative sites in coral reef communities on the northern and eastern sectors of the MPAs for future long-term monitoring of benthos, (ii) to select impact monitoring sites in areas of existing/future human activity; (iii) to establish a baseline of benthic habitat information for future comparisons at these reference and impact sites, (iv) to assist in the selection of future finfish monitoring sites by determining the relative abundance of selected finfish groups/species, and (v) to determine the relative abundance of two common coral predators, the crown-of-thorns starfish (*Acanthaster planci*) and the corallivorous gastropods, *Drupella cornus* and *D. rugosa*, and their impact on coral communities.

Secondary objectives were (i) to determine the nature and extent of coral reef communities on the seaward reef slopes of the barrier/fringing reefs of the Montebello Islands Marine Park; (ii) to collect further marine habitat ground-truthing data; and (iii) to obtain still and video footage of benthic communities at representative sites to assist with future education and marine science communication programs.

### 3 MATERIALS AND METHODS

The field and analytical methods used for the benthic component of this survey (i.e. the primary objective) are largely standard monitoring protocols developed by the Australian Institute of Marine Science (AIMS) for tropical coastal ecosystems (Page *et al.* 2001). The methods used to estimate the relative abundance and distribution of finfish and coral predators were modified methods to provide preliminary semi-quantitative data to assist the design of future quantitative monitoring programs that will be established for these fauna in the future. The locations of the monitoring sites and methodologies were mostly selected to be complementary to existing and proposed industry monitoring sites.

#### 3.1 Benthos

Permanent monitoring sites were established with the objective of developing a better understanding of the effect of natural and human influences on the coral reef communities of the MPAs. Although most sites were established to assess the nature, extent and causes of natural variability within these reef communities, several sites were located in areas of future human impact and or/complement existing industry monitoring sites.

Sites were located randomly within two types of representative sub-tidal (depth range between 2-9 m below chart datum) coral reef habitat:

- 1) 'typical' coral reef habitat (C-sites): significant live coral cover (>20% live hard coral cover) and large enough to accommodate the 'transect' methods; and
- 2) *Porites* 'bommie' habitat (P-sites): large (>5 m diameter), distinctly separate (up to 200 m apart) living *Porites* 'bommies' randomly selected at each site.

Both types of sites were located, where possible, in areas not exposed to long-period swell and cyclonic waves to minimise the possibility of mechanical damage from these natural events (i.e. to distinguish anthropogenic effects from natural effects). To facilitate diver access, sites were selected in areas where tidal currents during spring tides were less than approximately  $0.5 \text{ m s}^{-1}$  and where water depths were less than 10 m.

At C-sites, three replicate 50 m fibreglass tape transects were positioned, using a diver wrist compass, either in parallel (~20 m apart) or in series (~10 m apart). At P-sites, transects were positioned north-south (from the most northern point) and east-west (from the most eastern point) across the surface of three *Porites* individual 'bommies' at each of seven sites. The latitude and longitude (Datum GDA94) was recorded at one end of each C-site transect and at the intersection of the two transects on each *Porites* 'bommie' at the P-sites (Garmin GPSMap models 76 and 76CSx to resolution of 0.0001 of a degree).

Video data of the benthos was collected according to the standard operational procedure developed by AIMS (Page *et al.* 2001). A brief summary is outlined below. At each C-site a diver, using a high definition, digital video camera and a clapperboard, recorded site details:

- date;
- location; and
- transect number.

At both C-sites and P-sites the diver then proceeded slowly along a transect with the camera held about 50 cm above the benthos and to the right of the transect line ensuring that the tape was inside the field of view. A 360° panoramic view of the surrounding benthos was recorded at the beginning and end of each transect. At each P-site site, this differed slightly, as the diver recorded a panorama

by swimming around the 'bommie' recording its morphology. An average transect took about six minutes to complete.

The AIMS Video Transect Analysis System (AVTAS) method was used to analyse the video record of each transect (Page *et al.* 2001) and is described briefly below. At the C-sites, the video records are sampled by identifying the benthos occurring at 200 fixed points along each 50 m transect. A range of 70 to 210 data points, with an average of 120, were sampled on P-site transects (average length of all transects was 11.8 m). The data were saved to a Microsoft Access® database titled MBI\_COR\_200707 (see Section 5.1: Coral community monitoring data).

For each transect the percentage composition for the following benthic groups was recorded:

- total live hard coral;
- Acroporidae;
- Pocilloporidae;
- Faviidae;
- Poritidae;
- Fungiidae;
- 'other' live hard coral;
- bleached hard coral;
- recently dead hard coral;
- live soft coral;
- macroalgae;
- rubble/turf algae;
- rubble/coralline algae;
- reef/turf algae;
- reef/coralline algae;
- sponge;
- living unidentified;
- sand; and
- indeterminate.

## 3.2 Finfish

To assess the suitability of coral sites for future long-term monitoring of 'finfish' a number of selected functional finfish groups and iconic species were counted by visual census at 'coral' monitoring sites. The methodology used was based on the standard operational procedure developed by AIMS (Halford & Thompson 1996) and is briefly described. At each C-site, the numbers of finfish were counted (up to 100 then >100) and recorded by a diver on three, 50 m by 5 m belt transects. At P-sites the same count was made within the area bounded by a distance of 2.5 m from the base and surface of three *Porites* 'bommies'. Finfish assessments were made before benthic community transects to avoid unnecessary disturbance to the fish communities.

The abundance of the following finfish groups/species were recorded at each site:

Major species targeted by recreational fishers:

- lutjanids (snappers);
- lethrinids (emperors);
- serranids (particularly coral trouts mostly of the *Plectropomus* genus);
- small cods (mostly *Epinephelus* and *Cephalopholis* species); and
- tuskfish (*Choerodon* spp.).

Large iconic species of interest to the marine nature-based tourism industry:

- *Epinephelus tukula* (potato cod);
- *Cheilinus undulatus* (maori wrasse);
- carangids (trevally);
- scombrids (mackerel); and
- sharks species.

### 3.3 Coral predators

The abundance of two common coral predators, *Acanthaster planci* (crown-of-thorns starfish) and the corallivorous gastropods, *Drupella cornus* and *D. rugosa*, were recorded on the finfish transects described above. The total number and maximum diameter of each *A. planci* was recorded at all sites. *Drupella* often occur in large aggregations of up to tens to hundreds of individuals and a significant proportion of the aggregations are cryptic.

To obtain a relative estimate of the population at each site, the number and relative size of non-cryptic aggregations, rather than individuals, were recorded. Aggregation size was categorised as small (1-4 individuals), medium (5-10), and large (>10). Observations of the presence or absence of the corallivorous sea stars, *Culcita* spp., were also recorded.

### 3.4 Benthic habitat observations

Benthic habitat observations were made using either a bathyscope, drop-down video camera or by diver. Data recorded at each site included:

- site details;
- date;
- method of observation,;
- substrate type;
- depth;
- description of the biological assemblage;
- habitat classification (see below); and
- cover of the dominant biological assemblage.

The habitats were classified to a functional group classes:

- Coral reef (Acroporidae);
- Coral reef (Pocilloporidae);
- Coral reef (Faviidae);
- Coral reef (Poritidae);
- Coral reef (mixed);
- recently dead hard coral;
- Soft coral (Alcyoniidae);
- Macroalgae (Phaeophytes);
- Rubble/turf algae;
- Rubble/coralline algae;
- Reef/turf algae;
- Reef/coralline algae;
- Filter feeders (Sponges);
- Silt; and
- Sand.

## 4 RESULTS

### 4.1 Long-term coral community monitoring

A total of 26 long-term coral community monitoring sites were established in the Montebello/Barrow Islands marine protected area during the December 2006 survey (Figure 2). Site coordinates are presented in Table 1. Benthic diversity and abundance data analysed from transect video footage was entered into an access database (see Section 5.1: Coral community monitoring data). Transect videography was archived appropriately after community data had been noted (see Section 5.5: Digital video records).

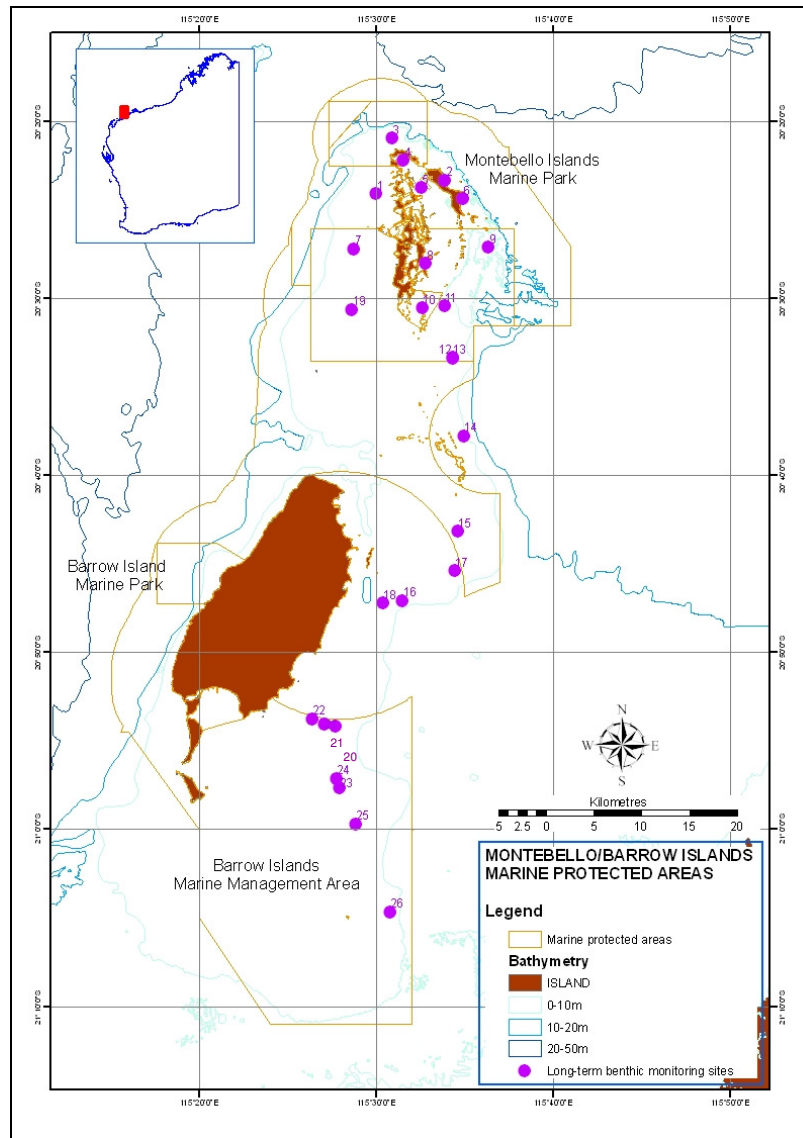


Figure 2. Long-term coral community monitoring sites established in the Montebello/Barrow Islands marine protected areas during December 2006.

## 4.2 Finfish data

A qualitative census of selected finfish was undertaken at each long-term coral community monitoring site. All raw data for each site are presented in Appendix 1.

## 4.3 Coral predator data

Data were collected on the two common coral predators, *Acanthaster planci* (crown-of-thorns starfish) and the corallivorous gastropods, *Drupella* spp., and other key invertebrates at each long-term coral community monitoring site. The raw data for each site are presented in Appendix 2.

**Table 1. Coordinates for long-term coral community monitoring sites that were established in the Montebello/Barrow islands marine protected areas in December 2006 (datum GDA94).**

INFIELD_No	LOCALITY	DATE ESTABLISHED	TYPE	LATITUDE (decimal deg)	LONGITUDE (decimal deg)	NORTHINGS (UTM zone 50)	EASTINGS (UTM zone 50)
MBI/COR_001	West of Bluebell Island	09/12/2006	C-Site	-20.40067	115.50033	7743465.547	343513.798
MBI/COR_002	Pitt Pt, Trimouille Is	09/12/2006	C-Site	-20.38766	115.56458	7744965.524	350206.617
MBI/COR_003	North West Island	10/12/2006	C-Site	-20.34823	115.51480	7749284.007	344971.562
MBI/COR_004	North Bunsen Channel	10/12/2006	C-Site	-20.36917	115.52550	7746976.141	346109.397
MBI/COR_005	Sack Bay, North West Is	10/12/2006	C-Site	-20.39511	115.54249	7744120.585	347908.347
MBI/COR_006	Benedictine Bay, Trimouille Is	11/12/2006	C-Site	-20.40551	115.58152	7743005.036	351991.721
MBI/COR_007	Southern end of West Reef	11/12/2006	C-Site	-20.45257	115.47876	7737699.780	341315.880
MBI/COR_008	Stephenson Channel	11/12/2006	C-Site	-20.46659	115.54704	7736212.488	348453.276
MBI/COR_009	Shoals south of Karangi Is	12/12/2006	C-Site	-20.45122	115.60559	7737966.882	354546.623
MBI/COR_010	Ah Chong Channel	13/12/2006	C-Site	-20.50830	115.54352	7731592.208	348127.160
MBI/COR_011	West of Ah Chong Is	14/12/2006	C-Site	-20.55521	115.57220	7726425.990	351163.603
MBI/COR_012	Shelf slope east of Black Rk	14/12/2006	C-Site	-20.55560	115.57201	7726382.646	351144.172
MBI/COR_013	Shelf slope east of Black Rk	15/12/2006	P-Site	-20.62865	115.58306	7718306.557	352366.567
MBI/COR_014	Shelf slope NE of Bridled Is	15/12/2006	P-Site	-20.71895	115.57733	7708305.646	351857.099
MBI/COR_015	Shelf slope S of Varanus Is	15/12/2006	P-Site	-20.78418	115.52524	7701036.330	346497.936
MBI/COR_016	South Lowendal Shelf	16/12/2006	P-Site	-20.75590	115.57408	7704212.481	351554.674
MBI/COR_017	SE Lowendal Shelf	16/12/2006	P-Site	-20.78631	115.50638	7700782.491	344536.721
MBI/COR_018	Southern Lowendal Shelf	16/12/2006	C-Site	-20.50991	115.47759	7731351.350	341252.839
MBI/COR_019	Inside Wonnich Reef	17/12/2006	C-Site	-20.90227	115.46203	7687902.279	340042.372
MBI/COR_020	East Dugong Reef	18/12/2006	C-Site	-20.90007	115.45120	7688134.993	338913.436
MBI/COR_021	Central Dugong Reef	18/12/2006	C-Site	-20.89544	115.44023	7688636.498	337767.287
MBI/COR_022	West Dugong Reef	18/12/2006	C-Site	-20.96019	115.46542	7681493.815	340456.380
MBI/COR_023	South Batman Reef	19/12/2006	C-Site	-20.95149	115.46262	7682454.130	340155.980
MBI/COR_024	North Batman Reef	19/12/2006	P-Site	-20.99447	115.48062	7677714.037	342072.972
MBI/COR_025	Northern Barrow Island Shoals	20/12/2006	P-Site	-21.07757	115.51348	7668546.892	345574.770
MBI/COR_026	Central East Barrow Island Shoals	20/12/2006	C-Site	-20.40067	115.50033	7743465.547	343513.798

#### 4.4 Marine ecological community data

Six hundred and thirty-seven records of marine ecological community data were collected during the December 2006 survey (Figure 3). All data has been placed into the Marine Science Program's (MSP's) Western Australian Habitat Database (see Section 5.4: Marine ecological community data) and has been presented in Appendix 3. Videography was recorded where applicable and has been archived appropriately (see Section 5.5: Digital video records).



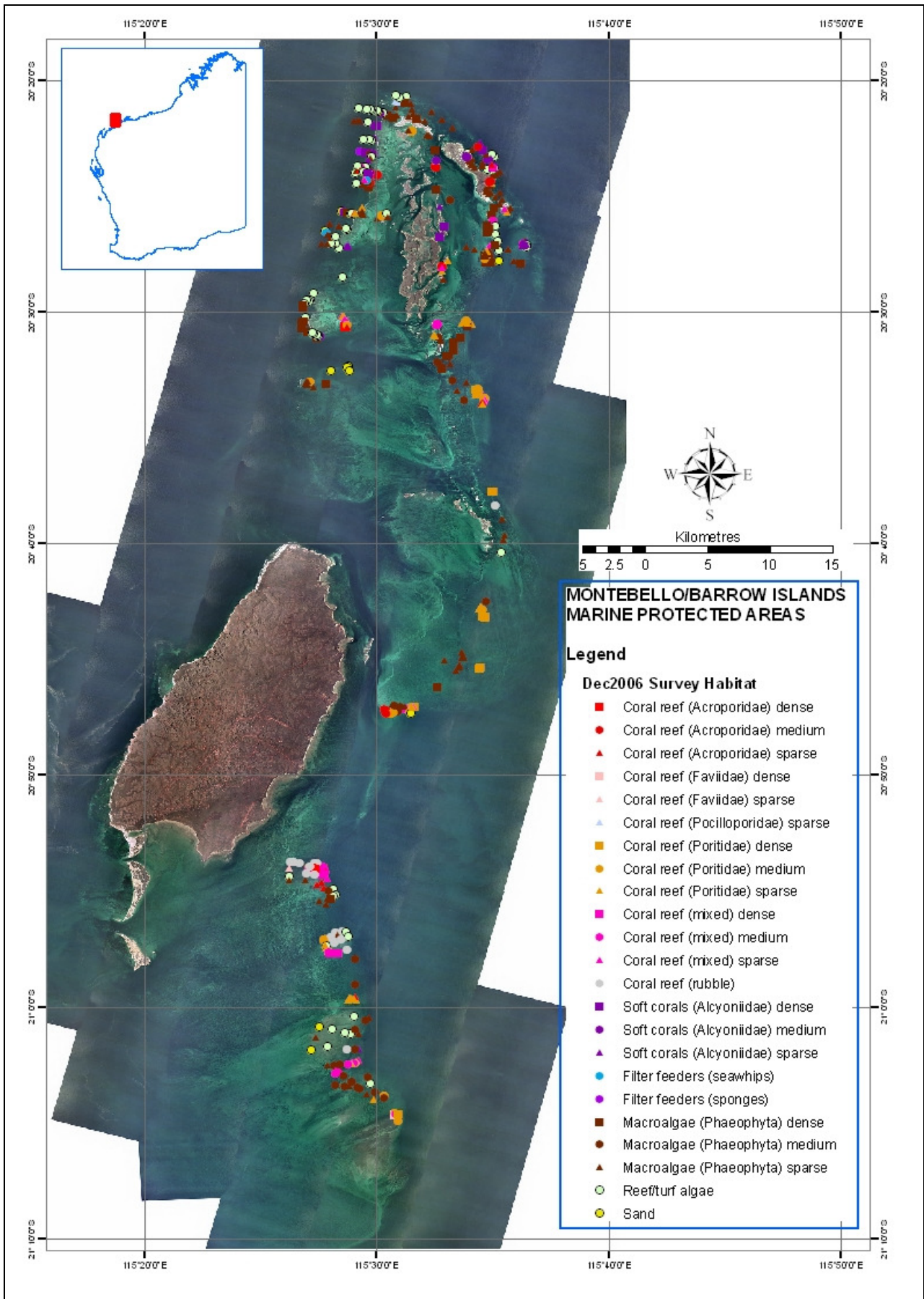


Figure 3. Marine ecological community ground-truth sites surveyed in the Montebello/Barrow Islands marine protected areas during December 2006.

## 5 DATA MANAGEMENT

### 5.1 Coral community monitoring data

Coral community monitoring data has been noted from the transect video footage and stored into a Microsoft Access © database entitled “MBI\_COR\_200707.mdb” and has been stored on the MSP server. To obtain a copy, phone the Science Division (08) 9334 0299.

### 5.2 Finfish data

The finfish data has been archived into a Microsoft Excel © database entitled “Fish\_database\_MBI\_20061209.xls” and has been stored on the MSP server. To obtain a copy of this database, phone the Science Division (08) 9334 0299.

### 5.3 Coral predator data

The coral predator data has been archived into a Microsoft Excel © database entitled “Invertebrate\_database\_MBI\_DEC\_2006.xls” and has been stored on the MSP server. To obtain a copy of this database, phone the Science Division (08) 9334 0299.

### 5.4 Marine ecological community data

Hard copies of data sheets have been archived with the MSP. Raw ecological community data has been entered into the Western Australia Habitat Database (HABITATS.MDB) which is maintained by the MSP. The WA Habitat database is held on the MSP server. To obtain a copy of this database, phone the Science Division (08) 9334 0299.

### 5.5 Digital video records

All mini digital video (MDV) footage collected during the survey is held at two locations:

1. MDV masters have been archived in the Montebello Islands Video Archive file 2006/005393-1 “*Montebello Islands - Island Marine Park - Marine Reserves - Video Archive*”, held at the DEC Corporate Information Services, Department of Environment and Conservation, 17 Dick Perry Avenue, Kensington, Western Australia. Ph: (08) 9334 0333.
2. MDV copies have been stored at the Marine Science Program, Science Division, Department of Environment and Conservation, 17 Dick Perry Avenue, Kensington, Western Australia. Ph: (08) 9334 0299 Fax: (08) 9334 0327.

Eleven mini digital video tapes were used to record dropdown video sites and labelled:

1. MSP/MBI/DD#01-20061208
2. MSP/MBI/DD#02-20061209
3. MSP/MBI/DD#03-20061210
4. MSP/MBI/DD#04-20061211
5. MSP/MBI/DD#05-20061212
6. MSP/MBI/DD#06-20061212
7. MSP/MBI/DD#07-20061213
8. MSP/MBI/DD#08-20061217
9. MSP/MBI/DD#09-20061217
10. MSP/MBI/DD#10-20061217
11. MSP/MBI/DD#11-20061217

Twenty-six mini digital video tapes were used to record transect data at each long-term monitoring site and labelled:

- |                          |                          |
|--------------------------|--------------------------|
| 1. MBI/COR_001-20061209  | 14. MBI/COR_014-20061215 |
| 2. MBI/COR_002-20061209  | 15. MBI/COR_015-20061215 |
| 3. MBI/COR_003-20061210  | 16. MBI/COR_016-20061216 |
| 4. MBI/COR_004-20061210  | 17. MBI/COR_017-20061216 |
| 5. MBI/COR_005-20061210  | 18. MBI/COR_018-20061216 |
| 6. MBI/COR_006-20061211  | 19. MBI/COR_019-20061217 |
| 7. MBI/COR_007-20061211  | 20. MBI/COR_020-20061218 |
| 8. MBI/COR_008-20061211  | 21. MBI/COR_021-20061218 |
| 9. MBI/COR_009-20061212  | 22. MBI/COR_022-20061218 |
| 10. MBI/COR_010-20061213 | 23. MBI/COR_023-20061219 |
| 11. MBI/COR_011-20061214 | 24. MBI/COR_024-20061219 |
| 12. MBI/COR_012-20061214 | 25. MBI/COR_025-20061220 |
| 13. MBI/COR_013-20061215 | 26. MBI/COR_026-20061220 |

## 5.6 Still images

Still images that are useful for communication purposes will be stored as high resolution jpegs (approx 3-5 megabyte sized images), on the MSP server. To obtain copies of these images, phone the Science Division (08) 9334 0299.

## 5.7 Report archival

Hard copies of this report will be held at the following locations:

1. Marine Science Program, Science Division, Department of Environment and Conservation, 17 Dick Perry Avenue, Western Australia, 6152. Ph: (08) 9334 0333.
2. Woodvale Library, Science Division, Department of Environment and Conservation, Ocean Reef Road, Woodvale, Western Australia, 6026. Ph: (08) 9405 5100 Fax: (08) 9306 1641.
3. Archives, Woodvale Library, Science Division, Department of Environment and Conservation, Ocean Reef Road, Woodvale, Western Australia, 6026. Ph: (08) 9405 5100 Fax: (08) 9306 1641 (CD also attached).
4. Pilbara Region, Department of Environment and Conservation, Lot 3 Anderson Road, Karratha, Western Australia, 6714. Ph: (08) 9182 2000 Fax: (08) 9144 1118.
5. Serials Section, State Library of Western Australia. Alexander Library Building, Perth Cultural Centre, Perth, Western Australia, 6000.

Digital copies of this report will be held at the following:

- The Science Division Server; and
- CD-ROM [MSPDR4].

## ACKNOWLEDGEMENTS

### Overall Direction

Dr. Chris Simpson, Leader, Marine Science Program (MSP), Department of Environment and Conservation (DEC)

**DEC Scientific and Organisational Assistance**

Dr Suzanne Long, Research Scientist, MSP  
Shannon Armstrong, Research Scientist, MSP  
Dr Alan Kendrick, Senior Research Scientist, MSP  
Rob Connell, Marine Ranger (South), Exmouth District  
Peter van Schoubroeck, Graduate Research Assistant, MSP

**Department of Fisheries Assistance**

Steve Rogers, Skipper MV Walcott, Department of Fisheries (DoF)  
Keith Saunders, Senior Fisheries & Marine Officer, Karratha District Office, DoF  
Clint Wadley, Senior Fisheries & Marine Officer, Karratha District Office, DoF

**Industry Assistance**

Myles Hyams and Libby Howitt, Apache Energy Limited  
Russel Langdon and Dorian Moro, Gorgon HES Team, Chevron Australia Pty Ltd

**Video data analysis**

Cathie Page, Marine Consultant, Townsville, Queensland

**Funding/Resources**

This project is funded by the Department of Environment and Conservation with operational support from the Department of Fisheries.

**Reviewers**

Shannon Armstrong, Research Scientist, MSP  
Dr Alan Kendrick, Senior Research Scientist, MSP  
Dr Kim Friedman, Principal Research Scientist, MSP

## 6 REFERENCES

- Bancroft KP, Long S (2008) Modelling suggests connectivity between the Ningaloo Reef and coral reefs of the Pilbara. In *Discovering Ningaloo: Latest findings and their implications for management. Ningaloo Research Program Progress Report*. (ed. K Waples), pp. 61-64. Western Australian Marine Science Institute, Perth, Western Australia.
- Bancroft KP, Simpson CJ, Long S (2006) *Long-term monitoring program in the Montebello/Barrow Islands marine protected areas. Scoping field trip: 8-11 August 2006*. Marine Science Program, Department of Environment and Conservation, Perth, Western Australia, Field Program Report: **PIO/MBI-2006/01**.
- Chevron Australia Pty Ltd (2005a) *Draft environmental impact statement/environmental review and management program for the proposed Gorgon Development: Executive summary*. Chevron Australia Pty Ltd, Perth, Western Australia. 120 p.
- Chevron Australia Pty Ltd (2005b) *Draft environmental impact statement/environmental review and management program for the proposed Gorgon Development: Main report volume I*. Chevron Australia Pty Ltd, Perth, Western Australia. 1-399 p.
- Chevron Australia Pty Ltd (2005c) *Draft environmental impact statement/environmental review and management program for the proposed Gorgon Development: Main report volume II*. Chevron Australia Pty Ltd, Perth, Western Australia. 400-818 p.
- Chevron Australia Pty Ltd (2005d) *Draft environmental impact statement/environmental review and management program for the proposed Gorgon Development: Technical appendix C1-C5: Ecological assessments*. Chevron Australia Pty Ltd, Perth, Western Australia.

