



**MARINE RESERVE IMPLEMENTATION:
CENTRAL FOREST**

**BIOLOGICAL DATA OF THE
MAJOR BENTHIC HABITATS IN THE
GEOGRAPHE BAY-CAPES-HARDY INLET REGION
(GEOGRAPHE BAY TO FLINDERS BAY)**

Data Report: MRI/CF/GBC-33/2000

**Prepared by K P Bancroft
January 2000**



**Marine Conservation Branch
Department of Conservation and Land Management
47 Henry Street
Fremantle, Western Australia, 6160**

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A collaborative project between
CALM Marine Conservation Branch and the Central Forest Regional Office

A project partially funded through the Natural Heritage Trust's
Coast and Clean Seas Marine Protected Areas Programme
Project No WA9703

**Prepared by K P Bancroft
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- Roger Banks - District Manager, South West Capes District
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SUMMARY

A biological survey of the major benthic habitats in the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve was undertaken in early 1999 by the Department of Conservation and Land Management's Marine Conservation Branch in collaboration with the University of Western Australia.

Twenty subtidal and 26 intertidal sites were surveyed and comprehensive community data was collected. A total of 527 species of flora and fauna was collected during the subtidal survey. This total comprises of 150 algae, two seagrass, 110 sponge, 44 ascidian, eleven coral and 110 fish species. Eighty- one species of marine flora and fauna, comprising of 26 algae, one seagrass, two sponge, five anemone, one zooanthid, one coral, 34 molluscs, two polychaete worms, five crustaceans, one seastar, one brittlestar, one seurchin and one seacucumber species were collected during the intertidal survey.

These data will be important in the determination of the relative conservation values of the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve. It will also contribute to the information base for the boundary and zoning planning process for the proposed reserve.

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1. INTRODUCTION

This report presents the data collected during a biological survey of the Geographe Bay-Capes-Hardy Inlet region during the 28th January to 8th February 1999. The Marine Conservation Branch of the Department of Conservation and Land Management undertook this survey.

1.1. BACKGROUND

In recognition of the importance of conserving the State's marine biodiversity, the Minister for the Environment established the Marine Parks and Reserves Selection Working Group (MPRSWG) in 1986. The main aim of the MPRSWG was to identify representative and unique areas of Western Australia's marine waters for consideration as part of a statewide system of marine conservation reserves under the *Conservation and Land Management (CALM) Act 1984*. The MPRSWG's report was released in June 1994 and identified over seventy such candidate areas throughout the coastal waters of Western Australia (CALM, 1994).

The State's vesting body for marine conservation reserves is the Marine Parks and Reserves Authority (MPRA) which was established in 1997. The MPRA has prioritised the candidate areas for implementation as marine conservation reserves and the Geographe Bay-Capes-Hardy Inlet region was one of the MPRA's high priority candidate areas.

Under the State Government's marine and conservation strategy detailed in *New Horizons - The way ahead in marine conservation and management* released by the Western Australian Government in 1998 (WA Government, undated), there is a requirement for:

“Extensive assessment, community consultation and management planning before a new marine conservation reserve is established.”

An essential component of this is that:

“A comprehensive assessment of the area's biological and economic resources, and social values is carried out.”

In view of the high standing that the Geographe Bay-Capes-Hardy Inlet region has in the MPRA's priority list for new marine conservation reserves, CALM applied to Environment Australia for funding to perform a biological survey in the area. Partial funding of \$72,000 for the project has been obtained through Environment Australia's Natural Heritage Trust, via the Coast and Clean Seas Marine Protected Area Programme. CALM will contribute further resources to the project, valued at approximately \$97,000.

The data acquired during this project will be important in the determination of the relative conservation values of the respective major habitats of the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve. It will also contribute to the information base required for the marine reserve planning process, during which marine reserve boundaries and zones for multiple-use will be considered for the area.

This project was collaboration between CALM's Marine Conservation Branch (MCB) and the Central Forest Region, South West Capes District Office, and the University of Western Australia.

1.2. OBJECTIVES

1.2.1. Primary Objectives

The primary objectives of the survey were:

- the quantitative description of marine biota at representative sites within the major benthic habitats;
- the quantitative analysis of species richness within the major benthic community types;
- the investigation of the influence of physical parameters, such as substrate type and wave exposure, on community diversity, and;
- the collection of fauna and flora density and biomass data as baseline information for long-term monitoring of communities before and after marine reserve implementation.

1.2.2. Secondary Objective

The secondary objective of the survey is the opportunistic collection of qualitative information on visually dominant marine fauna and flora.

2. METHODS

2.1. STUDY AREA

The study area is the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve. This area encompasses the Leeuwin-Naturaliste and the Hardy Inlet which are two of the few areas of south west Western Australia recommended for marine reservation by the Marine Parks and Reserves Selection Working Group (CALM, 1994).

The study area extends from the Busselton Jetty in Geographe Bay to White Point in eastern Flinders Bay (Figure 1).

2.2. DESIGN

This biodiversity survey was designed to document how major geographical, geomorphological and oceanographic influences in the proposed Capes-Geographe Bay-Hardy Inlet marine conservation reserve affect the distribution of reef dwelling organisms (algae, sponges, ascidians, fish).

The survey was divided into two components:

Part A: Subtidal Habitats

Part B: Intertidal Habitats

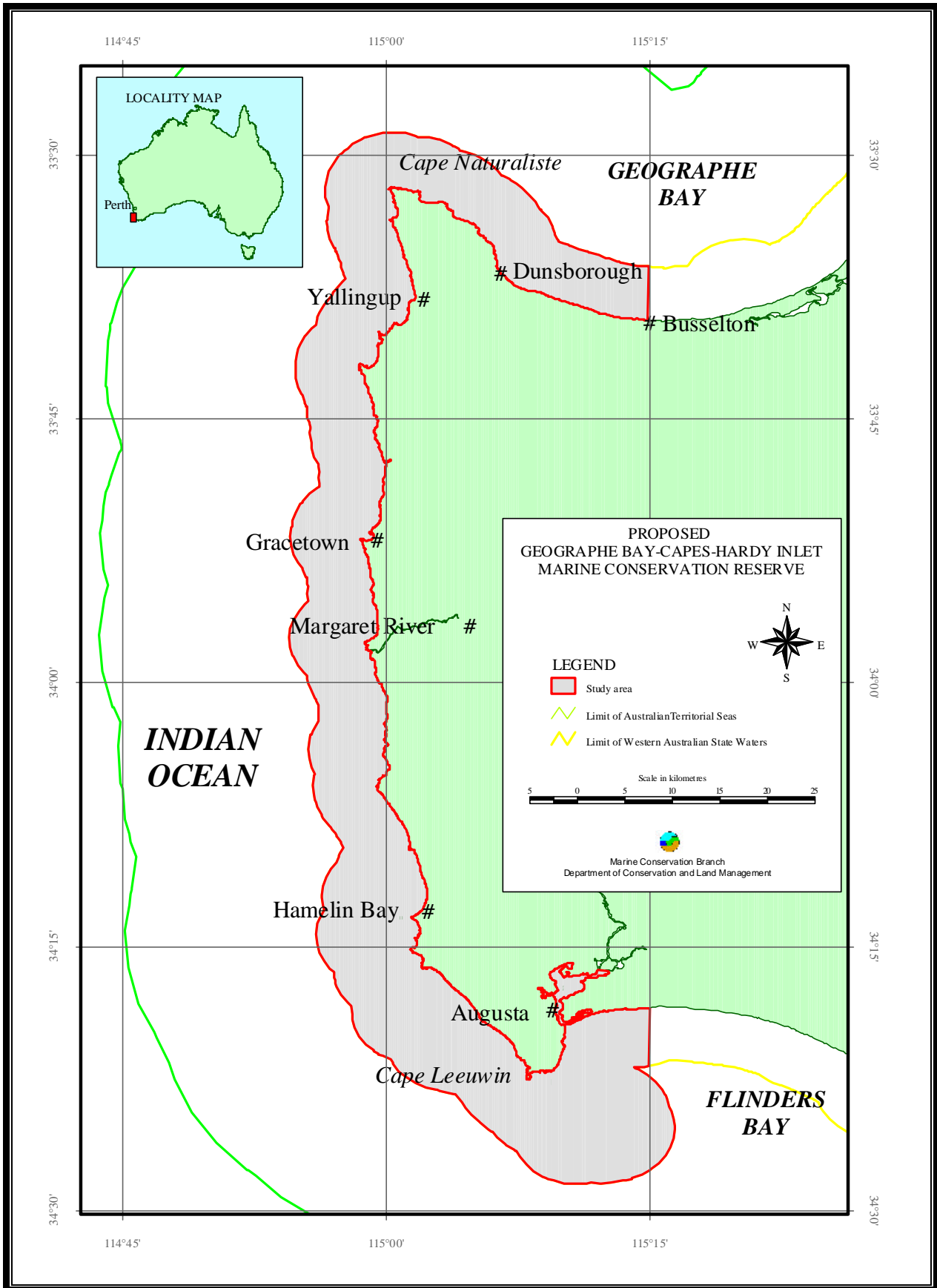


Figure 1: Survey location: Geographe Bay-Capes-Hardy Inlet region.

The survey was not designed to present an exhaustive list of all species and their distribution in the study area. Rather, it is designed to assess differences in species assemblages (species diversity, species abundance, species turnover) from a small intensive study of sites, habitats and depths that represent the range of reefs found within the Capes-Geographe-Hardy Inlet region.

It will form a biological basis for zoning and protected area designation within the proposed marine conservation reserve, as well as, a baseline for designing further surveys and monitoring programs. This analysis, along with the broad survey of benthic marine environments (Bancroft & Colman, 1998; Bancroft, 2000) will aid in assessing the representativeness and uniqueness components when zoning the proposed marine conservation reserve.

2.3. METHODS

2.3.1. Survey sites (subtidal)

Sites were located within three broadscale regions:

1. the northern region (north of Cape Naturaliste);
2. the western region (between Cape Naturaliste and Cape Leeuwin), and;
3. the southern region (south-east of Cape Leeuwin).

Reefs were sampled from 20 sites between Geographe Bay and Flinders Bay (Figure 2). Sites were chosen based on a pilot study, which surveyed benthic marine environments using remote video techniques (Bancroft & Colman, 1998; Bancroft, 1999; 2000). Sites visited during the present study encompassed a variety of habitat types (limestone and granite), reef morphology (high relief; >3 m relief and low relief; <3 m relief) and depths (deep; >10 m and shallow; <10 m) which are encountered within state waters in the area. Sites deeper than 20 m depth were not surveyed due to diving regulations. Site names, corresponding latitude and longitude, depths and environmental information are shown in Appendix I.

Fourteen granite reefs and six limestone reefs were surveyed. Five sites were surveyed in the northern region, twelve in the western region and three in the southern region. Of the granite reefs ten were low relief and four were high relief. Four limestone reefs were characterised by high relief morphology and two were low relief (Appendix I). Depths ranged between 4.5 m to 26 m.

2.3.2. Survey sites (intertidal)

Time constraints limited the survey to areas accessible by roads and tracks and excluded areas that could be accessed only by extensive walking forays along the coast. Onshore winds, rising swells overriding the predicted low tides limited sampling to the high intertidal on the exposed areas.

At each locality we made note of the major rock types, slope aspect, extent and exposure. A full description of all locations and habitat types is presented in Appendix II. Where and when conditions permitted access, the fauna in the high intertidal was sampled by recording the types and numbers of the conspicuous fauna. A total of 26 sites were sampled in this way (Appendix III; Figure 3). Two main habitat types were apparent: boulder fields (20 sites) and horizontal limestone platform (six sites).

2.3.3. Benthic Macroalgae

At each site, divers collected all macroalgae within randomly placed 0.25 m² quadrats. Six quadrats were sampled at each site with the exception of St. Alouarn Island and Sugarloaf where two and five quadrats were sampled, respectively. Sampling was stratified such that only quadrats, which fell on horizontal surfaces, were sampled. For encrusting algae only voucher specimens were collected because of difficulties removing the entire encrusting layer at some sites. Samples from each of the quadrats were placed in separate calico bags and brought to the surface.

Samples were sorted, and a species list compiled for each quadrat shortly after collection onboard *MV Voyager*. The density of canopy-forming species was determined (holdfasts 0.25 m⁻²) before thalli were dried and weighed. This was done for both adults and juveniles of canopy species. Canopy species were dried for at least 72 hours at 60°C at the Botany Department, University of Western Australia before being weighed to three decimal places.

Samples of understorey algae were sorted to species then fixed in 5% formalin in seawater onboard *MV Voyager*. Voucher specimens were prepared for each species and are presently being accessioned into the Herbarium at Botany (UWA).

2.3.4. Sponges and Ascidians

Sampling methods

At each survey site, six quadrats were recorded and sampled by the follow methods:

1. Before the dive at each sampling location, a video still of the clapperboard containing site information was taken.
2. Quadrat was placed *in situ* (depending on whether the sample location was high relief or low relief reef, the quadrats were placed vertically or horizontally, respectively).
3. A video record (approximately ten seconds) of the quadrat was made.
4. Close-ups of individual sessile invertebrates for identification purposes were recorded by digital video.
5. When video record was completed, voucher specimens were sampled and placed individually into a 250 ml specimen jar together with a label. The label would contain site and quadrat information.
6. After the dive, the water in the specimen jars was replaced with 100% ethanol for preservation.
7. An individual sample record sheet for each voucher was completed.

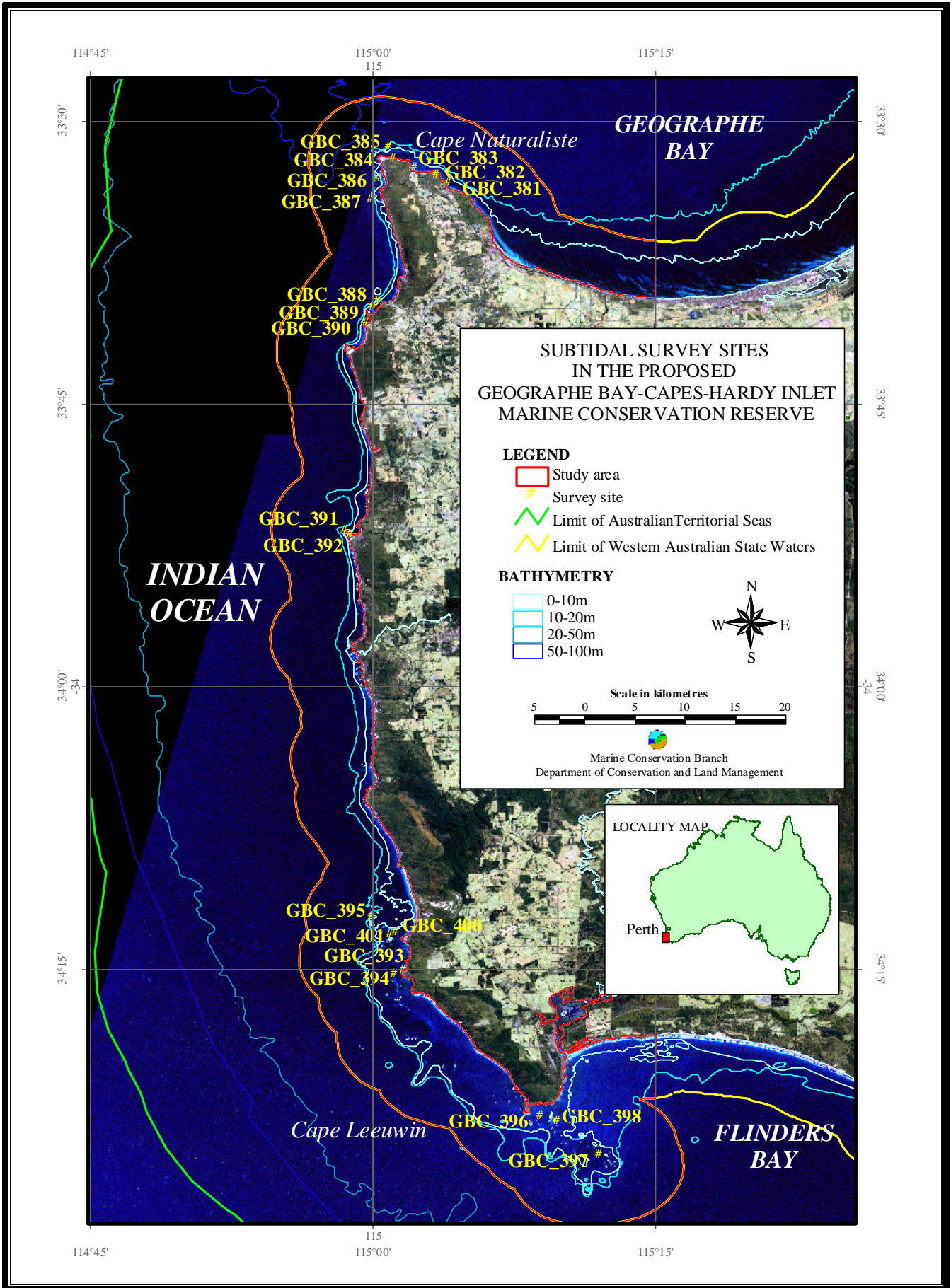


Figure 2. Subtidal survey sites in the Geographe Bay-Capes-Hardy Inlet region

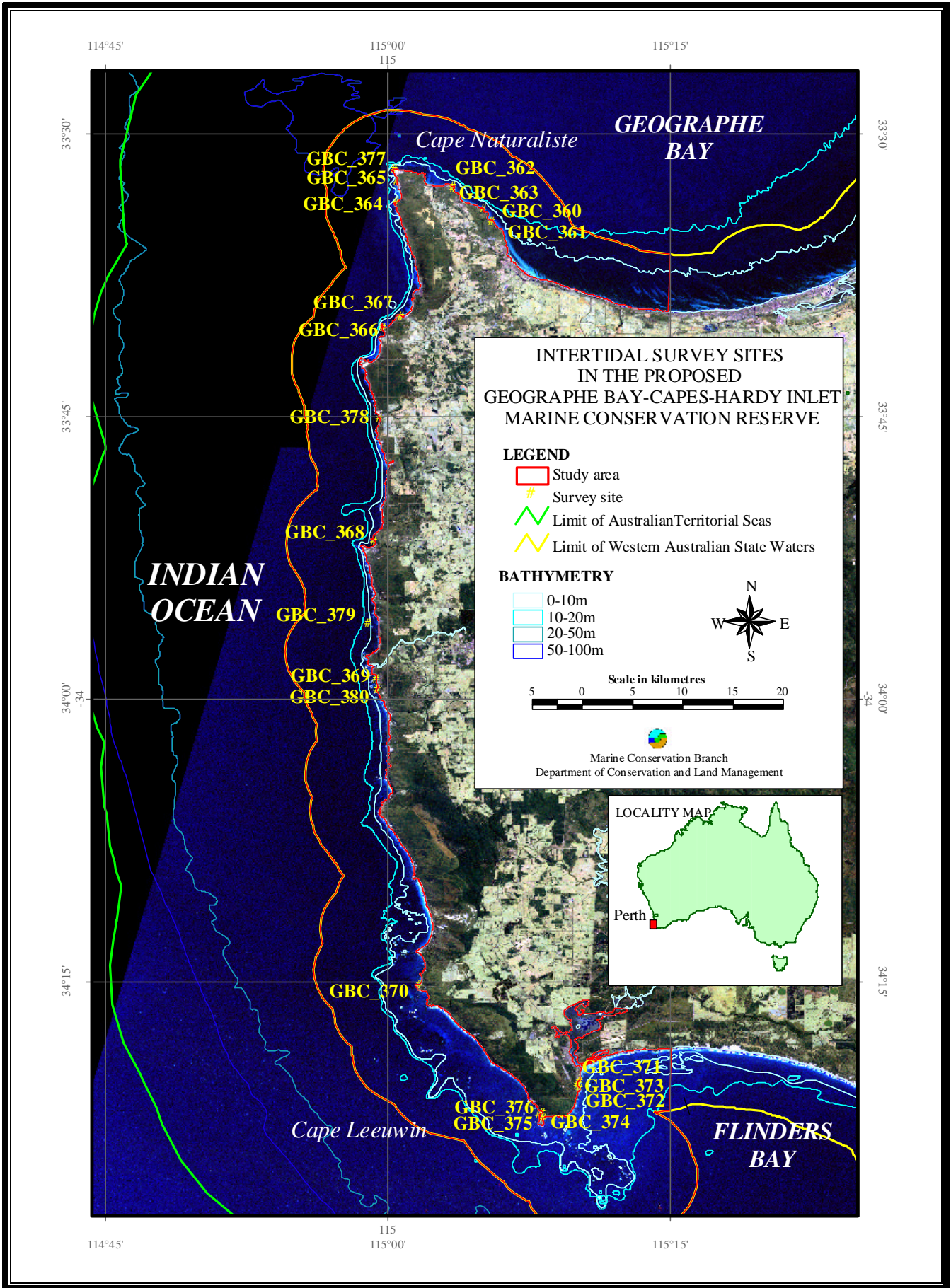


Figure 3. Intertidal survey sites in the Geographe Bay-Capes-Hardy Inlet region

Identification

Preliminary identifications of sponge voucher specimens were performed with Dr Jane Fromont, Curator of Aquatic Invertebrates, Western Australian Museum. In some cases, *in situ* photographs were used and spicule digests were performed when necessary. Specimens were tentatively identified to Family level.