- Chevron Australia Pty Ltd (2005e) *Draft environmental impact statement/environmental review and management program for the proposed Gorgon Development: Technical appendix C6-C9: Ecological assessments*. Chevron Australia Pty Ltd, Perth, Western Australia.
- Cohen B (2002) *Annual marine environmental survey 2001 Lowendal/Montebello and Airlie Islands*. Apache Energy Limited, Perth, Western Australia. 35 p.
- Condie S, Andrewartha J, Mansbridge J, Waring J (2006) *Modelling circulation and connectivity on Australia's North West Shelf*. CSIRO and Department of Environment, Canberra, Australian Capital Territory. 62 p.
- Condie SA, Waring J, Mansbridge JV, Cahill ML (2005) Marine connectivity patterns around the Australian continent. *Environmental Modelling and Software*. **20**, 1149-1157.
- Department of Environment and Conservation (2007) *Management Plan for the Montebello/Barrow Islands Marine Conservation Reserves 2007-2017*. Prepared for Marine Parks and Reserves Authority by the Department of Environment and Conservation, Perth, Western Australia, Management Plan **55**. 125 p.
- Halford AR, Thompson AA (1996) *Visual census surveys of reef fish: Long-term monitoring of the Great Barrier Reef*. Australian Institute of Marine Science, Townsville, Queensland, Standard Operational Procedure **3**.
- Nielsen J (2001) *Annual marine environmental survey 2000 Lowendal/Montebello and Airlie Islands*. Apache Energy Limited, Perth, Western Australia. 67 p.
- Osborne S, Bancroft KP, D'Adamo N, Monks L (2000) *Regional Perspectives: Montebello/Barrow Islands*. Department of Conservation and Land Management, Perth, Western Australia. 60 p.
- Page C, Coleman G, Ninio R, Osborne K (2001) *Surveys of benthic reef communities using underwater video*. Australian Institute of Marine Science, Townsville, Queensland, Standard Operational Procedure **7**. 45 p.
- Ryan C (2006) *Annual marine Monitoring 2006: field operations manual*. Apache Energy Limited, Perth, Western Australia, Field operations manual. 39 p.

## **7 APPENDICES**

## Appendix 1. Visual finfish census data

Site	Date	Method	Rep #	Recorder	Current	Vis. (m)	Lutjanids	Lethrinids	Plectropomus	Epinephelus/ cephalopholis	Epinephelus tukula	Cheilinus undulatus	Choerodon spp.	Carangids	Sczombrids	Sharks	Other	Total #
MBI/COR-001	09-Dec-06	C-site	1	SLO	low	5 m											mullids	0
MBI/COR-001	09-Dec-06	C-site	2	SLO	low	5 m												0
MBI/COR-001	09-Dec-06	C-site	3	SLO	low	5 m	1											1
MBI/COR-002	09-Dec-06	C-site	1	AKE	low	5 m			1				1				Damsels, 12 mullids, flutefish	2
MBI/COR-002	09-Dec-06	C-site	2	AKE	low	5 m											sweetlips	0
MBI/COR-002	09-Dec-06	C-site	3	AKE	low	5 m		2								1	4 mullids, small wobbegong, humbugs, chromis, coral fish, wrasse	3
MBI/COR-003	10-Dec-06	C-site	1	AKE	mod	6-8 m							1					1
MBI/COR-003	10-Dec-06	C-site	2	AKE	mod	6-8 m												0
MBI/COR-003	10-Dec-06	C-site	3	AKE	mod	6-8 m												0
MBI/COR-004	10-Dec-06	C-site	1	AKE	low/mod	1-2 m	5						2				1 sweetlips	7
MBI/COR-004	10-Dec-06	C-site	2	AKE	low/mod	1-2 m	3		1	1			1				1 batfish, 1 sweetlips	6
MBI/COR-004	10-Dec-06	C-site	3	AKE	low/mod	1-2 m	2		1									3
MBI/COR-005	10-Dec-06	C-site	1	AKE	low	3-4 m				2								2
MBI/COR-005	10-Dec-06	C-site	2	AKE	low	3-4 m	1									1		2
MBI/COR-005	10-Dec-06	C-site	3	AKE	low	3-4 m	2	3								3		8
MBI/COR-006	11-Dec-06	C-site	1	SLO	low	8 m		1		1							Heaps of damsels, 3 Siganids, Ostracion	2
MBI/COR-006	11-Dec-06	C-site	2	SLO	low	8 m		1					1					2
MBI/COR-006	11-Dec-06	C-site	3	SLO	low	8 m							1				3 Siganids, Ostracion	1
MBI/COR-007	11-Dec-06	C-site	1	SLO	surge	6 m	3		1				10				1 cleaning station	14
MBI/COR-007	11-Dec-06	C-site	2	SLO	surge	6 m	8		2				11	1				22
MBI/COR-007	11-Dec-06	C-site	3	SLO	surge	6 m	15	2			1		8	1			( <i>E. tukala</i> 60cm)	27
MBI/COR-008	11-Dec-06	C-site	1	AKE	low	5-6 m	3											3
MBI/COR-008	11-Dec-06	C-site	2	AKE	low	5-6 m			3				1					4
MBI/COR-008	11-Dec-06	C-site	3	AKE	low	5-6 m	3										tawny nurse shark off the transect	3
MBI/COR-009	12-Dec-06	C-site	1	AKE	low	7 m												0
MBI/COR-009	12-Dec-06	C-site	2	AKE	low	7 m	2			1								3
MBI/COR-009	12-Dec-06	C-site	3	AKE	low	7 m	2			2								4
MBI/COR-010	13-Dec-06	C-site	1	AKE	mod/high	7-8 m	11		3	4			2				2 <i>Cromileptes</i>	20
MBI/COR-010	13-Dec-06	C-site	2	AKE	mod/high	7-8 m	18			1			6			1		26
MBI/COR-010	13-Dec-06	C-site	3	AKE	mod/high	7-8 m	4			4			2					10
MBI/COR-011	14-Dec-06	C-site	1	SLO		8 m			1	1								2
MBI/COR-011	14-Dec-06	C-site	2	SLO		8 m	3											3



Site	Date	Method	Rep #	Recorder	Current	Vis. (m)	Lutjanids	Lethrinids	Plectropomus	Epinephelus/ cephalopholis	Epinephelus tukula	Cheilinus undulatus	Choerodon spp.	Carangids	Sczombrids	Sharks	Other	Total #	
MBI/COR-011	14-Dec-06	C-site	3	SLO		8 m	15		1									16	
MBI/COR-012	14-Dec-06	C-site	1	SLO			1	1	2				2	3				Bolbometapon, 13 sand bass	9
MBI/COR-012	14-Dec-06	C-site	2	SLO					1								2	Bolbometapon, 1 sand bass	3
MBI/COR-012	14-Dec-06	C-site	3	SLO			8		5									6 sand bass	13
MBI/COR-013	15-Dec-06	P-site	1	AKE	low	6 m	9		2	1								5 sweetlips	12
MBI/COR-013	15-Dec-06	P-site	2	AKE	low	6 m			2				1					2 sweetlips, 1 angelfish	3
MBI/COR-013	15-Dec-06	P-site	3	AKE	low	6 m	3		2	3									8
MBI/COR-014	15-Dec-06	P-site	1	AKE	low	5-6 m	8		3	1			4			1		(E. suillus (1.5m)), 8 sweetlips, 4 mullids 1 unicornfish	17
MBI/COR-014	15-Dec-06	P-site	2	AKE	low	5-6 m	5		3	1			3					1 cobbler, 2 angelfish, 2 sweetlips	12
MBI/COR-014	15-Dec-06	P-site	3	AKE	low	5-6 m	4		1	5								(incl 1 E. suillus) this cod may have followed us from B1. Also 6 sweetlips, 2 angelfish, 4 bannerfish, 1 <i>Coris aygula</i> )	10
MBI/COR-015	15-Dec-06	P-site	1	AKE	low	8-10 m	101	4	6	3			3	16				lutjanids incl 2 juv red emperor, the 3 cod were <i>Epinephelus multinotatus</i> . Also 5 mullids, parrotfish, sweetlips, wrasse	133
MBI/COR-015	15-Dec-06	P-site	2	AKE	low	8-10 m	6		4	6			7					two of the cod were <i>Epinephelus multinotatus</i> . Also parrotfish, 2 batfish, unicornfish, surgeonfish, sweetlips	23
MBI/COR-015	15-Dec-06	P-site	3	AKE	low	8-10 m	10		7	2			12			1		5 mullids, 3 angelfish, sweetlips & unicornfish	32
MBI/COR-016	16-Dec-06	P-site	1	AKE	low		101	2	6	7			9	7				2 pearl perch, 7 parrotfish, 4 bannerfish, 8 sweetlips, 7 spotted sweetlips	132
MBI/COR-016	16-Dec-06	P-site	2	AKE	low		13			3			3					3 pearl perch, 3 angelfish, 2 parrotfish, 1 surgeonfish, 1 cobbler, 3 mullids, 5 sweetlip	19
MBI/COR-016	16-Dec-06	P-site	3	AKE	low		101	3	11	2			6					lutjanids incl 1 juv red emperor. Also 8 parrotfish, 2 <i>Coris aygula</i> , 5 bannerfish	123
MBI/COR-017	16-Dec-06	P-site	1	AKE	low	8 m	9		6	1			6	5	1			5 surgeonfish, 2 bannerfish	28
MBI/COR-017	16-Dec-06	P-site	2	AKE	low	8 m				5			1			1		1 yellow emperor, 8 sweetlips, sos puffer	7
MBI/COR-017	16-Dec-06	P-site	3	AKE	low	8 m			4	7			3					1 pearl perch, 3 parrotfish, 8 sweetlips, 4 bannerfish, 3 moorish idol, 3 angelfish, >50 surgeonfish	14
MBI/COR-018	16-Dec-06	C-site	1	AKE	low	10 m	2						3					2 parrotfish	5
MBI/COR-018	16-Dec-06	C-site	2	AKE	low	10 m	2						1						3

Site	Date	Method	Rep #	Recorder	Current	Vis. (m)	Lutjanids	Lethrinids	Plectropomus	Epinephelus/ cephalopholis	Epinephelus tukula	Cheilinus undulatus	Choerodon spp.	Carangids	Sczombrids	Sharks	Other	Total #
MBI/COR-018	16-Dec-06	C-site	3	AKE	low	10 m							1					1
MBI/COR-019	17-Dec-06	C-site	1	SLO														0
MBI/COR-019	17-Dec-06	C-site	2	SLO			1											1
MBI/COR-019	17-Dec-06	C-site	3	SLO			1											1
MBI/COR-020	18-Dec-06	C-site	1	AKE	low	5 m	4	11	1				1				2 sweetlips, 1 batfish	17
MBI/COR-020	18-Dec-06	C-site	2	AKE	low	5 m	3	3		2							3 parrotfish, 3 unicornfish, 1 sweetlips	8
MBI/COR-020	18-Dec-06	C-site	3	AKE	low	5 m	6	3	2								3 parrotfish, 3 sweetlips, 2 <i>Coris aygula</i>	11
MBI/COR-021	18-Dec-06	C-site	1	SLO			2		1				7				most fish small or juvenile	10
MBI/COR-021	18-Dec-06	C-site	2	SLO			5		1				14					20
MBI/COR-021	18-Dec-06	C-site	3	SLO			1	1	1				14					17
MBI/COR-022	18-Dec-06	C-site	1	AKE	mod/strong	5-6m	1						3			1	small wobbecong under coral plate	5
MBI/COR-022	18-Dec-06	C-site	2	AKE	mod/strong	5-6m							2					2
MBI/COR-022	18-Dec-06	C-site	3	AKE	mod/strong	5-6m			1								only juv coral trout observed at this site.	1
MBI/COR-023	19-Dec-06	C-site	1	SLO			7	2	5				5					19
MBI/COR-023	19-Dec-06	C-site	2	SLO			12	7	1				3				1 barramundi cod, 2 batfish	23
MBI/COR-023	19-Dec-06	C-site	3	SLO			4	3	1	1			8				blue spot ray	17
MBI/COR-024	19-Dec-06	P-site	1	SLO			22	2	8				5		1		(shark mackerel), 1 barramundi cod, 1 pufferfish	38
MBI/COR-024	19-Dec-06	P-site	2	SLO			1	1	1	1			1				2 grey sweetlips	5
MBI/COR-024	19-Dec-06	P-site	3	SLO			6		6	2			6					20
MBI/COR-025	20-Dec-06	P-site	1	AKE	low	8-10m	101	10	12	3			6			2	1 white tip shark (2m), 1 tawny nurse shark (1.5m), , 2 Batfish, ~20 parrotfish, surgeonfish, 1 barramundi cod, >100 pearl perch, >100 sweetlips	134
MBI/COR-025	20-Dec-06	P-site	2	AKE	low	8-10m	101	2	1	5			3				>50 threadfin pearl perch ( <i>Glaucosoma magnificusom</i> ), 2 batfish, ~50 sweetlips	112
MBI/COR-025	20-Dec-06	P-site	3	AKE	low	8-10m	101		1	2			1				4 bannerfish, 2 lionfish, 8 sweetlips, Estuary cod	105
MBI/COR-026	20-Dec-06	C-site	1	AKE	low	6-8m	6						6				2 sp SL, 2 parrotfish	12
MBI/COR-026	20-Dec-06	C-site	2	AKE	low	6-8m	3						5				goatfish	8
MBI/COR-026	20-Dec-06	C-site	3	AKE	low	6-8m	2		1				1			1	(epaulette shark), 13 sweetlips, 1 pearl perch	5

## Appendix 2. Coral predator and other invertebrate data

Site	Transect/ Bommie Number	Date	Recorder	Drupella spp aggregation			COTS (number and size cm)		Other invertebrate observations	Other notes
				0 to 4	5 to 10	>10	size (cm)	number		
MBI/COR_001	T1	09/12/06	SJA						Trochus, holothurians (brown nobby)	Back-reef seemed to be bleached
MBI/COR_001	T2	09/12/06	SJA	1					Hermit crabs	
MBI/COR_001	T3	09/12/06	SJA	2	3				Holothurians, cowries, urchin-thin blue/black spines	
MBI/COR_002	T1	09/12/06	SJA						Christmas tree worms, holothurians, crinoids, scallops, ascidians, clam, painted crays, sea stars, urchins	Transect ends at fish cage
MBI/COR_002	T2	09/12/06	SJA						Christmas tree worms, holothurians (green/black nobby), crinoids, scallops, ascidians, clam, painted crays, sea stars, urchins, turban shell	Transect starts at big purple <i>Porites</i> bommie
MBI/COR_002	T3	09/12/06	SJA	1					Trochus, holothurians, urchins, crinoids, clams, starfish	
MBI/COR_003	T1	10/12/06	KBA	4	2				No notes taken	
MBI/COR_003	T2	10/12/06	KBA	4	2	1			No notes taken	
MBI/COR_003	T3	10/12/06	KBA	8	2				No notes taken	
MBI/COR_004	T1	10/12/06	KBA	1					Very little macro inverts	
MBI/COR_004	T2	10/12/06	KBA						No <i>Drupella</i>	
MBI/COR_004	T3	10/12/06	KBA	1					Poor visibility	
MBI/COR_005	T1	10/12/06	KBA	2		1			Several tridacnids (clams), crinoids	
MBI/COR_005	T2	10/12/06	KBA	2					Lots of fungids	
MBI/COR_005	T3	10/12/06	KBA	4	5	2			No notes taken	
MBI/COR_006	T1	11/12/06	SJA	4	1				Trochus, holothurians, clams, cowries, crinoids, turban shell. Did see a Crown of Thorns about 35cm in diameter but it wasn't on the transect	
MBI/COR_006	T2	11/12/06	SJA	4	3	2			<i>Drupella cornus</i> and <i>D. rugosa</i> present. Holothurians, urchins, turban shells, crinoids, crays, clams, starfish	Lots of money corals.
MBI/COR_006	T3	11/12/06	SJA	5	1				Hermit crabs, cowries, turban shells, crayfish, trochus, tridacnid, holothurians, Diadema, money coral	

Site	Transect/ Bommie Number	Date	Recorder	Drupella spp aggregation			COTS (number and size cm)		Other invertebrate observations	Other notes
				0 to 4	5 to 10	>10	size (cm)	number		
MBI/COR_007	T1	11/12/06	SJA	3					Crayfish, clams, urchins, starfish, ascidians, spider stomb, crinoids	Big potato cod
MBI/COR_007	T2	11/12/06	SJA	2					Crinoids, clams, holothurians, hermit crabs in a spider stromb and a cone shell, seastar - orange small	
MBI/COR_007	T3	11/12/06	SJA						Scallops, turban shell, starfish, trochus, crinoids, crayfish, Christmas tree worms, holothurians, colourful small shrimp, tridacnid	
MBI/COR_008	T1	11/12/06	SJA	6	3				Pin cushion sea star, crinoids, scallops, holothurians, giant clams, bivalves	Tawny nurse shark.
MBI/COR_008	T2	11/12/06	SJA	2	5				Crinoids, trochus, urchins, lots of scallops, giant clams, holothurians	
MBI/COR_008	T3	11/12/06	SJA	2	2				Giant clams, scallops, holothurians, trochus, turban shells	
MBI/COR_009	T1	12/12/06	SJA						Christmas tree worms, holothurians, clams, pin cushion sea stars, star fish, crinoids, scallops, crayfish, urchins	
MBI/COR_009	T2	12/12/06	SJA				30	1	Holothurians, starfish, pin cushion sea stars, tridacnid, Diadema, crinoids, scallops, trochus, ascidians, Christmas tree worms	
MBI/COR_009	T3	12/12/06	SJA						Holothurians, Diadema, tridacnid, hermit crab, pin cushion sea stars, nudibranch, crinoids, scallops, trochus, ascidians, Christmas tree worms	
MBI/COR_010	T1	13/12/06	KBA	7	3	1			Crayfish, nudibranchs	
MBI/COR_010	T2	13/12/06	KBA	7	2				Many trochus	
MBI/COR_010	T3	13/12/06	KBA	7	3				Diadema	
MBI/COR_011	T1	14/12/06	SJA				35	1	COTS 30cm not on transect, holothurians, crinoids, urchins, clams, nudibranchs, scallops, crayfish	
MBI/COR_011	T2	14/12/06	SJA						Crinoids, urchins, clams, holothurians, scallops	
MBI/COR_011	T3	14/12/06	SJA				40, 35, 42	3	Crinoids, urchins, scallops, holothurians, clams, flatworm, starfish, nudibranch	
MBI/COR_012	T1	14/12/06	SJA				37	1	2 COTS just off the transect 45cm, 40cm. Urchins, scallops, crinoids, flatworm, clams, holothurians	
MBI/COR_012	T2	14/12/06	SJA		1		40	1	1 COTS off transect 35cm. Crinoids, urchins, scallops, holothurians, starfish	
MBI/COR_012	T3	14/12/06	SJA				33	1	1 COTS off transect 50cm. Clams, urchins, crinoids, starfish, holothurians, scallops, crayfish	

Site	Transect/ Bommie Number	Date	Recorder	Drupella spp aggregation			COTS (number and size cm)		Other invertebrate observations	Other notes
				0 to 4	5 to 10	>10	size (cm)	number		
MBI/COR_013	B1	15/12/06	AKE	1			40	1	Crayfish 6, urchins, crinoids, hydroids, 2 tridacnid	
MBI/COR_013	B2	15/12/06	AKE						Crayfish 2, urchins, blacklip oysters, hydroids, crinoids	
MBI/COR_013	B3	15/12/06	AKE				33	1	Crayfish 2, 6 urchins, 2 tridacnid	
MBI/COR_014	B1	15/12/06	AKE						Crayfish 7, coral shrimp, blacklip oysters, hydroids	
MBI/COR_014	B2	15/12/06	AKE						Crayfish 12, variety of sponges, hydroids	
MBI/COR_014	B3	15/12/06	AKE				35	1	Crayfish 13, octopus	
MBI/COR_015	B1	15/12/06	AKE						9 Urchins, 6 crayfish, <i>Melo amphora</i> very large	Tangles of fishing line on B1
MBI/COR_015	B2	15/12/06	AKE						Crayfish 4, Spanish dancer	
MBI/COR_015	B3	15/12/06	AKE						Crayfish 4, 2 urchins, tridacnid	
MBI/COR_016	B1	16/12/06	AKE						Urchin, 8 crayfish, blacklip oyster, coral shrimp	Very complex structure
MBI/COR_016	B2	16/12/06	AKE						Urchin, 5 crayfish	Smaller bommie
MBI/COR_016	B3	16/12/06	AKE						16 Urchin, 4 crayfish, some coral feeding scars present, 3 tridacnid	Very complex structure
MBI/COR_017	B1	16/12/06	AKE						Crinoids, urchins	
MBI/COR_017	B2	16/12/06	AKE	1					9 crayfish, crinoids	
MBI/COR_017	B3	16/12/06	AKE						Coral crabs, 6 crayfish, urchins, crinoids, holothurian	
MBI/COR_018	T1	16/12/06	SJA	16	4				Trochus, turban shells	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_018	T2	16/12/06	SJA	7	1				Large dead baler shell, Christmas tree worms, scallops, crinoids, clams, trochus, turban shells, hermit crab in large <i>Drupella</i> shell, nudibranch	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_018	T3	16/12/06	SJA	5	2		25	1	Holothurians, crinoids, coral crabs, trochus, turban shells, scallops, clams.	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_019	T1	17/12/06	SJA	5					Coral crabs and shrimp, turban shells, urchins, scallops	Site appears to be similar in composition to Pelican Point at Ningaloo, however in comparison there were fewer <i>Drupella</i> at COR 019. <i>D. cornus</i> and <i>D. rugosa</i> present
MBI/COR_019	T2	17/12/06	SJA	10	1				Urchins, coral crabs, shrimps	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_019	T3	17/12/06	SJA	7					Hermit crab in <i>Drupella</i> cornus shell.	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_020	T1	18/12/06	SLO						Pencil urchin, diademnid urchin, crinoids	
MBI/COR_020	T2	18/12/06	SLO						Diadema urchin, pencil urchin, crinoids, calcite starfish (corallivorous)	Feeding scars present
MBI/COR_020	T3	18/12/06	SLO				40,45	2	Pencil urchin, <i>Diadema</i> urchin, crinoids	
MBI/COR_021	T1	18/12/06	SJA	3					One COTS off the transect 25cm. Urchins, scallops, trochus, oysters, turban shells, crinoids	large fungids

Site	Transect/ Bommie Number	Date	Recorder	Drupella spp aggregation			COTS (number and size cm)		Other invertebrate observations	Other notes
				0 to 4	5 to 10	>10	size (cm)	number		
MBI/COR_021	T2	18/12/06	SJA	5					Hermit crab in <i>Drupella cornus</i> shell, crinoids, scallops, clams, oysters, urchins	large fungids
MBI/COR_021	T3	18/12/06	SJA	3					Scallops, urchins, turban shells, oysters, trochus, crinoids, hydroids	large fungids
MBI/COR_022	T1	18/12/06	SJA	2					Hermit crab in <i>Drupella</i> shell, scallops, oysters, turban shells, trochus	many fungids
MBI/COR_022	T2	18/12/06	SJA	2	1				Trochus, turban shells, scallops, oysters, Christmas tree worms	many fungids
MBI/COR_022	T3	18/12/06	SJA	3	3	3			Urchins, trochus, turban shells, holothurians, clams	Many fungids. 2 large clusters of <i>Drupella</i> . One was comprised of adult <i>D. cornus</i> and <i>D. rugosa</i> . The other comprised of <i>D. cornus</i> and <i>D. rugosa</i> adults and recruits. Both the adults and recruits from each species appeared to be in the same cohort
MBI/COR_023	T1	19/12/06	SJA	7	1		47	1	Turban shell, Christmas tree worms, scallops, oysters, clams, hydroids, <i>Diadema</i> urchin 3, crayfish 5.	Three COTS off transect 25cm, 30cm, 35cm. <i>D. cornus</i> and <i>D. rugosa</i> present.
MBI/COR_023	T2	19/12/06	SJA	11	2	2			Christmas tree worms, trochus, turban, clams, holothurians, oysters, <i>Diadema</i> urchin 1	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_023	T3	19/12/06	SJA	8	2	1	32	1	Christmas tree worms, oysters, clams, holothurian, turban shells	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_024	B1	19/12/06	SJA				33	1	Crayfish 1, tridacnid 2, <i>Diadema</i> urchin 3, pencil urchin 1	
MBI/COR_024	B2	19/12/06	SJA						<i>Diadema</i> urchin 5, pencil urchin 1, bubble anemone with clownfish	
MBI/COR_024	B3	19/12/06	SJA						<i>Diadema</i> urchin 2, crayfish 1	
MBI/COR_025	B1	20/12/06	AKE						Tridacnid (giant clams) 7, crayfish 4, <i>Diadema</i> urchin 11	
MBI/COR_025	B2	20/12/06	AKE	1					Crayfish 10, slate urchin 2, tridacnid 3, <i>Diadema</i> urchin 6	
MBI/COR_025	B3	20/12/06	AKE	1					Cray fish 7, <i>Diadema</i> 2, tridacnid 3	Very large <i>Drupella cornus</i> snail approx 8.5cm long. Hermit crab inside
MBI/COR_026	T1	20/12/06	SJA	8	5				Turban shells 6, coral shrimp, trochus 5, <i>Diadema</i> urchins 4, oysters, Christmas tree worms, giant clam 1, holothurian	<i>Drupella cornus</i> and <i>D. rugosa</i> present.
MBI/COR_026	T2	20/12/06	SJA	9	2				Turban shells 7, pencil urchin 1, trochus 3, Christmas tree worms, oysters, scallops, holothurian 3, flatworms, <i>Diadema</i> urchins 4	
MBI/COR_026	T3	20/12/06	SJA	14	3				Hermit crab, trochus 2, turban 1, clams, <i>Diadema</i> urchins 3, holothurian 2.	

### Appendix 3. Marine ecological communities data

MPPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video number	Recorder	Date
MBIMPA	A_001	MBI_0095	Violet Island/Trimouille Island	PIO	Reef (low relief)	-7.0	Soft corals (Alcyoniidae) sparse	Soft corals, some rubble on limestone pavement	-20.39670	115.58604	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_002	MBI_0096	Violet Island/Trimouille Island	PIO	Reef (low relief)	-7.0	Reef/turf algae	Sand, pavement, some rubble, algae and some corals, sea urchins	-20.39653	115.58419	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_003	MBI_0097	Violet Island/Trimouille Island	PIO	Reef (low relief)	-5.2	Reef/turf algae	Soft corals, sand/pavement, tufts of green algae (?) Sea urchins, lots of bait fish, some hard corals	-20.39792	115.58286	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_004	MBI_0098	Violet Island/Trimouille Island	PIO	Reef (low relief)		Reef/turf algae	Pavement, sparse algae tufts	-20.39695	115.57968	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_005	MBI_0099	Violet Island/Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae, turf algae, some soft corals and hard corals	-20.39503	115.57581	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_006	MBI_0100	Violet Island/Trimouille Island	PIO	Reef (low relief)	-3.8	Macroalgae (Phaeophyta) sparse	Macroalgae, sand, rubble	-20.39227	115.57627	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_007	MBI_0101	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.8	Macroalgae (Phaeophyta) sparse	Macroalgae on limestone pavement	-20.39304	115.56815	GPS	GDA94	Direct	No Video	KBA	08/12/2006
MBIMPA	A_008	MBI_0102	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.9	Macroalgae (Phaeophyta) sparse	Sand rubble with macroalgae, sponge, soft corals, mostly macroalgae to bare	-20.38966	115.56860	GPS	GDA94	Direct	No Video	KBA	08/12/2006
MBIMPA	A_009	MBI_0103	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.3	Macroalgae (Phaeophyta) sparse	Some soft/hard corals ( <i>Tubinaria</i> sp)	-20.39031	115.56698	GPS	GDA94	Direct	No Video	KBA	08/12/2006
MBIMPA	A_009	MBI_0104	Violet Island/Trimouille Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Some soft/hard corals ( <i>Tubinaria</i> sp)	-20.39014	115.56705	GPS	GDA94	Direct	No Video	KBA	08/12/2006
MBIMPA	A_010	MBI_0105	Violet Island/Trimouille Island	PIO	Reef (low relief)	-3.0	Reef/turf algae	Turf algae on limestone pavement	-20.38560	115.56540	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_011	MBI_0106	Violet Island/Trimouille Island	PIO	Reef (low relief)	-6.1	Macroalgae (Phaeophyta) sparse	Macroalgae on limestone pavement	-20.38282	115.56839	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	A_012	MBI_0107	Violet Island/Trimouille Island	PIO	Reef (low relief)	-8.0	Soft corals (Alcyoniidae) sparse	Soft corals possibly <i>Sinularia</i> & <i>Sarcophyton</i>	-20.37896	115.57396	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	A_012	MBI_0108	Violet Island/Trimouille Island	PIO	Reef (low relief)		Soft corals (Alcyoniidae) sparse	Soft corals	-20.37831	115.57424	GPS	GDA94	Drop down video	MSP/MBI/DDV#01_20061208	KBA	08/12/2006
MBIMPA	B_001	MBI_0109	Violet Island/Trimouille Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	2 <i>Porites</i> bommies (similar to B-002)	-20.38739	115.56585	GPS	GDA94	Direct	No Video	AKE	08/12/2006
MBIMPA	B_002	MBI_0110	Violet Island/Trimouille Island	PIO	Reef (high relief)	-2.5	Coral reef (Poritidae) medium	Series of <i>Porites</i> bommies with <i>Acropora</i> (corymbose and plate) and <i>Tubinaria</i> , many soft corals. Limestone substrate with boulders, patches of sand and rubble, good diversity of soft corals (star of B001 and B002 about 200mx25m)	-20.38769	115.56531	GPS	GDA94	Direct	No Video	KBA	08/12/2006
MBIMPA	B_003	MBI_0111	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Limestone pavement, sand, rubble with macroalgae no coral at all	-20.39043	115.56584	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_004	MBI_0112	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Limestone pavement, rubble, sand with macroalgae, no corals	-20.39169	115.56694	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_005	MBI_0113	Violet Island/Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Limestone pavement with dense macroalgae in middle of bay surrounded by bare sand, no corals	-20.39372	115.56906	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_006	MBI_0114	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Limestone pavement, with sand/rubble, macroalgae, some small hard corals	-20.39567	115.57002	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_007	MBI_0115	Violet Island/Trimouille Island	PIO	Reef (high relief)	-3.5	Soft corals (Alcyoniidae) dense	Adjacent to exposed rock, rocky substrate with gutters and overhangs, patches of high density soft corals also with <i>Acropora</i> plates	-20.39553	115.58354	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_008	MBI_0116	Violet Island/Trimouille Island	PIO	Reef (high relief)	-5.0	Coral reef (mixed) medium	Rocky bottom with diverse corals also plate <i>Acropora</i>	-20.39577	115.58396	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_009	MBI_0117	Violet Island/Trimouille Island	PIO	Reef (low relief)	-5.0	Coral reef (Acroporidae) sparse	Limestone pavement with sand patches, sparse soft corals ( <i>Sinularia</i> ), some <i>Acropora</i> plates, low density of corals	-20.39385	115.58252	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_010	MBI_0118	Violet Island/Trimouille Island	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) medium	Rock with sand/rubble gutters, medium density of soft corals ( <i>Sinularia</i> ), some hard corals, immediately seaward of large exposed rock	-20.38931	115.57925	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_011	MBI_0119	Violet Island/Trimouille Island	PIO	Reef (low relief)	-10.0	Reef/turf algae	Appear to be mostly bare pavement, no corals observed	-20.38773	115.58419	GPS	GDA94	Drop down video	MSP/MBI/DDV#02-20061209	AKE	09/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	B_012	MBI_0120	Violet Island/ Trimouille Island	PIO	Reef (low relief)	-10.0	Reef/turf algae	Appears to be mostly bare limestone substrate (or all)??	-20.38670	115.58289	GPS	GDA94	Drop down video	MSP/MBI/DDV#02-20061209	AKE	09/12/2006
MBIMPA	B_013	MBI_0121	Violet Island/ Trimouille Island	PIO	Reef (low relief)	-6.0	Soft corals (Alcyoniidae) sparse	Rocky substrate with patches of sand/rubble, soft corals ( <i>Sinularia</i> ), on the rocks, offshore from B-010	-20.38874	115.58201	GPS	GDA94	Drop down video	MSP/MBI/DDV#02-20061209	AKE	09/12/2006
MBIMPA	B_014	MBI_0122	Violet Island/ Trimouille Island	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Rock/rubble/sand bottom sparse cover of macroalgae and some corals	-20.38632	115.57907	GPS	GDA94	Drop down video	MSP/MBI/DDV#02-20061209	AKE	09/12/2006
MBIMPA	B_015	MBI_0123	Violet Island/ Trimouille Island	PIO	Reef (low relief)	-5.0	Soft corals (Alcyoniidae) dense	High density soft corals ( <i>Sarcophyton</i> & <i>Sinularia</i> ) in plates with patches of rubble/sand, some hard coral mostly <i>Acropora</i> plate, not much algae if any	-20.38337	115.57619	GPS	GDA94	Drop down video	MSP/MBI/DDV#02-20061209	AKE	09/12/2006
MBIMPA	B_016	MBI_0124	Violet Island/ Trimouille Island	PIO	Reef (low relief)	-4.0	Coral reef (Acroporidae) medium	Area of rock, rubble substrate, patches of high density soft and hard coral, <i>Acropora</i> plate, extends to -20.37981, 115.57152	-20.38067	115.57254	GPS	GDA94	Direct	No Video	AKE	09/12/2006
MBIMPA	B_017	MBI_0125	Bunsen Channel	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Dense macroalgae, sand patches	-20.38332	115.54230	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_018	MBI_0126	North West Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.36237	115.53490	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_019	MBI_0127	North West Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Macroalgae, algal turf, pavement	-20.36132	115.53077	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_020	MBI_0128	North West Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) dense	Dense macroalgae on old limestone boulders and rubble, occasional soft coral	-20.36051	115.52897	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_021	MBI_0129	North West Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae and sand, bluespotted stingray	-20.35734	115.52615	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_022	MBI_0130	North West Island	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.35377	115.52508	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_023	MBI_0131	North West Island	PIO	Reef (low relief)	-8.0	Macroalgae (Phaeophyta) sparse	Macroalgae on pavement/sand, low relief	-20.34965	115.52470	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_024	MBI_0132	North West Island	PIO	Reef (low relief)		Reef/turf algae	Sand on pavement with the occasional holothurian	-20.34480	115.52096	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_025	MBI_0133	North West Island	PIO	Reef (low relief)	-2.0	Reef/turf algae	Algae/turf on sand	-20.34703	115.51684	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_026	MBI_0134	North West Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Bommie field - little massive and submassive bommies among rubble and sand substrate. Softies growing on top of bommies. Low total coral cover (10-20%) but quite interesting habitat	-20.34824	115.51599	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_027	MBI_0135	North West Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Sand and macroalgae	-20.35247	115.51336	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_028	MBI_0136	North West Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.35757	115.51467	GPS	GDA94	Direct	No Video	SLO	09/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	B_029	MBI_0137	North West Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Macroalgae on sand	-20.35856	115.52331	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_030	MBI_0138	North West Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.37276	115.53819	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	B_031	MBI_0139	North West Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae, rubble sand	-20.37215	115.53600	GPS	GDA94	Direct	No Video	SLO	09/12/2006
MBIMPA	COR_001T1	MBI_0140	West of Bluebell Island	PIO	Reef (low relief)	-1.6	Coral reef (Acroporidae) medium	Back-reef site; >10% tabulate and corymbose <i>Acropora</i> spp.; rubble/turf algae and reef/turf algae; limestone substrate; sand patches present particularly on the northern edge of the coral habitat; very shallow; highly exposed to long period swell and moderate exposure to cyclonic wave action	-20.40074	115.50008	GPS	GDA94	Direct	MBI/COR_001-20061209		09/12/2006
MBIMPA	COR_001T1	MBI_0141	West of Bluebell Island	PIO	Reef (low relief)	-1.6	Coral reef (Acroporidae) medium	Back-reef site; >10% tabulate and corymbose <i>Acropora</i> spp.; rubble/turf algae and reef/turf algae; limestone substrate; sand patches present particularly on the northern edge of the coral habitat; very shallow; highly exposed to long period swell and moderate exposure to cyclonic wave action	-20.40030	115.50020	GPS	GDA94	Direct	MBI/COR_001-20061209		09/12/2006
MBIMPA	COR_001T2	MBI_0142	West of Bluebell Island	PIO	Reef (low relief)	-1.6	Coral reef (Acroporidae) medium	Back-reef site; >10% tabulate and corymbose <i>Acropora</i> spp.; rubble/turf algae and reef/turf algae; limestone substrate; sand patches present particularly on the northern edge of the coral habitat; very shallow; highly exposed to long period swell and moderate exposure to cyclonic wave action	-20.40097	115.50029	GPS	GDA94	Direct	MBI/COR_001-20061209		09/12/2006
MBIMPA	COR_001T2	MBI_0143	West of Bluebell Island	PIO	Reef (low relief)	-1.6	Coral reef (Acroporidae) medium	Back-reef site; >10% tabulate and corymbose <i>Acropora</i> spp.; rubble/turf algae and reef/turf algae; limestone substrate; sand patches present particularly on the northern edge of the coral habitat; very shallow; highly exposed to long period swell and moderate exposure to cyclonic wave action	-20.40047	115.50036	GPS	GDA94	Direct	MBI/COR_001-20061209		09/12/2006
MBIMPA	COR_001T3	MBI_0144	West of Bluebell Island	PIO	Reef (low relief)	-1.6	Coral reef (Acroporidae) medium	Back-reef site; >10% tabulate and corymbose <i>Acropora</i> spp.; rubble/turf algae and reef/turf algae; limestone substrate; sand patches present particularly on the northern edge of the coral habitat; very shallow; highly exposed to long period swell and moderate exposure to cyclonic wave action	-20.40119	115.50062	GPS	GDA94	Direct	MBI/COR_001-20061209		09/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_001T3	MBI_0145	West of Bluebell Island	PIO	Reef (low relief)	-1.6	Coral reef (Acroporidae) medium	Back-reef site; >10% tabulate and corymbose <i>Acropora</i> spp.; rubble/turf algae and reef/turf algae; limestone substrate; sand patches present particularly on the northern edge of the coral habitat; very shallow; highly exposed to long period swell and moderate exposure to cyclonic wave action	-20.40071	115.50068	GPS	GDA94	Direct	MBI/COR_001-20061209		09/12/2006
MBIMPA	COR_002T1	MBI_0146	Pitt Pt, Trimouille Is	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	Reef in an area fringing and protected by a rocky point to the north; sparse hard coral cover ~10% cover; includes tabular acroporid, corymbose pocilloporid and massive poritid hard corals; ~15% cover of soft corals mainly <i>Sinularia</i> spp.; sandy substrate	-20.38753	115.56417	GPS	GDA94	Direct	MBI/COR_002-20061209		09/12/2006
MBIMPA	COR_002T1	MBI_0147	Pitt Pt, Trimouille Is	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	Reef in an area fringing and protected by a rocky point to the north; sparse hard coral cover ~10% cover; includes tabular acroporid, corymbose pocilloporid and massive poritid hard corals; ~15% cover of soft corals mainly <i>Sinularia</i> spp.; sandy substrate	-20.38783	115.56455	GPS	GDA94	Direct	MBI/COR_002-20061209		09/12/2006
MBIMPA	COR_002T2	MBI_0148	Pitt Pt, Trimouille Is	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	Reef in an area fringing and protected by a rocky point to the north; sparse hard coral cover ~10% cover; includes tabular acroporid, corymbose pocilloporid and massive poritid hard corals; ~15% cover of soft corals mainly <i>Sinularia</i> spp.; sandy substrate	-20.38746	115.56445	GPS	GDA94	Direct	MBI/COR_002-20061209		09/12/2006
MBIMPA	COR_002T2	MBI_0149	Pitt Pt, Trimouille Is	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	Reef in an area fringing and protected by a rocky point to the north; sparse hard coral cover ~10% cover; includes tabular acroporid, corymbose pocilloporid and massive poritid hard corals; ~15% cover of soft corals mainly <i>Sinularia</i> spp.; sandy substrate	-20.38775	115.56482	GPS	GDA94	Direct	MBI/COR_002-20061209		09/12/2006
MBIMPA	COR_002T3	MBI_0150	Pitt Pt, Trimouille Is	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	Reef in an area fringing and protected by a rocky point to the north; sparse hard coral cover ~10% cover; includes tabular acroporid, corymbose pocilloporid and massive poritid hard corals; ~15% cover of soft corals mainly <i>Sinularia</i> spp.; sandy substrate	-20.38756	115.56483	GPS	GDA94	Direct	MBI/COR_002-20061209		09/12/2006
MBIMPA	COR_002T3	MBI_0151	Pitt Pt, Trimouille Is	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	Reef in an area fringing and protected by a rocky point to the north; sparse hard coral cover ~10% cover; includes tabular acroporid, corymbose pocilloporid and massive poritid hard corals; ~15% cover of soft corals mainly <i>Sinularia</i> spp.; sandy substrate	-20.38774	115.56530	GPS	GDA94	Direct	MBI/COR_002-20061209		09/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	C_001	MBI_0152	South Trimouille Island	PIO	Reef (low relief)	-10.0	Macroalgae (Phaeophyta) sparse	Macroalgae, sand, a few soft corals, rubble, rocks	-20.36675	115.55432	GPS	GDA94	Drop down video	MSP/MBI/DDV#03-20061210	SAR	10/12/2006
MBIMPA	C_002	MBI_0153	South Trimouille Island	PIO	Reef (low relief)	-13.0	Macroalgae (Phaeophyta) sparse	Sand with rock, macroalgae growing over rock and on sand, few sparsely spaced hard and soft corals	-20.36138	115.54700	GPS	GDA94	Drop down video	MSP/MBI/DDV#03-20061210	SAR	10/12/2006
MBIMPA	C_003	MBI_0154	South Trimouille Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae, turf algae and sand patches	-20.35515	115.53926	GPS	GDA94	Drop down video	MSP/MBI/DDV#03-20061210	SAR	10/12/2006
MBIMPA	C_004	MBI_0155	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae, rocky bottom, pavement, rubble, a few soft corals	-20.40090	115.58396	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_008	MBI_0156	South Trimouille Island	PIO	Reef (low relief)	-7.0	Macroalgae (Phaeophyta) sparse	Rocky, macroalgae	-20.40013	115.58628	GPS	GDA94	Drop down video	MSP/MBI/DDV#03-20061210	SAR	10/12/2006
MBIMPA	C_009	MBI_0157	South Trimouille Island	PIO	Reef (low relief)	-12.0	Macroalgae (Phaeophyta) sparse	Sand, macroalgae, a few soft corals	-20.39861	115.58904	GPS	GDA94	Drop down video	MSP/MBI/DDV#03-20061210	SAR	10/12/2006
MBIMPA	C_010	MBI_0158	South Trimouille Island	PIO	Reef (low relief)	-2.0	Coral reef (mixed) sparse	Live and dead hard coral, soft coral, sand	-20.40525	115.58163	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	C_011	MBI_0159	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae, rubble	-20.40717	115.58210	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_012	MBI_0160	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae on pavement, odd coral colony	-20.40875	115.58210	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_013	MBI_0161	South Trimouille Island	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae over rubble and sand, small coral colonies - sparse	-20.41018	115.57877	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_014	MBI_0162	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae on pavement and sand	-20.41231	115.57967	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_015	MBI_0163	South Trimouille Island	PIO	Reef (low relief)	-1.5	Macroalgae (Phaeophyta) sparse	Macroalgae and pavement	-20.41281	115.57858	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_016	MBI_0164	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.41464	115.58047	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_017	MBI_0165	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.41382	115.58202	GPS	GDA94	Direct	No Video	SAR	10/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	C_018	MBI_0166	South Trimouille Island	PIO	Reef (low relief)	-8.0	Macroalgae (Phaeophyta) sparse	Rocky substrate, macroalgae and soft corals	-20.41373	115.58854	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_019	MBI_0167	South Trimouille Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Sand and macroalgae	-20.41849	115.59062	GPS	GDA94	Drop down video	MSP/MBI/DDV#03-20061210	SAR	10/12/2006
MBIMPA	C_020	MBI_0168	South Trimouille Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Sand and macroalgae	-20.42194	115.58851	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_021	MBI_0169	South Trimouille Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae and sand	-20.41748	115.58571	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_022	MBI_0170	South East Island	PIO	Reef (high relief)	-5.0	Coral reef (Poritidae) sparse	Bommies, live hard coral	-20.40696	115.58312	GPS	GDA94	Direct	No Video	SAR	10/12/2006
MBIMPA	C_023	MBI_0171	South East Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Limestone pavement and boulders, mostly algae, some corals (soft and hard), <i>Acropora</i> plates and corymbose, also largish sand patches, large hydroids on bommies	-20.42451	115.59581	GPS	GDA94	Direct	No Video	AKE	10/12/2006
MBIMPA	C_024	MBI_0172	South East Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Limestone boulders and bommies and sand patches, algae, soft corals and hydroids on hard substrate, some <i>Acropora</i> - small colonies and only a few	-20.42595	115.59469	GPS	GDA94	Direct	No Video	AKE	10/12/2006
MBIMPA	COR_003T1	MBI_0173	North West Island	PIO	Reef (high relief)	-1.5	Coral reef (Pocilloporidae) sparse	An area of low coral cover, on the relatively sheltered southern edge of a reef; low hard coral cover <20%; main hard coral species were pocilloporids, acroporid and poritid; benthos was dominated by turf algae covered reef pavement; very shallow; moderate exposure to long-period swell	-20.34829	115.51375	GPS	GDA94	Direct	MBI/COR_003-20061210		10/12/2006
MBIMPA	COR_003T1	MBI_0174	North West Island	PIO	Reef (high relief)	-1.5	Coral reef (Pocilloporidae) sparse	An area of low coral cover, on the relatively sheltered southern edge of a reef; low hard coral cover <20%; main hard coral species were pocilloporids, acroporid and poritid; benthos was dominated by turf algae covered reef pavement; very shallow; moderate exposure to long-period swell	-20.34830	115.51419	GPS	GDA94	Direct	MBI/COR_003-20061210		10/12/2006
MBIMPA	COR_003T2	MBI_0175	North West Island	PIO	Reef (high relief)	-1.5	Coral reef (Pocilloporidae) sparse	An area of low coral cover, on the relatively sheltered southern edge of a reef; low hard coral cover <20%; main hard coral species were pocilloporids, acroporid and poritid; benthos was dominated by turf algae covered reef pavement; very shallow; moderate exposure to long-period swell	-20.34820	115.51454	GPS	GDA94	Direct	MBI/COR_003-20061210		10/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_003T2	MBI_0176	North West Island	PIO	Reef (high relief)	-1.5	Coral reef (Pocilloporidae) sparse	An area of low coral cover, on the relatively sheltered southern edge of a reef; low hard coral cover <20%; main hard coral species were pocilloporids, acroporid and poritid; benthos was dominated by turf algae covered reef pavement; very shallow; moderate exposure to long-period swell	-20.34826	115.51504	GPS	GDA94	Direct	MBI/COR_003-20061210		10/12/2006
MBIMPA	COR_003T3	MBI_0177	North West Island	PIO	Reef (high relief)	-1.5	Coral reef (Pocilloporidae) sparse	An area of low coral cover, on the relatively sheltered southern edge of a reef; low hard coral cover <20%; main hard coral species were pocilloporids, acroporid and poritid; benthos was dominated by turf algae covered reef pavement; very shallow; moderate exposure to long-period swell	-20.34828	115.51513	GPS	GDA94	Direct	MBI/COR_003-20061210		10/12/2006
MBIMPA	COR_003T3	MBI_0178	North West Island	PIO	Reef (high relief)	-1.5	Coral reef (Pocilloporidae) sparse	An area of low coral cover, on the relatively sheltered southern edge of a reef; low hard coral cover <20%; main hard coral species were pocilloporids, acroporid and poritid; benthos was dominated by turf algae covered reef pavement; very shallow; moderate exposure to long-period swell	-20.34842	115.51558	GPS	GDA94	Direct	MBI/COR_003-20061210		10/12/2006
MBIMPA	COR_004T1	MBI_0179	Sack Bay, North West Is	PIO	Reef (high relief)	-2.8	Coral reef (Poritidae) medium	A narrow (10-20 m) strip of coral habitat on the edge of a deep hole in intertidal reef area; <20% hard coral cover; an arborescent non-acroporid, likely poritid, was the dominant hard coral; relatively shallow; very sheltered area; slight E current was experienced	-20.36857	115.52574	GPS	GDA94	Direct	MBI/COR_004-20061210		10/12/2006
MBIMPA	COR_004T1	MBI_0180	Sack Bay, North West Is	PIO	Reef (high relief)	-2.8	Coral reef (Poritidae) medium	A narrow (10-20 m) strip of coral habitat on the edge of a deep hole in intertidal reef area; <20% hard coral cover; an arborescent non-acroporid, likely poritid, was the dominant hard coral; relatively shallow; very sheltered area; slight E current was experienced	-20.36898	115.52552	GPS	GDA94	Direct	MBI/COR_004-20061210		10/12/2006
MBIMPA	COR_004T2	MBI_0181	Sack Bay, North West Is	PIO	Reef (high relief)	-2.8	Coral reef (Poritidae) medium	A narrow (10-20 m) strip of coral habitat on the edge of a deep hole in intertidal reef area; <20% hard coral cover; an arborescent non-acroporid, likely poritid, was the dominant hard coral; relatively shallow; very sheltered area; slight E current was experienced	-20.36895	115.52545	GPS	GDA94	Direct	MBI/COR_004-20061210		10/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_004T2	MBI_0182	Sack Bay, North West Is	PIO	Reef (high relief)	-2.8	Coral reef (Poritidae) medium	A narrow (10-20 m) strip of coral habitat on the edge of a deep hole in intertidal reef area; <20% hard coral cover; an arborescent non-acroporid, likely poritid, was the dominant hard coral; relatively shallow; very sheltered area; slight E current was experienced	-20.36934	115.52551	GPS	GDA94	Direct	MBI/COR_004-20061210		10/12/2006
MBIMPA	COR_004T3	MBI_0183	Sack Bay, North West Is	PIO	Reef (high relief)	-2.8	Coral reef (Poritidae) medium	A narrow (10-20 m) strip of coral habitat on the edge of a deep hole in intertidal reef area; <20% hard coral cover; an arborescent non-acroporid, likely poritid, was the dominant hard coral; relatively shallow; very sheltered area; slight E current was experienced	-20.36962	115.52526	GPS	GDA94	Direct	MBI/COR_004-20061210		10/12/2006
MBIMPA	COR_004T3	MBI_0184	Sack Bay, North West Is	PIO	Reef (high relief)	-2.8	Coral reef (Poritidae) medium	A narrow (10-20 m) strip of coral habitat on the edge of a deep hole in intertidal reef area; <20% hard coral cover; an arborescent non-acroporid, likely poritid, was the dominant hard coral; relatively shallow; very sheltered area; slight E current was experienced	-20.36997	115.52547	GPS	GDA94	Direct	MBI/COR_004-20061210		10/12/2006
MBIMPA	COR_005T1	MBI_0185	North Bunsen Channel	PIO	Reef (high relief)	-3.3	Coral reef (Acroporidae) medium	A narrow band of reef (<20m) fringing a deep channel; low hard coral cover <20%; main hard corals were massive poritids, with corymbose acroporids and other corymbose/encrusting corals; relatively sheltered; very sheltered within island group; a strong N current present	-20.39450	115.54197	GPS	GDA94	Direct	MBI/COR_005-20061210		10/12/2006
MBIMPA	COR_005T1	MBI_0186	North Bunsen Channel	PIO	Reef (high relief)	-3.3	Coral reef (Acroporidae) medium	A narrow band of reef (<20m) fringing a deep channel; low hard coral cover <20%; main hard corals were massive poritids, with corymbose acroporids and other corymbose/encrusting corals; relatively sheltered; very sheltered within island group; a strong N current present	-20.39487	115.54223	GPS	GDA94	Direct	MBI/COR_005-20061210		10/12/2006
MBIMPA	COR_005T2	MBI_0187	North Bunsen Channel	PIO	Reef (high relief)	-3.3	Coral reef (Acroporidae) medium	A narrow band of reef (<20m) fringing a deep channel; low hard coral cover <20%; main hard corals were massive poritids, with corymbose acroporids and other corymbose/encrusting corals; relatively sheltered; very sheltered within island group; a strong N current present	-20.39496	115.54231	GPS	GDA94	Direct	MBI/COR_005-20061210		10/12/2006
MBIMPA	COR_005T2	MBI_0188	North Bunsen Channel	PIO	Reef (high relief)	-3.3	Coral reef (Acroporidae) medium	A narrow band of reef (<20m) fringing a deep channel; low hard coral cover <20%; main hard corals were massive poritids, with corymbose acroporids and other corymbose/encrusting corals; relatively sheltered; very sheltered within island group; a strong N current present	-20.39527	115.54264	GPS	GDA94	Direct	MBI/COR_005-20061210		10/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_005T3	MBI_0189	North Bunsen Channel	PIO	Reef (high relief)	-3.3	Coral reef (Acroporidae) medium	A narrow band of reef (<20m) fringing a deep channel; low hard coral cover <20%; main hard corals were massive poritids, with corymbose acroporids and other corymbose/encrusting corals; relatively sheltered; very sheltered within island group; a strong N current present	-20.39532	115.54258	GPS	GDA94	Direct	MBI/COR_005-20061210		10/12/2006
MBIMPA	COR_005T3	MBI_0190	North Bunsen Channel	PIO	Reef (high relief)	-3.3	Coral reef (Acroporidae) medium	A narrow band of reef (<20m) fringing a deep channel; low hard coral cover <20%; main hard corals were massive poritids, with corymbose acroporids and other corymbose/encrusting corals; relatively sheltered; very sheltered within island group; a strong N current present	-20.39567	115.54288	GPS	GDA94	Direct	MBI/COR_005-20061210		10/12/2006
MBIMPA	Z_001	MBI_0191	North West Island	PIO	Reef (high relief)		Macroalgae (Phaeophyta) dense	Macroalgae about 150-200mm high, turf algae and limestone pavement	-20.35956	115.51216	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	Z_002	MBI_0192	North West Island	PIO	Reef (high relief)	-1.0	Macroalgae (Phaeophyta) dense	Macroalgae cover dominate over limestone with some hard and soft corals	-20.34854	115.52080	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	Z_003	MBI_0193	North West Island	PIO	Reef (high relief)	-3.0	Reef/turf algae	Sparse hard and soft corals on top of reef, spur and groove type setup	-20.34581	115.51660	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	Z_004	MBI_0194	North West Island	PIO	Reef (high relief)	-3.0	Reef/turf algae	Bare reef some algae turf, few corals etcà	-20.34398	115.51364	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	Z_005	MBI_0195	North West Island	PIO	Reef (high relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae on dead coral bumps, sand in between	-20.36883	115.52261	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	Z_006	MBI_0196	Bunsen Channel	PIO	Reef (high relief)	-1.0	Coral reef (Poritidae) sparse	Coral bommies	-20.39129	115.54330	GPS	GDA94	Direct	No Video	KBA	10/12/2006
MBIMPA	C_025	MBI_0197	South East Island	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	Limestone bommies and sand/rubble, little macroalgae here, mostly soft coral and hydroids but sparse - mostly bare rock	-20.42793	115.59356	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_026	MBI_0198	South East Island	PIO	Reef (high relief)	-1.0	Coral reef (mixed) sparse	Rubble bottom, some <i>Porites</i> bommies and <i>Acropora</i> plates, a lot of dead coral	-20.42551	115.59232	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_027	MBI_0199	South East Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	Pavement substrate with sand patches and rubble, only algae, no corals seen	-20.42436	115.58453	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_028	MBI_0200	Dandelion Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Rubble/pavement, dense macroalgae	-20.42955	115.58327	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_029	MBI_0201	Dandelion Island	PIO	Reef (high relief)	-3.0	Coral reef (mixed) medium	Series of bommies and rocks, hard and soft coral, complex relief, patchy corals, high density in small patches, maybe only 100m in length and drops into deep water with bare rubble substrate	-20.43345	115.58391	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_030	MBI_0202	Dandelion Island	PIO	Reef (low relief)	-12.0	Reef/turf algae	Mostly bare substrate - sand/pavement, some algae, check the tape	-20.43827	115.58497	GPS	GDA94	Drop down video	MSP/MBI/DDV#04-20061211	AKE	11/12/2006
MBIMPA	C_031	MBI_0203	Daisy Island	PIO	Reef (low relief)	-7.0	Reef/turf algae	Mostly bare substrate (similar to C-030)	-20.44374	115.58563	GPS	GDA94	Drop down video	MSP/MBI/DDV#04-20061211	AKE	11/12/2006
MBIMPA	C_032	MBI_0204	Daisy Island	PIO	Reef (low relief)	-9.0	Reef/turf algae	Mostly bare substrate (similar to C-030)	-20.44873	115.58671	GPS	GDA94	Drop down video	MSP/MBI/DDV#04-20061211	AKE	11/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	tape Video number	Recorder	Date
MBIMPA	C_033	MBI_0205	Flag Island	PIO	Reef (low relief)	-10.0	Reef/turf algae	Mostly bare substrate (similar to C-030)	-20.45580	115.58747	GPS	GDA94	Drop down video	MSP/MBI/DDV#04-20061211	AKE	11/12/2006
MBIMPA	C_034	MBI_0206	Flag Island	PIO	Sand	-11.0	Sand	Bare sand	-20.46276	115.58799	GPS	GDA94	Drop down video	MSP/MBI/DDV#04-20061211	AKE	11/12/2006
MBIMPA	C_035	MBI_0207	Flag Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	Dense macroalgae, pavement and sand	-20.46404	115.58219	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_036	MBI_0208	Flag Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	Dense macroalgae on pavement, scattered hard corals - small only	-20.46344	115.57843	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_037	MBI_0209	Flag Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) medium	6-8 large <i>Porites</i> bommies with <i>Acropora</i> and hydroids on sand	-20.46168	115.57758	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_038	MBI_0210	Flag Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Dense macroalgae in otherwise sandy bay	-20.45901	115.57806	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_039	MBI_0211	Flag Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Isolated <i>Porites</i> bommies, with <i>Acropora</i> surrounded by rubble/algae	-20.45594	115.57911	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_040	MBI_0212	Flag Island	PIO	Reef (high relief)	-2.0	Coral reef (mixed) sparse	Rocks/bommies on rubble, low density soft and hard corals	-20.45245	115.58161	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_041	MBI_0213	Dandelion Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	In between islands, pavement with macroalgae	-20.44224	115.57918	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_042	MBI_0214	Dandelion Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Dense algae with scattered soft corals	-20.43931	115.58160	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_043	MBI_0215	Dandelion Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	Dense algae, no corals	-20.43691	115.57919	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_044	MBI_0216	Campbell Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Rubble, limestone pavement with algae, some small <i>Acropora</i> ,	-20.41169	115.54288	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_045	MBI_0217	Campbell Island	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Small patch of soft and hard corals on south side of headland. West of Rose Island this patch only about 50m in length. All east coast of N. Delta is sand with patches of maroalgae	-20.42371	115.54557	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_046	MBI_0218	Delta Island	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) dense	Good density of soft corals about 150m	-20.43756	115.54863	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	C_047	MBI_0219	Delta Island	PIO	Reef (low relief)	-1.0	Soft corals (Alcyoniidae) dense	Scattered soft/hard corals, small area	-20.44526	115.54521	GPS	GDA94	Direct	No Video	AKE	11/12/2006
MBIMPA	COR_006T1	MBI_0220	Benedicline Bay, Trimouille Is	PIO	Reef (low relief)	-0.8	Coral reef (Acroporidae) medium	Shallow back reef area close to the shoreline; ~20% live hard coral cover; most dominant hard corals being tabulate acroporids; some encrusting/sub-massive poritids, favids and montiporids algal turf covered reef pavement with sand patches to the west	-20.40527	115.58188	GPS	GDA94	Direct	MBI/COR_006-20061211		11/12/2006
MBIMPA	COR_006T1	MBI_0221	Benedicline Bay, Trimouille Is	PIO	Reef (low relief)	-0.8	Coral reef (Acroporidae) medium	Shallow back reef area close to the shoreline; ~20% live hard coral cover; most dominant hard corals being tabulate acroporids; some encrusting/sub-massive poritids, favids and montiporids algal turf covered reef pavement with sand patches to the west	-20.40507	115.58146	GPS	GDA94	Direct	MBI/COR_006-20061211		11/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_006T2	MBI_0222	Benedicline Bay, Trimouille Is	PIO	Reef (low relief)	-0.8	Coral reef (Acroporidae) medium	Shallow back reef area close to the shoreline; ~20% live hard coral cover; most dominant hard corals being tabulate acroporids; some encrusting/sub-massive poritids, favids and montiporids algal turf covered reef pavement with sand patches to the west	-20.40562	115.58174	GPS	GDA94	Direct	MBI/COR_006-20061211		11/12/2006
MBIMPA	COR_006T2	MBI_0223	Benedicline Bay, Trimouille Is	PIO	Reef (low relief)	-0.8	Coral reef (Acroporidae) medium	Shallow back reef area close to the shoreline; ~20% live hard coral cover; most dominant hard corals being tabulate acroporids; some encrusting/sub-massive poritids, favids and montiporids algal turf covered reef pavement with sand patches to the west	-20.40538	115.58132	GPS	GDA94	Direct	MBI/COR_006-20061211		11/12/2006
MBIMPA	COR_006T3	MBI_0224	Benedicline Bay, Trimouille Is	PIO	Reef (low relief)	-0.8	Coral reef (Acroporidae) medium	Shallow back reef area close to the shoreline; ~20% live hard coral cover; most dominant hard corals being tabulate acroporids; some encrusting/sub-massive poritids, favids and montiporids algal turf covered reef pavement with sand patches to the west	-20.40566	115.58121	GPS	GDA94	Direct	MBI/COR_006-20061211		11/12/2006
MBIMPA	COR_006T3	MBI_0225	Benedicline Bay, Trimouille Is	PIO	Reef (low relief)	-0.8	Coral reef (Acroporidae) medium	Shallow back reef area close to the shoreline; ~20% live hard coral cover; most dominant hard corals being tabulate acroporids; some encrusting/sub-massive poritids, favids and montiporids algal turf covered reef pavement with sand patches to the west	-20.40592	115.58159	GPS	GDA94	Direct	MBI/COR_006-20061211		11/12/2006
MBIMPA	COR_007T1	MBI_0226	Southern end of West Reef	PIO	Reef (high relief)	-3.4	Soft corals (Alcyoniidae) sparse	A narrow patchy band (5-15 m) of live hard coral fringing a major reef opening and deep (>5 m) channel; ~10% live coral cover with the major hard corals being massive <i>Platygyra</i> spp., and branching acroporids; ~10% soft corals mainly <i>Sinularia</i> spp. And <i>Sargassum</i> sp. Macroalgae present	-20.45272	115.47837	GPS	GDA94	Direct	MBI/COR_007-20061211		11/12/2006
MBIMPA	COR_007T1	MBI_0227	Southern end of West Reef	PIO	Reef (high relief)	-3.4	Soft corals (Alcyoniidae) sparse	A narrow patchy band (5-15 m) of live hard coral fringing a major reef opening and deep (>5 m) channel; ~10% live coral cover with the major hard corals being massive <i>Platygyra</i> spp., and branching acroporids; ~10% soft corals mainly <i>Sinularia</i> spp. And <i>Sargassum</i> sp. Macroalgae present	-20.45294	115.47801	GPS	GDA94	Direct	MBI/COR_007-20061211		11/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_007T2	MBI_0228	Southern end of West Reef	PIO	Reef (high relief)	-3.4	Soft corals (Alcyoniidae) sparse	A narrow patchy band (5-15 m) of live hard coral fringing a major reef opening and deep (>5 m) channel; ~10% live coral cover with the major hard corals being massive <i>Platygyra</i> spp., and branching acroporids; ~10% soft corals mainly <i>Sinularia</i> spp. And <i>Sargassum</i> sp. Macroalgae present	-20.45254	115.47898	GPS	GDA94	Direct	MBI/COR_007-20061211		11/12/2006
MBIMPA	COR_007T2	MBI_0229	Southern end of West Reef	PIO	Reef (high relief)	-3.4	Soft corals (Alcyoniidae) sparse	A narrow patchy band (5-15 m) of live hard coral fringing a major reef opening and deep (>5 m) channel; ~10% live coral cover with the major hard corals being massive <i>Platygyra</i> spp., and branching acroporids; ~10% soft corals mainly <i>Sinularia</i> spp. And <i>Sargassum</i> sp. Macroalgae present	-20.45263	115.47854	GPS	GDA94	Direct	MBI/COR_007-20061211		11/12/2006
MBIMPA	COR_007T3	MBI_0230	Southern end of West Reef	PIO	Reef (high relief)	-3.4	Soft corals (Alcyoniidae) sparse	A narrow patchy band (5-15 m) of live hard coral fringing a major reef opening and deep (>5 m) channel; ~10% live coral cover with the major hard corals being massive <i>Platygyra</i> spp., and branching acroporids; ~10% soft corals mainly <i>Sinularia</i> spp. And <i>Sargassum</i> sp. Macroalgae present	-20.45212	115.47971	GPS	GDA94	Direct	MBI/COR_007-20061211		11/12/2006
MBIMPA	COR_007T3	MBI_0231	Southern end of West Reef	PIO	Reef (high relief)	-3.4	Soft corals (Alcyoniidae) sparse	A narrow patchy band (5-15 m) of live hard coral fringing a major reef opening and deep (>5 m) channel; ~10% live coral cover with the major hard corals being massive <i>Platygyra</i> spp., and branching acroporids; ~10% soft corals mainly <i>Sinularia</i> spp. And <i>Sargassum</i> sp. Macroalgae present	-20.45230	115.47931	GPS	GDA94	Direct	MBI/COR_007-20061211		11/12/2006
MBIMPA	COR_008T1	MBI_0232	Stephenson Channel	PIO	Reef (high relief)	-3.0	Coral reef (Acroporidae) medium	A narrow (10-15 m) strip of fringing coral reef next to a deep channel; ~30% live hard coral cover; dominant coral was an arborescent acroporid; other hard corals included massive poritids and foliose montiprids and echinoporids; algal turf covered the reef pavement;	-20.46594	115.54676	GPS	GDA94	Direct	MBI/COR_008-20061211		11/12/2006
MBIMPA	COR_008T1	MBI_0233	Stephenson Channel	PIO	Reef (high relief)	-3.0	Coral reef (Acroporidae) medium	A narrow (10-15 m) strip of fringing coral reef next to a deep channel; ~30% live hard coral cover; dominant coral was an arborescent acroporid; other hard corals included massive poritids and foliose montiprids and echinoporids; algal turf covered the reef pavement;	-20.46634	115.54697	GPS	GDA94	Direct	MBI/COR_008-20061211		11/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_008T2	MBI_0234	Stephenson Channel	PIO	Reef (high relief)	-3.0	Coral reef (Acroporidae) medium	A narrow (10-15 m) strip of fringing coral reef next to a deep channel; ~30% live hard coral cover; dominant coral was an arborescent acroporid; other hard corals included massive poritids and foliose montiprids and echinoporids; algal turf covered the reef pavement;	-20.46636	115.54700	GPS	GDA94	Direct	MBI/COR_008-20061211		11/12/2006
MBIMPA	COR_008T2	MBI_0235	Stephenson Channel	PIO	Reef (high relief)	-3.0	Coral reef (Acroporidae) medium	A narrow (10-15 m) strip of fringing coral reef next to a deep channel; ~30% live hard coral cover; dominant coral was an arborescent acroporid; other hard corals included massive poritids and foliose montiprids and echinoporids; algal turf covered the reef pavement;	-20.46678	115.54710	GPS	GDA94	Direct	MBI/COR_008-20061211		11/12/2006
MBIMPA	COR_008T3	MBI_0236	Stephenson Channel	PIO	Reef (high relief)	-3.0	Coral reef (Acroporidae) medium	A narrow (10-15 m) strip of fringing coral reef next to a deep channel; ~30% live hard coral cover; dominant coral was an arborescent acroporid; other hard corals included massive poritids and foliose montiprids and echinoporids; algal turf covered the reef pavement;	-20.46707	115.54725	GPS	GDA94	Direct	MBI/COR_008-20061211		11/12/2006
MBIMPA	COR_008T3	MBI_0237	Stephenson Channel	PIO	Reef (high relief)	-3.0	Coral reef (Acroporidae) medium	A narrow (10-15 m) strip of fringing coral reef next to a deep channel; ~30% live hard coral cover; dominant coral was an arborescent acroporid; other hard corals included massive poritids and foliose montiprids and echinoporids; algal turf covered the reef pavement;	-20.46752	115.54723	GPS	GDA94	Direct	MBI/COR_008-20061211		11/12/2006
MBIMPA	Z_007	MBI_0238	Bunsen Channel	PIO	Reef (low relief)	-2.0	Filter feeders (sponges)	Filter feeding communities, seawhips and sponges	-20.39051	115.54307	GPS	GDA94	Direct	No Video	KBA	11/12/2006
MBIMPA	Z_008	MBI_0239	Bunsen Channel	PIO	Reef (low relief)	-2.5	Soft corals (Alcyoniidae) medium	30-40% soft coral ( <i>Sinularia</i> )	-20.39051	115.54307	GPS	GDA94	Direct	No Video	KBA	11/12/2006
MBIMPA	Z_009	MBI_0240	Bunsen Channel	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) medium	Macroalgae ( <i>Sargassum</i> ), sand and sponges	-20.41854	115.55289	GPS	GDA94	Direct	No Video	KBA	11/12/2006
MBIMPA	D_001	MBI_0241	Lowendal shelf	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Coral and rubble substrate, small bommies, lots of fish on one big bommie	-20.56668	115.57581	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	D_002	MBI_0242	Lowendal shelf	PIO	Reef (high relief)	-9.0	Coral reef (Poritidae) sparse	Sand/rubble substrate, lone bommie with diverse coral cover but low relief	-20.55836	115.57636	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	COR_009T1	MBI_0243	Shoals south of Karangi Is	PIO	Reef (low relief)	-2.8	Coral reef (mixed) medium	Scattered corals within inter-island shallows; <20% live coral cover; major hard corals being massive poritids, encrusting motiporids and tabulate acroporids. ~10% <i>sarcophyton</i> spp. Soft corals present; turf algae covered reef pavement was the dominant substrate	-20.45131	115.60510	GPS	GDA94	Direct	MBI/COR_009-20061212		12/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_009T1	MBI_0244	Shoals south of Karangi Is	PIO	Reef (low relief)	-2.8	Coral reef (mixed) medium	Scattered corals within inter-island shallows; <20% live coral cover; major hard corals being massive poritids, encrusting motiporids and tabulate acroporids. ~10% <i>sarcophyton</i> spp. Soft corals present; turf algae covered reef pavement was the dominant substrate	-20.45085	115.60513	GPS	GDA94	Direct	MBI/COR_009-20061212		12/12/2006
MBIMPA	COR_009T2	MBI_0245	Shoals south of Karangi Is	PIO	Reef (low relief)	-2.8	Coral reef (mixed) medium	Scattered corals within inter-island shallows; <20% live coral cover; major hard corals being massive poritids, encrusting motiporids and tabulate acroporids. ~10% <i>sarcophyton</i> spp. Soft corals present; turf algae covered reef pavement was the dominant substrate	-20.45146	115.60556	GPS	GDA94	Direct	MBI/COR_009-20061212		12/12/2006
MBIMPA	COR_009T2	MBI_0246	Shoals south of Karangi Is	PIO	Reef (low relief)	-2.8	Coral reef (mixed) medium	Scattered corals within inter-island shallows; <20% live coral cover; major hard corals being massive poritids, encrusting motiporids and tabulate acroporids. ~10% <i>sarcophyton</i> spp. Soft corals present; turf algae covered reef pavement was the dominant substrate	-20.45099	115.60562	GPS	GDA94	Direct	MBI/COR_009-20061212		12/12/2006
MBIMPA	COR_009T3	MBI_0247	Shoals south of Karangi Is	PIO	Reef (low relief)	-2.8	Coral reef (mixed) medium	Scattered corals within inter-island shallows; <20% live coral cover; major hard corals being massive poritids, encrusting motiporids and tabulate acroporids. ~10% <i>sarcophyton</i> spp. Soft corals present; turf algae covered reef pavement was the dominant substrate	-20.45108	115.60600	GPS	GDA94	Direct	MBI/COR_009-20061212		12/12/2006
MBIMPA	COR_009T3	MBI_0248	Shoals south of Karangi Is	PIO	Reef (low relief)	-2.8	Coral reef (mixed) medium	Scattered corals within inter-island shallows; <20% live coral cover; major hard corals being massive poritids, encrusting motiporids and tabulate acroporids. ~10% <i>sarcophyton</i> spp. Soft corals present; turf algae covered reef pavement was the dominant substrate	-20.45150	115.60594	GPS	GDA94	Direct	MBI/COR_009-20061212		12/12/2006
MBIMPA	X_001	MBI_0249	West Reef (South)	PIO	Reef (low relief)	-1.0	Reef/turf algae	Some algae and sand	-20.47503	115.47524	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_002	MBI_0250	West Reef (South)	PIO	Reef (low relief)	-2.0	Reef/turf algae	Pavement with algae turf, sea urchins and some corals	-20.45397	115.47287	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_003	MBI_0251	West Reef (South)	PIO	Reef (low relief)	-5.0	Reef/turf algae	Halimeda and turf algae, some soft and hard corals	-20.45049	115.47068	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_004	MBI_0252	West Reef (South)	PIO	Reef (low relief)	-10.2	Macroalgae (Phaeophyta) sparse	Sand on pavement with macroalgal tufts	-20.45065	115.46903	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_005	MBI_0253	West Reef (South)	PIO	Reef (low relief)	-7.5	Reef/turf algae	Red turf algae and halimeda, some hard and some soft corals	-20.45086	115.46736	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_006	MBI_0254	West Reef (South)	PIO	Reef (low relief)	-10.0	Macroalgae (Phaeophyta) sparse	Sand on pavement, macroalgae	-20.45086	115.46492	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video number	Recorder	Date
MBIMPA	X_007	MBI_0255	West Reef (South)	PIO	Reef (low relief)	-15.7	Macroalgae (Phaeophyta) sparse	Macroalgae on sand pavement, some soft corals/sponges/octocorals and sea urchins, mainly bare	-20.45078	115.46027	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_008	MBI_0256	West Reef (South)	PIO	Sand	-25.6	Sand	Coarse sediment, shell grit/rubble	-20.44138	115.46330	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_009	MBI_0257	West Reef (South)	PIO	Reef (low relief)	-21.2	Filter feeders (seawhips)	Seawhips, algae tufts and sponges	-20.44236	115.46407	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_010	MBI_0258	West Reef (South)	PIO	Reef (low relief)	-13.7	Macroalgae (Phaeophyta) sparse	Macroalgae on pavement	-20.44365	115.46499	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_011	MBI_0259	West Reef (South)	PIO	Reef (low relief)	-10.4	Macroalgae (Phaeophyta) dense	Sand on pavement, macroalgae dominated	-20.44519	115.46858	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_012	MBI_0260	West Reef (South)	PIO	Reef (low relief)	-9.2	Reef/turf algae	Turf covered with some soft/hard corals, rubble in between at depth -5m more soft coral	-20.44580	115.47024	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_013	MBI_0261	West Reef (South)	PIO	Reef (low relief)	-3.5	Reef/turf algae	Soft corals, algal turf covered reef	-20.44006	115.47908	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_014	MBI_0262	West Reef (South)	PIO	Reef (low relief)	-6.7	Reef/turf algae	Coarse sand, some algal turf, sand on pavement	-20.43964	115.47780	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_015	MBI_0263	West Reef (South)	PIO	Reef (low relief)	-10.4	Macroalgae (Phaeophyta) sparse	Macroalgae on sand inundated pavement	-20.43778	115.47258	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_016	MBI_0264	West Reef (South)	PIO	Reef (low relief)	-16.4	Macroalgae (Phaeophyta) sparse	Macroalgae on sand inundated pavement	-20.43614	115.46657	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_017	MBI_0265	West Reef (South)	PIO	Sand	-14.6	Sand	Sand ripples, coarse sand	-20.42679	115.47453	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_018	MBI_0266	West Reef (South)	PIO	Reef (low relief)	-8.2	Soft corals (Alcyoniidae) medium	Some macroalgae, some turf algae, soft corals on reef, 50% soft coral, >10% hard coral, about 30% bare	-20.42740	115.47643	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_019	MBI_0267	West Reef (South)	PIO	Reef (low relief)	-8.5	Soft corals (Alcyoniidae) medium	Transect beginning at X-018	-20.42774	115.47666	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_020	MBI_0268	West Reef (South)	PIO	Reef (low relief)	-9.0	Macroalgae (Phaeophyta) dense	Dense macroalgae on pavement	-20.42831	115.47912	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_021	MBI_0269	West Reef (South)	PIO	Sand	-10.0	Sand	Sand with some macroalgae growth, shell grit.coarse, ripples, must be deep sand as no macroalgae growth	-20.42869	115.48112	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_022	MBI_0270	West Reef (South)	PIO	Reef (low relief)		Reef/turf algae	Some rubble, mainly bare, high profile reef and turf algae, some hard/soft corals, sea urchins	-20.42887	115.48178	GPS	GDA94	Drop down video	MSP/MBI/DDV#06-20061212	KBA	12/12/2006