Dr Laura Stocker (Murdoch University) identified the ascidians.

Measuring species abundance

Video frames of the quadrats and voucher specimens were captured off tape by the Iomega Buzz capture kit. These images were saved as Jpeg (*.jpg) files. EHP image analysis software was used to quantify the sponge community from the captured images. The software rectified the quadrat image and calculated area by tracing specimens. This data was then exported as an Excel spreadsheet for further analysis.

2.3.5. Hard corals

Hard corals were only sampled opportunistically. Pieces of coral were placed into 500 ml specimen jars and top up with bleach. All specimens were identified by the Western Australian Museum.

2.3.6. Reef fish

At each site, two teams of divers collected data on the abundance and lengths of all fish species present from a total of 24 transects. Two widths of transects were used to census the reef fish community at each site. At the start of the first transect, a weight attached to the end of a fibreglass tape was placed on the substrate with the dive buddy reeling out the tape behind the observer and indicating when the transect was completed.

On the first swim, the observer counted and estimated the lengths of all of the relatively large and more mobile reef fishes seen within a transect 25 m long by 5 m wide and 5 m high. Upon completion of the transect the observer would swim back along the transect investigating the crevices and overhangs within a 2 m wide strip searching for more cryptic species. No attempt was made to enumerate blennys or triplefin species. Once a large and small transect had been completed the buddy pair would move the tape measure at least 10 m away from the location of the weighted end of the transect and resume counting. In this manner, the transects formed the spokes of a wheel, never covering habitat already censused. Each buddy pair attempted to complete six replicate counts of both the large and the small transects to give a pooled level of replication of 12 transects per site.

The level of replication and transect dimensions was determined by a pilot study which aimed to optimise the survey design (*see Kendrick et al., 1999*). The pilot study indicated that for the 10 most dominant species, a survey precision of between 10% and 25% could be obtained with twelve 25 x 5 x 5 m transects. The level of replication and transect size was also constrained by diver safety. The pilot study showed that buddy pairs could complete only six 25 x 5 x 5 m transects or three 50 x 5 x 5 m transects at deeper sites and stay within the no decompression limits. A transect width of 5 m was selected to account for variability in water clarity. This decision was justified with visibility falling to approximately 4 m at two sites. Furthermore, a calibration study showed that the observer's

measurement error for distance estimates increased beyond 5 m. Because measurement error could potentially affect the size of areas censused, it strengthened the case for the selection of a 5 m transect width. No reef fish were collected for voucher specimens.

2.3.7. Intertidal

In the boulder fields, between 14 and 30 quadrats (0.25 m²) were placed haphazardly, the number depending upon the extent of the site. On platforms, up to 20 quadrats were placed more or less systematically along up to four transects parallel to the shore. Each site was classified as either exposed or sheltered based on prevalent conditions.

In addition to the fauna, the dominant algal types and any seagrasses in the intertidal were noted and/or collected. Algae were more abundant in the subtidal areas. Algal species growing between 5 and 25 m depth were sampled in the complimentary and more comprehensive subtidal survey.

The fauna was differentiated in the field, with limited collections made for later identification using Shepherd and Thomas (1982), Wells and Bryce (1986), Wilson (1994), and Edgar (1997). Rather than produce a comprehensive species list, this study aimed to examine gross similarities between regions and sites within regions, with precise species identification possibly forming part of a later more extensive survey.

3. RESULTS

3.1. SUMMARY REPORT

A more comprehensive summary of the data presented in this report can be found in Kendrick *et al.* (1999). Kendrick *et al.* (1999) summarises the data, draws some conclusions and makes recommendations on survey techniques and future management zoning.

3.2. ALGAL ASSEMBLAGES

Community data for the algal assemblages was collected from all subtidal survey sites. This data is presented in Appendix IV. A total of 152 algae and two seagrass species were sampled (Appendix V).

3.3. SPONGE ASSEMBLAGES

A comprehensive sponge assemblage dataset was collected from 19 of the 20 subtidal survey sites (Appendix VI). During the subtidal survey, 139 voucher specimens were taken which represents a possible 110 different sponge species. A species list is presented in Appendix VII.

3.4. ASCIDIANS

The ascidian community was not quantified, however a total of 44 species of ascidians were identified from voucher specimens. A species list is presented in Appendix VIII.

3.5. HARD CORAL

A total of eleven hard coral samples were opportunistically collected and identified (Appendix IX). These samples comprised of seven different hard coral species. With the exception of the solitary polyp *Scolymia australis*, all of these hard coral species are considered to be of tropical distribution.

3.6. FISH CENSUS

Fish data was collected at all subtidal survey sites. Data was recorded for the wide transects and the narrow transects which is presented in Appendix X and Appendix XI, respectively.

A total of 110 fish species was encountered during all fish census transects. A species list is presented in Appendix XII.

3.7. INTERTIDAL COMMUNITIES

A total of 26 sites were sampled in the intertidal survey (Appendix III). A total of 54 species from six phyla of fauna were collected (Appendix XIII), which includes two sponges, five anemones, one zooanthid, one hard coral, 34 molluscs, two polychaete worms, five crustaceans, one seastar, one brittle star, one seurchin and one sea cucumber.

A collection of algae from the northern side of Cowaramup Bay, made adjacent to the boat ramp in the low intertidal, a zone exposed at extreme spring tides, resulted in 27 species (26 macroalgae and one seagrass) and serves as an indication of the high diversity of species in this area (Appendix XIV).

4. DATA MANAGEMENT

4.1. DATA REPORT

Hard copies of the Data Report will be held at three locations:

1. Marine Conservation Branch, Department of Conservation and Land Management, 47 Henry St., Fremantle Western Australia, 6160.
2. Woodvale Library, Science and Information Division, Ocean Reef Rd., Woodvale, Western Australia, 6026.
3. Archives, Woodvale Library, Science and Information Division, Ocean Reef Rd., Woodvale, Western Australia, 6026.

The Marine Conservation Branch will hold digital copies of the Data Report at three locations:

1. The Marine Conservation Branch Server:
mcb on StreetTalk\User Data@CALM.FREM@CALM [T:/Reports/MRI/MRI_3300]
2. MCB Server full backup DAT tape [T:/Reports/MRI/MRI_3300]
3. CD-ROM [MRI_3300]

4.2. GIS DATA

Spatial data in the form of GIS data layers will be stored digitally at three locations:

1. The Marine Conservation Branch Server:
GIS Data@FREM.SHARED@CALM on StreetTalk [L:/GIS/MCB/CFR/Capes/]
2. MCB Server full backup DAT tape [L:/GIS/MCB/CFR/Capes/]
3. On GIS Information Coordinator's Computer. [H:/MCB/CFR/Capes]

4.3. VIDEO RECORDS

Eight mini digital tapes were used to capture sampling quadrats, habitat data and opportunistic video footage. The tape numbers are:

1. MRI/CF/GBC/HH#1-02/1999
2. MRI/CF/GBC/HH#2-02/1999
3. MRI/CF/GBC/HH#3-02/1999
4. MRI/CF/GBC/HH#4-02/1999
5. MRI/CF/GBC/HH#5-02/1999
6. MRI/CF/GBC/HH#6-02/1999
7. MRI/CF/GBC/HH#7-02/1999
8. MRI/CF/GBC/HH#8-02/1999

Collected video footage will be held at two locations:

1. VHS masters to be archived at the CALM Information Management Branch, Como.
2. VHS copies to be stored at CALM Marine Conservation Branch, Fremantle.

5. REFERENCES

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6. APPENDICES

APPENDIX I. BIOLOGICAL SURVEY SAMPLING SITES INFORMATION

Site No	Location	Habitat type	Substrate	Latitude	Longitude	GPS	
						type	Datum
GBC_381 (GBC_043a)	Eagle Bay	Macroalgae dominated reef	granite Granite	-33.5528	115.067	GPS	WGS84
GBC_382 (GBC_046a)	Rocky Bay	Macroalgae dominated reef	granite Granite	-33.5462	115.0558	GPS	WGS84
GBC_383 (GBC_051a)	Bunker Bay	Macroalgae dominated reef	granite Granite	-33.5407	115.0367	GPS	WGS84
GBC_384 (GBC_059a)	Cape Naturaliste (inshore)	Macroalgae dominated reef	granite Granite	-33.5325	115.0177	GPS	WGS84
GBC_385 (GBC_061a)	Cape Naturaliste (offshore)	Macroalgae dominated reef	granite Granite	-33.5227	115.014	GPS	WGS84
GBC_386 (GBC_077a)	Windmills	Macroalgae dominated reef	granite Granite	-33.5497	115.0047	GPS	WGS84
GBC_387 (GBC_079a)	Sugarloaf	Macroalgae dominated reef	granite Granite	-33.5682	114.9973	GPS	WGS84
GBC_388 (GBC_106a)	Canal Rocks (North)	Macroalgae dominated reef	granite Granite	-33.6581	115.0033	GPS	WGS84
GBC_389 (GBC_107a)	Canal Rocks (offshore)	Macroalgae dominated reef	granite Granite	-33.6637	114.9997	GPS	WGS84
GBC_390 (GBC_109a)	Canal Rocks (inshore)	Macroalgae dominated reef	granite Granite	-33.6773	114.9937	GPS	WGS84
GBC_391 (GBC_154a)	Cowaramup Bay (inshore)	Macroalgae dominated reef	granite Granite	-33.8642	114.98	GPS	WGS84
GBC_392 (GBC_155a)	Cowaramup Bay (offshore)	Macroalgae dominated reef	granite Granite	-33.8612	114.9743	GPS	WGS84
GBC_393 (GBC_246a)	Foul Bay (inshore)	Macroalgae dominated reef	granite Granite	-34.2495	115.027	GPS	WGS84
GBC_394 (GBC_247a)	Foul Bay (offshore)	Macroalgae dominated reef	limestone Limestone	-34.2535	115.019	GPS	WGS84
GBC_395 (GBC_350a)	Edith Rock (offshore)	Macroalgae dominated reef	granite Granite	-34.2018	114.9988	GPS	WGS84
GBC_396 (GBC_290a)	Cape Leeuwin (inshore)	Macroalgae dominated reef	limestone Limestone	-34.3797	115.1477	GPS	WGS84
GBC_397 (GBC_303a)	St Alouarn	Macroalgae dominated reef	limestone Limestone	-34.413	115.2002	GPS	WGS84
GBC_398 (GBC_333a)	Seal Island	Macroalgae dominated reef	limestone Limestone	-34.383	115.1625	GPS	WGS84
GBC_400	Peak Island	Macroalgae dominated reef	limestone Limestone	-34.2163	115.02		WGS84
GBC_401	Hamelin Island	Macroalgae dominated reef	limestone Limestone	-34.218	115.0147		WGS84

APPENDIX II. DESCRIPTION OF INTERTIDAL AREAS ON ROCK OUTCROPS, HEADLANDS AND LIMESTONE PLATFORMS

Geographe Bay-Cape-Hardy Inlet region. Locations where quantitative samples were collected indicated in Bold Type.

LOCATION	LANDWARD ASPECT	TYPE & EXTENT PLATFORM	NOTABLE BIOTA	EXPOSURE
DUNSBOROUGH/ EAGLE BAY	Granite outcrops and boulder along sweeping bays,	limited, small limestone at Eagle Bay		North east aspect, protected from westerly swells refracted around cape. Exposed to north along shallow Geographe Bay
ROCKY POINT	Limestone cliff	granite boulders		sheltered
CAPE PIQUET		granite boulders		sheltered
GANNET ROCK		granite boulders		sheltered
BUNKERS BAY				
CAPE NATURALISTE	Granite headland, eroding dune behind	narrow limestone		exposed to west and north
SUGAR LOAF/ YALLINGUP	High consolidated dunes narrow limestone reefs at base; Sugarloaf large granitic dome forming small headland	narrow		exposed to west
YALLINGUP	small granite headland with limestone platform to north	relatively large, with pools	Fisheries Area	Protected exposed
SMITHS BEACH	Small granite headland to south, limestone headland to north	small limestone platform in of middle bay	Limestone with turf binding sand	north facing exposed, but with wide relatively sandy bay dissipating swell
CANAL ROCKS	Granite headland on west canal between north south trending rocks; landward consolidated dune, eroding cave face	narrow limestone with sand in middle of the bay		western side headland exposed; forming north opening bay relatively sheltered with <i>Posidonia</i> sp.
CAPE CLAIRULT/ INJIDUP	Granite headland?			exposed headland, protecting sandy bay with northerly aspect
MOSES ROCK	Steep limestone cliff area to south appears to be similar	granite boulders lying on a narrow limestone reef with central gutter parallel to beach	bare rock with coralline algae and small amount turf; <i>Galeolaria</i> at limestone granite boulders interface	exposed
COWARAMUP	High headlands North granite, South consolidated dune. interrupted, narrow limestone reef south to Ellensbrook	variable limestone platform, wider to south of point, depressions in platform with sand accumulations Rounded granites and angular metamorphic rocks embedded on limestone platform or forming shallow subtidal boulder field	algal turf binding sand and seagrass <i>H. tasmanica</i> in sand filled depressions	northerly aspect protected from westerly swells,

LOCATION	LANDWARD ASPECT	TYPE & EXTENT PLATFORM	NOTABLE BIOTA	EXPOSURE
ELLENSBROOK	Limestone reefs extensive to south	river water enters sea at granite boulder area with limestone platform		
CAPE MENTELLE/ KILCARNUP	Extensive limestone reef at point			north side point WNW facing , swells refracted around point
PREVELLY/ MARGARET RIVER	Limestone outcrops and islets at sealevel, Consolidated dune with limestone outcrops			exposed to westerly swells, dissipated in embayments by reefs and minor changes in aspect
GNARABUP POINT	Consolidated dune, eroded at sealevel forming wide reef	extensive limestone to south of Pt with classic notch and storm ramp, broken to north deep holes, gutters with high diversity algal sp, raised lip to seaward; subtidal reefs at entrance to bay	extent platform, variable topography giving a high diversity of microhabitats	exposed but variable degree of protection due to width platform
MARMADUKE POINT	unconsolidated dune moderate height, granite rocky point, limestone outcrop (3m)	small limestone platform at base of dune, large granite boulders to sea and on platform		exposed
REDGATE/ WRECK GEORGETTE	granite boulder outcrops along sandy beach line, unconsolidated dunes behind beach			exposed
THE FISHING PLACE	small bay surrounded by granite? headlands			
CAPE FREYCINET/ CONTOS SPRINGS	Cape, massive granite boulders to west; high consolidated dune above sandy beach			exposed
NORTH POINT/ BORANUP	Appear similar to Cosy Corner? granite headland			
HAMELIN BAY/ WHITE CLIFF POINT	headland high consolidate dune with exposed duricrust, long sweeping beach to north backed by extensive dunes some with blowouts	Hamelin Is. limestone with small platform and extensive limestone reefs; to seaward granite islands, extensive <i>P. angustifolia/sinuosa</i> meadows, flora in bay not investigated		
FOUL BAY	high consolidated dune exposed cave formation; granite headland to south, wide sandy beach between headlands	small platform with storm bench (10m) at base of dune, granites and metamorphic within limestone; accumulations of <i>Turbo intercostalis</i> , <i>Turbo torquatus</i> , <i>Thais orbita</i> , urchin <i>Phyllocanthus</i> spines in crevices; fossil corals at lower part of limestone outcrop	low turf on platform, narrow linear cracks, very regular surface	some protection from swells, very turbid waters, no large invertebrates due to regular topography; bird midden? with broken <i>Turbo</i> , <i>Lampus</i> , <i>Haliotis</i> , <i>Thais</i> , urchins, crabs, recent with gull droppings
COSY CORNER/ KNOBBY HEAD	consolidated dunes around high granite domes; offshore limestone islands and reef platforms	limestone reef to east, outcropping on beach and offshore	seagrass <i>A. antarctica</i> off sandy bay aerial photos indicate large sand sheets offshore	exposed to SW; some protection due to offshore islands and reefs
	granites trending SW			

LOCATION	LANDWARD ASPECT	TYPE & EXTENT PLATFORM	NOTABLE BIOTA	EXPOSURE
SKIPPY ROCK	off shore granite boulder protecting small beach, exposed limestone cliff			protected with accumulations of wrack
QUARRY BEACH	consolidated dune with exposed caves and seepage areas forming tufa over granite/gneiss			moderately exposed to west
WATERWHEEL	granite/gneiss boulders forming headlands with small coarse orange sandy beach between			exposed
RINGBOLT BAY	linear rocky boulder outcrops of granite, gneiss with quartzite intrusions to sea, gutters between outcrops			exposed, some islands and reefs off shore
DISABLED ACCESS/ POINT MATTHEW	sandy beach to east, granite and gneissic rocks to west		giant limpets at most exposed point	exposed
BARRACK POINT/ GRANNY'S POOL	High dunes over granite boulders		small beaches between rocky outcrops, accumulations of seagrass and <i>A. antarctica</i> stem balls. <i>P. coriacea</i> pericarps	exposed, boulders form protected pool
BARRACK POINT/ STORM BAY/FLINDERS BAY / AUGUSTA	rocky point, small sandy beach rocks 20m offshore with diverse algal assemblages and seagrass <i>A. antarctica</i>	granite, Gneiss and schist boulder field on narrow sand covered limestone platform, boulders seaward edge	algal turf and sand binding rocks to pavement <i>Serpularbis</i> on rocks	easterly aspect, moderately exposed to swells

APPENDIX III. INTERTIDAL SURVEY SAMPLING SITES INFORMATION

CALM No	Site	Code	Region	Quadrats	Latitude	Longitude	Description
<u>BOULDER FIELDS</u>							
GBC-360	Pt Picquet	PP	North	30	33°34'00"S	115°05'00"E	sheltered sites, facing NE into Geographe Bay, with a narrow intertidal area (2m wide) of small granite boulders on sand
GBC-361	Gannet Rock	GR	North	30	33°34'30"S	115°05'30"E	sheltered, facing E into Geographe Bay, intertidal 3-5m wide
GBC-362	Rocky Pt. East	RE	North	30	33°33'00"S	115°03'30"E	more exposed, facing NNE, with steep drop into sand
GBC-363	Rocky Pt. West	RW	North	30	33°33'00"S	115°03'15"E	exposed, facing N, large boulders, intertidal 10m wide
GBC-364a	Sugarloaf Rock 1	S1	North	30	33°33'30"S	115°00'10"E	sheltered behind Sugarloaf Rock, facing NW, intertidal narrower
GBC-364b	Sugarloaf Rock 2	S2	North	30	33°33'30"S	115°00'10"E	just east of Cape, relatively sheltered, facing N, 5m intertidal
GBC-365a	Cape Naturalist East	CE	North	30	33°32'00"S	115°00'30"E	high energy, facing W, boulder field separated from shore by sand
GBC-365b	Cape Naturalist South	CS	North	15	33°32'30"S	115°00'30"E	
GBC-366	Canal Rocks	CR	West	30	33°40'10"S	115°00'30"E	sheltered, facing W, in lee of Canal Rocks
GBC-367	Smith's Beach	SB	West	15	33°39'30"S	115°00'30"E	high energy, exposed, large sloping boulders dropping steeply
GBC-368a	Cowarumup (outer)	CO	West	30	33°51'40"S	114°59'10"E	exposed headland, east end of bay, facing NW, intertidal 5m wide
GBC-368b	Cowarumup (inner)	CI	West	30	33°51'40"S	114°59'10"E	sheltered, facing S into east end of bay, extensive intertidal
GBC-369	Prevelly boulders	PS	West	30	33°59'30"S	114°59'30"E	exposed headland, south of Gnarabup, facing SW
GBC-370	Foul Bay	FB	South	20	34°14'30"S	115°03'00"E	exposed headland in extensive bay, facing W, narrow steep shore
GBC-371	Flinders Bay	FL	South	20	34°20'30"S	115°10'30"E	sheltered, facing east within bay, wide intertidal (20m)
GBC-372	Granny's Pool	GB	South	20	34°20'40"S	115°10'30"E	sheltered, facing ESE, still within Flinders Bay
GBC-373	Fishing Ramp	FR	South	20	34°21'40"S	115°09'20"E	exposed, facing SE at entrance to Flinders Bay
GBC-374	Ringbolt Bay	RB	South	20	33°22'00"S	115°08'40"E	exposed, facing SW on headland
GBC-375	Waterwheel	WW	South	20	34°22'00"S	115°08'30"E	sheltered gutters
GBC-376	Quarry Bay	QB	South	20	34°21'40"S	115°08'30"E	sheltered, on south shore of W facing bay, facing N
<u>LIMESTONE PLATFORMS</u>							
GBC-377	Cape Naturaliste	CN	North	20	33°32'30"S	115°00'30"E	exposed, small, sand covered platform, some emergent boulders
GBC-378a	Moses Rock (platform)	MP	West	20	33°35'00"S	114°59'30"E	exposed, low platform behind fringing rocks
GBC-378b	Moses Rock (boulders)	MB	West	20	33°35'00"S	114°59'30"E	exposed boulders on inner platform
GBC-379a	Cowarumup (platform)	CP	West	45	33°51'55"S	114°59'00"E	sheltered platform facing N, 20m wide
GBC-379b	Cowarumup (boulders)	CB	West	15	33°51'55"S	114°59'00"E	sheltered boulders on inner platform
GBC-380	Prevelly limestone	PP	West	80	33°58'50"S	114°59'30"E	exposed platform, extensive, 50+m wide

APPENDIX IV. ALGAL ASSEMBLAGE DATA

Site Code	Depth	Substrate	Relief	Species	Quadrat No. and Biomass (g/0.025m ²)						
					1	2	3	4	5	6	
GBC_401 (GBC_401a)	<10m	Limestone	Low relief	<i>Ecklonia radiata</i> (multiple holdfasts)	45.11						
				<i>Ecklonia radiata</i>	479.62	79.02			423.08	365.2	
				<i>Platyhalia quercifolia</i>	329		206.99	189.54			
				<i>Sargassum tristichum</i>		123.72					
				<i>Scytothalia dorycarpa</i>					144.84		
GBC_400 (GBC_400a)	<10m	Limestone	High relief	<i>Ecklonia radiata</i>	102.99			44.59	73.84		
				<i>Platyhalia quercifolia</i>			528.3	26.62	27.28	546.94	
				<i>Sargassum</i> sp.				5.22			
GBC_398 (GBC_333a)	<10m	Limestone	Low relief	<i>Cystophora racemosa</i>				30.1			
				<i>Ecklonia radiata</i>	29.13	114.7		47.11		325.7	
				<i>Eck_raj</i>				0.993			
				<i>Sargassum</i> (Arthrophyucus)				3.529			
				<i>Scytothalia dorycarpa</i>	942.87	31.59		585.6		382.67	
GBC_397 (GBC_303a)	10-20m	Limestone	Low relief	<i>Ecklonia radiata</i>	34.49	99.386	29.48	176.01		29.341	
				<i>Sargassum linearifolium</i>	3.952						
				<i>Scy_dorj</i>		3.508		12.224			
				<i>Scytothalia dorycarpa</i>	478.21	252.96	54.4	74.139		305.42	
GBC_396 (GBC_290a)	<10m	Limestone/ Granite	Low relief	<i>Cystophora monilifera</i>	86.46						
				<i>Cystophora racemosa</i>	200.47	1.791			2.632		
				<i>Ecklonia radiata</i>		33.667					
				<i>Eck_raj</i>					2.016		
				<i>Platyhalia angustifolia</i>	318.74					1.97	
				<i>Plat_anj</i>		7.289					
				<i>Sargassum spinuligerum</i>	2.183						
GBC_395 (GBC_350a)	10-20m	Granite	High relief	<i>Ecklonia radiata</i>	287.73	12.08	713.59		239.71	350.97	
				<i>Sargassum</i> (Arthrophyucus)						12.73	
				<i>Scy_dorj</i>				210.36			
				<i>Scytothalia dorycarpa</i>			5.95	228.24	545.22	56.35	
				<i>Dilophus fastigiatus</i>		9.81					
				<i>Dictyopteris muelleri</i>		3.35					
GBC_394 (GBC_247a)	<10m	Limestone	Low relief	<i>Cystophora racemosa</i>	1.44						
				<i>Ecklonia radiata</i>	263.65	291.33	167.26		209.83		
				<i>Sargassum</i> (Arthrophyucus)	18.97						
				<i>Sargassum tristichum</i>	18.05						
				<i>Scytothalia dorycarpa</i>	36.17		173.06				
GBC_293 (GBC_246a)	<10m	Granite	Low relief	<i>Cystophora harveyi</i>					81.6	39.68	
				<i>Cystophora monilifera</i>		224.3					
				<i>Cystophora racemosa</i>		33.23		216.03	77.95	57.11	
				<i>Platyhalia angustifolia</i>		7.98	81.49	15.2		4.62	
				<i>Plat_anj</i>					11.21		
				<i>Sargassum</i> (Sargassum)			0.94	4.63			
				<i>Sargassum</i> (Arthrophyucus)					1.29		
				<i>Sargassum fallax</i>			2.26	2.22			
				<i>Sargassum</i> sp.			1.47				
				<i>Sargassum varians</i>				2.55			
				<i>Myriodesma quercifolia</i>			43.22	21.49	6.3	147.14	

Site Code	Depth	Substrate	Relief	Species	Quadrat No. and Biomass (g/0.025m ²)									
					1	2	3	4	5	6				
GBC_392 (GBC_155a)	10-20m	Granite	Low relief	<i>Cystophora grevillei</i>					138.24	86.415				
				<i>Cystophora harveyi</i>				33.86						
				<i>Cystophora racemosa</i>	56.54		79.31							
				<i>Cystophora retorta</i>				164.75						
				<i>Cystophora sp1</i>					50.59					
				<i>Cystophora sp2</i>					61.48					
				<i>Dictyota naevosa</i>						2.85				
				<i>Ecklonia radiata</i>	247.59		152.51							
				<i>Platyhalia angustifolia</i>			9.15		29.26					
				<i>Sargassum (arthrophyucus)</i>		56.81			8.29					
				<i>Sargassum spinuligerum</i>			0.74							
				<i>Sargassum varians</i>						12.12				
				<i>Scytohalia dorycarpa</i>	81.93		19.89	11.04	1.15	13.07				
				<i>Myriodesma quercifolia</i>			6.59		7.31					
GBC_391 (GBC_154a)	<10m	Granite	Low relief	<i>Cystophora harveyi</i>	45.99	69.16	12.81		35.28	0.72				
				<i>Cystophora pectinata</i>			34.21							
				<i>Cystophora racemosa</i>		65.72	75.39		4.67	2.84				
				<i>Platyhalia angustifolia</i>		1.1	14.68	236.38		119.5				
				<i>Platyhalia quercifolia</i>					14.23					
				<i>Sargassum (arthrophyucus)</i>		6.9	5.13							
				<i>Sargassum fallax</i>					25.28					
				<i>Sargassum linearifolium</i>			1.67		3.54					
				<i>Sargassum sp</i>	8.87	21.15	9.89		12.46	5.81				
				<i>Dictyopteris muelleri</i>						1.27				
				<i>Myriodesma quercifolia</i>						9.22				
				<i>Thalassodendron pachyrhizum</i>		23.8			106.99					
				GBC_390a (GBC_109a)	<10m	Granite	Low relief	<i>Cystophora harveyi</i>	8.76	11.96	74.62	59.3	7.88	
								<i>Cystophora pectinata</i>		81.17				
<i>Cystophora racemosa</i>	14.02	49.86	63.87					0.75	7.28					
<i>Cystophora retorta</i>	59.58	37.46	120.41											
<i>Cystophora sp2</i>								28.42	0.73					
<i>Platyhalia angustifolia</i>	84.69	155.72	18.07					149.62	25.99	107.21				
<i>Plat_anj</i>	10.24													
<i>Sargassum (arthrophyucus)</i>	7.78													
<i>Sargassum linearifolium</i>	15.63	12.33						32.13						
<i>Sargassum sp (pinnate)</i>									6.67					
<i>Sargassum sp</i>			16.2											
<i>Sargassum varians</i>									3.94					
<i>Myriodesma quercifolia</i>									10.6					
GBC_389 (GBC_107a)	10-20m	Granite	Low relief	<i>Ecklonia radiata</i>		123.54			86.21	120.54				
				<i>Scytohalia dorycarpa</i>	769.61	66.19	437.57	365.45	210.5	181.14				
GBC_388 (GBC_106a)	<10m	Granite	High relief	<i>Ecklonia radiata</i>	42.17	310.7	48.91	3.41	655.08	28.71				
				<i>Eck_raj</i>		10.37	9.95	3.7	0.85					
				<i>Platyhalia angustifolia</i>				62.4						
				<i>Sargassum (arthrophyucus)</i>			10.77	43.04	6.41	19.45				
				<i>Sargassum fallax</i>						5.82				
				<i>Sargassum linearifolium</i>	11.85			4.03						
				<i>Sargassum podocanthum</i>	23.52									
				<i>Sargassum sp</i>	22.72			0.88	1.97					
				<i>Sargassum tristichum</i>	62.62									
				<i>Sargassum varians</i>				2.58						
				<i>Scy_dorj</i>		9.31	0.83							
<i>Scytohalia dorycarpa</i>	73.08	196.38	484.23	102.6	203.91	190.72								
GBC_387 (GBC_079a)	10-20m	Granite	High relief	<i>Ecklonia radiata</i>	464.72	135.27								
GBC_386 (GBC_077a)	10-20m	Granite	Low relief	<i>Dictyota sp1</i>	0.17									
				<i>Ecklonia radiata</i>	235.95	261.53	2.71	68.24	353.9	390.4				
				<i>Scytohalia dorycarpa</i>	22.23	158.56	113.69	110.45	23.544					

Site Code	Depth	Substrate	Relief	Species	Quadrat No. and Biomass (g/0.025m ²)					
					1	2	3	4	5	6
GBC_385 (GBC_061a)	10-20m	Granite	High relief	<i>Ecklonia radiata</i>		46.68			182.26	
				<i>Eck_raj</i>	13.93	0.4				
				<i>Sargassum sp</i>	0.253					
				<i>Scytothalia dorycarpa</i>	148.52	630.18			273.62	
GBC_384 (GBC_059a)	<10m	Granite/ Limestone	Low relief	<i>Cystophora harveyi</i>	1.687			0.758		
				<i>Cystophora racemosa</i>					1.629	39.06
				<i>Cystophora retorta</i>	49.5				65.094	
				<i>Dictyota sp1</i>		0.4				0.23
				<i>Platyhalia angustifolia</i>	58.77	300.5	197.7	314.1	137.39	404.22
				<i>Sargassum linearifolium</i>		11.582		3.88		
				<i>Sargassum sp (pinnate)</i>				19.11		
				<i>Sargassum varians</i>					13.169	
				<i>Savar_j</i>						18.5
				<i>Scytothalia dorycarpa</i>	23.436		15.161			
GBC_383 (GBC_051a)	<10m	Granite/ Limestone	Low relief	<i>Cystophora harveyi</i>				36.122		
				<i>Sargassum sp</i>				0.4		
				<i>Scaberia agardhii</i>				9.274		
				<i>Lobospira bicuspidata</i>				66.61		
				<i>Dictyota naevosa</i>		28.55				
GBC_382 (GBC_047)	<10m	Granite	Low relief	<i>Cystoseira grevillei</i>		16.169	204.58			
				<i>Cystophora moniliformis</i>		13.836	219.13			
				<i>Cystophora monilifera</i>		14.459			116.47	
				<i>Cystophora racemosa</i>		18.012	1.326	13.636	10.968	
				<i>Dictyota naevosa</i>	1.755		5.348		1.191	
				<i>Dictyota sp1</i>					1.87	
				<i>Platyhalia angustifolia</i>		3.781		6.895		
				<i>Plat_anj</i>		0.474	0.674			
				<i>Sargassum (Sargassum)</i>				20.056		
				<i>Sargassum linearifolium</i>	79.833			211.47	1.44	
				<i>Sargassum sp</i>			1.595			
				<i>Zonaria turneriana</i>	82.64		23.38			
<i>Lobophora variegata</i>	12.618		0.644		0.927					
GBC_381 (GBC_043a)	<10m	Granite	Low relief	<i>Cystophora harveyi</i>			54.87	29.4		
				<i>Sargassum (Sargassum)</i>			17.66			
				<i>Sargassum (Arthrophyucus)</i>				40.85		
				<i>Sargassum spinuligerum</i>		83.38				
				<i>Lobophora variegata</i>			0.47			

* parentheses represent corresponding habitat mapping survey site

APPENDIX V. ALGAE AND SEAGRASS SPECIES LIST
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Species	Species
<i>Acanthophora dendroides</i>	<i>Acrocarpa robusta</i>
<i>Acrocarpa sp</i>	<i>Adelophyton sp</i>
<i>Amphibolis griffithii</i> *	<i>Amphiroa anceps</i>
<i>Amphiroa gracilis</i>	<i>Antithamnion hanowiooides</i>
<i>Apjohnia laetevirens</i>	<i>Areschougia sp</i>
<i>Aserococcus bullosus</i>	<i>Botryocladia sonderi</i>
<i>Callophycus harveyanus</i>	<i>Callophycus oppositifolius</i>
<i>Callophycus sp</i>	<i>Callophyllus sp</i>
<i>Carpopeltis elata</i>	<i>Carpopeltis sp</i>
<i>Carpopeltis spongeaplexus</i>	<i>Caulerpa brownii</i>
<i>Caulerpa flexilis</i>	<i>Caulerpa germinata</i>
<i>Caulerpa hedleyi</i>	<i>Caulerpa longifolia</i>
<i>Caulerpa obscura</i>	<i>Caulerpa simpliciuscula</i>
<i>Ceramium sp</i>	<i>Champia compressa</i>
<i>Champia sp</i>	<i>Cladisiphon sp</i>
<i>Clavicolonium ovatum</i>	<i>Caulocystis uvifera</i>
<i>Codium sp</i>	<i>Codium spongiosum</i>
<i>Ceoloclonium sp</i>	<i>Colpomenia sp</i>
<i>Craspedocarpus sp</i>	<i>Crustose corallines</i>
<i>Curdia obesa</i>	<i>Cutleria multifida</i>
<i>Cutleria sp nov</i>	<i>Cystoseira trinodis</i>
<i>Cystoseira grevillei</i>	<i>Cystophora harveyi</i>
<i>Cystophora monilifera</i>	<i>Cystophora moniliformis</i>
<i>Cystophora pectinata</i>	<i>Cystophora racemosa</i>
<i>Cystophora retorta</i>	<i>Cystophora sp1</i>
<i>Cystophora sp2</i>	<i>Dasyclonium incisum</i>
<i>Dasyphylla priessi</i>	<i>Dasya sp</i>
<i>Dictyopteris australis</i>	<i>Dictyopteris muelleri</i>
<i>Dictyopteris plageogramma</i>	<i>Delisea pulchra</i>
<i>Dictyota naevosa</i>	<i>Dictyota sp</i>
<i>Dilophus fastigiatus</i>	<i>Dilophus sp</i>
<i>Dictyosphaeria sericea</i>	<i>Dictymenia sonderi</i>
<i>Dictymenia tridens</i>	<i>Echinothamnion hystrix</i>
<i>Echinothamnion mallardiae</i>	<i>Ecklonia radiata with multiple holdfasts</i>
<i>Ecklonia radiata</i>	<i>Epiphloea bullosa</i>
<i>Erythroclonium sonderi</i>	<i>Erythroclonium minuta</i>
<i>Euptilocladia spongeosa</i>	<i>Euptilocladia articulata</i>
<i>Galaxaura marginata</i>	<i>Gloiosaccion brownii</i>
<i>Glossophora nigricans</i>	<i>Gracilaria preissiana</i>
<i>Griffithsia sp</i>	<i>Griffithsia teges</i>
<i>Halimeda cuneata</i>	<i>Halopteris sp</i>
<i>Haloplegma preissii</i>	<i>Haloplegma sp2</i>
<i>Haraldiophyllum erosum</i>	<i>Hennedya crispa</i>
<i>Heterosiphonia crassipes</i>	<i>Heterosiphonia muelleri</i>
<i>Hemineura frondosa</i>	<i>Haliptilon roseum</i>
<i>Hydroclathrus clathratus</i>	<i>Hypoglossum sp</i>
<i>Hypnea ramentacea</i>	<i>Hypnea sp</i>
<i>Jania pulchella</i>	<i>Jania sp</i>
<i>Kuetzingia canaliculata</i>	<i>Laurencia brongniartii</i>
<i>Laurencia cruciata</i>	<i>Laurencia elata</i>
<i>Laurencia filiformis</i>	<i>Laurencia sp1</i>
<i>Laurencia sp2</i>	<i>Lobospira bicuspidata</i>
<i>Lobophora variegata</i>	<i>Melobesia sp</i>
<i>Metamastophora flabellata</i>	<i>Metagoniolithon radiatum</i>
<i>Metagoniolithon stelliferum</i>	<i>Myriodesma quercifolia</i>
<i>Myriodesma serelata</i>	<i>Myriodesma sp</i>
<i>Pachydictyon sp</i>	<i>Padina sp</i>