MBIMPA	X_023	MBI_0271	West Reef (South)	PIO	Reef (high relief)	-1.0	Coral reef (Poritidae) sparse	Coral <i>Porites</i> bommies, lots of fish and crays	-20.42482	115.48952	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_024	MBI_0272	West Reef (South)	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae on pavement and rubble, lots of green turtles	-20.42692	115.48995	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_025	MBI_0273	West Reef (South)	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.42896	115.48691	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_026	MBI_0274	West Reef (South)	PIO	Reef (low relief)	-1.0	Coral reef (Acroporidae) sparse	Some acroporid corals, back reef	-20.42863	115.48381	GPS	GDA94	Direct	No Video	KBA	12/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	X_027	MBI_0275	West Reef (South)	PIO	Reef (high relief)	-1.0	Coral reef (Poritidae) sparse	Coral bommies	-20.42880	115.48467	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_028	MBI_0276	West Reef (South)	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.42989	115.49042	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_029	MBI_0277	Brooke Island	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.43221	115.50058	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_030	MBI_0278	Brooke Island	PIO	Reef (high relief)	-1.0	Coral reef (Poritidae) medium	String of bommies	-20.43014	115.50365	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_031	MBI_0279	Brooke Island	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Coral bommies	-20.42990	115.50401	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_032	MBI_0280	Brooke Island	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Coral bommies	-20.42986	115.50547	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_033	MBI_0281	Brooke Island	PIO	Reef (high relief)	-1.0	Coral reef (Poritidae) sparse	Coral bommies with <i>Acropora</i> plates etc	-20.42861	115.50589	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_034	MBI_0282	Brooke Island	PIO	Reef (low relief)	-1.0	Reef/turf algae	Old coral rubble macroalgae covered	-20.42919	115.50703	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	X_035	MBI_0283	Brooke Island	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.43104	115.50769	GPS	GDA94	Direct	No Video	KBA	12/12/2006
MBIMPA	Y_001	MBI_0284	Flag Island	PIO	Reef (low relief)	-9.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae, small sand patches	-20.45110	115.58510	GPS	GDA94	Drop down video	MSP/MBI/DDV#05-20061212	SLO	12/12/2006
MBIMPA	Y_002	MBI_0285	Whale Rock	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae, occasional encrusting thing like a sponge	-20.45500	115.59420	GPS	GDA94	Drop down video	MSP/MBI/DDV#05-20061212	SLO	12/12/2006
MBIMPA	Y_003	MBI_0286	Whale Rock	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.44770	115.60670	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_004	MBI_0287	Whale Rock	PIO	Reef (low relief)	-4.0	Soft corals (Alcyoniidae) sparse	Sparse soft coral, stinging hydroids, barren pavement, low relief	-20.44870	115.60810	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_005	MBI_0288	Whale Rock	PIO	Reef (low relief)	-3.0	Soft corals (Alcyoniidae) sparse	Pavement, soft corals occasionally, the odd tridacnid	-20.44962	115.60782	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_006	MBI_0289	Whale Rock	PIO	Reef (low relief)	-2.0	Reef/turf algae	Turf algae	-20.45160	115.60786	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_007	MBI_0290	Whale Rock	PIO	Reef (low relief)	-2.0	Reef/turf algae	Turf algae	-20.45269	115.60781	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0291	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45083	115.60691	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0292	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45131	115.60754	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0293	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45143	115.60725	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0294	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45171	115.60657	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0295	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45188	115.60622	GPS	GDA94	Direct	No Video	SLO	12/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	Y_008	MBI_0296	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45207	115.60545	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0297	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45209	115.60538	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0298	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.45172	115.60445	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0299	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.44991	115.60477	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_008	MBI_0300	Whale Rock	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Scattered hard and soft coral	-20.44957	115.60549	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_009	MBI_0301	Whale Rock	PIO	Reef (low relief)	-7.0	Macroalgae (Phaeophyta) dense	Dense macroalgae	-20.46490	115.60360	GPS	GDA94	Drop down video	MSP/MBI/DDV#05-20061212	SLO	12/12/2006
MBIMPA	Y_010	MBI_0302	Whale Rock	PIO	Reef (low relief)	-7.0	Macroalgae (Phaeophyta) sparse	Macroalgae, occasional soft coral (very occasional)	-20.46290	115.59910	GPS	GDA94	Drop down video	MSP/MBI/DDV#05-20061212	SLO	12/12/2006
MBIMPA	Y_011	MBI_0303	Flag Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.46119	115.58249	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_012	MBI_0304	Flag Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.45766	115.58166	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_013	MBI_0305	Flag Island	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae	-20.45587	115.58159	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_014	MBI_0306	Flag Island	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Couple of bommies, inside island, pretty scattered	-20.45636	115.57963	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_014	MBI_0307	Flag Island	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Couple of bommies, inside island, pretty scattered	-20.45648	115.57869	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_014	MBI_0308	Flag Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Macroalgae	-20.45729	115.57796	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_015	MBI_0309	Flag Island	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Macroalgae, sand	-20.45481	115.57052	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_016	MBI_0310	Flag Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Macroalgae with one solitary bommie	-20.45329	115.56455	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_017	MBI_0311	Stout Bay	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	Two lonely bommies	-20.46329	115.55109	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_018	MBI_0312	Whiskey Bay	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	Scattered bommies	-20.47061	115.54713	GPS	GDA94	Direct	No Video	SLO	12/12/2006
MBIMPA	Y_019	MBI_0313	Whiskey Bay	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae/sand	-20.47669	115.54827	GPS	GDA94	Direct	No Video	SLO	12/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_010T1	MBI_0314	Ah Chong Channel	PIO	Reef (high relief)	-4.6	Coral reef (mixed) medium	Scattered coral patch along a deep channel between the Island and shallow shelf area; live coral hard cover ~30%; major hard corals being massives such as <i>Porites</i> , <i>Platygyra</i> and <i>Goniastrea</i> , and encrusting <i>Turbinaria</i> ; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50853	115.54332	GPS	GDA94	Direct	MBI/COR_010-20061213		13/12/2006
MBIMPA	COR_010T1	MBI_0315	Ah Chong Channel	PIO	Reef (high relief)	-4.6	Coral reef (mixed) medium	Scattered coral patch along a deep channel between the Island and shallow shelf area; live coral hard cover ~30%; major hard corals being massives such as <i>Porites</i> , <i>Platygyra</i> and <i>Goniastrea</i> , and encrusting <i>Turbinaria</i> ; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50891	115.54308	GPS	GDA94	Direct	MBI/COR_010-20061213		13/12/2006
MBIMPA	COR_010T2	MBI_0316	Ah Chong Channel	PIO	Reef (high relief)	-4.6	Coral reef (mixed) medium	Scattered coral patch along a deep channel between the Island and shallow shelf area; live coral hard cover ~30%; major hard corals being massives such as <i>Porites</i> , <i>Platygyra</i> and <i>Goniastrea</i> , and encrusting <i>Turbinaria</i> ; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50814	115.54358	GPS	GDA94	Direct	MBI/COR_010-20061213		13/12/2006
MBIMPA	COR_010T2	MBI_0317	Ah Chong Channel	PIO	Reef (high relief)	-4.6	Coral reef (mixed) medium	Scattered coral patch along a deep channel between the Island and shallow shelf area; live coral hard cover ~30%; major hard corals being massives such as <i>Porites</i> , <i>Platygyra</i> and <i>Goniastrea</i> , and encrusting <i>Turbinaria</i> ; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50849	115.54347	GPS	GDA94	Direct	MBI/COR_010-20061213		13/12/2006
MBIMPA	COR_010T3	MBI_0318	Ah Chong Channel	PIO	Reef (high relief)	-4.6	Coral reef (mixed) medium	Scattered coral patch along a deep channel between the Island and shallow shelf area; live coral hard cover ~30%; major hard corals being massives such as <i>Porites</i> , <i>Platygyra</i> and <i>Goniastrea</i> , and encrusting <i>Turbinaria</i> ; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50780	115.54412	GPS	GDA94	Direct	MBI/COR_010-20061213		13/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_010T3	MBI_0319	Ah Chong Channel	PIO	Reef (high relief)	-4.6	Coral reef (mixed) medium	Scattered coral patch along a deep channel between the Island and shallow shelf area; live coral hard cover ~30%; major hard corals being massives such as <i>Porites</i> , <i>Platygyra</i> and <i>Goniastrea</i> , and encrusting <i>Turbinaria</i> ; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50804	115.54386	GPS	GDA94	Direct	MBI/COR_010-20061213		13/12/2006
MBIMPA	COR_011B1	MBI_0320	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50632	115.56477	GPS	GDA94	Direct	MBI/COR_011-20061213		13/12/2006
MBIMPA	COR_011B2	MBI_0321	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50643	115.56451	GPS	GDA94	Direct	MBI/COR_011-20061213		13/12/2006
MBIMPA	D_003	MBI_0322	Lowendal shelf	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Cluster of misshapen bommies with lots of fish and large areas of bare substrate/turf	-20.55971	115.57142	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	D_004	MBI_0323	Lowendal shelf	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Macroalgae and sand	-20.56270	115.56270	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	D_005	MBI_0324	Lowendal shelf	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Macroalgae and sand patches	-20.55007	115.56427	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	D_006	MBI_0325	Lowendal shelf	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Sand/pavement and macroalgae	-20.53682	115.55269	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	D_007	MBI_0326	Lowendal shelf	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Dense macroalgae on sand/rubble	-20.53135	115.55079	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	Lipid Col_01	MBI_0327	Stephenson Channel	PIO	Reef (low relief)		Coral reef (mixed) sparse	Low coral cover mixed	-20.46790	115.54732	GPS	GDA94	Direct	No Video		13/12/2006
MBIMPA	R_001	MBI_0328	South Lowendal Shelf	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Rubble, sand, macroalgae, occasional soft coral	-20.74459	115.56133	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	R_006	MBI_0329	South Lowendal Shelf	PIO	Reef (low relief)	-5.5	Macroalgae (Phaeophyta) sparse	Macroalgae, sand, rubble patches, low relief and occasional soft coral	-20.74882	115.56288	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	R_008	MBI_0330	South Lowendal Shelf	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Sand, rubble, macroalgae, low relief rocks	-20.75347	115.55984	GPS	GDA94	Direct	No Video	SLO	13/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	R_010	MBI_0331	South Lowendal Shelf	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Macroalgae, rubble, rocks, occasional small coral, sand	-20.75555	115.55915	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	R_011	MBI_0332	South Lowendal Shelf	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Sand/rubble, macroalgae, scattered soft corals	-20.75821	115.55695	GPS	GDA94	Direct	No Video	SLO	13/12/2006
MBIMPA	W_001	MBI_0333	Ah Chong Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Scattered hard/soft corals	-20.52028	115.54602	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_002	MBI_0334	Ah Chong Island	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) medium	Macroalgae on limestone pavement, quite lush in some areas	-20.51790	115.54419	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_003	MBI_0335	Ah Chong Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Nice corals, some Porites bommies	-20.51685	115.54193	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_004	MBI_0336	Ah Chong Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Corals with scattered bommies Porites and plates, lots of fishlife/sharks	-20.51645	115.54120	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_005	MBI_0337	Ah Chong Island	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Scattered small bommies about 1-2m in diameter	-20.50815	115.56113	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_006	MBI_0338	Ah Chong Island	PIO	Reef (high relief)	-5.0	Coral reef (Poritidae) sparse	50x30m coral bommies	-20.50843	115.56860	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_007	MBI_0339	Ah Chong Island	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies with <i>Acropora</i> etc.. In between, loads of fish	-20.50661	115.56491	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_008	MBI_0340	Ah Chong Island	PIO	Reef (high relief)	-10.0	Coral reef (Poritidae) sparse	Coral bommies	-20.50715	115.56378	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_009	MBI_0341	Ah Chong Island	PIO	Reef (high relief)	-8.0	Coral reef (Poritidae) sparse	Coral bommies	-20.50799	115.56565	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_010	MBI_0342	Ah Chong Island	PIO	Reef (high relief)	-8.0	Coral reef (Poritidae) sparse	Coral bommies, only a few small ones	-20.50851	115.56529	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_011	MBI_0343	Ah Chong Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	About 50% macroalgae	-20.50941	115.56499	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_012	MBI_0344	Ah Chong Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	About 70% macroalgae on limestone pavement	-20.51835	115.56072	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_013	MBI_0345	Ah Chong Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	About 50% macroalgae on limestone pavement	-20.52678	115.55531	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_014	MBI_0346	Ah Chong Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) medium	About 20% macroalgae on limestone pavement, sand vaneer	-20.53156	115.55178	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_015	MBI_0347	Ah Chong Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) medium	About 20% macroalgae on limestone pavement, sand vaneer	-20.53568	115.54373	GPS	GDA94	Direct	No Video		13/12/2006
MBIMPA	W_020	MBI_0348	Ah Chong Island	PIO	Reef (low relief)	-1.0	Macroalgae (Phaeophyta) dense	About 40-60% macroalgae cover	-20.52118	115.55569	GPS	GDA94	Direct	No Video	KBA	13/12/2006
MBIMPA	W_021	MBI_0349	Ah Chong Island	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Coral bommies	-20.50760	115.56519	GPS	GDA94	Direct	No Video	KBA	13/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_011T1	MBI_0350	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50663	115.56473	GPS	GDA94	Direct	MBI/COR_011-20061214		13/12/2006
MBIMPA	COR_011T1	MBI_0351	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50620	115.56479	GPS	GDA94	Direct	MBI/COR_011-20061214		13/12/2006
MBIMPA	COR_011T2	MBI_0352	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50644	115.56454	GPS	GDA94	Direct	MBI/COR_011-20061214		14/12/2006
MBIMPA	COR_011T2	MBI_0353	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50606	115.56456	GPS	GDA94	Direct	MBI/COR_011-20061214		14/12/2006
MBIMPA	COR_011T3	MBI_0354	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50627	115.56437	GPS	GDA94	Direct	MBI/COR_011-20061214		14/12/2006
MBIMPA	COR_011T3	MBI_0355	West of Ah Chong Is	PIO	Reef (high relief)	-7.1	Coral reef (Poritidae) medium	A substantial area of coral reef off the inter-island shelf; 40% live hard coral cover; major hard corals were massive and arborescent poritids, and encrusting <i>Favites</i> spp. And <i>Galaxea</i> spp.; relatively deep site; sheltered from long-period swells and moderate exposure to cyclonic waves	-20.50584	115.56437	GPS	GDA94	Direct	MBI/COR_011-20061214		14/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_012T1	MBI_0356	Shelf slope east of Black Rk	PIO	Reef (high relief)	-7.0	Coral reef (Poritidae) medium	A substantial area of coral reef east of the Montebello/Lowendal inter-island shelf; high live hard coral cover ~50%; major hard corals were massive poritids, and arborescent and tabulate acroporids; other benthos included <i>Sarcophyton</i> spp. Soft coral; turf algae	-20.55498	115.57309	GPS	GDA94	Direct	MBI/COR_012-20061214		14/12/2006
MBIMPA	COR_012T1	MBI_0357	Shelf slope east of Black Rk	PIO	Reef (high relief)	-7.0	Coral reef (Poritidae) medium	A substantial area of coral reef east of the Montebello/Lowendal inter-island shelf; high live hard coral cover ~50%; major hard corals were massive poritids, and arborescent and tabulate acroporids; other benthos included <i>Sarcophyton</i> spp. Soft coral; turf algae	-20.55512	115.57270	GPS	GDA94	Direct	MBI/COR_012-20061214		14/12/2006
MBIMPA	COR_012T2	MBI_0358	Shelf slope east of Black Rk	PIO	Reef (high relief)	-7.0	Coral reef (Poritidae) medium	A substantial area of coral reef east of the Montebello/Lowendal inter-island shelf; high live hard coral cover ~50%; major hard corals were massive poritids, and arborescent and tabulate acroporids; other benthos included <i>Sarcophyton</i> spp. Soft coral; turf algae	-20.55512	115.57240	GPS	GDA94	Direct	MBI/COR_012-20061214		14/12/2006
MBIMPA	COR_012T2	MBI_0359	Shelf slope east of Black Rk	PIO	Reef (high relief)	-7.0	Coral reef (Poritidae) medium	A substantial area of coral reef east of the Montebello/Lowendal inter-island shelf; high live hard coral cover ~50%; major hard corals were massive poritids, and arborescent and tabulate acroporids; other benthos included <i>Sarcophyton</i> spp. Soft coral; turf algae	-20.55524	115.57201	GPS	GDA94	Direct	MBI/COR_012-20061214		14/12/2006
MBIMPA	COR_012T3	MBI_0360	Shelf slope east of Black Rk	PIO	Reef (high relief)	-7.0	Coral reef (Poritidae) medium	A substantial area of coral reef east of the Montebello/Lowendal inter-island shelf; high live hard coral cover ~50%; major hard corals were massive poritids, and arborescent and tabulate acroporids; other benthos included <i>Sarcophyton</i> spp. Soft coral; turf algae	-20.55527	115.57198	GPS	GDA94	Direct	MBI/COR_012-20061214		14/12/2006
MBIMPA	COR_012T3	MBI_0361	Shelf slope east of Black Rk	PIO	Reef (high relief)	-7.0	Coral reef (Poritidae) medium	A substantial area of coral reef east of the Montebello/Lowendal inter-island shelf; high live hard coral cover ~50%; major hard corals were massive poritids, and arborescent and tabulate acroporids; other benthos included <i>Sarcophyton</i> spp. Soft coral; turf algae	-20.55538	115.57152	GPS	GDA94	Direct	MBI/COR_012-20061214		14/12/2006
MBIMPA	V_001	MBI_0362	Black Rock	PIO	Reef (high relief)	-5.5	Coral reef (Poritidae) sparse	Coral bommies, depth -5.5m	-20.55614	115.57175	GPS	GDA94	Direct	No Video	AKE	14/12/2006
MBIMPA	V_002	MBI_0363	Black Rock	PIO	Reef (high relief)	-5.0	Coral reef (Poritidae) sparse	Coral bommies, depth -5m	-20.55635	115.57148	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_003	MBI_0364	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies, broken ground	-20.55659	115.57185	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_004	MBI_0365	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Some bommies, broken ground	-20.55582	115.57208	GPS	GDA94	Direct	No Video	KBA	14/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	V_005	MBI_0366	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Good connected coral bommies	-20.55524	115.57221	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_006	MBI_0367	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	End of bommies	-20.55493	115.57249	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_007	MBI_0368	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Porites coral bommies	-20.55802	115.57169	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_008	MBI_0369	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Porites coral bommies	-20.55816	115.57134	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_009	MBI_0370	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Broken and rubble, mixed hard and soft corals	-20.55814	115.57188	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_010	MBI_0371	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Porites coral bommies	-20.55634	115.57453	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_011	MBI_0372	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies with sand patches	-20.55674	115.57425	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_012	MBI_0373	Black Rock	PIO	Reef (low relief)		Soft corals (Alcyoniidae) sparse	Rubble, bare reef with soft and hard corals, <i>Porites</i>	-20.55986	115.57723	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_013	MBI_0374	Black Rock	PIO	Reef (low relief)		Soft corals (Alcyoniidae) sparse	Soft corals, small <i>Porites</i> bommies, <i>Acropora</i> plates, sand, rubble	-20.56106	115.57775	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_014	MBI_0375	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies, isolated bommie	-20.56107	115.57814	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_015	MBI_0376	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Bommie cluster	-20.56131	115.57795	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_016	MBI_0377	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Bommie cluster	-20.56174	115.57807	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_017	MBI_0378	Black Rock	PIO	Reef (high relief)	-5.0	Coral reef (Poritidae) medium	Bommie cluster, isolated bommies	-20.56239	115.57712	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_018	MBI_0379	Black Rock	PIO	Reef (high relief)	-5.0	Coral reef (mixed) sparse	Rubble, some coral, depth -5m	-20.56274	115.57764	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_019	MBI_0380	Black Rock	PIO	Reef (high relief)		Coral reef (mixed) sparse	Rubble, mixture of corals, plate <i>Acropora</i>	-20.56327	115.57809	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_020	MBI_0381	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated <i>Porites</i> bommies, dead side, mixture of corals	-20.56402	115.57711	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_021	MBI_0382	Black Rock	PIO	Reef (high relief)		Coral reef (mixed) sparse	Fire coral, recruits, dead lump	-20.56426	115.57715	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_022	MBI_0383	Black Rock	PIO	Reef (high relief)		Coral reef (Acroporidae) sparse	Plate <i>Acropora</i> , <i>Porites</i> , 2 bommies together	-20.56428	115.57645	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_023	MBI_0384	Black Rock	PIO	Reef (high relief)		Coral reef (Acroporidae) sparse	Rubbly bottom with 3 bommie clusters, soft corals, <i>Acropora</i> plates, <i>Porites</i> , isolated bommies	-20.56510	115.57569	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_024	MBI_0385	Black Rock	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated bommies, <i>Acropora</i> plates, <i>Porites</i>	-20.56665	115.57588	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_025	MBI_0386	Black Rock	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Macroalgae about 30-60% cover	-20.56294	115.56270	GPS	GDA94	Direct	No Video	KBA	14/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	V_026	MBI_0387	Black Rock	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Macroalgae, sparse cover	-20.55639	115.55806	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_027	MBI_0388	Black Rock	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	About 50% macroalgae	-20.54906	115.55424	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_028	MBI_0389	Black Rock	PIO	Reef (low relief)		Macroalgae (Phaeophyta) dense	Macroalgae about 70%	-20.54071	115.54737	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	V_029	MBI_0390	Black Rock	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	About 40% macroalgae cover	-20.53871	115.54587	GPS	GDA94	Direct	No Video	KBA	14/12/2006
MBIMPA	COR_013B1	MBI_0391	Shelf slope east of Black Rk	PIO	Reef (high relief)	-5.9	Coral reef (Poritidae) dense	This site was placed in the general area of the previous site; a substantial area of coral reef east off the Montebello/Lowendal inter-island shelf; three clusters of massive poritid bommies; high live coral cover of ~50%; other benthos included arborescent acroporid corals	-20.55596	115.57250	GPS	GDA94	Direct	MBI/COR_013-20061215		14/12/2006
MBIMPA	COR_013B2	MBI_0392	Shelf slope east of Black Rk	PIO	Reef (high relief)	-5.9	Coral reef (Poritidae) dense	This site was placed in the general area of the previous site; a substantial area of coral reef east off the Montebello/Lowendal inter-island shelf; three clusters of massive poritid bommies; high live coral cover of ~50%; other benthos included arborescent acroporid corals	-20.55539	115.57160	GPS	GDA94	Direct	MBI/COR_013-20061215		14/12/2006
MBIMPA	COR_013B3	MBI_0393	Shelf slope east of Black Rk	PIO	Reef (high relief)	-5.9	Coral reef (Poritidae) dense	This site was placed in the general area of the previous site; a substantial area of coral reef east off the Montebello/Lowendal inter-island shelf; three clusters of massive poritid bommies; high live coral cover of ~50%; other benthos included arborescent acroporid corals	-20.55530	115.57190	GPS	GDA94	Direct	MBI/COR_013-20061215		15/12/2006
MBIMPA	COR_014B1	MBI_0394	Shelf slope NE of Bridled Is	PIO	Reef (high relief)	-6.1	Coral reef (Poritidae) dense	A substantial area of poritid bommies east off the Montebello/Lowendal inter-island shelf; three individual poritid bommies; high live coral cover ~60%; other hard corals present included arborescent and tabulate acroporids; other benthos included sponges	-20.62902	115.58313	GPS	GDA94	Direct	MBI/COR_014-20061215		15/12/2006
MBIMPA	COR_014B2	MBI_0395	Shelf slope NE of Bridled Is	PIO	Reef (high relief)	-6.1	Coral reef (Poritidae) dense	A substantial area of poritid bommies east off the Montebello/Lowendal inter-island shelf; three individual poritid bommies; high live coral cover ~60%; other hard corals present included arborescent and tabulate acroporids; other benthos included sponges	-20.62845	115.58339	GPS	GDA94	Direct	MBI/COR_014-20061215		15/12/2006
MBIMPA	COR_014B3	MBI_0396	Shelf slope NE of Bridled Is	PIO	Reef (high relief)	-6.1	Coral reef (Poritidae) dense	A substantial area of poritid bommies east off the Montebello/Lowendal inter-island shelf; three individual poritid bommies; high live coral cover ~60%; other hard corals present included arborescent and tabulate acroporids; other benthos included sponges	-20.62850	115.58259	GPS	GDA94	Direct	MBI/COR_014-20061215		15/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_015B1	MBI_0397	Shelf slope S of Varanus Is	PIO	Reef (high relief)	-5.9	Coral reef (Poritidae) dense	A substantial area of poritid bommies off the Montebello/Lowendal inter-island shelf; three individual poritid bommies; high live coral cover ~50%; other hard corals present included arborescent and tabulate acroporids; other benthos included sponges; turf algae	-20.71888	115.57636	GPS	GDA94	Direct	MBI/COR_015-20061215		15/12/2006
MBIMPA	COR_015B2	MBI_0398	Shelf slope S of Varanus Is	PIO	Reef (high relief)	-5.9	Coral reef (Poritidae) dense	A substantial area of poritid bommies off the Montebello/Lowendal inter-island shelf; three individual poritid bommies; high live coral cover ~50%; other hard corals present included arborescent and tabulate acroporids; other benthos included sponges; turf algae	-20.71887	115.57748	GPS	GDA94	Direct	MBI/COR_015-20061215		15/12/2006
MBIMPA	COR_015B3	MBI_0399	Shelf slope S of Varanus Is	PIO	Reef (high relief)	-5.9	Coral reef (Poritidae) dense	A substantial area of poritid bommies off the Montebello/Lowendal inter-island shelf; three individual poritid bommies; high live coral cover ~50%; other hard corals present included arborescent and tabulate acroporids; other benthos included sponges; turf algae	-20.71936	115.57805	GPS	GDA94	Direct	MBI/COR_015-20061215		15/12/2006
MBIMPA	S_001	MBI_0400	Dugong Reef	PIO	Reef (high relief)	-8.0	Coral reef (Poritidae) sparse	Hard coral patches on a <i>Porites</i> bommie is isolated but a bit dead on the top the sides seem alive though, broken up bommies	-20.71222	115.57544	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_002	MBI_0401	Dugong Reef	PIO	Reef (high relief)	-8.0	Coral reef (Poritidae) medium	Bommie cluster, broken up bommies	-20.71357	115.57641	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_003	MBI_0402	Dugong Reef	PIO	Reef (high relief)	-8.0	Coral reef (Poritidae) sparse	Isolated bommies <i>Porites</i> , mixture of corals including <i>Acropora</i> plates	-20.71414	115.57435	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_004	MBI_0403	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Bommie isolated	-20.71338	115.57627	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_005	MBI_0404	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated bommie <i>Porites</i> (small bommies) with mixture of corals	-20.71397	115.57411	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_006	MBI_0405	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Small patchy isolated bommie	-20.71387	115.57386	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_007	MBI_0406	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated bommie patchy, <i>Porites</i> and mixture of corals	-20.71413	115.57415	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_008	MBI_0407	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated bommie, <i>Porites</i> and mixture of corals	-20.71203	115.57469	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_009	MBI_0408	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Big <i>Porites</i> bommie with other corals, isolated	-20.71886	115.57639	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_010	MBI_0409	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	<i>Porites</i> bommie, isolated, big enough	-20.71883	115.57748	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	S_011	MBI_0410	Dugong Reef	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated bommie	-20.71941	115.57804	GPS	GDA94	Direct	No Video	SAR	15/12/2006
MBIMPA	T_001	MBI_0411	Varanus Island	PIO	Reef (low relief)	-2.0	Coral reef (rubble)	Small corals	-20.63900	115.58565	GPS	GDA94	Direct	No Video	KBA	15/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	T_002	MBI_0412	Varanus Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Some coral bommies	-20.64914	115.59070	GPS	GDA94	Direct	No Video	KBA	15/12/2006
MBIMPA	T_003	MBI_0413	Varanus Island	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	About 10% cover of macroalgae, rubble and small corals	-20.66023	115.59203	GPS	GDA94	Direct	No Video	KBA	15/12/2006
MBIMPA	T_004	MBI_0414	Varanus Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	<10% macroalgae cover, scattered small <i>Porites</i> bommies	-20.66382	115.59144	GPS	GDA94	Direct	No Video	KBA	15/12/2006
MBIMPA	T_005	MBI_0415	Varanus Island	PIO	Reef (low relief)		Reef/turf algae	Bare	-20.67277	115.58970	GPS	GDA94	Direct	No Video	KBA	15/12/2006
MBIMPA	T_006	MBI_0416	Varanus Island	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	About 30-40% macroalgae cover	-20.70824	115.57898	GPS	GDA94	Direct	No Video	KBA	15/12/2006
MBIMPA	COR_016B1	MBI_0417	South Lowendal Shelf	PIO	Reef (high relief)	-4.2	Coral reef (Poritidae) medium	A substantial area of poritid bommies off the Lowendal shelf; three individual bommies; high live coral cover <50%; other hard corals include arborescent and tabulate acroporids and encrusting montiporids; other benthos included Gorgonians and hydroids	-20.78461	115.52475	GPS	GDA94	Direct	MBI/COR_016-20061216		16/12/2006
MBIMPA	COR_016B2	MBI_0418	South Lowendal Shelf	PIO	Reef (high relief)	-4.2	Coral reef (Poritidae) medium	A substantial area of poritid bommies off the Lowendal shelf; three individual bommies; high live coral cover <50%; other hard corals include arborescent and tabulate acroporids and encrusting montiporids; other benthos included Gorgonians and hydroids	-20.78435	115.52507	GPS	GDA94	Direct	MBI/COR_016-20061216		16/12/2006
MBIMPA	COR_016B3	MBI_0419	South Lowendal Shelf	PIO	Reef (high relief)	-4.2	Coral reef (Poritidae) medium	A substantial area of poritid bommies off the Lowendal shelf; three individual bommies; high live coral cover <50%; other hard corals include arborescent and tabulate acroporids and encrusting montiporids; other benthos included Gorgonians and hydroids	-20.78386	115.52550	GPS	GDA94	Direct	MBI/COR_016-20061216		16/12/2006
MBIMPA	COR_017B1	MBI_0420	SE Lowendal Shelf	PIO	Reef (high relief)	-6.5	Coral reef (Poritidae) dense	Three isolated poritid bommies located in a bommie field east off the Lowendal shelf; live hard coral cover was >50%; other hard corals present include tabulate and branching acroporids and foliose <i>Turbinaria</i> spp.; turf algae covered reef pavement	-20.75566	115.57447	GPS	GDA94	Direct	MBI/COR_017-20061216		16/12/2006
MBIMPA	COR_017B2	MBI_0421	SE Lowendal Shelf	PIO	Reef (high relief)	-6.5	Coral reef (Poritidae) dense	Three isolated poritid bommies located in a bommie field east off the Lowendal shelf; live hard coral cover was >50%; other hard corals present include tabulate and branching acroporids and foliose <i>Turbinaria</i> spp.; turf algae covered reef pavement;	-20.75621	115.57412	GPS	GDA94	Direct	MBI/COR_017-20061216		16/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_017B3	MBI_0422	SE Lowendal Shelf	PIO	Reef (high relief)	-6.5	Coral reef (Poritidae) dense	Three isolated poritid bommies located in a bommie field east off the Lowendal shelf; live hard coral cover was >50%; other hard corals present include tabulate and branching acroporids and foliose Turbinaria spp.; turf algae covered reef pavement	-20.75583	115.57347	GPS	GDA94	Direct	MBI/COR_017-20061216		16/12/2006
MBIMPA	COR_018T1	MBI_0423	Southern Lowendal Shelf	PIO	Reef (high relief)	-0.5	Coral reef (Acroporidae) medium	Vast area of coral reef habit on the southern end of the Lowendal Shelf; deeper water is ~150m south of site; mainly comprised of arborescent acroporid; tabulate and corymbose acroporid forms are present; ~70% live hard coral cover; turf algae on reef pavement	-20.78606	115.50667	GPS	GDA94	Direct	MBI/COR_018-20061216		16/12/2006
MBIMPA	COR_018T1	MBI_0424	Southern Lowendal Shelf	PIO	Reef (high relief)	-0.5	Coral reef (Acroporidae) medium	Vast area of coral reef habit on the southern end of the Lowendal Shelf; deeper water is ~150m south of site; mainly comprised of arborescent acroporid; tabulate and corymbose acroporid forms are present; ~70% live hard coral cover; turf algae on reef pavement	-20.78653	115.50666	GPS	GDA94	Direct	MBI/COR_018-20061216		16/12/2006
MBIMPA	COR_018T2	MBI_0425	Southern Lowendal Shelf	PIO	Reef (high relief)	-0.5	Coral reef (Acroporidae) medium	Vast area of coral reef habit on the southern end of the Lowendal Shelf; deeper water is ~150m south of site; mainly comprised of arborescent acroporid; tabulate and corymbose acroporid forms are present; ~70% live hard coral cover; turf algae on reef pavement	-20.78611	115.50639	GPS	GDA94	Direct	MBI/COR_018-20061216		16/12/2006
MBIMPA	COR_018T2	MBI_0426	Southern Lowendal Shelf	PIO	Reef (high relief)	-0.5	Coral reef (Acroporidae) medium	Vast area of coral reef habit on the southern end of the Lowendal Shelf; deeper water is ~150m south of site; mainly comprised of arborescent acroporid; tabulate and corymbose acroporid forms are present; ~70% live hard coral cover; turf algae on reef pavement	-20.78653	115.50639	GPS	GDA94	Direct	MBI/COR_018-20061216		16/12/2006
MBIMPA	COR_018T3	MBI_0427	Southern Lowendal Shelf	PIO	Reef (high relief)	-0.5	Coral reef (Acroporidae) medium	Vast area of coral reef habit on the southern end of the Lowendal Shelf; deeper water is ~150m south of site; mainly comprised of arborescent acroporid; tabulate and corymbose acroporid forms are present; ~70% live hard coral cover; turf algae on reef pavement	-20.78618	115.50609	GPS	GDA94	Direct	MBI/COR_018-20061216		16/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_018T3	MBI_0428	Southern Lowendal Shelf	PIO	Reef (high relief)	-0.5	Coral reef (Acroporidae) medium	Vast area of coral reef habit on the southern end of the Lowendal Shelf; deeper water is ~150m south of site; mainly comprised of arborescent acroporid; tabulate and corymbose acroporid forms are present; ~70% live hard coral cover; turf algae on reef pavement	-20.78663	115.50611	GPS	GDA94	Direct	MBI/COR_018-20061216		16/12/2006
MBIMPA	coral lipids	MBI_0429	South Lowendal Shelf	PIO	Reef (high relief)		Coral reef (mixed) sparse	Mixed corals	-20.78674	115.50601	GPS	GDA94	Direct	No Video		16/12/2006
MBIMPA	Lipid site	MBI_0430	South Lowendal Shelf	PIO	Reef (high relief)		Coral reef (mixed) sparse	Mixed corals	-20.78380	115.52565	GPS	GDA94	Direct	No Video		16/12/2006
MBIMPA	Q_001	MBI_0431	South Lowendal Shelf	PIO	Reef (low relief)		Coral reef (mixed) sparse	Coral bumps, scattered, rubble bottom	-20.78709	115.52414	GPS	GDA94	Drop down video	MSP/MBI/DDV#07-20061213	KBA	16/12/2006
MBIMPA	Q_002	MBI_0432	South Lowendal Shelf	PIO	Reef (high relief)	-6.0	Coral reef (Poritidae) sparse	Isolated bommies on rubble bottom	-20.78673	115.52392	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_003	MBI_0433	South Lowendal Shelf	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Isolated bommies	-20.78600	115.52383	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_004	MBI_0434	South Lowendal Shelf	PIO	Reef (low relief)	-5.0	Coral reef (mixed) sparse	Rubble bottom with scattered hard and soft coral	-20.78479	115.52220	GPS	GDA94	Drop down video	MSP/MBI/DDV#07-20061213	KBA	16/12/2006
MBIMPA	Q_005	MBI_0435	South Lowendal Shelf	PIO	Reef (high relief)	-5.0	Coral reef (mixed) medium	Coral, 10-20% on rubble, odd bommie <i>Porites</i>	-20.78567	115.51974	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_006	MBI_0436	South Lowendal Shelf	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) medium	Macroalgae about 20%, scattered coral about 10%, coral rubble, coarse sand	-20.78710	115.51521	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_007	MBI_0437	South Lowendal Shelf	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) medium	Large clusters of <i>Porites</i> bommies about 30m in diameter	-20.78789	115.51248	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_008	MBI_0438	South Lowendal Shelf	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Isolated coral bommies, <i>Porites</i> and <i>Acropora</i> , coral rubble around	-20.78920	115.50958	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_009	MBI_0439	South Lowendal Shelf	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Scattered corals on coral rubble bottom, some <i>Porites</i> lumps	-20.78947	115.50939	GPS	GDA94	Drop down video	MSP/MBI/DDV#07-20061213	KBA	16/12/2006
MBIMPA	Q_010	MBI_0440	South Lowendal Shelf	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Scattered corals on coral rubble bottom, some <i>Porites</i> lumps	-20.78911	115.50875	GPS	GDA94	Direct	No Video	KBA	16/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	Q_011	MBI_0441	South Lowendal Shelf	PIO	Reef (high relief)	-4.0	Coral reef (Acroporidae) medium	Coral plates, Acropora and montipora, bommies <i>Porites</i> , about 20-30% cover	-20.78888	115.50702	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_012	MBI_0442	South Lowendal Shelf	PIO	Reef (high relief)	-4.0	Coral reef (Acroporidae) medium	Staghorn coral, coral rubble, scattered coral plates, scattered <i>Porites</i>	-20.78752	115.50596	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_013	MBI_0443	South Lowendal Shelf	PIO	Reef (high relief)	-4.0	Coral reef (Acroporidae) medium	Staghorn coral, coral rubble, scattered coral plates, scattered <i>Porites</i>	-20.78524	115.50505	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_014	MBI_0444	South Lowendal Shelf	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Macroalgae about 10%, sponges (vase like) seawhips and other octocorals	-20.78176	115.51104	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_015	MBI_0445	South Lowendal Shelf	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) medium	Scattered corals, sponges and soft corals, macroalgae about 15%	-20.78263	115.51313	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_016	MBI_0446	South Lowendal Shelf	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) medium	Macroalgae about 30%, scattered corals ectà	-20.78337	115.51688	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_017	MBI_0447	South Lowendal Shelf	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Macroalgae about 10%, various corals about 10%, sponges, coral trout	-20.78361	115.52059	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_018	MBI_0448	South Lowendal Shelf	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Scattered corals, <i>Porites</i> bommies on coral rubble, some <i>Acropora</i>	-20.78641	115.52328	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	Q_019	MBI_0449	South Lowendal Shelf	PIO	Sand		Sand	Some sand ripples	-20.78885	115.52432	GPS	GDA94	Direct	No Video	KBA	16/12/2006
MBIMPA	R_002	MBI_0450	South Lowendal Shelf	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Rubble, macroalgae	-20.74730	115.56169	GPS	GDA94	Direct	No Video	s	16/12/2006
MBIMPA	R_003	MBI_0451	South Lowendal Shelf	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae, a few rocks/rubble	-20.74788	115.56204	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_004	MBI_0452	South Lowendal Shelf	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Rubble, sand, sparse macroalgae	-20.74847	115.56150	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_005	MBI_0453	South Lowendal Shelf	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Rubble, macroalgae, occasional soft coral	-20.74850	115.56185	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_007	MBI_0454	South Lowendal Shelf	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Sand, rubble, scattered macroalgae	-20.75063	115.54899	GPS	GDA94	Direct	No Video	SLO	16/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	R_009	MBI_0455	South Lowendal Shelf	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	A rock with small hard corals surrounded by algae and rubble - might once have been a <i>Porites</i> bommie (long ago)	-20.75475	115.55950	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_012	MBI_0456	South Lowendal Shelf	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) dense	Luxuriant macroalgae, sand, occasional coral	-20.76921	115.54336	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_013	MBI_0457	South Lowendal Shelf	PIO	Reef (high relief)	-5.0	Coral reef (Poritidae) dense	Big <i>Porites</i> bommie with other corals, isolated	-20.78412	115.52719	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_014	MBI_0458	South Lowendal Shelf	PIO	Reef (high relief)	-5.0	Coral reef (mixed) sparse	Rock with corals (not a <i>Porites</i> bommie)	-20.78378	115.52661	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	R_015	MBI_0459	South Lowendal Shelf	PIO	Reef (high relief)	-6.0	Coral reef (Poritidae) sparse	Big <i>Porites</i> bommie	-20.78384	115.52565	GPS	GDA94	Direct	No Video	SLO	16/12/2006
MBIMPA	COR_019T1	MBI_0460	Inside Wonnich Reef	PIO	Reef (low relief)	-0.6	Coral reef (Acroporidae) dense	Substantial back reef area dominated by tabular acroporids, approximately 95% cover of coral (dead and live); evidence that the top surface of the plate coral has been exposed to air probably at spring low tide; top surface has substantial amounts of algae	-20.50972	115.47731	GPS	GDA94	Direct	MBI/COR_019-20061217		17/12/2006
MBIMPA	COR_019T1	MBI_0461	Inside Wonnich Reef	PIO	Reef (low relief)	-0.6	Coral reef (Acroporidae) dense	Substantial back reef area dominated by tabular acroporids, approximately 95% cover of coral (dead and live); evidence that the top surface of the plate coral has been exposed to air probably at spring low tide; top surface has substantial amounts of algae	-20.51017	115.47735	GPS	GDA94	Direct	MBI/COR_019-20061217		17/12/2006
MBIMPA	COR_019T2	MBI_0462	Inside Wonnich Reef	PIO	Reef (low relief)	-0.6	Coral reef (Acroporidae) dense	Substantial back reef area dominated by tabular acroporids, approximately 95% cover of coral (dead and live); evidence that the top surface of the plate coral has been exposed to air probably at spring low tide; top surface has substantial amounts of algae	-20.50970	115.47759	GPS	GDA94	Direct	MBI/COR_019-20061217		17/12/2006
MBIMPA	COR_019T2	MBI_0463	Inside Wonnich Reef	PIO	Reef (low relief)	-0.6	Coral reef (Acroporidae) dense	Substantial back reef area dominated by tabular acroporids, approximately 95% cover of coral (dead and live); evidence that the top surface of the plate coral has been exposed to air probably at spring low tide; top surface has substantial amounts of algae	-20.51016	115.47760	GPS	GDA94	Direct	MBI/COR_019-20061217		17/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_019T3	MBI_0464	Inside Wonnich Reef	PIO	Reef (low relief)	-0.6	Coral reef (Acroporidae) dense	Substantial back reef area dominated by tabular acroporids, approximately 95% cover of coral (dead and live); evidence that the top surface of the plate coral has been exposed to air probably at spring low tide; top surface has substantial amounts of algae	-20.50972	115.47782	GPS	GDA94	Direct	MBI/COR_019-20061217		17/12/2006
MBIMPA	COR_019T3	MBI_0465	Inside Wonnich Reef	PIO	Reef (low relief)	-0.6	Coral reef (Acroporidae) dense	Substantial back reef area dominated by tabular acroporids, approximately 95% cover of coral (dead and live); evidence that the top surface of the plate coral has been exposed to air probably at spring low tide; top surface has substantial amounts of algae	-20.51015	115.47788	GPS	GDA94	Direct	MBI/COR_019-20061217		17/12/2006
MBIMPA	M_001	MBI_0466	Wonnich Reef (East)	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Coral bommies	-20.50254	115.47468	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_002	MBI_0467	Wonnich Reef (East)	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Soft corals	-20.50284	115.47477	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_003	MBI_0468	Wonnich Reef (East)	PIO	Reef (high relief)	-2.0	Coral reef (Poritidae) sparse	Coral bommies	-20.50255	115.47518	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_004	MBI_0469	Wonnich Reef (East)	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies	-20.50273	115.47613	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_005	MBI_0470	Wonnich Reef (East)	PIO	Reef (high relief)	-4.3	Coral reef (Poritidae) sparse	Coral bommies	-20.50296	115.47627	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_006	MBI_0471	Wonnich Reef (East)	PIO	Reef (low relief)		Coral reef (mixed) sparse	Good monitoring site, coral reef community	-20.50426	115.47709	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_007	MBI_0472	Wonnich Reef (East)	PIO	Reef (low relief)		Coral reef (mixed) sparse	Typical back reef, coral community, plates, etc	-20.50612	115.47850	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_008	MBI_0473	Wonnich Reef (East)	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Bommie field	-20.50859	115.47835	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_009	MBI_0474	Wonnich Reef (East)	PIO	Reef (low relief)	-1.0	Coral reef (Acroporidae) sparse	Acropora plates	-20.51039	115.47833	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_010	MBI_0475	West Lowendal Shelf	PIO	Sand	-11.2	Sand	Bare sand	-20.53848	115.47952	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	17/12/2006
MBIMPA	M_011	MBI_0476	West Lowendal Shelf	PIO	Sand	-7.6	Sand	Sand ripples, coarse sand	-20.53967	115.47858	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	17/12/2006
MBIMPA	M_012	MBI_0477	West Lowendal Shelf	PIO	Sand	-9.5	Sand	Sand, siltier than	-20.54229	115.48061	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	17/12/2006
MBIMPA	M_013	MBI_0478	West Lowendal Shelf	PIO	Sand	-9.0	Sand	Coarse sand	-20.54218	115.46672	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	17/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	M_014	MBI_0479	West Lowendal Shelf	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) dense	Good macroalgae, 80% cover	-20.55168	115.46386	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_015	MBI_0480	West Lowendal Shelf	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Macroalgae	-20.55377	115.45466	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_016	MBI_0481	West Lowendal Shelf	PIO	Reef (high relief)	-5.0	Coral reef (Poritidae) medium	Porites bommies clusters	-20.54991	115.45203	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_017	MBI_0482	West Lowendal Shelf	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) medium	Coral bommie clusters	-20.54981	115.45171	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_018	MBI_0483	West Lowendal Shelf	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Coral rubble with macroalgae	-20.54998	115.45064	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_019	MBI_0484	West Lowendal Shelf	PIO	Reef (low relief)	-1.5	Macroalgae (Phaeophyta) sparse	Macroalgae on coral rubble, limestone pavement	-20.54953	115.44968	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_020	MBI_0485	West Lowendal Shelf	PIO	Reef (low relief)	-1.2	Macroalgae (Phaeophyta) sparse	Macroalgae on coral rubble, pavement, some small coral recruits	-20.55091	115.44877	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	M_021	MBI_0486	West Lowendal Shelf	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Coral rubble with macroalgae, small acroporids	-20.55237	115.45008	GPS	GDA94	Direct	No Video	KBA	17/12/2006
MBIMPA	N_041	MBI_0487	Wonnich Reef (South)	PIO	Reef (low relief)	-13.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae, sand	-20.51127	115.44638	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_042	MBI_0488	Wonnich Reef (South)	PIO	Reef (low relief)	-11.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae	-20.51369	115.45017	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_043	MBI_0489	Wonnich Reef (South)	PIO	Reef (low relief)	-9.0	Macroalgae (Phaeophyta) dense	Clumpy short macroalgae (turtle grass?)	-20.51779	115.45685	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_044	MBI_0490	Wonnich Reef (South)	PIO	Reef (low relief)	-4.0	Reef/turf algae	Turf algae, pavement	-20.51705	115.45868	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_045	MBI_0491	Wonnich Reef (South)	PIO	Reef (low relief)	-4.0	Soft corals (Alcyoniidae) medium	Rocky pavement, encrusting hard and soft corals about 20-30% cover, high energy environment	-20.51670	115.45995	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_046	MBI_0492	Wonnich Reef (South)	PIO	Reef (low relief)	-4.0	Reef/turf algae	Clumps of dense filamentous macroalgae (turtlegrass?)	-20.51719	115.45821	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_047	MBI_0493	Wonnich Reef (South)	PIO	Reef (low relief)	-7.0	Reef/turf algae	Pavement, sparse turf	-20.51630	115.45689	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_048	MBI_0494	Wonnich Reef (South)	PIO	Reef (low relief)	-4.0	Reef/turf algae	Old ridgeline with very occasional soft encrusting otherwise turf algae	-20.51574	115.45486	GPS	GDA94	Direct	No Video	SLO	17/12/2006
MBIMPA	N_049	MBI_0495	Wonnich Reef (South)	PIO	Reef (low relief)	-5.0	Reef/turf algae	Sparse small corals on turf-covered pavement	-20.51454	115.45367	GPS	GDA94	Direct	No Video	SLO	17/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	P_001	MBI_0496	West Reef (North)	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) dense	Macroalgae on reef slope <80% cover, some sponges and soft corals	-20.35757	115.50799	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_002	MBI_0497	West Reef (North)	PIO	Reef (low relief)	-8.0	Macroalgae (Phaeophyta) medium	Macroalgae turf about 30% on limestone reef	-20.35713	115.50743	GPS	GDA94	Drop down video	MSP/MBI/DDV#08_20061217	KBA	17/12/2006