Species	Species
<i>Peyssonnelia novae-hollandiae</i>	<i>Peyssonnelia rubra</i>
<i>Peyssonnelia sp</i>	<i>Phaecelocarpus sp</i>
<i>Platyhalia angustifolia</i>	<i>Platyhalia quercifolia</i>
<i>Plocamium cartilagineum</i>	<i>Plocamium mertensii</i>
<i>Plocamium preissianum</i>	<i>Polysiphonia sp</i>
<i>Psilothalia sp</i>	<i>Pterocladia capillacea</i>
<i>Pterocladia lucida</i>	<i>Pterocladia rectangularis</i>
<i>Pterocladia sp</i>	<i>Rhipiliopsis robusta</i>
<i>Rhodymenia sonderi</i>	<i>Rhodopeltis australis</i>
<i>Sargassum sub-genus sargassum</i>	<i>Sarconema filiforme</i>
<i>Sargassum sub-genus arthrophyucus</i>	<i>Sargassum fallax</i>
<i>Sargassum linearifolium</i>	<i>Sargassum pinnate species</i>
<i>Sargassum podocanthum</i>	<i>Sargassum sp</i>
<i>Sargassum spinuligerum</i>	<i>Sargassum tristichum</i>
<i>Sargassum varians</i>	<i>Scaberia agardhii</i>
<i>Scinaia sp</i>	<i>Scytothalia dorycarpa</i>
<i>Sporochnus sp</i>	<i>Spyridia dasyoides</i>
<i>Thalassodendron pachyrhizum *</i>	<i>Thuretia quersifolia</i>
<i>Tylopus obtusatus</i>	<i>Vidalia spiralis</i>
<i>Zonaria sp</i>	<i>Zonaria turneriana</i>

* indicates a seagrass species

APPENDIX VI. SPONGE DATA

Sponge	Species	GBC_389aq1	GBC_389aq3	GBC_389aq4	GBC1389aq5	GBC_389aq6	GBC_388aq1	GBC_388aq2	GBC_388aq3	GBC_388aq4	GBC_388aq5	GBC_388aq6	GBC_390aq1	GBC_390aq2	GBC_390aq3	GBC_390aq4
gbc/s_001	Anchoriniidae Sp 1	10.01														
gbc/s_002	Haplosclerida Sp 1		24.89													
gbc/s_003	<i>Polymastia</i> Sp 1															
gbc/s_004	Tedanidae Sp 1			0.17					1.9	0.17	0.92					
gbc/s_005	Calc Sp 1				1.48	0.1	0.3	2.29	0.41	4.65	7.27	7.83	0.77	0.25		
gbc/s_007	Microcionidae Sp 1											0.38				
gbc/s_008	Calc Sp 2									0.07						
gbc/s_012	<i>Echinoclathria (Holopsamma)</i> Sp 1									1.11						
gbc/s_013	Calc Sp 3															
gbc/s_013	Calc Sp 4							0.2				0.17	0.29			
gbc/s_015	Calc Sp 5															
gbc/s_017	Hadromerida Sp 1															
gbc/s_018	<i>Mycale</i> Sp 1															
gbc/s_019	Halichondrida Sp 1															
gbc/s_020	<i>Echinoclathria (Holopsamma)</i> Sp 2															
gbc/s_021	Spongiidae Sp 1															
gbc/s_022	Microcionidae Sp 7															
gbc/s_025	<i>Phyllospongia</i> Sp 1															
gbc/s_027	<i>Callyspongia</i> Sp 1															
gbc/s_028	<i>Clathria styloprothesis</i>															
gbc/s_029	Spongiidae Sp 3															
gbc/s_030	Anchoriniidae Sp 2															
gbc/s_031	Axinellidae Sp 1															
gbc/s_032	Axinellidae Sp 2															
gbc/s_033	Haplosclerida Sp 2															
gbc/s_035	Calc Sp 7															
gbc/s_036	Halichondridae Sp 1															
gbc/s_037	Axinellidae Sp 3															
gbc/s_039	Plakinidae Sp 1															
gbc/s_040	<i>Cymbastela</i> Sp 1															
gbc/s_043	Anchoriniidae Sp 3															
gbc/s_045	Dysideidae Sp 1															
gbc/s_046	Calc Sp 9															
gbc/s_049	<i>Echinoclathria (Holopsamma)</i> Sp 3															
gbc/s_050	<i>Clathria</i> Sp 2															
gbc/s_051	Calc Sp 10															
gbc/s_053	Halichondrida Sp 2															
gbc/s_054	Irciniidae Sp 1															
gbc/s_055	Tedanidae Sp 2															
gbc/s_056	<i>Clathria</i> Sp 3															
gbc/s_067	Astrophorida Sp 1															
gbc/s_068	Spongiidae Sp5															
gbc/s_069	Axinellidae Sp 6															
gbc/s_075	<i>Cymbastela</i> Sp 2															
gbc/s_077	Axinellidae Sp 12															
gbc/s_079	Hadromerida Sp 3															
gbc/s_080	Calc Sp 14															
gbc/s_081	Poecilosclerida Sp 1															
gbc/s_087	Spongiidae Sp 7	0.77														
gbc/s_091	<i>Echinoclathria (Holopsamma)</i> Sp 4															
gbc/s_094	Astrophorida Sp 3															
gbc/s_097	Calc Sp 15															
gbc/s_099	Calc Sp 16				2.89											
gbc/s_100	Plakinidae Sp 2															
gbc/s_101	<i>Callyspongia</i> Sp 2															
gbc/s_105	<i>Iotrochota</i> Sp 1															
gbc/s_106	Axinellidae Sp 14															
gbc/s_107	<i>Strepsichordaia</i> Sp 10															
gbc/s_108	<i>Iotrochota</i> Sp 2															
gbc/s_109	<i>Tethya</i> Sp 2															
gbc/s_110	<i>Iotrochota</i> Sp 3															
gbc/s_111	Microcionidae Sp 16															
gbc/s_114	Spongiidae Sp 9															
gbc/s_115	Poecilosclerida Sp 5															
gbc/s_116	<i>Thorectandra</i> Sp 1															
gbc/s_119	<i>Tethya</i> Sp 3															
gbc/s_123	Spirostrellidae Sp 1															
gbc/s_124	Latrunculiidae Sp1															
gbc/s_125	Astrophorida Sp 4															
gbc/s_126	Lithistida Sp 1															
gbc/s_128	Astrophorida Sp 5															
gbc/s_129	<i>Tethya</i> Sp 4															
gbc/s_130	Calc Sp 17															
gbc/s_133	<i>Halichondria</i> Sp 1															
gbc/s_135	Poecilosclerida Sp 6															
gbc/s_137	Astrophorida Sp 6															
gbc/s_139	Calc Sp 19															

Sponge	Species	GBC_390laq5	GBC_390laq6	GBC_392aq1	GBC_392aq3	GBC_392aq4	GBC_392aq5	GBC_392aq6	GBC_391aq1	GBC_391aq2	GBC_391aq3	GBC_391aq4	GBC_391aq5	GBC_391aq6	GBC_400aq1	GBC_400aq2
gbc/s_001	Anchoriniidae Sp 1															
gbc/s_002	Haplosclerida Sp 1															
gbc/s_003	<i>Polymastia</i> Sp 1															
gbc/s_004	Tedanidae Sp 1								1.08				1.12	0.29		
gbc/s_005	Calc Sp 1										2.33			0.4		
gbc/s_007	Microcionidae Sp 1			6.29												0.67
gbc/s_008	Calc Sp 2															
gbc/s_012	<i>Echinoclathria (Holopsamma)</i> Sp 1															
gbc/s_013	Calc Sp 3	0.14														
gbc/s_013	Calc Sp 4															
gbc/s_015	Calc Sp 5							0.06	0.21							
gbc/s_017	Hadromerida Sp 1				0.46											
gbc/s_018	<i>Mycale</i> Sp 1						0.52									
gbc/s_019	Halichondrida Sp 1						2.41									
gbc/s_020	<i>Echinoclathria (Holopsamma)</i> Sp 2															
gbc/s_021	Spongiidae Sp 1								0.33							
gbc/s_022	Microcionidae Sp 7									0.85						
gbc/s_025	<i>Phyllospongia</i> Sp 1													1.8		
gbc/s_027	<i>Callyspongia</i> Sp 1														2.19	
gbc/s_028	<i>Clathria styloprothesis</i>														1.86	
gbc/s_029	Spongiidae Sp 3														1.23	
gbc/s_030	Anchoriniidae Sp 2															0.23
gbc/s_031	Axinellidae Sp 1															1.49
gbc/s_032	Axinellidae Sp 2															
gbc/s_033	Haplosclerida Sp 2															
gbc/s_035	Calc Sp 7															
gbc/s_036	Halichondridae Sp 1															
gbc/s_037	Axinellidae Sp 3															
gbc/s_039	Plakinidae Sp 1															
gbc/s_040	<i>Cymbastela</i> Sp 1															
gbc/s_043	Anchoriniidae Sp 3															
gbc/s_045	Dysideidae Sp 1															
gbc/s_046	Calc Sp 9															
gbc/s_049	<i>Echinoclathria (Holopsamma)</i> Sp 3															
gbc/s_050	<i>Clathria</i> Sp 2															
gbc/s_051	Calc Sp 10															
gbc/s_053	Halichondrida Sp 2															
gbc/s_054	Irciniidae Sp 1															
gbc/s_055	Tedanidae Sp 2															
gbc/s_056	<i>Clathria</i> Sp 3															
gbc/s_067	Astrophorida Sp 1															
gbc/s_068	Spongiidae Sp5															
gbc/s_069	Axinellidae Sp 6															
gbc/s_075	<i>Cymbastela</i> Sp 2															
gbc/s_077	Axinellidae Sp 12															
gbc/s_079	Hadromerida Sp 3															
gbc/s_080	Calc Sp 14															
gbc/s_081	Poecilosclerida Sp 1															
gbc/s_087	Spongiidae Sp 7															
gbc/s_091	<i>Echinoclathria (Holopsamma)</i> Sp 4															
gbc/s_094	Astrophorida Sp 3															
gbc/s_097	Calc Sp 15															
gbc/s_099	Calc Sp 16															
gbc/s_100	Plakinidae Sp 2															
gbc/s_101	<i>Callyspongia</i> Sp 2															
gbc/s_105	<i>Iotrochota</i> Sp 1															
gbc/s_106	Axinellidae Sp 14															
gbc/s_107	<i>Strepsichordaia</i> Sp 10															
gbc/s_108	<i>Iotrochota</i> Sp 2															
gbc/s_109	<i>Tethya</i> Sp 2															
gbc/s_110	<i>Iotrochota</i> Sp 3															
gbc/s_111	Microcionidae Sp 16															
gbc/s_114	Spongiidae Sp 9															
gbc/s_115	Poecilosclerida Sp 5															
gbc/s_116	<i>Thorectandra</i> Sp 1															
gbc/s_119	<i>Tethya</i> Sp 3															
gbc/s_123	Spirostrellidae Sp 1															
gbc/s_124	Latrunculiidae Sp1															
gbc/s_125	Astrophorida Sp 4															
gbc/s_126	Lithistida Sp 1															
gbc/s_128	Astrophorida Sp 5															
gbc/s_129	<i>Tethya</i> Sp 4															
gbc/s_130	Calc Sp 17															
gbc/s_133	<i>Halichondria</i> Sp 1															
gbc/s_135	Poecilosclerida Sp 6															
gbc/s_137	Astrophorida Sp 6															
gbc/s_139	Calc Sp 19															

Sponge	Species	GBC_400aq3	GBC_400aq4	GBC_400aq5	GBC_400aq6	GBC_395aq1	GBC_395aq2	GBC_395aq3	GBC_395aq4	GBC_401aq2	GBC_401aq3	GBC_401aq5	GBC_401aq6	GBC_394aq1	GBC_394aq2	GBC_394aq3
gbc/s_001	Anchoriniidae Sp 1															
gbc/s_002	Haplosclerida Sp 1															
gbc/s_003	<i>Polymastia</i> Sp 1															
gbc/s_004	Tedanidae Sp 1										1					
gbc/s_005	Calc Sp 1				0.4											
gbc/s_007	Microcionidae Sp 1										0.83					
gbc/s_008	Calc Sp 2						2.83	1.8								
gbc/s_012	<i>Echinoclathria (Holopsamma)</i> Sp 1															
gbc/s_013	Calc Sp 3															
gbc/s_013	Calc Sp 4															
gbc/s_015	Calc Sp 5										0.18					
gbc/s_017	Hadromerida Sp 1		0.14		0.07						0.1			0.16		0.06
gbc/s_018	<i>Mycale</i> Sp 1					1								0.43		
gbc/s_019	Halichondrida Sp 1															
gbc/s_020	<i>Echinoclathria (Holopsamma)</i> Sp 2															
gbc/s_021	Spongiidae Sp 1															
gbc/s_022	Microcionidae Sp 7															
gbc/s_025	<i>Phyllospongia</i> Sp 1															
gbc/s_027	<i>Callyspongia</i> Sp 1			0.09	1.52											
gbc/s_028	<i>Clathria styloprothesis</i>															
gbc/s_029	Spongiidae Sp 3															
gbc/s_030	Anchoriniidae Sp 2															
gbc/s_031	Axinellidae Sp 1															
gbc/s_032	Axinellidae Sp 2	0.08		0.26												
gbc/s_033	Haplosclerida Sp 2	0.5														
gbc/s_035	Calc Sp 7															
gbc/s_036	Halichondridae Sp 1		0.53													
gbc/s_037	Axinellidae Sp 3	0.83		0.52												
gbc/s_039	Plakinidae Sp 1			0.23	0.26											
gbc/s_040	<i>Cymbastela</i> Sp 1															
gbc/s_043	Anchoriniidae Sp 3				3.7											
gbc/s_045	Dysideidae Sp 1					20.38										
gbc/s_046	Calc Sp 9						8.44									
gbc/s_049	<i>Echinoclathria (Holopsamma)</i> Sp 3						0.82	1.9								
gbc/s_050	<i>Clathria</i> Sp 2						4.54									
gbc/s_051	Calc Sp 10						2.93	0.64								
gbc/s_053	Halichondrida Sp 2							16.16	1.27							
gbc/s_054	Irciniidae Sp 1							1.04	1.11							
gbc/s_055	Tedanidae Sp 2								0.39							
gbc/s_056	<i>Clathria</i> Sp 3								3.22							
gbc/s_067	Astrosporidida Sp 1											0.81				
gbc/s_068	Spongiidae Sp5											1.74				
gbc/s_069	Axinellidae Sp 6												0.22			
gbc/s_075	<i>Cymbastela</i> Sp 2			1.05												
gbc/s_077	Axinellidae Sp 12															
gbc/s_079	Hadromerida Sp 3														0.59	
gbc/s_080	Calc Sp 14														0.7	
gbc/s_081	Poecilosclerida Sp 1															0.35
gbc/s_087	Spongiidae Sp 7															
gbc/s_091	<i>Echinoclathria (Holopsamma)</i> Sp 4															
gbc/s_094	Astrosporidida Sp 3															
gbc/s_097	Calc Sp 15															
gbc/s_099	Calc Sp 16						3.98									
gbc/s_100	Plakinidae Sp 2															
gbc/s_101	<i>Callyspongia</i> Sp 2															
gbc/s_105	<i>Iotrochota</i> Sp 1															
gbc/s_106	Axinellidae Sp 14															
gbc/s_107	<i>Strepsichordaia</i> Sp 10															
gbc/s_108	<i>Iotrochota</i> Sp 2															
gbc/s_109	<i>Tethya</i> Sp 2															
gbc/s_110	<i>Iotrochota</i> Sp 3															
gbc/s_111	Microcionidae Sp 16															
gbc/s_114	Spongiidae Sp 9															
gbc/s_115	Poecilosclerida Sp 5															
gbc/s_116	<i>Thorectandra</i> Sp 1															
gbc/s_119	<i>Tethya</i> Sp 3															
gbc/s_123	Spirostrellidae Sp 1															
gbc/s_124	Latrunculiidae Sp1															
gbc/s_125	Astrosporidida Sp 4															
gbc/s_126	Lithistida Sp 1															
gbc/s_128	Astrosporidida Sp 5															
gbc/s_129	<i>Tethya</i> Sp 4															
gbc/s_130	Calc Sp 17															
gbc/s_133	<i>Halichondria</i> Sp 1															
gbc/s_135	Poecilosclerida Sp 6															
gbc/s_137	Astrosporidida Sp 6															
gbc/s_139	Calc Sp 19															

Sponge	Species	GBC_394aq4	GBC_394q6	GBC_396aq1	GBC_396aq3	GBC_396aq4	GBC_396aq5	GBC_397aq1	GBC_397aq2	GBC_397aq3	GBC_397aq4	GBC_397aq5	GBC_397aq6	GBC_398aq1	GBC_398aq2	GBC_398aq3
gbc/s_001	Anchoriniidae Sp 1															
gbc/s_002	Haplosclerida Sp 1															
gbc/s_003	<i>Polymastia</i> Sp 1															
gbc/s_004	Tedanidae Sp 1															
gbc/s_005	Calc Sp 1		13.09	0.15	1.01	3.48	7.51									
gbc/s_007	Microcionidae Sp 1															
gbc/s_008	Calc Sp 2															
gbc/s_012	<i>Echinoclathria (Holopsamma)</i> Sp 1															
gbc/s_013	Calc Sp 3															
gbc/s_013	Calc Sp 4															
gbc/s_015	Calc Sp 5															0.16
gbc/s_017	Hadromerida Sp 1															
gbc/s_018	<i>Mycale</i> Sp 1															13.53
gbc/s_019	Halichondrida Sp 1															
gbc/s_020	<i>Echinoclathria (Holopsamma)</i> Sp 2							0.5								
gbc/s_021	Spongiidae Sp 1															
gbc/s_022	Microcionidae Sp 7									0.55				0.81		0.34
gbc/s_025	<i>Phyllospongia</i> Sp 1															
gbc/s_027	<i>Callyspongia</i> Sp 1															
gbc/s_028	<i>Clathria styloprothesis</i>															
gbc/s_029	Spongiidae Sp 3															
gbc/s_030	Anchoriniidae Sp 2															
gbc/s_031	Axinellidae Sp 1															
gbc/s_032	Axinellidae Sp 2															
gbc/s_033	Haplosclerida Sp 2															
gbc/s_035	Calc Sp 7															
gbc/s_036	Halichondridae Sp 1															
gbc/s_037	Axinellidae Sp 3															1.38
gbc/s_039	Plakinidae Sp 1															
gbc/s_040	<i>Cymbastela</i> Sp 1															1.88
gbc/s_043	Anchoriniidae Sp 3															
gbc/s_045	Dysideidae Sp 1															
gbc/s_046	Calc Sp 9															
gbc/s_049	<i>Echinoclathria (Holopsamma)</i> Sp 3															
gbc/s_050	<i>Clathria</i> Sp 2															
gbc/s_051	Calc Sp 10															
gbc/s_053	Halichondrida Sp 2															
gbc/s_054	Irciniidae Sp 1	0.64														
gbc/s_055	Tedanidae Sp 2															
gbc/s_056	<i>Clathria</i> Sp 3															
gbc/s_067	Astrosporida Sp 1		0.6	0.72												
gbc/s_068	Spongiidae Sp5															
gbc/s_069	Axinellidae Sp 6									0.19						
gbc/s_075	<i>Cymbastela</i> Sp 2															
gbc/s_077	Axinellidae Sp 12															
gbc/s_079	Hadromerida Sp 3															
gbc/s_080	Calc Sp 14															
gbc/s_081	Poecilosclerida Sp 1															
gbc/s_087	Spongiidae Sp 7	1.06		0.28				0.77	0.66		0.5	0.34				
gbc/s_091	<i>Echinoclathria (Holopsamma)</i> Sp 4				1.11											
gbc/s_094	Astrosporida Sp 3															
gbc/s_097	Calc Sp 15									2.35		0.1				
gbc/s_099	Calc Sp 16															5.18
gbc/s_100	Plakinidae Sp 2															2.02
gbc/s_101	<i>Callyspongia</i> Sp 2															0.88
gbc/s_105	<i>Iotrochota</i> Sp 1															
gbc/s_106	Axinellidae Sp 14															
gbc/s_107	<i>Strepsichordaia</i> Sp 10															
gbc/s_108	<i>Iotrochota</i> Sp 2															
gbc/s_109	<i>Tethya</i> Sp 2															
gbc/s_110	<i>Iotrochota</i> Sp 3															
gbc/s_111	Microcionidae Sp 16															
gbc/s_114	Spongiidae Sp 9															
gbc/s_115	Poecilosclerida Sp 5															
gbc/s_116	<i>Thorectandra</i> Sp 1								0.49					1.12		0.48
gbc/s_119	<i>Tethya</i> Sp 3															
gbc/s_123	Spirostrellidae Sp 1															
gbc/s_124	Latrunculiidae Sp1															
gbc/s_125	Astrosporida Sp 4															
gbc/s_126	Lithistida Sp 1															
gbc/s_128	Astrosporida Sp 5															
gbc/s_129	<i>Tethya</i> Sp 4															
gbc/s_130	Calc Sp 17															
gbc/s_133	<i>Halichondria</i> Sp 1															
gbc/s_135	Poecilosclerida Sp 6															
gbc/s_137	Astrosporida Sp 6															
gbc/s_139	Calc Sp 19															

Sponge	Species	GBC_398aq4	GBC_398aq5	GBC_398aq6	GBC_387aq1	GBC_387aq2	GBC_387aq4	GBC_387aq5	GBC_387aq6	GBC_381aq1	GBC_381aq3	GBC_381aq4	GBC_381aq5	GBC_381aq6	GBC_386aq1	GBC_386aq2
gbc/s_001	Anchoriniidae Sp 1															
gbc/s_002	Haplosclerida Sp 1															
gbc/s_003	<i>Polymastia</i> Sp 1															
gbc/s_004	Tedanidae Sp 1		0.11	0.75	0.73		1.03	0.37		3.48		1.29	1.02			
gbc/s_005	Calc Sp 1		0.09				2.5									
gbc/s_007	Microcionidae Sp 1															
gbc/s_008	Calc Sp 2		0.16													
gbc/s_012	<i>Echinoclathria (Holopsamma)</i> Sp 1															
gbc/s_013	Calc Sp 3															
gbc/s_013	Calc Sp 4															
gbc/s_015	Calc Sp 5			0.23	0.35			0.23								
gbc/s_017	Hadromerida Sp 1															
gbc/s_018	<i>Mycale</i> Sp 1	2.14						1.4								
gbc/s_019	Halichondrida Sp 1															
gbc/s_020	<i>Echinoclathria (Holopsamma)</i> Sp 2															
gbc/s_021	Spongiidae Sp 1															
gbc/s_022	Microcionidae Sp 7	0.83		1.56					1.22							1.38
gbc/s_025	<i>Phyllospongia</i> Sp 1		1.37													
gbc/s_027	<i>Callyspongia</i> Sp 1															
gbc/s_028	<i>Clathria styloprothesis</i>															
gbc/s_029	Spongiidae Sp 3															
gbc/s_030	Anchoriniidae Sp 2															
gbc/s_031	Axinellidae Sp 1															
gbc/s_032	Axinellidae Sp 2															
gbc/s_033	Haplosclerida Sp 2															
gbc/s_035	Calc Sp 7															0.26
gbc/s_036	Halichondridae Sp 1															
gbc/s_037	Axinellidae Sp 3															
gbc/s_039	Plakinidae Sp 1															
gbc/s_040	<i>Cymbastela</i> Sp 1	3.33														
gbc/s_043	Anchoriniidae Sp 3															
gbc/s_045	Dysideidae Sp 1															
gbc/s_046	Calc Sp 9															
gbc/s_049	<i>Echinoclathria (Holopsamma)</i> Sp 3			1.57				0.6								
gbc/s_050	<i>Clathria</i> Sp 2		0.55													
gbc/s_051	Calc Sp 10															
gbc/s_053	Halichondrida Sp 2															
gbc/s_054	Irciniidae Sp 1															
gbc/s_055	Tedanidae Sp 2															
gbc/s_056	<i>Clathria</i> Sp 3							1.05								
gbc/s_067	Astrosporida Sp 1															
gbc/s_068	Spongiidae Sp5															
gbc/s_069	Axinellidae Sp 6															
gbc/s_075	<i>Cymbastela</i> Sp 2		1.87													
gbc/s_077	Axinellidae Sp 12															
gbc/s_079	Hadromerida Sp 3															
gbc/s_080	Calc Sp 14															
gbc/s_081	Poecilosclerida Sp 1															
gbc/s_087	Spongiidae Sp 7															
gbc/s_091	<i>Echinoclathria (Holopsamma)</i> Sp 4															
gbc/s_094	Astrosporida Sp 3															
gbc/s_097	Calc Sp 15															
gbc/s_099	Calc Sp 16															
gbc/s_100	Plakinidae Sp 2	0.26														
gbc/s_101	<i>Callyspongia</i> Sp 2															
gbc/s_105	<i>Iotrochota</i> Sp 1			12.41	0.71		2.82		1.06			4.64	1.89	8.01		
gbc/s_106	Axinellidae Sp 14			0.48												
gbc/s_107	<i>Strepsichordaia</i> Sp 10			3.19												
gbc/s_108	<i>Iotrochota</i> Sp 2				2.14											
gbc/s_109	<i>Tethya</i> Sp 2				1.11											
gbc/s_110	<i>Iotrochota</i> Sp 3				0.93				8.94							
gbc/s_111	Microcionidae Sp 16					3.4		0.71								3.66
gbc/s_114	Spongiidae Sp 9							1.27								
gbc/s_115	Poecilosclerida Sp 5							0.66	0.69							
gbc/s_116	<i>Thorectandra</i> Sp 1	0.71							1.83						0.61	0.78
gbc/s_119	<i>Tethya</i> Sp 3								1.06							
gbc/s_123	Spirostrellidae Sp 1												1.15		2.69	
gbc/s_124	Latrunculiidae Sp1															3.62
gbc/s_125	Astrosporida Sp 4															5.27
gbc/s_126	Lithistida Sp 1															
gbc/s_128	Astrosporida Sp 5															
gbc/s_129	<i>Tethya</i> Sp 4															
gbc/s_130	Calc Sp 17															
gbc/s_133	<i>Halichondria</i> Sp 1															
gbc/s_135	Poecilosclerida Sp 6															
gbc/s_137	Astrosporida Sp 6															
gbc/s_139	Calc Sp 19															

APPENDIX VII. SPONGE SPECIES LIST
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Order	Family	Genus	Species
Class Calcarea			Calc Sp 1
Class Calcarea			Calc Sp 2
Class Calcarea			Calc Sp 3
Class Calcarea			Calc Sp 4
Class Calcarea			Calc Sp 5
Class Calcarea			Calc Sp 6
Class Calcarea			Calc Sp 7
Class Calcarea			Calc Sp 8
Class Calcarea			Calc Sp 9
Class Calcarea			Calc Sp 11
Class Calcarea			Calc Sp 12
Class Calcarea			Calc Sp 13
Class Calcarea			Calc Sp 14
Class Calcarea			Calc Sp 12
Class Calcarea			Calc Sp 15
Class Calcarea			Calc Sp 16
Class Calcarea			Calc Sp 17
Class Calcarea			Calc Sp 18
Class Calcarea			Calc Sp 19
Clathrinida	Clathrinidae	<i>Clathrina</i>	<i>Clathrina</i> Sp
Dendroceratida	Dysideidae		Dysideidae Sp 1
Dictyoceratida			Dictyoceratida Sp 1
Dictyoceratida			Dictyoceratida Sp 2
Dictyoceratida	Irciniidae		Irciniidae Sp 1
Dictyoceratida	Spongiidae		Spongiidae Sp 1
Dictyoceratida	Spongiidae		Spongiidae Sp 3
Dictyoceratida	Spongiidae		Spongiidae Sp 5
Dictyoceratida	Spongiidae		Spongiidae Sp 6
Dictyoceratida	Spongiidae		Spongiidae Sp 3
Dictyoceratida	Spongiidae		Spongiidae Sp 7
Dictyoceratida	Spongiidae		Spongiidae Sp 8
Dictyoceratida	Spongiidae		Spongiidae Sp 9
Dictyoceratida	Spongiidae	<i>Hippospongia</i>	<i>Hippospongia</i> Sp 1
Dictyoceratida	Spongiidae	<i>Phyllospongia</i>	<i>Phyllospongia</i> Sp 1
Dictyoceratida	Spongiidae	<i>Strepsichordaia</i>	<i>Strepsichordaia</i> Sp 10
Dictyoceratida	Irciniidae	<i>Thorectandra</i>	<i>Thorectandra</i> Sp 1
Halichondrida			Halichondrida Sp 1
Halichondrida			Halichondrida Sp 2
Halichondrida	Axinellidae		Axinellidae Sp 1
Halichondrida	Axinellidae		Axinellidae Sp 2
Halichondrida	Axinellidae		Axinellidae Sp 3
Halichondrida	Axinellidae		Axinellidae Sp 5
Halichondrida	Axinellidae		Axinellidae Sp 6
Halichondrida	Axinellidae		Axinellidae Sp 7
Halichondrida	Axinellidae		Axinellidae Sp 8
Halichondrida	Axinellidae		Axinellidae Sp 9
Halichondrida	Axinellidae		Axinellidae Sp 10
Halichondrida	Axinellidae		Axinellidae Sp 12
Halichondrida	Axinellidae		Axinellidae Sp 13
Halichondrida	Axinellidae		Axinellidae Sp 14
Halichondrida	Axinellidae	<i>Cymbastela</i>	<i>Cymbastela</i> Sp 1
Halichondrida	Axinellidae	<i>Cymbastela</i>	<i>Cymbastela</i> Sp 2
Haplosclerida			Haplosclerida Sp 1
Haplosclerida			Haplosclerida Sp 2
Haplosclerida	Callyspongiidae	<i>Callyspongia</i>	<i>Callyspongia</i> Sp 1
Haplosclerida	Callyspongiidae	<i>Callyspongia</i>	<i>Callyspongia</i> Sp 2

Order	Family	Genus	Species
Haplosclerida	Callyspongiidae	<i>Callyspongia</i>	<i>Callyspongia</i> Sp 3
Poecilosclerida	Microcionidae		Microcionidae Sp 1
Poecilosclerida	Microcionidae		Microcionidae Sp 2
Poecilosclerida	Microcionidae		Microcionidae Sp 3
Poecilosclerida	Microcionidae		Microcionidae Sp 5
Poecilosclerida	Microcionidae		Microcionidae Sp 7
Poecilosclerida	Microcionidae		Microcionidae Sp 8
Poecilosclerida	Microcionidae		Microcionidae Sp 13
Poecilosclerida	Microcionidae		Microcionidae Sp 15
Poecilosclerida	Microcionidae		Microcionidae Sp 16
Poecilosclerida	Microcionidae	<i>Clathria</i>	<i>Clathria styloprothesis</i>
Poecilosclerida	Microcionidae	<i>Clathria</i>	<i>Clathria</i> Sp 2
Poecilosclerida	Microcionidae	<i>Clathria</i>	<i>Clathria</i> Sp 3
Poecilosclerida	Microcionidae	<i>Echinoclathria (Holopsamma)</i>	<i>Echinoclathria (Holopsamma)</i> Sp 1
Poecilosclerida	Microcionidae	<i>Echinoclathria (Holopsamma)</i>	<i>Echinoclathria (Holopsamma)</i> Sp 2
Poecilosclerida	Microcionidae	<i>Echinoclathria (Holopsamma)</i>	<i>Echinoclathria (Holopsamma)</i> Sp 3
Poecilosclerida	Microcionidae	<i>Echinoclathria (Holopsamma)</i>	<i>Echinoclathria (Holopsamma)</i> Sp 4
Poecilosclerida	Raspailiidae	<i>Echinodictyum</i>	<i>Echinodictyum</i> Sp 1
Poecilosclerida	Mycalidae	<i>Mycale</i>	<i>Mycale</i> Sp 1
Poecilosclerida	Mycalidae	<i>Mycale</i>	<i>Mycale</i> Sp 2
Poecilosclerida	Myxillidae	<i>Ietrochota</i>	<i>Ietrochota</i> Sp 1
Poecilosclerida	Myxillidae	<i>Ietrochota</i>	<i>Ietrochota</i> Sp 2
Poecilosclerida	Myxillidae	<i>Ietrochota</i>	<i>Ietrochota</i> Sp 3
Poecilosclerida	Tedanidae		Tedanidae Sp 1
Poecilosclerida	Tedanidae		Tedanidae Sp 2
Verongida	Aplysinidae		Aplysinidae Sp 1
Verongida	Aplysinidae		Aplysinidae Sp
Homosclerophorida	Plakinidae		Plakinidae Sp 1
Homosclerophorida	Plakinidae		Plakinidae Sp 2
Astrophorida			Astrophorida Sp 1
Astrophorida			Astrophorida Sp 2
Astrophorida			Astrophorida Sp 3
Astrophorida			Astrophorida Sp 4
Astrophorida			Astrophorida Sp 5
Astrophorida			Astrophorida Sp 6
Astrophorida	Anchoriniidae		Anchoriniidae Sp 1
Astrophorida	Anchoriniidae		Anchoriniidae Sp 2
Astrophorida	Anchoriniidae		Anchoriniidae Sp 3
Astrophorida	Geodiidae	<i>Geodia</i>	<i>Geodia</i> Sp 1
Astrophorida	Geodiidae	<i>Geodia</i>	<i>Geodia</i> Sp 2
Hadromerida			Hadromerida Sp 1
Hadromerida			Hadromerida Sp 2
Hadromerida			Hadromerida Sp 3
Hadromerida	Chondrillidae	<i>Chondrilla</i>	<i>Chondrilla australiensis</i>
Hadromerida	Latrunculiidae		Latrunculiidae Sp1
Hadromerida	Polymastidae	<i>Polymastia</i>	<i>Polymastia</i> Sp 1
Hadromerida	Polymastidae	<i>Polymastia</i>	<i>Polymastia</i> Sp 2
Hadromerida	Spirostrellidae		Spirostrellidae Sp 1
Hadromerida	Suberitidae	<i>Caulospongia</i>	<i>Caulospongia</i> Sp 1
Hadromerida	Tethyidae	<i>Tethya</i>	<i>Tethya</i> Sp 1
Hadromerida	Tethyidae	<i>Tethya</i>	<i>Tethya</i> Sp 2
Hadromerida	Tethyidae	<i>Tethya</i>	<i>Tethya</i> Sp 3
Hadromerida	Tethyidae	<i>Tethya</i>	<i>Tethya</i> Sp 4
Lithistida			Lithistida Sp 1

APPENDIX VIII. ASCIDIAN SPECIES LIST**FAMILY CLAVELINIDAE****Genus *Clavelina****Clavelina cylindrica**Clavelina moluccensis***Genus *Neptheis****Neptheis fascicularis***FAMILY PYCNOCLAVELLIDAE****Genus *Euclavella****Euclavella claviformis***FAMILY HOLOZOIDAE****Genus *Distaplia****Distaplia pallida***FAMILY POLYCITORIDAE****Genus *Eudistoma****Eudistoma maculosum***Genus *Polycitor****Polycitor nubilus***FAMILY RITTERELLIDAE****Genus *Ritterella****Ritterella sigillinoides***FAMILY PSEUDODISTOMIDAE****Genus *Pseudodistoma****Pseudodistoma australe**Pseudodistoma candens**Pseudodistoma sp. CC1***FAMILY POLYCLINIDAE****Genus *Aplidiopsis****Aplidiopsis mammillata***Genus *Sydneiodes****Sydneiodes tamaramae***Genus *Synoicum****Synoicum sacculum*

Genus Aplidium

Aplidium altarium
Aplidium benhami
Aplidium clivosum
Aplidium cratiferum
Aplidium filiforme
Aplidium petrosum
Aplidium rubricollum
Aplidium triggsense
Aplidium sp. CC1
Aplidium sp. CC2
Aplidium sp. CC3

Family Didemnidae**Genus Didemnum**

Didemnum albidum
Didemnum sp. CC1
Didemnum sp. CC2
Didemnum sp. CC3
Didemnum sp. CC4
Didemnum sp. CC5 (candidum?)
Didemnum sp. CC6 (augusti?)
Didemnum sp. CC7

Genus Leptoclinides

Leptoclinides sp. CC1
Leptoclinides sp. CC2
Leptoclinides sp. CC3
Leptoclinides sp. CC4 (c.f. Leptoclinides sp 4, P. Kott, 1997)

Genus Polysyncraton

Polysyncraton aspiculatum

FAMILY PEROPHORIDAE**Genus Perophora**

Perophora hutchisoni
Perophora multiclathrata

FAMILY STYELIDAE**Genus Cnemidocarpa**

Cnemidocarpa sp. CC1 (pedata?)