MBIMPA	P_003	MBI_0498	West Reef (North)	PIO	Reef (low relief)	-5.0	Reef/turf algae	Some turf <20%, some soft corals on limestone reef pavement	-20.35632	115.50470	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_004	MBI_0499	West Reef (North)	PIO	Reef (low relief)	-9.5	Soft corals (Alcyoniidae) medium	Some hard to soft corals about 30-40% cover, turf algae < 20% , then to turf algae on reef pavement	-20.35596	115.50291	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_005	MBI_0500	West Reef (North)	PIO	Sand		Sand	Coarse sand and rubble	-20.35527	115.50152	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_006	MBI_0501	West Reef (North)	PIO	Reef (low relief)	-9.0	Reef/turf algae	Some turf algae with soft and hard corals	-20.35465	115.50021	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_007	MBI_0502	West Reef (North)	PIO	Reef (low relief)	-9.0	Reef/turf algae	Some turf algae about 20%, some soft corals	-20.35453	115.49665	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_008	MBI_0503	West Reef (North)	PIO	Reef (low relief)		Reef/turf algae		-20.35419	115.49516	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_009	MBI_0504	West Reef (North)	PIO	Reef (low relief)	-21.0	Reef/turf algae	Little bits of turf algae and coral	-20.35342	115.49324	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_010	MBI_0505	West Reef (North)	PIO	Reef (low relief)	-21.0	Reef/turf algae	Bare	-20.35262	115.48686	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_011	MBI_0506	West Reef (North)	PIO	Reef (low relief)	-20.5	Macroalgae (Phaeophyta) sparse	Some macroalgae <10%, sand inundated limestone pavement	-20.36253	115.48414	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_012	MBI_0507	West Reef (North)	PIO	Reef (low relief)	-15.0	Macroalgae (Phaeophyta) sparse	Some macroalgae tufts, some octocorals (seawhips), some soft/hard coral	-20.36248	115.48660	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_013	MBI_0508	West Reef (North)	PIO	Reef (low relief)	-20.0	Macroalgae (Phaeophyta) sparse	Some macroalgae <10%, some filterfeeders <10%	-20.36253	115.48774	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_014	MBI_0509	West Reef (North)	PIO	Reef (low relief)	-19.0	Soft corals (Alcyoniidae) sparse	Sand inundated limestone reef pavements, some soft coral	-20.36331	115.49287	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_015	MBI_0510	West Reef (North)	PIO	Reef (low relief)	-16.0	Reef/turf algae	Sponge, soft corals and macroalgae turf on sand inundated limestone reef pavement	-20.36326	115.49369	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_016	MBI_0511	West Reef (North)	PIO	Reef (low relief)	-10.2	Soft corals (Alcyoniidae) sparse	Soft corals, some sponges etc	-20.36436	115.49804	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_017	MBI_0512	West Reef (North)	PIO	Reef (low relief)	-6.6	Soft corals (Alcyoniidae) dense	Soft corals about 90%	-20.36507	115.49944	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_018	MBI_0513	West Reef (North)	PIO	Reef (low relief)		Soft corals (Alcyoniidae) dense	Mostly soft corals with hard corals	-20.36556	115.50016	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_019	MBI_0514	West Reef (North)	PIO	Reef (low relief)	-3.5	Soft corals (Alcyoniidae) medium	~25% soft corals/hard corals, algae turf on limestone reef with rubble	-20.37581	115.49813	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_020	MBI_0515	West Reef (North)	PIO	Reef (low relief)	-7.2	Soft corals (Alcyoniidae) dense	Soft coral dominated some hard corals with algae turf	-20.37584	115.49707	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_021	MBI_0516	West Reef (North)	PIO	Reef (low relief)	-18.3	Reef/turf algae	Bare	-20.37594	115.49605	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	P_022	MBI_0517	West Reef (North)	PIO	Reef (low relief)	-18.9	Reef/turf algae	Bare	-20.37571	115.49426	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_023	MBI_0518	West Reef (North)	PIO	Reef (low relief)	-23.0	Reef/turf algae	Algae turf, some soft corals, mostly bare	-20.37512	115.49008	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_024	MBI_0519	West Reef (North)	PIO	Reef (low relief)	-22.5	Filter feeders (sponges)	Sponges, sea fans and whips, macroalgae <20% on reef pavement	-20.38403	115.48793	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_025	MBI_0520	West Reef (North)	PIO	Reef (low relief)	-18.0	Macroalgae (Phaeophyta) sparse	Macroalgae turf algae about 10%, coarse sand, some soft corals	-20.38419	115.49114	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_026	MBI_0521	West Reef (North)	PIO	Reef (low relief)	-10.0	Soft corals (Alcyoniidae) dense	Soft corals about 60-70%, hard corals, some algae	-20.38437	115.49209	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_027	MBI_0522	West Reef (North)	PIO	Reef (low relief)	-8.4	Soft corals (Alcyoniidae) dense	Soft coral, hard coral, some turf algae, sea whips	-20.38491	115.49340	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_028	MBI_0523	West Reef (North)	PIO	Reef (low relief)	-15.8	Macroalgae (Phaeophyta) medium	Macroalgae about 30-40%, scattered soft and hard corals	-20.38524	115.49507	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_029	MBI_0524	West Reef (North)	PIO	Reef (low relief)	-9.8	Soft corals (Alcyoniidae) medium	Soft corals about 50%, bare on slope	-20.38573	115.49759	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_030	MBI_0525	West Reef (North)	PIO	Reef (low relief)	-2.0	Soft corals (Alcyoniidae) sparse	Soft corals, hard corals, quite diverse, some algae turf	-20.38608	115.49843	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_031	MBI_0526	West Reef (North)	PIO	Reef (low relief)	-17.3	Reef/turf algae	Sand on pavement, bare	-20.38775	115.49654	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_032	MBI_0527	West Reef (North)	PIO	Reef (low relief)	-10.0	Macroalgae (Phaeophyta) sparse	Macroalgae and turf algae about 30%, soft corals and sponges	-20.38872	115.49551	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_033	MBI_0528	West Reef (North)	PIO	Reef (low relief)	-5.4	Soft corals (Alcyoniidae) sparse	Soft corals, some hard corals, some macroalgae tufts, low profile	-20.39010	115.49388	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_034	MBI_0529	West Reef (North)	PIO	Reef (low relief)	-2.5	Coral reef (Acroporidae) medium	Corals, corymbose <i>Acropora</i> about 30% cover, turf algae, low profile	-20.39111	115.49571	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_035	MBI_0530	West Reef (North)	PIO	Reef (high relief)		Coral reef (mixed) medium	High coral cover on drop off, high profile	-20.39924	115.49517	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_036	MBI_0531	West Reef (North)	PIO	Reef (low relief)	-13.0	Reef/turf algae	Low profile reef, bare, bits of rubble and shell grit	-20.39936	115.49448	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_037	MBI_0532	West Reef (North)	PIO	Sand	-19.5	Sand	Sand rubble, coarse sand, low profile	-20.39930	115.49168	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_038	MBI_0533	West Reef (North)	PIO	Reef (low relief)	-11.5	Macroalgae (Phaeophyta) medium	Tall macroalgae medium cover, some plate corals	-20.39962	115.48548	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	P_039	MBI_0534	West Reef (North)	PIO	Reef (low relief)	-20.1	Reef/turf algae	Algae tufts, on sand inundated reef pavement, some macroalgae, some sponges	-20.39945	115.48432	GPS	GDA94	Drop down video	MSP/MBI/DDV#08-20061217	KBA	17/12/2006
MBIMPA	Waypt 349	MBI_0535	West Reef (central)	PIO	Reef (low relief)	-2.0	Coral reef (mixed) sparse	Very close to the reef platform, soft and hard corals and algae on rocky substrate, mostly corals but patchy	-20.39655	115.49319	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 350	MBI_0536	West Reef (central)	PIO	Sand	-17.5	Sand	Sandy bottom, some algae	-20.39572	115.49093	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 351	MBI_0537	West Reef (central)	PIO	Reef (low relief)	-16.5	Reef/turf algae	Sand mostly and with some rubble, scattered algae	-20.39556	115.49136	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	Waypt 352	MBI_0538	West Reef (central)	PIO	Reef (low relief)	-6.5	Reef/turf algae	Mostly rocky with sand and rubble, soft corals and hard corals and algae	-20.39549	115.49200	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 353	MBI_0539	West Reef (central)	PIO	Reef (high relief)		Coral reef (mixed) medium	Complex rock substrate with ledges and curves, high density mixed coral in patches with areas of bare substrate and sand, some algae?	-20.39552	115.48869	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 354	MBI_0540	West Reef (central)	PIO	Reef (low relief)	-18.0	Macroalgae (Phaeophyta) sparse	Pavement, rubble and macroalgae	-20.39468	115.48785	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 355	MBI_0541	West Reef (central)	PIO	Reef (low relief)	-22.0	Reef/turf algae	Pavement, rubble, algae and some sponges	-20.39472	115.48588	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 356	MBI_0542	West Reef (central)	PIO	Reef (low relief)	-17.0	Macroalgae (Phaeophyta) sparse	Pavement with macroalgae and sparse soft corals, mostly algae?	-20.39831	115.48572	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 357	MBI_0543	West Reef (central)	PIO	Reef (low relief)		Coral reef (Acroporidae) sparse	Pavement with soft coral and <i>Acropora</i> at -14m, pavement, algae and sparse coral at -17m	-20.39836	115.48789	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 358	MBI_0544	West Reef (central)	PIO	Reef (low relief)	-18.0	Reef/turf algae	Pavement, sand some rocks, macroalgae and sponges(?)	-20.39841	115.49028	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 359	MBI_0545	West Reef (central)	PIO	Sand	-18.3	Sand	Bare sand	-20.39932	115.49295	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 360	MBI_0546	West Reef (central)	PIO	Reef (low relief)	-4.5	Soft corals (Alcyoniidae) dense	Dense soft and hard coral	-20.39996	115.49404	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 361	MBI_0547	West Reef (central)	PIO	Reef (low relief)	-4.0	Soft corals (Alcyoniidae) dense	Dense soft and hard coral	-20.40099	115.49482	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 362	MBI_0548	West Reef (central)	PIO	Reef (low relief)	-4.0	Soft corals (Alcyoniidae) dense	Dense soft and hard coral	-20.40249	115.49409	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 363	MBI_0549	West Reef (central)	PIO	Reef (low relief)	-3.0	Soft corals (Alcyoniidae) dense	Dense soft and hard coral	-20.40378	115.49361	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 364	MBI_0550	West Reef (central)	PIO	Reef (low relief)	-3.0	Soft corals (Alcyoniidae) dense	Dense soft and hard coral	-20.40574	115.49261	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 365	MBI_0551	West Reef (central)	PIO	Reef (low relief)	-4.0	Soft corals (Alcyoniidae) sparse	Soft and hard coral	-20.40696	115.49247	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 366	MBI_0552	West Reef (central)	PIO	Reef (low relief)	-6.5	Soft corals (Alcyoniidae) medium	Soft and hard coral, moderate density	-20.40825	115.49235	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 367	MBI_0553	West Reef (central)	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Pavement with sparse macroalgae, sparse corals	-20.40867	115.49297	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 369	MBI_0554	West Reef (central)	PIO	Reef (low relief)	-1.5	Macroalgae (Phaeophyta) dense	Dense macroalgae	-20.40955	115.49447	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 370	MBI_0555	West Reef (central)	PIO	Reef (low relief)	-3.5	Macroalgae (Phaeophyta) sparse	Pavement with macroalgae	-20.40675	115.49595	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 371	MBI_0556	West Reef (central)	PIO	Reef (low relief)	-3.0	Coral reef (Acroporidae) medium	Moderate density of corals, large <i>Acropora</i> plates	-20.40625	115.49548	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 372	MBI_0557	West Reef (central)	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) dense	Dense macroalgae on pavement	-20.40534	115.49387	GPS	GDA94	Direct	No Video	AKE	17/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	Waypt 373	MBI_0558	West Reef (central)	PIO	Reef (low relief)	-3.0	Filter feeders (seawhips)	Pavement with octocorals seawhips and algae	-20.40473	115.49310	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 374	MBI_0559	West Reef (central)	PIO	Reef (high relief)	-2.5	Coral reef (mixed) sparse	Boulders with a mix of coral and algae	-20.40500	115.49111	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 375	MBI_0560	West Reef (central)	PIO	Reef (low relief)	-6.5	Macroalgae (Phaeophyta) sparse	Algae on pavement	-20.40781	115.48984	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 376	MBI_0561	West Reef (central)	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Macroalgae on pavement, some soft corals	-20.40790	115.48829	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 377	MBI_0562	West Reef (central)	PIO	Reef (low relief)	-18.0	Reef/turf algae	Pavement and rubble with algae	-20.40749	115.48526	GPS	GDA94	Drop down video	MSP/MBI/DDV#09-20061217	AKE	17/12/2006
MBIMPA	Waypt 378	MBI_0563	Wonnich Reef (North)	PIO	Reef (low relief)	-2.0	Reef/turf algae	Hard pavement with turf algae	-20.48592	115.45455	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 379	MBI_0564	Wonnich Reef (North)	PIO	Reef (low relief)	-3.0	Reef/turf algae	Hard pavement, turf algae and small hard or soft encrusters	-20.49155	115.45195	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 380	MBI_0565	Wonnich Reef (North)	PIO	Reef (low relief)	-6.0	Reef/turf algae	Hard pavement, turf and short sparse macroalgae	-20.49171	115.45120	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 381	MBI_0566	Wonnich Reef (North)	PIO	Reef (low relief)	-8.0	Reef/turf algae	Pavement, sparse turf/turtle grass, sparse macroalgae	-20.49125	115.44990	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 382	MBI_0567	Wonnich Reef (North)	PIO	Reef (low relief)	-8.5	Macroalgae (Phaeophyta) sparse	Macroalgae, sand patches	-20.49258	115.44886	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 383	MBI_0568	Wonnich Reef (North)	PIO	Reef (low relief)	-8.5	Reef/turf algae	Rocks/pavement, macroalgae	-20.49409	115.44769	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 384	MBI_0569	Wonnich Reef (North)	PIO	Reef (low relief)	-12.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae	-20.49468	115.44699	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 385	MBI_0570	Wonnich Reef (North)	PIO	Reef (low relief)	-12.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae	-20.49724	115.44730	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 386	MBI_0571	Wonnich Reef (North)	PIO	Reef (low relief)	-7.0	Reef/turf algae	Rocks, short dense turf algae and bare patches	-20.50407	115.44860	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 387	MBI_0572	Wonnich Reef (North)	PIO	Reef (low relief)	-10.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae, bare rock/sand, occasional soft coral	-20.50626	115.44774	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	Waypt 388	MBI_0573	Wonnich Reef (North)	PIO	Reef (low relief)	-10.0	Macroalgae (Phaeophyta) dense	Dense short macroalgae, sand	-20.50752	115.44585	GPS	GDA94	Direct	No Video	AKE	17/12/2006
MBIMPA	COR_020T1	MBI_0574	East Dugong Reef	PIO	Reef (high relief)	-3.7	Coral reef (mixed) dense	A substantial area of coral reef fringing the Dugong shoals; high live hard coral cover of ~60%; high diversity of corals present, including massive poritids and favides, foliose echinoporids and montiporids, corymbose pocilloporids and acroporids	-20.90191	115.46174	GPS	GDA94	Direct	MBI/COR_020-20061218		18/12/2006
MBIMPA	COR_020T1	MBI_0575	East Dugong Reef	PIO	Reef (high relief)	-3.7	Coral reef (mixed) dense	A substantial area of coral reef fringing the Dugong shoals; high live hard coral cover of ~60%; high diversity of corals present, including massive poritids and favides, foliose echinoporids and montiporids, corymbose pocilloporids and acroporids	-20.90191	115.46220	GPS	GDA94	Direct	MBI/COR_020-20061218		18/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_020T2	MBI_0576	East Dugong Reef	PIO	Reef (high relief)	-3.7	Coral reef (mixed) dense	A substantial area of coral reef fringing the Dugong shoals; high live hard coral cover of ~60%; high diversity of corals present, including massive poritids and favides, foliose echinoporids and montiporids, corymbose pocilloporids and acroporids	-20.90225	115.46178	GPS	GDA94	Direct	MBI/COR_020-20061218		18/12/2006
MBIMPA	COR_020T2	MBI_0577	East Dugong Reef	PIO	Reef (high relief)	-3.7	Coral reef (mixed) dense	A substantial area of coral reef fringing the Dugong shoals; high live hard coral cover of ~60%; high diversity of corals present, including massive poritids and favides, foliose echinoporids and montiporids, corymbose pocilloporids and acroporids	-20.90228	115.46225	GPS	GDA94	Direct	MBI/COR_020-20061218		18/12/2006
MBIMPA	COR_020T3	MBI_0578	East Dugong Reef	PIO	Reef (high relief)	-3.7	Coral reef (mixed) dense	A substantial area of coral reef fringing the Dugong shoals; high live hard coral cover of ~60%; high diversity of corals present, including massive poritids and favides, foliose echinoporids and montiporids, corymbose pocilloporids and acroporids	-20.90262	115.46172	GPS	GDA94	Direct	MBI/COR_020-20061218		18/12/2006
MBIMPA	COR_020T3	MBI_0579	East Dugong Reef	PIO	Reef (high relief)	-3.7	Coral reef (mixed) dense	A substantial area of coral reef fringing the Dugong shoals; high live hard coral cover of ~60%; high diversity of corals present, including massive poritids and favides, foliose echinoporids and montiporids, corymbose pocilloporids and acroporids	-20.90265	115.46219	GPS	GDA94	Direct	MBI/COR_020-20061218		18/12/2006
MBIMPA	COR_021T1	MBI_0580	Central Dugong Reef	PIO	Reef (high relief)	-1.4	Coral reef (Poritidae) medium	A scattered coral reef area with significant rubble zone; located on the northern edge of central Dugong Shoals; this area suffered a significant natural death event in the early 1990s; ~20% live hard coral cover; dominated by small massive and sub-massive corals	-20.89988	115.45084	GPS	GDA94	Direct	MBI/COR_021-20061218		18/12/2006
MBIMPA	COR_021T1	MBI_0581	Central Dugong Reef	PIO	Reef (high relief)	-1.4	Coral reef (Poritidae) medium	A scattered coral reef area with significant rubble zone; located on the northern edge of central Dugong Shoals; this area suffered a significant natural death event in the early 1990s; ~20% live hard coral cover; dominated by small massive and sub-massive corals	-20.89979	115.45127	GPS	GDA94	Direct	MBI/COR_021-20061218		18/12/2006
MBIMPA	COR_021T2	MBI_0582	Central Dugong Reef	PIO	Reef (high relief)	-1.4	Coral reef (Poritidae) medium	A scattered coral reef area with significant rubble zone; located on the northern edge of central Dugong Shoals; this area suffered a significant natural death event in the early 1990s; ~20% live hard coral cover; dominated by small massive and sub-massive corals	-20.90009	115.45097	GPS	GDA94	Direct	MBI/COR_021-20061218		18/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_021T2	MBI_0583	Central Dugong Reef	PIO	Reef (high relief)	-1.4	Coral reef (Poritidae) medium	A scattered coral reef area with significant rubble zone; located on the northern edge of central Dugong Shoals; this area suffered a significant natural death event in the early 1990s; ~20% live hard coral cover; dominated by small massive and sub-massive corals	-20.90007	115.45144	GPS	GDA94	Direct	MBI/COR_021-20061218		18/12/2006
MBIMPA	COR_021T3	MBI_0584	Central Dugong Reef	PIO	Reef (high relief)	-1.4	Coral reef (Poritidae) medium	A scattered coral reef area with significant rubble zone; located on the northern edge of central Dugong Shoals; this area suffered a significant natural death event in the early 1990s; ~20% live hard coral cover; dominated by small massive and sub-massive corals	-20.90030	115.45108	GPS	GDA94	Direct	MBI/COR_021-20061218		18/12/2006
MBIMPA	COR_021T3	MBI_0585	Central Dugong Reef	PIO	Reef (low relief)	-1.4	Coral reef (Poritidae) medium	A scattered coral reef area with significant rubble zone; located on the northern edge of central Dugong Shoals; this area suffered a significant natural death event in the early 1990s; ~20% live hard coral cover; dominated by small massive and sub-massive corals	-20.90026	115.45154	GPS	GDA94	Direct	MBI/COR_021-20061218		18/12/2006
MBIMPA	COR_022T1	MBI_0586	West Dugong Reef	PIO	Reef (low relief)	-0.4	Coral reef (Faviidae) sparse	A scattered coral reef area with significant areas of turf covered coral rubble zones; live coral hard cover was ~10%; small massive poritids and favids eg. <i>Favia</i> , <i>favites</i> and <i>goniopora</i> ; turf algae covered reef pavement and rubble was the dominant substrate	-20.89502	115.44035	GPS	GDA94	Direct	MBI/COR_022-20061218		18/12/2006
MBIMPA	COR_022T1	MBI_0587	West Dugong Reef	PIO	Reef (low relief)	-0.4	Coral reef (Faviidae) sparse	A scattered coral reef area with significant areas of turf covered coral rubble zones; live coral hard cover was ~10%; small massive poritids and favids eg. <i>Favia</i> , <i>favites</i> and <i>goniopora</i> ; turf algae covered reef pavement and rubble was the dominant substrate	-20.89507	115.43988	GPS	GDA94	Direct	MBI/COR_022-20061218		18/12/2006
MBIMPA	COR_022T2	MBI_0588	West Dugong Reef	PIO	Reef (low relief)	-0.4	Coral reef (Faviidae) sparse	A scattered coral reef area with significant areas of turf covered coral rubble zones; live coral hard cover was ~10%; small massive poritids and favids eg. <i>Favia</i> , <i>favites</i> and <i>goniopora</i> ; turf algae covered reef pavement and rubble was the dominant substrate	-20.89540	115.44046	GPS	GDA94	Direct	MBI/COR_022-20061218		18/12/2006
MBIMPA	COR_022T2	MBI_0589	West Dugong Reef	PIO	Reef (low relief)	-0.4	Coral reef (Faviidae) sparse	A scattered coral reef area with significant areas of turf covered coral rubble zones; live coral hard cover was ~10%; small massive poritids and favids eg. <i>Favia</i> , <i>favites</i> and <i>goniopora</i> ; turf algae covered reef pavement and rubble was the dominant substrate	-20.89549	115.44001	GPS	GDA94	Direct	MBI/COR_022-20061218		18/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video number	Recorder	Date
MBIMPA	COR_022T3	MBI_0590	West Dugong Reef	PIO	Reef (low relief)	-0.4	Coral reef (Faviidae) sparse	A scattered coral reef area with significant areas of turf covered coral rubble zones; live coral hard cover was ~10%; small massive poritids and favids eg. <i>Favia</i> , <i>favites</i> and <i>goniopora</i> ; turf algae covered reef pavement and rubble was the dominant substrate	-20.89570	115.44062	GPS	GDA94	Direct	MBI/COR_022-20061218		18/12/2006
MBIMPA	COR_022T3	MBI_0591	West Dugong Reef	PIO	Reef (low relief)	-0.4	Coral reef (Faviidae) sparse	A scattered coral reef area with significant areas of turf covered coral rubble zones; live coral hard cover was ~10%; small massive poritids and favids eg. <i>Favia</i> , <i>favites</i> and <i>goniopora</i> ; turf algae covered reef pavement and rubble was the dominant substrate	-20.89580	115.44017	GPS	GDA94	Direct	MBI/COR_022-20061218		18/12/2006
MBIMPA	K_001	MBI_0592	South Dugong Reef	PIO	Reef (low relief)	-9.0	Coral reef (mixed) sparse	Rubble, rock with sparse mixed corals	-20.90769	115.46463	GPS	GDA94	Drop down video	MSP/MBI/DDV#11-20061217	AKE	18/12/2006
MBIMPA	K_002	MBI_0593	South Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (Acroporidae) sparse	Mostly coral, staghorn and plate <i>Acropora</i> , some dead coral and algae, some rock substrate, quite a lot of broken coral	-20.91038	115.46023	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	K_003	MBI_0594	South Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (Acroporidae) sparse	Mostly rubble and dead coral, scattered live coral (mostly hard coral) <i>Acropora</i> small amount of algae	-20.91219	115.45723	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	K_004	MBI_0595	South Dugong Reef	PIO	Reef (low relief)	-3.0	Coral reef (Acroporidae) sparse	Staghorn and plate <i>Acropora</i> , many other corals and a lot of broken coral	-20.91476	115.46230	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	K_005	MBI_0596	South Dugong Reef	PIO	Reef (low relief)	-12.0	Reef/turf algae	Mostly bare substrate with rocks a few soft corals	-20.91550	115.46894	GPS	GDA94	Drop down video	MSP/MBI/DDV#11-20061217	AKE	18/12/2006
MBIMPA	K_006	MBI_0597	South Dugong Reef	PIO	Reef (low relief)	-14.0	Reef/turf algae	Sand, some algae and a few rocks	-20.91941	115.47060	GPS	GDA94	Drop down video	MSP/MBI/DDV#11-20061217	AKE	18/12/2006
MBIMPA	K_007	MBI_0598	South Dugong Reef	PIO	Reef (low relief)	-9.0	Reef/turf algae	Sand, rubble, rock, some soft coral	-20.92055	115.46838	GPS	GDA94	Drop down video	MSP/MBI/DDV#11-20061217	AKE	18/12/2006
MBIMPA	K_008	MBI_0599	South Dugong Reef	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Sand and pavement, scattered macroalgae, some corals, mostly algae	-20.92195	115.46458	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	K_009	MBI_0600	South Dugong Reef	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) sparse	Mostly sand with pavement and algae, scattered low density corals, some boulders	-20.92346	115.45864	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	K_010	MBI_0601	South Dugong Reef	PIO	Reef (low relief)	-7.5	Macroalgae (Phaeophyta) sparse	Mostly bare substrate with rocks, some soft corals, some macroalgae	-20.92614	115.46400	GPS	GDA94	Drop down video	MSP/MBI/DDV#11-20061217	AKE	18/12/2006
MBIMPA	L_001	MBI_0602	Batman Reef	PIO	Reef (low relief)	-2.0	Coral reef (rubble)	Depth -2-3m, rubble with scattered coral, low relief	-20.95045	115.46756	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	L_002	MBI_0603	Batman Reef	PIO	Reef (low relief)	-5.0	Coral reef (rubble)	Coral rubble, sparse small corals	-20.94610	115.47064	GPS	GDA94	Direct	No Video	AKE	18/12/2006
MBIMPA	Lipids/dugong g2#1	MBI_0604	Dugong Reef	PIO	Reef (high relief)		Coral reef (mixed) medium	Mixed corals medium density, good cover.	-20.89983	115.46092	GPS	GDA94	Direct	No Video		18/12/2006
MBIMPA	Lipids/dugong g2#2	MBI_0605	Dugong Reef	PIO	Reef (high relief)		Coral reef (mixed) medium	Mixed corals medium density, good cover.	-20.89984	115.46098	GPS	GDA94	Direct	No Video		18/12/2006
MBIMPA	Lipids/dugong g2#3	MBI_0606	Dugong Reef	PIO	Reef (high relief)		Coral reef (mixed) medium	Mixed corals medium density, good cover.	-20.89991	115.46098	GPS	GDA94	Direct	No Video		18/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	S_012	MBI_0607	Dugong Reef	PIO	Reef (high relief)	-5.0	Coral reef (mixed) medium	Very diverse coral cover	-20.90266	115.46300	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_013	MBI_0608	Dugong Reef	PIO	Reef (high relief)	-6.0	Coral reef (Acroporidae) dense	More aborescent <i>Acropora</i> , good coral cover	-20.89971	115.46096	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_014	MBI_0609	Dugong Reef	PIO	Reef (high relief)	-6.0	Coral reef (mixed) medium	Northern extent of dugong reef, good coral cover	-20.89900	115.46127	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_015	MBI_0610	Dugong Reef	PIO	Reef (low relief)	-7.0	Macroalgae (Phaeophyta) sparse	Macroalgae cover with scattered corals	-20.89510	115.45824	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_016	MBI_0611	Dugong Reef	PIO	Reef (low relief)	-5.5	Coral reef (rubble)	Acropora rubble, recent coral rubble	-20.89609	115.45707	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_017	MBI_0612	Dugong Reef	PIO	Reef (low relief)	-5.5	Coral reef (rubble)	Solid recent coral rubble	-20.89651	115.45575	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_018	MBI_0613	Dugong Reef	PIO	Reef (low relief)	-4.7	Coral reef (rubble)	Acropora rubble	-20.89840	115.45439	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_019	MBI_0614	Dugong Reef	PIO	Reef (low relief)	-3.8	Coral reef (Acroporidae) dense	60% live cover, <i>Porites</i> bommies	-20.89975	115.45381	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_020	MBI_0615	Dugong Reef	PIO	Reef (low relief)	-4.0	Coral reef (rubble)	Acropora rubble, <10% live cover	-20.89920	115.45206	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_021	MBI_0616	Dugong Reef	PIO	Reef (low relief)	-3.3	Coral reef (mixed) medium	30% live corals,	-20.90018	115.45106	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_022	MBI_0617	Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (mixed) sparse	<20% live coral cover, rubble covered in turf algae	-20.90234	115.45027	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_023	MBI_0618	Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (mixed) sparse	About 10-15% coral, some soft coral, macroalgae turf with rubble	-20.90343	115.45503	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_024	MBI_0619	Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (Acroporidae) medium	Plate acroporids, about 20% live coral cover, coral rubble	-20.90421	115.45942	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_025	MBI_0620	Dugong Reef	PIO	Reef (high relief)	-2.0	Coral reef (mixed) medium	40% live coral cover, coral rubble	-20.90441	115.46020	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_026	MBI_0621	Dugong Reef	PIO	Reef (high relief)	-3.5	Coral reef (mixed) dense	Echinopora, >60% live coral cover, areas of rubble	-20.90460	115.46102	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_027	MBI_0622	Dugong Reef	PIO	Reef (high relief)	-3.5	Coral reef (Acroporidae) dense	60-70% coral cover with rubble areas of <i>Acropora</i>	-20.90052	115.45644	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_028	MBI_0623	Dugong Reef	PIO	Reef (low relief)	-4.5	Coral reef (rubble)	Coral rubble, <5% cover, some small favids and poritids	-20.89855	115.45178	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_029	MBI_0624	Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (rubble)	Dead plate acroporids, 80% acroporid plates <1% live coral cover, coral rubble, some COTS	-20.89618	115.44421	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_030	MBI_0625	Dugong Reef	PIO	Reef (low relief)	-2.0	Coral reef (rubble)	Staghorn rubble with turf algae, coral rubble, some fungids	-20.89537	115.44022	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_031	MBI_0626	Dugong Reef	PIO	Reef (low relief)	-3.0	Coral reef (rubble)	Staghorn rubble, occasional live favid, <2% coral	-20.89505	115.43797	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_032	MBI_0627	Dugong Reef	PIO	Reef (high relief)	-2.0	Coral reef (Faviidae) sparse	Old dead plates, coral with turf algae on it, small favids and other recent recruits, COTS	-20.90018	115.43683	GPS	GDA94	Direct	No Video	KBA	18/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	S_033	MBI_0628	Dugong Reef	PIO	Reef (low relief)	-2.0	Reef/turf algae	Dead coral, algae turf and small macroalgae, scattered live favids	-20.90661	115.43711	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_034	MBI_0629	Dugong Reef	PIO	Reef (low relief)	-3.0	Macroalgae (Phaeophyta) sparse	Scattered dead coral, macroalgae < 10%, odd live coral	-20.90888	115.43690	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_035	MBI_0630	Dugong Reef	PIO	Reef (low relief)	-2.5	Macroalgae (Phaeophyta) sparse	Macroalgae with coral rubble and pavement	-20.90888	115.44895	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_036	MBI_0631	Dugong Reef	PIO	Reef (low relief)		Coral reef (rubble)	Acropora rubble, dead <i>Acropora</i> plates <5% cover, turf on dead corals	-20.90366	115.44984	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	S_037	MBI_0632	Dugong Reef	PIO	Reef (low relief)		Coral reef (rubble)	Coral rubble, dead corals, live cover <10%	-20.90490	115.45528	GPS	GDA94	Direct	No Video	KBA	18/12/2006
MBIMPA	COR_023T1	MBI_0633	South Batman Reef	PIO	Reef (high relief)	-2.2	Coral reef (Poritidae) medium	A scatter patch of coral reef; comprised of mainly turf algae covered rubble and reef pavement; live hard coral cover was ~30%; mainly massive and sub-massive poritids; other hard corals were encrusting montiporids and branching poritids and acroporids	-20.95983	115.46517	GPS	GDA94	Direct	MBI/COR_023-20061219		19/12/2006
MBIMPA	COR_023T1	MBI_0634	South Batman Reef	PIO	Reef (high relief)	-2.2	Coral reef (Poritidae) medium	A scatter patch of coral reef; comprised of mainly turf algae covered rubble and reef pavement; live hard coral cover was ~30%; mainly massive and sub-massive poritids; other hard corals were encrusting montiporids and branching poritids and acroporids	-20.95980	115.46569	GPS	GDA94	Direct	MBI/COR_023-20061219		19/12/2006
MBIMPA	COR_023T2	MBI_0635	South Batman Reef	PIO	Reef (high relief)	-2.2	Coral reef (Poritidae) medium	A scatter patch of coral reef; comprised of mainly turf algae covered rubble and reef pavement; live hard coral cover was ~30%; mainly massive and sub-massive poritids; other hard corals were encrusting montiporids and branching poritids and acroporids	-20.96021	115.46515	GPS	GDA94	Direct	MBI/COR_023-20061219		19/12/2006
MBIMPA	COR_023T2	MBI_0636	South Batman Reef	PIO	Reef (high relief)	-2.2	Coral reef (Poritidae) medium	A scatter patch of coral reef; comprised of mainly turf algae covered rubble and reef pavement; live hard coral cover was ~30%; mainly massive and sub-massive poritids; other hard corals were encrusting montiporids and branching poritids and acroporids	-20.96017	115.46567	GPS	GDA94	Direct	MBI/COR_023-20061219		19/12/2006
MBIMPA	COR_023T3	MBI_0637	South Batman Reef	PIO	Reef (high relief)	-2.2	Coral reef (Poritidae) medium	A scatter patch of coral reef; comprised of mainly turf algae covered rubble and reef pavement; live hard coral cover was ~30%; mainly massive and sub-massive poritids; other hard corals were encrusting montiporids and branching poritids and acroporids	-20.96057	115.46518	GPS	GDA94	Direct	MBI/COR_023-20061219		19/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_023T3	MBI_0638	South Batman Reef	PIO	Reef (high relief)	-2.2	Coral reef (Poritidae) medium	A scatter patch of coral reef; comprised of mainly turf algae covered rubble and reef pavement; live hard coral cover was ~30%; mainly massive and sub-massive poritids; other hard corals were encrusting montiporids and branching poritids and acroporids	-20.96057	115.46567	GPS	GDA94	Direct	MBI/COR_023-20061219		19/12/2006
MBIMPA	COR_024B1	MBI_0639	North Batman Reef	PIO	Reef (high relief)	-2.5	Coral reef (Poritidae) medium	Three discrete poritid bommies in an area of bommies; sand on reef pavement in between the bommies; ~50% live hard coral cover; some small favids scattered throughout; turf algae and rubble areas present; relatively shallow site; sheltered from long-period swells	-20.95105	115.46285	GPS	GDA94	Direct	MBI/COR_024-20061219		19/12/2006
MBIMPA	COR_024B2	MBI_0640	North Batman Reef	PIO	Reef (high relief)	-2.5	Coral reef (Poritidae) medium	Three discrete poritid bommies in an area of bommies; sand on reef pavement in between the bommies; ~50% live hard coral cover; some small favids scattered throughout; turf algae and rubble areas present; relatively shallow site; sheltered from long-period swells	-20.95157	115.46258	GPS	GDA94	Direct	MBI/COR_024-20061219		19/12/2006
MBIMPA	COR_024B3	MBI_0641	North Batman Reef	PIO	Reef (high relief)	-2.5	Coral reef (Poritidae) medium	Three discrete poritid bommies in an area of bommies; sand on reef pavement in between the bommies; ~50% live hard coral cover; some small favids scattered throughout; turf algae and rubble areas present; relatively shallow site; sheltered from long-period swells	-20.95197	115.46247	GPS	GDA94	Direct	MBI/COR_024-20061219		19/12/2006
MBIMPA	F_001	MBI_0642	South Dugong Reef	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) medium	Coral rubble, <30% live cover, turf algae, no <i>Acropora</i> , about 30% macroalgae	-20.91598	115.46573	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_002	MBI_0643	Batman Reef North	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) dense	60% macroalgae cover on limestone pavement, scattered hard corals	-20.92179	115.46738	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_003	MBI_0644	Batman Reef	PIO	Reef (low relief)	-4.0	Reef/turf algae	Turf algae, some macroalgae	-20.94720	115.47591	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_004	MBI_0645	Batman Reef	PIO	Reef (low relief)	-5.5	Coral reef (rubble)	Acropora rubble covered in turf algae, reef pavement covered in staghorn rubble	-20.94690	115.47674	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_005	MBI_0646	Batman Reef	PIO	Reef (low relief)	-2.5	Macroalgae (Phaeophyta) sparse	Hard coral, occasional faviid	-20.94815	115.47171	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_006	MBI_0647	Batman Reef	PIO	Reef (low relief)	-2.5	Coral reef (rubble)	Dead bommies, coral rubble, turf algae, small <i>Porites</i> bommies	-20.94931	115.46675	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_007	MBI_0648	Batman Reef	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	Scattered bommies about 50% alive, <20% live cover	-20.95077	115.46319	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_008	MBI_0649	Batman Reef	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	Few <i>Porites</i> bommies around, could be good bommies site	-20.95099	115.46290	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_009	MBI_0650	Batman Reef	PIO	Reef (high relief)	-3.5	Coral reef (Poritidae) medium	Massives, 40-50% live coral cover, low diversity, sand/rubble and turf algae in between, Gorgon site, looks recently disturbed	-20.95126	115.46246	GPS	GDA94	Direct	No Video	SLO	19/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	F_010	MBI_0651	Batman Reef	PIO	Reef (low relief)	-2.5	Reef/turf algae	Occasional live favid <5% live coral cover, algal turf on dead reef structure	-20.95596	115.46367	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_011	MBI_0652	Batman Reef	PIO	Reef (high relief)	-3.5	Coral reef (Poritidae) sparse	3 small <i>Porites</i> bommies, good size about 3.5m, about 30% live coral in between	-20.95819	115.46368	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_012	MBI_0653	Batman Reef	PIO	Reef (high relief)	-3.5	Coral reef (mixed) medium	50-60-70% live coral, more diversity	-20.96013	115.46529	GPS	GDA94	Direct	No Video	SLO	19/12/2006
MBIMPA	F_030	MBI_0654	Batman Reef	PIO	Reef (low relief)	-6.9	Macroalgae (Phaeophyta) medium	Macroalgae 20-30%, school of trevally, limestone pavement	-20.96561	115.48473	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	19/12/2006
MBIMPA	F_031	MBI_0655	North Barrow Shoals	PIO	Reef (low relief)	-5.9	Macroalgae (Phaeophyta) medium	Macroalgae about 30%, soft corals, coral rubble	-20.98356	115.48434	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	19/12/2006
MBIMPA	F_032	MBI_0656	North Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies, porities, <i>Acropora</i> plates, algae on top, old <i>Porites</i> bommies	-20.99518	115.48504	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_033	MBI_0657	North Barrow Shoals	PIO	Reef (high relief)		Coral reef (Acroporidae) sparse	Coral bommies, <i>Acropora</i> plates, old <i>Porites</i> (dead), soft corals	-20.99314	115.48429	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_034	MBI_0658	North Barrow Shoals	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	<i>Porites</i> , <i>Acropora</i> plates	-20.99432	115.48332	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_035	MBI_0659	North Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Good <i>Porites</i> bommies	-20.99436	115.48278	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_036	MBI_0660	North Barrow Shoals	PIO	Reef (high relief)	-4.0	Coral reef (Poritidae) sparse	Small <i>Porites</i> around, rock, macroalgae on top, some <i>Acropora</i> , some other corals	-20.99374	115.48132	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_037	MBI_0661	North Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Patches of <i>Porites</i> bommies, rubble around, several bommies	-20.99431	115.48101	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_038	MBI_0662	North Barrow Shoals	PIO	Reef (high relief)	-3.5	Coral reef (Poritidae) sparse	Big old <i>Porites</i> , lots of <i>Acropora</i>	-20.99456	115.48092	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_039	MBI_0663	North Barrow Shoals	PIO	Reef (high relief)	-3.5	Coral reef (Poritidae) sparse	<i>Porites</i> , acroporids on top, discrete bommie, fish	-20.99499	115.47991	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_040	MBI_0664	North Barrow Shoals	PIO	Reef (low relief)		Reef/turf algae	Rubble, sand, macroalgae <10%, pavement	-21.00700	115.48387	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_041	MBI_0665	North Barrow Shoals	PIO	Reef (low relief)	-2.0	Macroalgae (Phaeophyta) sparse	Macroalgae 20%, sand, rubble, scattered <i>Acropora</i> , pavement	-21.01938	115.48715	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_042	MBI_0666	North Barrow Shoals	PIO	Reef (low relief)	-1.9	Reef/turf algae	Macroalgae about 10%, limestone pavement, rubble etc	-21.01914	115.48131	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_043	MBI_0667	North Barrow Shoals	PIO	Reef (low relief)		Reef/turf algae	Macroalgae 10%, reef pavement	-21.01909	115.47666	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_044	MBI_0668	North Barrow Shoals	PIO	Reef (low relief)	-1.5	Reef/turf algae	Macroalgae <10%, sand, some rubble, turtles present, reef pavement	-21.01659	115.46776	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_045	MBI_0669	North Barrow Shoals	PIO	Reef (low relief)	-1.5	Sand	Coarse sand, sparse rubble, 1-2% of macroalgae, quite a few turtles	-21.01425	115.45834	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_046	MBI_0670	North Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Coarse sand, sparse rubble, 20% macroalgae, lots of turtles	-21.02211	115.45664	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_047	MBI_0671	North Barrow Shoals	PIO	Reef (low relief)	-1.7	Sand	Turf algae, some macroalgae <5%, some rubble, coarse sand, turtles everywhere	-21.03099	115.45303	GPS	GDA94	Direct	No Video	KBA	19/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	F_048	MBI_0672	North Barrow Shoals	PIO	Reef (low relief)	-1.2	Reef/turf algae	Sand, rubble, macroalgae, scattered corals, rocks	-21.02888	115.46482	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_049	MBI_0673	North Barrow Shoals	PIO	Reef (low relief)	-1.9	Coral reef (rubble)	Corals <5%, macroalgae <10%, scattered soft corals, favids, coral rubble 20-30%	-21.03068	115.47889	GPS	GDA94	Direct	No Video	KBA	19/12/2006
MBIMPA	F_050	MBI_0674	North Barrow Shoals	PIO	Reef (low relief)	-5.7	Soft corals (Alcyoniidae) sparse	Soft corals, hard corals about 20%, coral rubble, Porites, macroalgae	-21.03004	115.48726	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	19/12/2006
MBIMPA	F_051	MBI_0675	North Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Sand, rubble, macroalgae about 30%, some small corals	-21.03005	115.48446	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_052	MBI_0676	North Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Coral rubble, sand, macroalgae 20-30%, scattered coral	-21.01584	115.48489	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_053	MBI_0677	North Barrow Shoals	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) medium	Sand rubble, macroalgae 30%, some coral	-21.00911	115.49214	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	F_054	MBI_0678	North Barrow Shoals	PIO	Reef (low relief)	-10.7	Macroalgae (Phaeophyta) sparse	Coarse sand, rubble, some macroalgae	-21.00775	115.49418	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	19/12/2006
MBIMPA	L_003	MBI_0679	Batman Reef	PIO	Reef (low relief)	-5.0	Coral reef (rubble)	Coral rubble, small amount of algae, no corals observed	-20.94564	115.47505	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_004	MBI_0680	Batman Reef	PIO	Reef (low relief)	-14.0	Reef/turf algae	Bare sand/rubble, no algae, no coral	-20.94583	115.47756	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_005	MBI_0681	Batman Reef	PIO	Reef (low relief)	-13.0	Reef/turf algae	Mostly bare substrate with rocks, little algae, no corals visible	-20.94918	115.47996	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_006	MBI_0682	Batman Reef	PIO	Reef (low relief)	-3.0	Coral reef (rubble)	Rubble, sand, with scattered algae	-20.95130	115.47480	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_007	MBI_0683	Batman Reef	PIO	Reef (low relief)	-2.0	Coral reef (rubble)	Mainly rubble, sand, scattered algae, very sparse hard corals	-20.95352	115.46941	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_008	MBI_0684	Batman Reef	PIO	Reef (high relief)	-3.0	Coral reef (Poritidae) sparse	Rock, sand bottom, lots of dead coral, scattered live hard corals, some small Porites bommies about 2-3 m across	-20.95534	115.46311	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_009	MBI_0685	Batman Reef	PIO	Reef (high relief)	-2.0	Coral reef (mixed) dense	Dense, diverse coral	-20.96099	115.46654	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_010	MBI_0686	Batman Reef	PIO	Reef (high relief)	-3.0	Coral reef (mixed) dense	Dense, diverse coral including Porites bommies	-20.96119	115.47246	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	L_011	MBI_0687	Batman Reef	PIO	Reef (low relief)	-5.0	Coral reef (rubble)	Mostly rubble and sand, no algae (or little) sparse coral, small Porites bommies (v/m)	-20.95851	115.47874	GPS	GDA94	Direct	No Video	AKE	19/12/2006
MBIMPA	COR_025B1	MBI_0688	Northern Batman Shoals	PIO	Reef (high relief)	-1.5	Coral reef (Poritidae) sparse	Three discrete poritid bommies selected in an area of bommies; sand, macroalgae and rubble in between bommies; ~40% live hard coral cover; mixture of other hard corals such as <i>Montipora</i> and <i>Platygyra</i> ; shallow site; sheltered from long-period swells	-20.99494	115.47984	GPS	GDA94	Direct	MBI/COR_025-20061220		20/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_025B2	MBI_0689	Northern Batman Shoals	PIO	Reef (high relief)	-1.5	Coral reef (Poritidae) sparse	Three discrete poritid bommies selected in an area of bommies; sand, macroalgae and rubble in between bommies; ~40% live hard coral cover; mixture of other hard corals such as <i>Montipora</i> and <i>Platygyra</i> ; shallow site; sheltered from long-period swells	-20.99451	115.48091	GPS	GDA94	Direct	MBI/COR_025-20061220		20/12/2006
MBIMPA	COR_025B3	MBI_0690	Northern Batman Shoals	PIO	Reef (high relief)	-1.5	Coral reef (Poritidae) sparse	Three discrete poritid bommies selected in an area of bommies; sand, macroalgae and rubble in between bommies; ~40% live hard coral cover; mixture of other hard corals such as <i>Montipora</i> and <i>Platygyra</i> ; shallow site; sheltered from long-period swells	-20.99388	115.48074	GPS	GDA94	Direct	MBI/COR_025-20061220		20/12/2006
MBIMPA	COR_026T1	MBI_0691	Central East Batman Shoals	PIO	Reef (high relief)	-2.7	Coral reef (Faviidae) dense	A substantial area of hard coral just off the Barrow Shelf; ~60% live coral cover; dominated by a foliose echinoporid; other hard corals include small massive <i>Goniastrea</i> spp. And branching <i>Porites</i> spp.; and macroalgae ( <i>Sargassum</i> spp., <i>Turbinaria</i> spp.)	-21.07781	115.51321	GPS	GDA94	Direct	MBI/COR_026-20061220		20/12/2006
MBIMPA	COR_026T1	MBI_0692	Central East Batman Shoals	PIO	Reef (high relief)	-2.7	Coral reef (Faviidae) dense	A substantial area of hard coral just off the Barrow Shelf; ~60% live coral cover; dominated by a foliose echinoporid; other hard corals include small massive <i>Goniastrea</i> spp. And branching <i>Porites</i> spp.; and macroalgae ( <i>Sargassum</i> spp., <i>Turbinaria</i> spp.)	-21.07740	115.51316	GPS	GDA94	Direct	MBI/COR_026-20061220		20/12/2006
MBIMPA	COR_026T2	MBI_0693	Central East Batman Shoals	PIO	Reef (high relief)	-2.7	Coral reef (Faviidae) dense	A substantial area of hard coral just off the Barrow Shelf; ~60% live coral cover; dominated by a foliose echinoporid; other hard corals include small massive <i>Goniastrea</i> spp. And branching <i>Porites</i> spp.; and macroalgae ( <i>Sargassum</i> spp., <i>Turbinaria</i> spp.)	-21.07778	115.51346	GPS	GDA94	Direct	MBI/COR_026-20061220		20/12/2006
MBIMPA	COR_026T2	MBI_0694	Central East Batman Shoals	PIO	Reef (high relief)	-2.7	Coral reef (Faviidae) dense	A substantial area of hard coral just off the Barrow Shelf; ~60% live coral cover; dominated by a foliose echinoporid; other hard corals include small massive <i>Goniastrea</i> spp. And branching <i>Porites</i> spp.; and macroalgae ( <i>Sargassum</i> spp., <i>Turbinaria</i> spp.)	-21.07734	115.51350	GPS	GDA94	Direct	MBI/COR_026-20061220		20/12/2006
MBIMPA	COR_026T3	MBI_0695	Central East Batman Shoals	PIO	Reef (high relief)	-2.7	Coral reef (Faviidae) dense	A substantial area of hard coral just off the Barrow Shelf; ~60% live coral cover; dominated by a foliose echinoporid; other hard corals include small massive <i>Goniastrea</i> spp. And branching <i>Porites</i> spp.; and macroalgae ( <i>Sargassum</i> spp., <i>Turbinaria</i> spp.)	-21.07781	115.51379	GPS	GDA94	Direct	MBI/COR_026-20061220		20/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	COR_026T3	MBI_0696	Central East Batman Shoals	PIO	Reef (high relief)	-2.7	Coral reef (Faviidae) dense	A substantial area of hard coral just off the Barrow Shelf; ~60% live coral cover; dominated by a foliose echinoporid; other hard corals include small massive <i>Goniastrea</i> spp. And branching <i>Porites</i> spp.; and macroalgae ( <i>Sargassum</i> spp., <i>Turbinaria</i> spp.)	-21.07738	115.51387	GPS	GDA94	Direct	MBI/COR_026-20061220		20/12/2006
MBIMPA	G_001	MBI_0697	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Some corals, <i>Porites</i> bommies, coral rubble	-21.03857	115.48721	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	20/12/2006
MBIMPA	G_002	MBI_0698	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (mixed) sparse	Coral bommies, scattered corals about 20%, plus 20% macroalgae	-21.03868	115.48707	GPS	GDA94	Drop down video	MSP/MBI/DDV#10-20061217	KBA	20/12/2006
MBIMPA	G_003	MBI_0699	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies	-21.03959	115.48510	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_004	MBI_0700	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Coral bommies, good coral cover, quite diverse	-21.04017	115.48430	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_005	MBI_0701	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (mixed) medium	Quite good live coral cover	-21.04037	115.48364	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_006	MBI_0702	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Coral bommies, other hard corals	-21.04090	115.48221	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_007	MBI_0703	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (mixed) medium	Coral bommies, coral rubble in between, 40%, 30% large corals, rest sand	-21.04134	115.47944	GPS	GDA94	Direct	No Video	RCO	20/12/2006
MBIMPA	G_008	MBI_0704	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Sand/rubble, 30-40% macroalgae, scattered rocks covered in turf algae	-21.04133	115.47374	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_009	MBI_0705	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Rubble, some acropid plates, macroalgae 25%, occasional coral	-21.04238	115.46959	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_010	MBI_0706	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	Rubble, sand, macroalgae 10%	-21.04232	115.46485	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_011	MBI_0707	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Macroalgae about 30%, rubble, some corals, scattered <i>Porites</i>	-21.04738	115.47262	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_012	MBI_0708	Central Barrow Shoals	PIO	Reef (low relief)	-3.0	Coral reef (mixed) sparse	Good transect	-21.04646	115.47041	GPS	GDA94	Direct	No Video	KBA	20/12/2006



MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	G_013	MBI_0709	Central Barrow Shoals	PIO	Reef (low relief)	-4.0	Coral reef (mixed) sparse	Mixed corals, <i>Galaxea</i> , <i>Porites</i> , acropids	-21.04680	115.47026	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_014	MBI_0710	Central Barrow Shoals	PIO	Reef (low relief)	-2.0	Coral reef (mixed) medium	10%macroalgae, 20% live coral cover	-21.04769	115.47081	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_015	MBI_0711	Central Barrow Shoals	PIO	Reef (low relief)	-4.0	Coral reef (mixed) medium	Good coral cover	-21.04684	115.47189	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_016	MBI_0712	Central Barrow Shoals	PIO	Reef (low relief)	-5.3	Macroalgae (Phaeophyta) medium	Rubble, sand, macroalgae 20-30%, no coral	-21.04930	115.47637	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_017	MBI_0713	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	Rubble/sand, macroalgae 30-40%, scattered hard and soft corals	-21.05349	115.48194	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_018	MBI_0714	Central Barrow Shoals	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) medium	Rubble sand, macroalgae 30-40%, scattered hard and soft corals	-21.05362	115.48198	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_019	MBI_0715	Central Barrow Shoals	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) medium	Some rocks, macroalgae 40-50%, sand/rubble, scattered corals, little massives	-21.05751	115.48649	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_020	MBI_0716	Central Barrow Shoals	PIO	Reef (low relief)	-4.0	Macroalgae (Phaeophyta) medium	Sand, rubble, macroalgae 30%, scattered hard corals	-21.05722	115.47712	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_021	MBI_0717	Central Barrow Shoals	PIO	Reef (low relief)	-4.5	Macroalgae (Phaeophyta) medium	Sand/rubble, macroalgae 20-30%, scattered coral	-21.05586	115.47070	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_022	MBI_0718	Central Barrow Shoals	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) sparse	Macroalgae 15-20%, scattered corals, sand/rubble mainly	-21.05737	115.48015	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_023	MBI_0719	Central Barrow Shoals	PIO	Reef (low relief)	-5.0	Macroalgae (Phaeophyta) medium	40% rubble, 30% sand, 30% macroalgae	-21.05907	115.48827	GPS	GDA94	Direct	No Video	RCO	20/12/2006
MBIMPA	G_024	MBI_0720	Central Barrow Shoals	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) sparse	Sand/rubble, macroalgae about 10-20%, rocks, sponges, scattered corals	-21.06311	115.49319	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_025	MBI_0721	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) sparse	40% sand, 20% rubble, macroalgae <30%, some hard corals	-21.06623	115.49760	GPS	GDA94	Direct	No Video	RCO	20/12/2006
MBIMPA	G_026	MBI_0722	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) sparse	Scattered coral bommies, small low corals between, sand/rubble	-21.06676	115.49756	GPS	GDA94	Direct	No Video	RCO	20/12/2006

MPRSWG	Infield No	Site No	Location	Bioregion	Substrate	Depth	Functional habitat Type	Biological assemblage	Lat deg	Long deg	GPS type	Datum	Observation method	Video tape number	Recorder	Date
MBIMPA	G_027	MBI_0723	Central Barrow Shoals	PIO	Reef (low relief)	-6.0	Macroalgae (Phaeophyta) medium	Macroalgae 30-40%	-21.06100	115.49841	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_028	MBI_0724	Central Barrow Shoals	PIO	Reef (low relief)	-5.5	Reef/turf algae	Live corals, macroalgae <10%, rubble, sand,	-21.05494	115.49545	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_029	MBI_0725	Central Barrow Shoals	PIO	Reef (low relief)	-5.7	Macroalgae (Phaeophyta) medium	Sand/rubble, macroalgae <50% , some corals, rocks	-21.05069	115.49342	GPS	GDA94	Direct	No Video	AKE	20/12/2006
MBIMPA	G_030	MBI_0726	Central Barrow Shoals	PIO	Reef (high relief)	-5.2	Coral reef (Poritidae) medium	Porites bommies, with corals and lots of fish	-21.06396	115.50576	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_031	MBI_0727	Central Barrow Shoals	PIO	Reef (low relief)		Macroalgae (Phaeophyta) medium	30% macroalgae	-21.06560	115.50526	GPS	GDA94	Direct	No Video	RCO	20/12/2006
MBIMPA	G_032	MBI_0728	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Coral bommies, scattered, about 30% coral in between	-21.07636	115.51269	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_033	MBI_0729	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (mixed) medium	Coral rubble mainly with some macroalgae, scattered corals 30%, some <i>Porites</i>	-21.07660	115.51344	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_034	MBI_0730	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) dense	Dense corals, large bommies, reasonable monitoring site	-21.07719	115.51521	GPS	GDA94	Direct	No Video	KBA	20/12/2006
MBIMPA	G_035	MBI_0731	Central Barrow Shoals	PIO	Reef (high relief)		Coral reef (Poritidae) medium	Coral bommies, scattered, about 30% coral in between	-21.08162	115.51539	GPS	GDA94	Direct	No Video	KBA	20/12/2006