Genus Oculinaria

Oculinaria australia

Genus Botrylloides

Botrylloides leachi

FAMILY PYURIDAE**Genus Pyura**

Pyura gibbosa

APPENDIX IX. HARD CORAL DATA

Identification	Locality	Depth (m)	Collector	Date
<i>Coscinaraea marshae</i>	Canal Rocks	3.0	K.P. Bancroft, CALM	4/2/99
<i>Plesiastrea versipora</i>	Canal Rocks	3.0	K.P. Bancroft, CALM	4/2/99
<i>Turbinaria reniformis</i>	Canal Rocks	3.0	K.P. Bancroft, CALM	4/2/99
<i>Coscinaraea marshae</i>	Sugarloaf Rock GBC387	21.6	K.P. Bancroft, CALM	5/2/99
<i>Turbinaria reniformis</i>	Sugarloaf Rock GBC-387	21.6	K.P. Bancroft, CALM	5/2/99
<i>Turbinaria mesenterina</i>	Eagle Bay GBC-381	8.6	K.P. Bancroft, CALM	5/2/99
<i>Plesiastrea versipora</i>	Eagle Bay GBC-381	8.6	K.P. Bancroft, CALM	5/2/99
<i>Coscinaraea mcneilli</i>	Bunkers Bay GBC-383	8.6	K.P. Bancroft, CALM	5/2/99
<i>Turbinaria mesenterina</i>	Bunkers Bay GBC-383	8.6	K.P. Bancroft, CALM	5/2/99
<i>Scolymia australis</i>	Seal Island GBC-398	8.0	K.P. Bancroft, CALM	2/2/99
<i>Rhizotrochus tuberculatus</i>	South Point GBC-392	15.4	K.P. Bancroft, CALM	30/1/99

APPENDIX X. FISH ASSEMBLAGE DATA (NARROW TRANSECTS)
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Species	GBC_381/t1	GBC_381/t2	GBC_381/t3	GBC_381/t4	GBC_381/t5	GBC_381/t6	GBC_381/t7	GBC_381/t8	GBC_381/t9	GBC_381/t10	GBC_381/t11	GBC_381/t12	GBC_382/t1	GBC_382/t2	GBC_382/t3	GBC_382/t4	GBC_382/t5	GBC_382/t6	GBC_382/t7	GBC_382/t8	GBC_382/t9	GBC_382/t10	GBC_382/t11	GBC_382/t12
Black Headed Puller 2-4cm	6		2	6																				
Black Headed Puller 4-6cm	4	60		8	30		2	3																
Black Headed Puller 6-8cm					40		4	2			1													
Black Spotted Wrasse 10-12cm					1					1	1													
Black Spotted Wrasse 12-14cm									1															
Black Spotted Wrasse 2-4cm				1																				
Black Spotted Wrasse 4-6cm				2							1										1			1
Black Spotted Wrasse 6-8cm				3					1	1	1	1												
Black Spotted Wrasse 8-10cm				1					1	1	2													
Blue lined goatfish 4-6cm																	2							
Blue spotted goatfish 4-6cm				1																	1			
Blue spotted goatfish 8-10cm																						1		
Brown Spotted Wrasse 10-12cm																	1						1	
Brown Spotted Wrasse 20-25cm													1											1
Brown Spotted Wrasse 2-4cm				1	1								1			1								
Brown Spotted Wrasse 30-35cm	1																							
Brown Spotted Wrasse 4-6cm		4	1	1		1							1											
Brown Spotted Wrasse 6-8cm	1	1																				1	1	
Brown Spotted Wrasse 8-10cm	1	1																1	2					1
Brownfields Wrasse 10-12cm													2			8				1	2			1
Brownfields Wrasse 12-14cm															1		1							
Brownfields Wrasse 14-16cm															1									
Brownfields Wrasse 8-10cm													2			7								
False Senator Wrasse 4-6cm																						1		
Footballer Sweep 10-12cm								1																
Footballer Sweep 6-8cm					1																			
Herring Cale 25-30cm																	1							
Little Rainbow Wrasse 4-6cm		2						2			1										1			
Little Rainbow Wrasse 6-8cm		3	2				1	2	2	2	1										2			
Little Rainbow Wrasse 8-10cm							1	2	2	2	1		1					1	1					
Long finned pike 10-12cm								1																
Maori Wrasse 10-12cm					1																			
Maori Wrasse 12-14cm					1																			
Maori Wrasse 14-16cm				1																				
Maori Wrasse 6-8cm				1																				
Maori Wrasse 8-10cm				1																				
McCulloch's Scalyfin 10-12cm									1															
McCulloch's Scalyfin 12-14cm																								
McCulloch's Scalyfin 6-8cm	1																							
Noarlunga Hulafish 4-6cm		40	60																					
Pencil Whiting 4-6cm																								
Pretty Polly Wrasse 8-10cm																					1			
Red Banded Wrasse 10-12cm		1					2																	1
Red Banded Wrasse 12-14cm											1													
Red Banded Wrasse 14-16cm							2		1	1														
Red Banded Wrasse 16-18cm				1																				
Red Banded Wrasse 18-20cm								1																
Red Banded Wrasse 6-8cm								1																
Red Banded Wrasse 8-10cm			3		2	1																		
Red lipped morwong 35-40cm																					1			
Rough Bullseye 10-12cm	1																							
Senator Wrasse 10-12cm	1																				1			
Senator Wrasse 12-14cm					1																			
Senator Wrasse 14-16cm					1																			
Senator Wrasse 16-18cm	1																							

Species	GBC_381/t1	GBC_381/t2	GBC_381/t3	GBC_381/t4	GBC_381/t5	GBC_381/t6	GBC_381/t7	GBC_381/t8	GBC_381/t9	GBC_381/t10	GBC_381/t11	GBC_381/t12	GBC_382/t1	GBC_382/t2	GBC_382/t3	GBC_382/t4	GBC_382/t5	GBC_382/t6	GBC_382/t7	GBC_382/t8	GBC_382/t9	GBC_382/t10	GBC_382/t11	GBC_382/t12
Senator Wrasse 18-20cm		1																						
Senator Wrasse 6-8cm																					1			1
Senator Wrasse 8-10cm											1													
Shaws cowfish 18-20cm													1											
Silverbelly 4-6cm																					1			
Silverbelly 6-8cm																					1			
Silverbelly 8-10cm																					1			
Snakeskin Wrasse 10-12cm								2							1						1			
Snakeskin Wrasse 8-10cm										1														
Striped pike 10-12cm																1								
Striped Stingaree 30-35cm													1											
Western King Wrasse 10-12cm	1													1										
Western King Wrasse 12-14cm						1								2					1					
Western King Wrasse 14-16cm		1				1								1										
Western King Wrasse 16-18cm		2																						
Western King Wrasse 18-20cm																					2			
Western King Wrasse 20-25cm						1																		
Western King Wrasse 6-8cm	1				3		1																	
Western King Wrasse 8-10cm																					1			
Western Smooth Boxfish 10-12cm																					1			
Western Talma 10-12cm							1																	
Yellow striped Leatherjacket 14-16cm							1					1												

Species	GBC_383/t1	GBC_383/t2	GBC_383/t3	GBC_383/t4	GBC_383/t5	GBC_383/t6	GBC_383/t7	GBC_383/t8	GBC_383/t9	GBC_383/t10	GBC_383/t11	GBC_383/t12	GBC_384/t1	GBC_384/t2	GBC_384/t3	GBC_384/t4	GBC_384/t5	GBC_384/t6	GBC_384/t7	GBC_384/t8	GBC_384/t9	GBC_384/t10	GBC_384/t11	GBC_384/t12
Black Spotted Wrasse 4-6cm										1		1												
Black Spotted Wrasse 8-10cm								1																
Blue Lined Leather jacket 18-20cm			1																					
Blue spotted goatfish 12-14cm										1														
Brown Spotted Wrasse 10-12cm	1		1																					
Brown Spotted Wrasse 14-16cm			1	1																				
Brown Spotted Wrasse 2-4cm				1												1								
Brown Spotted Wrasse 25-30cm				1																				
Brown Spotted Wrasse 35-40cm															1									
Brown Spotted Wrasse 4-6cm	1	2			2	1									1									
Brown Spotted Wrasse 6-8cm					1																			
Brown Spotted Wrasse 8-10cm										1		1												
Brownfields Wrasse 10-12cm		1																						
Brownfields Wrasse 6-8cm		2																						
Brownfields Wrasse 8-10cm		2																						
False Senator Wrasse 12-14cm														1			1							
Footballer Sweep 14-16cm																		1						
Footballer Sweep 6-8cm													3											
Herring Cale 18-20cm																1								
Maori Wrasse 10-12cm	1				1																			
Maori Wrasse 12-14cm															1									
Maori Wrasse 14-16cm																1								
Maori Wrasse 16-18cm																		1						
Maori Wrasse 20-25cm					1														1					
Maori Wrasse 25-30cm																			1					
Maori Wrasse 30-35cm		1																		1				
Maori Wrasse 6-8cm			1		1																			
Maori Wrasse 8-10cm			2																					
Noarlunga Hulafish 2-4cm						15																		
Noarlunga Hulafish 4-6cm						25																		
Red Banded Wrasse 10-12cm	1																							
Red Banded Wrasse 12-14cm	1																							
Red Banded Wrasse 14-16cm				1			2																	
Red Banded Wrasse 8-10cm	1				1	1																		
Rough Leather jacket 18-20 cm						1																		
Senator Wrasse 10-12cm		1																						
Senator Wrasse 12-14cm							1																	
Senator Wrasse 14-16cm	1																							
Senator Wrasse 16-18cm			1																					
Senator Wrasse 18-20cm				1																				
Senator Wrasse 4-6cm						1																		
Senator Wrasse 6-8cm					1			1																
Senator Wrasse 8-10cm	1														1									1
Victorian Scalyfin 14-16cm							1																	
Western King Wrasse 10-12cm		1						1																
Western King Wrasse 12-14cm																								
Western King Wrasse 16-18cm																			1					
Western King Wrasse 18-20cm																			1					
Western King Wrasse 20-25cm															1									
Western King Wrasse 4-6cm					2		3																	
Western Sea Carp 35-40cm																			1					

Species	GBC_385/t1	GBC_385/t2	GBC_385/t3	GBC_385/t4	GBC_385/t5	GBC_385/t6	GBC_385/t7	GBC_385/t8	GBC_385/t9	GBC_385/t10	GBC_385/t11	GBC_385/t12	GBC_386/t1	GBC_386/t2	GBC_386/t3	GBC_386/t4	GBC_386/t5	GBC_386/t6	GBC_386/t7	GBC_386/t8	GBC_386/t9	GBC_386/t10	GBC_386/t11	GBC_386/t12
Black Headed Puller 2-4cm			120	50																				
Black Headed Puller 4-6cm			30																					
Black Spotted Wrasse 10-12cm	1		1	1				1																
Black Spotted Wrasse 12-14cm	1																							
Black Spotted Wrasse 2-4cm			1																					
Black Spotted Wrasse 4-6cm					1		1																	
Black Spotted Wrasse 6-8cm					1		1																	
Black Spotted Wrasse 8-10cm	1		1	1				1																
Blue Lined Leather jacket 16-18cm		1																						
Blue Lined Leather jacket 18-20cm		1																						
Blue Lined Leather jacket 20-25cm		1															1							
Blue Lined Leather jacket 25-30cm																	2							
Blue tailed leatherjacket 30-35cm			1																					
Brown Spotted Wrasse 10-12cm	1							1																
Brown Spotted Wrasse 12-14cm								1																
Brown Spotted Wrasse 16-18cm					1																			
Brown Spotted Wrasse 20-25cm				1																				
Brown Spotted Wrasse 2-4cm			1																					
Brown Spotted Wrasse 25-30cm							1																	
Brown Spotted Wrasse 6-8cm			1																					
Footballer Sweep 6-8cm																2								
Herring Cale 18-20cm																	1							
Herring Cale 25-30cm										1														
Herring Cale 30-35cm																						1		
Horseshoe leatherjacket 18-20cm																		1						
Maori Wrasse 10-12cm		1		1	1	2												1	2					
Maori Wrasse 12-14cm				1	2														1					
Maori Wrasse 14-16cm					1																			
Maori Wrasse 16-18cm													1			1	1							
Maori Wrasse 18-20cm							1								1									
Maori Wrasse 20-25cm				1																				
Maori Wrasse 25-30cm					1																			
Maori Wrasse 6-8cm			4											1										
Maori Wrasse 8-10cm			5	1	1	3	1							1										
McCulloch's Scalyfin 16-18cm		1																						
Noarlunga Hulafish 2-4cm					30																			
Noarlunga Hulafish 4-6cm					31																			
Pencil Whiting 4-6cm								3																
Pencil Whiting 6-8cm								3						1										
Pencil Whiting 8-10cm				1	1	1											1							
Red Banded Wrasse 10-12cm	1	2		1	1	1																		
Red Banded Wrasse 12-14cm								1																
Red Banded Wrasse 18-20cm								1																
Red Banded Wrasse 6-8cm													1											
Red Banded Wrasse 8-10cm	2				1																			
Senator Wrasse 12-14cm							1																	
Skipjack trevally 10-12cm														1										
Skipjack trevally 14-16cm																1								
Skipjack trevally 8-10cm														1										
Western Foxfish 16-18cm																1								
Western Foxfish 20-25cm																		1						
Western Foxfish 25-30cm													1											
Western King Wrasse 10-12cm	2		2						1															
Western King Wrasse 12-14cm	2		2	1																				
Western King Wrasse 14-16cm	2			1	1																			
Western King Wrasse 35-40cm						1																		
Western King Wrasse 4-6cm			3				2																	
Western King Wrasse 6-8cm	3						1										1							
Western King Wrasse 8-10cm							2																	
Western Talma 12-14cm										1							1	1						

Species	GBC_385/t1	GBC_385/t2	GBC_385/t3	GBC_385/t4	GBC_385/t5	GBC_385/t6	GBC_385/t7	GBC_385/t8	GBC_385/t9	GBC_385/t10	GBC_385/t11	GBC_385/t12	GBC_386/t1	GBC_386/t2	GBC_386/t3	GBC_386/t4	GBC_386/t5	GBC_386/t6	GBC_386/t7	GBC_386/t8	GBC_386/t9	GBC_386/t10	GBC_386/t11	GBC_386/t12
Yellow striped leatherjacket 12-14cm						1																		
Yellow striped leatherjacket 14-16cm				1																				
Yellow striped leatherjacket 16-18cm	1	1			1																			
Yellow striped leatherjacket 18-20cm	1	2				1				1														
Yellow striped leatherjacket 20-25cm			1																					
Yellow striped leatherjacket 25-30cm		1																						

Species	GBC_387/t1	GBC_387/t2	GBC_387/t3	GBC_387/t4	GBC_387/t5	GBC_387/t6	GBC_387/t7	GBC_387/t8	GBC_387/t9	GBC_387/t10	GBC_387/t11	GBC_387/t12	GBC_388/t1	GBC_388/t2	GBC_388/t3	GBC_388/t4	GBC_388/t5	GBC_388/t6	GBC_388/t7	GBC_388/t8	GBC_388/t9	GBC_388/t10	GBC_388/t11	GBC_388/t12
Black Headed Puller 2-4cm	75						2		8															
Black Headed Puller 4-6cm						15	2		4															
Blue Lined Hulafish 2-4cm			75																					
Blue Lined Leather jacket 20-25cm			4																					
Blue Spotted Toadfish 16-18cm																			1					
Breaksea cod 30-35cm																		1						
Brown Spotted Wrasse 12-14cm				1																				
Brown Spotted Wrasse 14-16cm								1																
Brown Spotted Wrasse 18-20cm							1																	
Brown Spotted Wrasse 20-25cm																								1
Brown Spotted Wrasse 25-30cm																			1					
Brownfields Wrasse 8-10cm					1																			
Common Bullseye 10-12cm								2																
Common Bullseye 6-8cm								1																
Harlequin fish 40-45 cm					1																			
Herring Cale 18-20cm					1																			
Horseshoe leatherjacket 35-40 cm						1																		
Maori Wrasse 10-12cm	1																			1				
Maori Wrasse 12-14cm	1	1																				1		
Maori Wrasse 14-16cm				1																				
Maori Wrasse 20-25cm	1																							
Maori Wrasse 6-8cm		2																	1	1				
Maori Wrasse 8-10cm		2																				1		
McCulloch's Scalyfin 18-20cm									1															
Rainbowfish 18-20cm																								1
Red Banded Wrasse 10-12cm		1		1	1																			
Red Banded Wrasse 12-14cm	1	1		1	1				2															
Red Banded Wrasse 14-16cm	1	1																						
Red Banded Wrasse 16-18cm				1																				
Red Banded Wrasse 6-8cm																						1		
Red Banded Wrasse 8-10cm																			1					
Rough Bullseye 4-6cm	20					1																		
Sea Sweep 10-12cm						1																		
Sea Sweep 12-14cm						1																		
Senator Wrasse 6-8cm			2																					
Southern Silverbelly 8-10cm																								1
Striped pike 8-10 cm		20																						
Western Blue Groper 25-30 cm			1																					
Western King Wrasse 12-14cm			1																					
Western King Wrasse 14-16cm		1																						
Western King Wrasse 16-18cm			1																					
Western King Wrasse 25-30cm		1																						
Western King Wrasse 4-6cm																			1					
Western King Wrasse 6-8cm																			2		1			
Western King Wrasse 8-10cm																				1				
White barred Boxfish 4-6cm			1																					1

Species	GBC_389/t1	GBC_389/t2	GBC_389/t3	GBC_389/t4	GBC_389/t5	GBC_389/t6	GBC_389/t7	GBC_389/t8	GBC_389/t9	GBC_389/t10	GBC_389/t11	GBC_390/t1	GBC_390/t2	GBC_390/t3	GBC_390/t4	GBC_390/t5	GBC_390/t6	GBC_390/t7	GBC_390/t8	GBC_390/t9	GBC_390/t10	GBC_390/t11	GBC_390/t12
Banded Sweep 12-14cm																				1			
Banded Sweep 6-8cm																							1
Black Headed Puller 2-4cm							1																
Black Headed Puller 4-6cm							1																
Black Headed Puller 6-8cm								1															
Black Headed Puller 8-10cm								1															
Black Spotted Wrasse 6-8cm																					1		
Blue Devil 12-14cm							1																
Blue Lined Leather jacket 20-25cm								1															
Brown Spotted Wrasse 8-10cm								1															
Common Bullseye 12-14cm														1									
Footballer Sweep 8-10cm											1												
Half Banded sea perch 10-12 cm					1																		
Half Banded sea perch 12-14 cm					1																		
Herring Cale 10-12cm	1																						
Jackass Morwong 40-45 cm															1								
Little Rainbow Wrasse 6-8cm																							1
Little Rainbow Wrasse 8-10cm						1																	
Maori Wrasse 10-12cm									2														
Maori Wrasse 6-8cm									1														
McCulloch's Scalyfin 14-16cm																					1		
McCulloch's Scalyfin 4-6cm												1											
McCulloch's Scalyfin 8-10cm																1							
Moonlighter 12-14cm							1																
Moonlighter 14-16cm							1																
Pencil Weed Whiting 2-4 cm	2																						
Pencil Weed Whiting 4-6 cm		1																					
Pencil Weed Whiting 6-8 cm		1																					
Pencil Weed Whiting 8-10 cm		2	8																				
Red Banded Wrasse 2-4cm																							
Red Banded Wrasse 4-6cm							1																
Red Banded Wrasse 6-8cm								1															
Red Banded Wrasse 8-10cm								1	1														
Rough Bullseye 2-4cm							3																
Rough Bullseye 4-6cm							2																
Rough Bullseye 6-8cm							2																
Rough Bullseye 8-10cm							2																
Senator Wrasse 4-6cm																	1						
Senator Wrasse 6-8cm					1			1														1	
Striped Sea pike 8-10 cm		1																					
Western King Wrasse 10-12cm			1																				
Western King Wrasse 14-16cm			1																				
Western King Wrasse 4-6cm							1															1	
Western King Wrasse 6-8cm							1											2	1				
Western King Wrasse 8-10cm																		1					

Species	GBC_391/t1	GBC_391/t2	GBC_391/t3	GBC_391/t4	GBC_391/t5	GBC_391/t6	GBC_391/t7	GBC_391/t8	GBC_391/t9	GBC_391/t10	GBC_391/t11	GBC_391/t12	GBC_392/t1	GBC_392/t2	GBC_392/t3	GBC_392/t4	GBC_392/t5	GBC_392/t6	GBC_392/t7	GBC_392/t8	GBC_392/t9	GBC_392/t10	GBC_392/t11
Banded Sweep 18-20cm																1							
Black Spotted Wrasse 4-6cm																					1		1
Black Spotted Wrasse 6-8cm	1																						1
Blue Lined Leather jacket 12-14cm																			1				1
Brown Spotted Wrasse 10-12cm																	1						
Brown Spotted Wrasse 2-4cm						1																	
Brown Spotted Wrasse 30-35cm														1									
Brown Spotted Wrasse 4-6cm					1	2																	
Brown Spotted Wrasse 6-8cm					1												1						
Brown Spotted Wrasse 8-10cm									1								1						
Brownfields Wrasse 6-8cm	2																						
Brownfields Wrasse 8-10cm	1																						
False Senator Wrasse 10-12cm				2																			
False Senator Wrasse 18-20cm				1																			
False Senator Wrasse 6-8cm		1																					
False Senator Wrasse 8-10cm				1																			
Herring Cale 18-20cm																				1			
Herring Cale 20-25cm																1							
Little Rainbow Wrasse 2-4cm																							1
Little Rainbow Wrasse 8-10cm													1										
Maori Wrasse 6-8cm													1									1	
Maori Wrasse 8-10cm																					1		
McCulloch's Scalyfin 10-12cm														1									
McCulloch's Scalyfin 14-16cm																						1	
McCulloch's Scalyfin 4-6cm						2									1								
Red Banded Wrasse 12-14cm					1											1							
Red Banded Wrasse 14-16cm	1									1						1							
Red Banded Wrasse 16-18cm																1							
Red Banded Wrasse 4-6cm			1																				1
Red Banded Wrasse 8-10cm							1															1	
Rough Bullseye 2-4cm						1										2							
Rough Bullseye 4-6cm															1								
Senator Wrasse 10-12cm																					1		
Senator Wrasse 12-14cm																							
Senator Wrasse 14-16cm																							
Senator Wrasse 16-18cm																							
Senator Wrasse 18-20cm																							
Senator Wrasse 20-25 cm																							
Senator Wrasse 2-4cm																							
Senator Wrasse 2-4cm																							
Senator Wrasse 4-6cm																							
Senator Wrasse 6-8cm																							
Senator Wrasse 6-8cm																							
Senator Wrasse 8-10cm																							
Senator Wrasse 8-10cm																							
Six Spined Leather jacket 10-12cm																							
Six Spined Leather jacket 12-14cm																							
Six Spined Leather jacket 14-16cm																							
Six Spined Leather jacket 16-18cm																							
Striped pike 8-10cm																							
Striped Stingaree 20-25cm																							
Victorian Scalyfin 8-10cm																							
Western King Wrasse 4-6cm														1									
Zebrafish 16-18 cm																1							
Zebrafish 20-25 cm																1							

Species	GBC_393/t1	GBC_393/t2	GBC_393/t3	GBC_393/t4	GBC_393/t5	GBC_393/t6	GBC_393/t7	GBC_393/t8	GBC_393/t9	GBC_393/t10	GBC_393/t11	GBC_393/t12	GBC_394/t1	GBC_394/t2	GBC_394/t3	GBC_394/t4	GBC_394/t5	GBC_394/t6	GBC_394/t7	GBC_394/t8	GBC_394/t9	GBC_394/t10	GBC_394/t11	GBC_394/t12
Black Headed Puller 2-4cm													80											
Black Headed Puller 4-6cm														2										
Black Headed Puller 6-8cm														1										
Black Spotted Wrasse 10-12cm																						2		
Black Spotted Wrasse 6-8cm																						2		
Black Spotted Wrasse 8-10cm												1										2		
Blue Devil 12-14cm																		1						
Blue Lined Hulafish 2-4cm													10	5	60	2								
Blue Lined Hulafish 4-6cm															8	1	15							
Blue spotted goatfish 16-18cm						1																		
Breaksea cod 14-16cm																		2						
Breaksea cod 55-60 cm																		1						
Brown Spotted Wrasse 25-30cm																		1						
Brown Spotted Wrasse 6-8cm	1																							
False Senator Wrasse 6-8cm																							1	
False Senator Wrasse 8-10cm																					1			
Maori Wrasse 10-12cm		1			1													1						
Maori Wrasse 12-14cm																		1						
Maori Wrasse 2-4cm	1	3			1										1									
Maori Wrasse 4-6cm		4		1	2												1							
Maori Wrasse 6-8cm		4	1	1	1																			
Maori Wrasse 8-10cm		1				2							1											
McCulloch's Scalyfin 14-16cm									1															
Noarlunga Hulafish 2-4cm															23	300	1							
Noarlunga Hulafish 4-6cm															10									
Orange spotted wrasse 4-6cm															1									
Red Banded Wrasse 10-12cm								1																1
Red Banded Wrasse 14-16cm									1															
Red Banded Wrasse 8-10cm																							1	
Rough Bullseye 10-12cm																			2				2	
Rough Bullseye 12-14cm																			2					
Rough Bullseye 2-4cm	49																							
Rough Bullseye 4-6cm	45														14									
Rough Bullseye 8-10cm																		2				2		
Senator Wrasse 14-16cm					1																			
Six Spined Leather jacket 16-18cm												1												
Tommy ruff 14-16cm															1									
Tommy ruff 16-18cm															3									
Victorian Scalyfin 14-16cm				1		1							1				2							
Victorian Scalyfin 16-18cm			1	1		1											1							
Victorian Scalyfin 18-20cm			1																					
Victorian Scalyfin 20-25 cm						1						1												
Western Foxfish 10-12cm																						1		
Western Foxfish 8-10cm																						1		
Western King Wrasse 10-12cm						2																		1
Western King Wrasse 2-4cm												4												
Western King Wrasse 4-6cm												4												
Western King Wrasse 6-8cm																								
Western King Wrasse 8-10cm																								
Western wirrah 18-20cm																								1

Species	GBC_396/t1	GBC_396/t2	GBC_396/t3	GBC_396/t4	GBC_396/t5	GBC_396/t6	GBC_396/t7	GBC_396/t8	GBC_396/t9	GBC_396/t10	GBC_396/t11	GBC_396/t12	GBC_397/t1	GBC_397/t2	GBC_397/t3	GBC_397/t4	GBC_397/t5	GBC_397/t6	GBC_397/t7	GBC_397/t8	GBC_397/t9	GBC_397/t10	GBC_397/t11
Black Headed Puller 2-4cm										2			40	12									
Black Spotted Wrasse 4-6cm										1													
Black Spotted Wrasse 6-8cm																							
Blue Lined Hulafish 2-4cm				5									35		15	30							
Blue Lined Hulafish 4-6cm				15												40							
Blue Lined Leather jacket 25-30cm			1																				
Blue Lined Leather jacket 30-35cm	1																						
Blue Spotted Toadfish 16-18cm						1																	
Brown Spotted Wrasse 25-30cm			1																				
False Senator Wrasse 10-12cm				1																			
False Senator Wrasse 12-14cm																							1
False Senator Wrasse 6-8cm						1								1									
False Senator Wrasse 8-10cm				1		1								1					1				
Footballer Sweep 4-6cm							2																
Footballer Sweep 6-8cm										1													
Herring Cale 10-12cm													1			1							
Herring Cale 12-14cm															1								
Herring Cale 14-16cm															1								
Herring Cale 20-25cm						1				1	1												
Herring Cale 25-30cm										1													
Herring Cale 30-35cm							1																
Maori Wrasse 10-12cm	1		1			2							1	1			1						
Maori Wrasse 12-14cm			1													1							
Maori Wrasse 14-16cm																	1						
Maori Wrasse 16-18cm																							1
Maori Wrasse 30-35cm																							1
Maori Wrasse 4-6cm				1										1									
Maori Wrasse 6-8cm	1		1																				
Maori Wrasse 8-10cm	1					1							1	2			1						
McCulloch's Scalyfin 10-12cm																	1						
McCulloch's Scalyfin 16-18cm				1																			
McCulloch's Scalyfin 4-6cm				2																			
Noarlunga Hulafish 2-4cm				2																			
Noarlunga Hulafish 4-6cm				8																			
Old wife 16-18cm							1																
Old wife 18-20cm							1																
Orange spotted wrasse 6-8cm				1																			
Red Banded Wrasse 10-12cm			1											1	1	1	1					1	
Red Banded Wrasse 12-14cm			1													1							
Red Banded Wrasse 14-16cm														1									
Red Banded Wrasse 4-6cm													1		1								
Red Banded Wrasse 6-8cm															1	1							
Red Banded Wrasse 8-10cm																1	1						
Rough Bullseye 10-12cm																				1			
Sea Sweep 10-12cm																2	2						
Sea Sweep 14-16cm																1							
Sea Sweep 8-10cm																	2						
Senator Wrasse 10-12cm														1									
Senator Wrasse 14-16cm														1									
Skipjack trevally 4-6cm			3																				
Victorian Scalyfin 16-18cm	1																						
Western Blue Groper 35-40 cm															1								
Western Blue Groper 35-40 cm																1							
Western King Wrasse 6-8cm										2													
Western King Wrasse 8-10cm										1													
Western Rock Blackfish 30-35cm						2																	
Western Rock Blackfish 35-40cm																	1						
Western Sea Carp 25-30cm							1																
Western Sea Carp 30-35cm							1																
Western Talma 14-16cm							1																
Western Talma 16-18cm																		1					
Western Talma 18-20cm																		1					

Species	GBC_398/t1	GBC_398/t2	GBC_398/t3	GBC_398/t4	GBC_398/t5	GBC_398/t6	GBC_398/t7	GBC_398/t8	GBC_398/t9	GBC_398/t10	GBC_398/t11	GBC_398/t12	GBC_395/t1	GBC_395/t2	GBC_395/t3	GBC_395/t4	GBC_395/t5	GBC_395/t6	GBC_395/t7	GBC_395/t8	GBC_395/t9	GBC_395/t10	GBC_395/t11	
Black Headed Puller 2-4cm	40				4		6			1		5		70										1
Black Headed Puller 4-6cm		40						1																1
Black Headed Puller 6-8cm								2																
Black Headed Puller 8-10cm								2																
Black Spotted Wrasse 4-6cm																				1	1			
Blue Lined Hulafish 2-4cm	3	30	30						3									23						
Blue Lined Hulafish 4-6cm		20												3										
Blue Lined Leather jacket 14-16cm								3									1							
Blue Lined Leather jacket 20-25cm				1																				
Blue Spotted Toadfish 8-10cm																	1							
Brown Spotted Wrasse 12-14cm												1												1
Brown Spotted Wrasse 14-16cm																								
Brown Spotted Wrasse 35-40cm																1								
Brown Spotted Wrasse 4-6cm					1		1																	
Brown Spotted Wrasse 6-8cm					2		1																	
Brown Spotted Wrasse 8-10cm							1																	
Common Bullseye 10-12cm			20																					1
Common Bullseye 14-16cm			30					1																
Common Bullseye 16-18cm	1													1										
Common Bullseye 18-20cm	1													2										
Dusky Morwong 70-75cm									2															
Globe fish 12-14 cm																		1						
Herring Cale 20-25cm																								1
Herring Cale 25-30cm									1															
Herring Cale 30-35cm																			1		1			
Little Rainbow Wrasse 8-10cm							1																	
Maori Wrasse 10-12cm				1	1									1		1	1							
Maori Wrasse 12-14cm				1												1								
Maori Wrasse 14-16cm													1											
Maori Wrasse 16-18cm				1												1		1						
Maori Wrasse 18-20cm																		1						
Maori Wrasse 20-25cm					1																			
Maori Wrasse 2-4cm					3																			
Maori Wrasse 25-30cm					4																			
Maori Wrasse 6-8cm																		1						
Maori Wrasse 8-10cm							1		1				1	1			1	1						
McCulloch's Scalyfin 10-12cm																								1
McCulloch's Scalyfin 12-14cm			2																					
McCulloch's Scalyfin 14-16cm			2																					
McCulloch's Scalyfin 16-18cm						1																		
McCulloch's Scalyfin 18-20cm					2							1	1								1			
McCulloch's Scalyfin 20-25cm					2																			
McCulloch's Scalyfin 25-30cm																								1
McCulloch's Scalyfin 4-6cm														2										
McCulloch's Scalyfin 8-10cm																								2
Moonlighter 10-12cm																								1
Moonlighter 14-16cm																								1
Moonlighter 16-18cm																								
Noarlunga Hulafish 2-4cm	3		30						2															6
Noarlunga Hulafish 4-6cm																								4
Old wife 20-25 cm												2												
Red Banded Wrasse 10-12cm	1	2												2		1								
Red Banded Wrasse 12-14cm	1																							
Red Banded Wrasse 14-16cm				1	1																			
Red Banded Wrasse 16-18cm	1	1																						1
Red Banded Wrasse 2-4cm																								
Red Banded Wrasse 4-6cm																								
Red Banded Wrasse 6-8cm														1	2									1
Red Banded Wrasse 8-10cm																								
Rough Bullseye 10-12cm						1																		

Species	GBC_398/t1	GBC_398/t2	GBC_398/t3	GBC_398/t4	GBC_398/t5	GBC_398/t6	GBC_398/t7	GBC_398/t8	GBC_398/t9	GBC_398/t10	GBC_398/t11	GBC_398/t12	GBC_395/t1	GBC_395/t2	GBC_395/t3	GBC_395/t4	GBC_395/t5	GBC_395/t6	GBC_395/t7	GBC_395/t8	GBC_395/t9	GBC_395/t10	GBC_395/t11	
Rough Bullseye 16-18cm														2										
Tommy ruff 8-10cm				1																				
Western Blue devil 12-14cm			1														1							
Western Blue devil 14-16cm	1															1	1							
Western Blue devil 16-18cm					1													1						
Western Blue devil 18-20cm						1																		
Western Foxfish 20-25cm																						1		
Western Foxfish 8-10cm	1																							
Western King Wrasse 10-12cm																		1			2			
Western King Wrasse 14-16cm						1																		
Western King Wrasse 16-18cm							1																	
Western King Wrasse 18-20cm														1										
Western King Wrasse 20-25cm																	1							
Western King Wrasse 30-35cm					1																			
Western King Wrasse 4-6cm														3										1
Western King Wrasse 6-8cm																		1	3	1				1
Western King Wrasse 8-10cm																		1						
Western Talma 10-12cm	1																							
Western Talma 14-16cm					1																			
Western Talma 16-18cm					1																			
Western Talma 4-6cm																								10
Western Talma 6-8cm																								20
White barred Boxfish 8-10cm	1																							