## List of Marine Science Program reports

### Data Report Series

- MSPDR 1. Preliminary assessment of coral communities at selected sites in the proposed Dampier Archipelago Marine Park. Armstrong S (2008).
- MSPDR 2. Anoxic impacts at Bill's Bay, Ningaloo Marine Park associated with the 2008 coral spawning event. Armstrong SJ, Syme R (2009).
- MSPDR 3. Mapping the coral reef communities of the Shark Bay marine protected areas: Data collected during the February 2008 field survey. Bancroft KP (2009).

### Other Marine Science Program Reports

- MSP 2006/01 Long-term monitoring program in the Montebello/Barrow Islands marine protected areas. Scoping field trip: 8-11 August 2006. Field Program Report. Bancroft KP, Simpson CJ, Long S (2006).
- MSP 2006/02 Establishment of additional long-term monitoring sites for *Drupella cornus* populations in the southern section of the Ningaloo Marine Park and the Muiron and Sunday Islands Marine Management Areas. Field Program Report. Armstrong SJ (2006).
- MSP 2006/03 Long-term monitoring program in the Montebello/Barrow Islands marine protected areas. Scoping field trip: 8-11 August 2006. Data Report. Bancroft KP (2006).
- MSP 2006/04 Disturbance and recovery of coral communities in Bill's Bay, Ningaloo Marine Park: 2006 survey. Field Program Report. Long S (2006).
- MSP 2006/05 Establishing baseline benthic community monitoring sites in the Montebello/Barrow Islands marine protected areas: 7-22 December 2006. Field Program Report. Bancroft KP, Armstrong SJ (2006).

- MSP 2007/01 Bibliography of marine scientific research relevant to the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve. Data Report. Edwards A, Bancroft KP (2007).
- MSP 2007/02 Current and proposed marine research projects relevant to the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve. Data Report. Edwards A, Bancroft KP (2007).
- MSP 2007/03 Ningaloo Marine Park *Drupella* Long-term Monitoring Program: Results of the 2006 survey. Technical Report. Armstrong SJ (2007).
- MSP 2007/04 Summary of the winter coral bleaching event at Ningaloo Marine Park, July 2006. Data Report. Armstrong S, Webster F, Kendrick A, Mau R, Onton K (2007).
- MSP 2007/05 Disturbance and recovery of coral communities in Bill's Bay, Ningaloo Marine Park: Field survey 16-23 October 2006. Technical and Data Report. Long S (2007).
- MSP 2007/06 Bibliography of marine scientific research relevant to Perth's metropolitan marine protected areas and adjacent waters. Data Report. Lierich D, Bancroft KP (2007).
- MSP 2007/07 Current and proposed marine research projects relevant to Perth's metropolitan marine protected areas and adjacent waters. Data Report. Lierich D, Bancroft KP (2007).
- MSP2007/08 Disturbance history of coral communities in Bill's Bay, Ningaloo Marine Park, 1975-2007. Data Report. van Schoubroeck P, Long S (2007).
- MSP 2008/01 Comparative marine biodiversity survey of the Rowley Shoals 1-17 December 2007. Metadata Report. Long S., Armstrong S., Fabricius K., Field I., Cook K., Colquhoun J., & Huisman J. (2008).