Species	GBC_400/t1	GBC_400/t2	GBC_400/t3	GBC_400/t4	GBC_400/t5	GBC_400/t6	GBC_400/t7	GBC_400/t8	GBC_400/t9	GBC_400/t10	GBC_400/t11	GBC_400/t12	GBC_401/t1	GBC_401/t2	GBC_401/t3	GBC_401/t4	GBC_401/t5	GBC_401/t6	GBC_401/t7	GBC_401/t8	GBC_401/t9	GBC_401/t10	GBC_401/t11	GBC_401/t12
Banded Sweep 20-25cm																			1					
Banded Sweep 25-30cm																			1					
Black Headed Puller 2-4cm		1	134			10						10			10				7					10
Black Headed Puller 4-6cm		2												1					4					
Black Headed Puller 6-8cm														1										
Black Spotted Wrasse 4-6cm								1																
Blue Devil 10-12cm																	1							
Blue Lined Hulafish 2-4cm	150		25												50									
Blue Lined Hulafish 4-6cm	20			40																				
Blue Lined Leather jacket 18-20cm															1									
Blue Lined Leather jacket 25-30cm														1										
Blue Spotted Toadfish 10-12cm			1																					
Blue Spotted Toadfish 16-18cm		1																						
Brown Spotted Wrasse 16-18cm																		1						
Brown Spotted Wrasse 18-20cm																		1						
Brown Spotted Wrasse 30-35cm			1																					
Brown Spotted Wrasse 6-8cm																		1						
Chinaman Cod 10-12 cm					1																			
Chinaman Cod 8-10 cm					1																			1
Common Bullseye 10-12cm					1																	1		
Common Bullseye 12-14cm												1												
Common Bullseye 14-16cm				1																				
Common Bullseye 8-10cm																						1		
False Senator Wrasse 10-12cm																						1		
False Senator Wrasse 6-8cm															1				1					
False Senator Wrasse 8-10cm																			2					
Harlequin fish 12-14cm															1									
Herring Cale 12-14cm																								
Herring Cale 16-18cm	1	1			1							1		1	1						1			1
Herring Cale 18-20cm	2												1											
Maori Wrasse 10-12cm																		2						
Masked stinagree 30-35 cm				1																				
McCulloch's Scalyfin 10-12cm															1									
McCulloch's Scalyfin 12-14cm	3																							
McCulloch's Scalyfin 14-16cm	2		1															1				1		
McCulloch's Scalyfin 16-18cm																			1					
McCulloch's Scalyfin 18-20cm	1							1							1									
McCulloch's Scalyfin 4-6cm														1										
McCulloch's Scalyfin 6-8cm						1							1	2									1	
McCulloch's Scalyfin 8-10cm													1	1	1					1	1	1		
Noarlunga Hulafish 2-4cm															20									
Noarlunga Hulafish 4-6cm																								
Old wife 14-16cm														1										
Old wife 16-18cm																								
Old wife 18-20cm															1									
Old wife 20-25cm															1									
Red Banded Wrasse 14-16cm					2																			
Red Banded Wrasse 16-18cm					2																			
Red Banded Wrasse 18-20cm																								
Red Banded Wrasse 2-4cm																								
Red Banded Wrasse 25+ cm															1									
Red Banded Wrasse 4-6cm		2																						
Red Banded Wrasse 8-10cm				1																				
Red lipped morwong 30-35 cm			1																					
Ringed toadfish 14-16cm																								
Ringed toadfish 16-18cm																								
Ringed toadfish 18-20cm																								
Rough Bullseye 10-12cm	5																							
Rough Bullseye 12-14cm	3																							
Rough Bullseye 14-16cm	2	1														2								

Species	GBC_400/t1	GBC_400/t2	GBC_400/t3	GBC_400/t4	GBC_400/t5	GBC_400/t6	GBC_400/t7	GBC_400/t8	GBC_400/t9	GBC_400/t10	GBC_400/t11	GBC_400/t12	GBC_401/t1	GBC_401/t2	GBC_401/t3	GBC_401/t4	GBC_401/t5	GBC_401/t6	GBC_401/t7	GBC_401/t8	GBC_401/t9	GBC_401/t10	GBC_401/t11	GBC_401/t12
Rough Bullseye 16-18cm	2			1												5		1						
Rough Bullseye 20-25cm																			1					
Rough Bullseye 2-4cm			5																					
Silver Drummer 25-30cm																								
Silver Drummer 55-60 cm																								
Silver Drummer 60-65 cm																		1						
Skipjack trevally 16-18cm													1											
Skipjack trevally 18-20cm													3											
Skipjack trevally 20-25cm													1											
Western Blue devil 12-14cm				1																				
Western Blue devil 16-18cm	1																							
Western Blue devil 18-20cm	1				1																			
Western Blue devil 20-25cm				1																				
Western Foxfish 10-12cm				1																				
Western Foxfish 12-14cm				1																				
Western Foxfish 20-25cm									1													1		
Western King Wrasse 2-4cm		2																						
Western King Wrasse 35-40cm				1																				
Western King Wrasse 4-6cm		3																						
Western King Wrasse 6-8cm		2																						
Western Wirrah 30-35 cm	1																							
Woods Siphon Fish 4-6cm																								
Zebra fish 18-20 cm							1																	

APPENDIX XI. FISH ASSEMBLAGE DATA (WIDE TRANSECTS)

Species	GBC_381/t1	GBC_381/t2	GBC_381/t3	GBC_381/t4	GBC_381/t5	GBC_381/t6	GBC_381/t7	GBC_381/t8	GBC_381/t9	GBC_381/t10	GBC_381/t11	GBC_381/t12	GBC_383/t1	GBC_383/t2	GBC_383/t3	GBC_383/t4	GBC_383/t5	GBC_383/t6	GBC_383/t7	GBC_383/t8	GBC_383/t9	GBC_383/t10	GBC_383/t11	GBC_383/t12
Black head Puller 2-4cm							20	6	5	30	3	12								50				50
Black head Puller 4-6cm							10	6	5	30	2	22								50	5		1	100
Black head Puller 6-8cm							10	4	5	30		3								5	10	2	2	80
Black head Puller 8-10cm							10														5		1	
Black Spotted Wrasse 14-16cm							2					2												
Black Spotted Wrasse 16-18cm										1														
Blue lined goatfish 6-8cm																							1	
Blue Lined Hulafish 2-4cm												2												
Blue Lined Hulafish 4-6cm												2												
Blue Lined leather jacket 18-20cm										1														
Blue Lined leather jacket 20-25cm											2													
Blue Lined leather jacket 25-30cm											1													
Brown Spotted Wrasse 14-16cm											1										1	1		
Brown Spotted Wrasse 18-20cm							1			1		1												
Brown Spotted Wrasse 20-25cm							1			1		1												1
Brown Spotted Wrasse 25-30cm																					1			
Brown Spotted Wrasse 30-35cm																							1	
King George Whiting 50-55 cm																								1
Little Rainbow Wrasse 8-10cm							2				1													
Magpie Perch 30-35cm																				1				
Maori Wrasse 16-18cm																								1
Maori Wrasse 18-20cm																								
Maori Wrasse 25-30cm																					1			
Maori Wrasse 30-35cm																					1			
McCulloch's Scalyfin 16-18cm												2												
McCulloch's Scalyfin 18-20cm												2												
McCulloch's Scalyfin 20-25cm							1				2	1								1		1		
McCulloch's Scalyfin 25-30cm							1		1													1	1	
Moonlighter 20-25cm																						1		
Moonlighter 25-30cm																					1		1	
Moonlighter 8-10cm																								1
Noarlunga Hulafish 2-4cm							10	10		40	10	10												1
Noarlunga Hulafish 4-6cm							10	10	5	40	10	10												1
Noarlunga Hulafish 6-8cm								5	5	40	10													
Pencil Whiting 12-14cm									1															
Pencil Whiting 6-8cm												2												
Pretty Polly Wrasse 6-8cm							1																	
Pretty Polly Wrasse 8-10cm							1																	
Red Banded Wrasse 12-14cm																								
Red Banded Wrasse 14-16cm												1	1								2		1	1
Red Banded Wrasse 16-18cm								1	1	1		2										2	1	
Red Banded Wrasse 18-20cm									1	1	2	2	1									1		
Red Banded Wrasse 20-25cm							1	1				1								1				
Red Banded Wrasse 25+ cm							1																	
Rough Bullseye 12-14cm										1														
Shaw's Cowfish 18-20cm																							1	
Shaw's Cowfish 20-25 cm																					1			
Silverbelly 10-12cm																						1		
Silverbelly 14-16cm																							1	
Six spined leatherjacket 20-25cm										1														

Species	GBC_381/t1	GBC_381/t2	GBC_381/t3	GBC_381/t4	GBC_381/t5	GBC_381/t6	GBC_381/t7	GBC_381/t8	GBC_381/t9	GBC_381/t10	GBC_381/t11	GBC_381/t12	GBC_383/t1	GBC_383/t2	GBC_383/t3	GBC_383/t4	GBC_383/t5	GBC_383/t6	GBC_383/t7	GBC_383/t8	GBC_383/t9	GBC_383/t10	GBC_383/t11	GBC_383/t12
	Six spined leatherjacket 25-30cm									1														
Southern Silverbelly 10-12cm																					1			
Southern Silverbelly 12-14cm																					1			
Spotted Wobbegong 2m																								1
Victorian Scalyfin 20-25 cm								1													1			
Western King Wrasse 12-14cm										1														
Western King Wrasse 14-16cm								1	1															
Western King Wrasse 16-18cm								1	1															
Western King Wrasse 18-20cm																						1		
Western King Wrasse 30-35cm																								1
Western King Wrasse 35-40cm																								1
Western King Wrasse 4-6cm																				3				
Western Talma 16-18cm								1	1															
Western Talma 18-20cm										1														
Western Talma 20-25cm							2																	
Yellow striped leatherjacket 25-30cm																								1
Zebra fish 30-35cm									1															
Zebra fish 35-40cm								1																
Zebra fish 6-8cm																								1
Zebra fish 8-10cm																								1

Species	GBC_382/t1	GBC_382/t2	GBC_382/t3	GBC_382/t4	GBC_382/t5	GBC_382/t6	GBC_382/t7	GBC_382/t8	GBC_382/t9	GBC_382/t10	GBC_382/t11	GBC_382/t12	GBC_385/t1	GBC_385/t2	GBC_385/t3	GBC_385/t4	GBC_385/t5	GBC_385/t6	GBC_385/t7	GBC_385/t8	GBC_385/t9	GBC_385/t10	GBC_385/t11	GBC_385/t12
Banded Sweep 16-18cm	2																							
Banded Sweep 20-25cm						1								1								2		
Banded Sweep 25-30cm										1												1		
Black head Puller 2-4cm			12											44	120	50					10			
Black head Puller 4-6cm															30						10	1	2	
Black head Puller 6-8cm																					10	2	2	
Black Spotted Wrasse 12-14cm			1																			1		
Black Spotted Wrasse 14-16cm																								
Black Spotted Wrasse 16-18cm																								
Black Spotted Wrasse 4-6cm						1																		
Black Spotted Wrasse 6-8cm								1																
Black Spotted Wrasse 8-10cm										1						1								
Blue Lined leather jacket 16-18cm															1						1			
Blue Lined leather jacket 20-25cm														1	1							1		
Blue Lined leather jacket 25-30cm														1										
Blue Spotted Goatfish 10-12cm										1														
Blue Spotted Goatfish 12-14cm								1																
Blue Spotted Goatfish 14-16cm																								
Blue Spotted Goatfish 18-20cm																								
Blue Spotted Goatfish 20-25cm																								
Blue Spotted Goatfish 8-10cm										1														
Blue Spotted Toadfish 10-12cm																								
Blue Spotted Toadfish 8-10cm																								
Breaksea Cod 10-12cm																								
Bridled leatherjacket 4-6cm																								
Bridled leatherjacket 6-8cm																								
Bridled leatherjacket 8-10cm																								
Brown Spotted Wrasse 10-12cm																								
Brown Spotted Wrasse 12-14cm			1					1	1	1														
Brown Spotted Wrasse 14-16cm			1					1																
Brown Spotted Wrasse 16-18cm										1														
Brown Spotted Wrasse 18-20cm						1																		
Brown Spotted Wrasse 20-25cm																								
Brown Spotted Wrasse 2-4cm				1																				
Brown Spotted Wrasse 25-30cm								1																
Brown Spotted Wrasse 30-35cm																								
Brown Spotted Wrasse 35-40cm														1	1									
Brown Spotted Wrasse 4-6cm																								
Brown Spotted Wrasse 6-8cm																								
Brown Spotted Wrasse 8-10cm			1																					
Brownfields Wrasse 10-12cm	2		1																					
Brownfields Wrasse 8-10cm	1	1																						
Common Bullseye 12-14cm																								
Common Bullseye 14-16cm																								
Common Bullseye 16-18cm																								
Common Bullseye 6-8cm																								
Common Bullseye 8-10cm																								
Dusky morwong 50-55 cm																								
Footballer Sweep 6-8cm																								
Herring Cale 10-12cm																								
Herring Cale 12-14cm																								
Herring Cale 14-16cm																								
Herring Cale 16-18cm																								
Herring Cale 18-20cm																								
Herring Cale 20-25cm																								
Herring Cale 25-30cm																								
Herring Cale 30-35cm																								
Herring Cale 35-40cm																								
Horseshoe leatherjacket 16-18cm																								
Horseshoe leatherjacket 35-40cm																								

Species	GBC_382/t1	GBC_382/t2	GBC_382/t3	GBC_382/t4	GBC_382/t5	GBC_382/t6	GBC_382/t7	GBC_382/t8	GBC_382/t9	GBC_382/t10	GBC_382/t11	GBC_382/t12	GBC_385/t1	GBC_385/t2	GBC_385/t3	GBC_385/t4	GBC_385/t5	GBC_385/t6	GBC_385/t7	GBC_385/t8	GBC_385/t9	GBC_385/t10	GBC_385/t11	GBC_385/t12
Little Rainbow Wrasse 6-8cm	1		1					1																
Little Rainbow Wrasse 8-10cm												1												
Maori Wrasse 10-12cm		1													1		1							
Maori Wrasse 12-14cm																	1	1						
Maori Wrasse 14-16cm		1				1							1					1						
Maori Wrasse 16-18cm																			1	1				
Maori Wrasse 18-20cm			1	1									1							1	1	1	1	
Maori Wrasse 20-25cm																			1				1	
Maori Wrasse 25-30cm						1																	1	
Maori Wrasse 8-10cm																	1	1						
McCulloch's Scalyfin 10-12cm													1			1								
McCulloch's Scalyfin 12-14cm													1		1									
McCulloch's Scalyfin 14-16cm	1		1										2	1	1	1								
McCulloch's Scalyfin 16-18cm	1					1								1	1		1							
McCulloch's Scalyfin 18-20cm														1		1								
McCulloch's Scalyfin 20-25cm		1	1							1									1	1	2			
McCulloch's Scalyfin 25-30cm																					3	1	3	
Moonlighter 25-30cm																					1			
Noarlunga Hulafish 2-4cm													73	11	30									
Noarlunga Hulafish 4-6cm													20	10	31						20			
Noarlunga Hulafish 6-8cm																					10			
Pencil Whiting 10-12cm														1										
Pencil Whiting 12-14cm																			1					
Pencil Whiting 4-6cm																					2	10		
Pencil Whiting 6-8cm				1																	3	20		
Pencil Whiting 8-10cm													1								2			
Pretty Polly Wrasse 6-8cm										1											2			
Queen Snapper 35-40cm																1								
Queen Snapper 40-45 cm																					1			
Red Banded Wrasse 10-12cm																2								
Red Banded Wrasse 12-14cm													1		3									
Red Banded Wrasse 14-16cm														2	2		1						2	
Red Banded Wrasse 16-18cm													3	3	1					1	1	1		
Red Banded Wrasse 18-20cm													1								2		1	
Red Banded Wrasse 20-25cm																					1			
Red Banded Wrasse 2-4cm																								
Red Banded Wrasse 8-10cm																1	1							
Red lipped morwong 35-40cm			1																					
Rough leatherjacket 12-14cm								1																
Sargeant baker 35-40cm																								1
Senator Wrasse 12-14cm																	1	1						
Senator Wrasse 14-16cm						1												1						
Senator Wrasse 6-8cm										2														
Senator Wrasse 8-10cm						1														1				
Silver Drummer 30-35cm				1																				
Silver Drummer 35-40cm													1											
Silver Drummer 45-50 cm	1																							
Silver Drummer 55-60 cm		1																						
Silverbelly 4-6cm					5			1	1															
Silverbelly 6-8cm								2	1															
Silverbelly 8-10cm								2	1															
Striped stingaree 35-40cm				1																				
Tommy ruff 12-14cm						1																		
Western Blue devil 16-18cm																	1							
Western blue groper 30-35cm														1										
Western blue groper 35-40cm														1										
Western Foxfish 20-25cm																						1		
Western King Wrasse 10-12cm			1					1	2	1	1	1	2		1								1	
Western King Wrasse 12-14cm			1					3	2	1	1	1	1				1	1					1	
Western King Wrasse 14-16cm				1				3	1											2				

Species	GBC_382/t1	GBC_382/t2	GBC_382/t3	GBC_382/t4	GBC_382/t5	GBC_382/t6	GBC_382/t7	GBC_382/t8	GBC_382/t9	GBC_382/t10	GBC_382/t11	GBC_382/t12	GBC_385/t1	GBC_385/t2	GBC_385/t3	GBC_385/t4	GBC_385/t5	GBC_385/t6	GBC_385/t7	GBC_385/t8	GBC_385/t9	GBC_385/t10	GBC_385/t11	GBC_385/t12
Western King Wrasse 16-18cm		2	1						3				1						2					
Western King Wrasse 18-20cm		2				1	1		3								1	1	1			1		
Western King Wrasse 20-25cm							1										1	1						
Western King Wrasse 2-4cm													1											
Western King Wrasse 25-30cm				1																				
Western King Wrasse 35-40cm				1									1											
Western King Wrasse 4-6cm										1			1											
Western King Wrasse 6-8cm										2													1	
Western King Wrasse 8-10cm			1						1	2		1			1								2	
Western Sea Carp 25-30cm																			1					
Western Sea Carp 35-40cm																							1	
Western Sea Carp 40-45 cm			1																					
Western Sea Carp 45-50 cm		1				1																		
Western Talma 12-14cm														1										
Western Talma 14-16cm														1										
Western Talma 20-25cm																	1					1		
Western Talma 25-30cm																	1							
White barred Boxfish 18-20cm																						1		
White barred Boxfish 6-8cm															1									
Yellow finned pike 18-20cm					2																			
Yellow striped leatherjacket 16-18cm													1	1										
Yellow striped leatherjacket 18-20cm													1	2				2						
Yellow striped leatherjacket 20-25cm														1							1			
Yellow striped leatherjacket 25-30cm														1									1	
Zebra fish 18-20cm				4		1																		
Zebra fish 20-25cm						1																		
Zebra fish 30-35cm		1										1												
Zebra fish 35-40cm						1															1			

Species	GBC_384/t1	GBC_384/t2	GBC_384/t3	GBC_384/t4	GBC_384/t5	GBC_384/t6	GBC_384/t7	GBC_384/t8	GBC_384/t9	GBC_384/t10	GBC_384/t11	GBC_384/t12	GBC_386/t1	GBC_386/t2	GBC_386/t3	GBC_386/t4	GBC_386/t5	GBC_386/t6	GBC_386/t7	GBC_386/t8	GBC_386/t9	GBC_386/t10	GBC_386/t11	GBC_386/t12
Banded Sweep 25-30cm							1	1																
Black head Puller 2-4cm			12											25					100		15			
Black head Puller 4-6cm													15						20	10	15			
Black head Puller 6-8cm																				10	15			
Black Spotted Wrasse 12-14cm			1											1										
Black Spotted Wrasse 8-10cm														1										
Blue Lined leather jacket 18-20cm																1				1				
Blue Lined leather jacket 20-25cm																	1							
Breaksea Cod 6-8cm														1										
Brown Spotted Wrasse 14-16cm			1																					
Brown Spotted Wrasse 16-18cm										1											1			
Brown Spotted Wrasse 25-30cm											1													
Common Bullseye 2-4cm														18										
Footballer Sweep 10-12cm																	1							
Footballer Sweep 12-14cm																						1		
Footballer Sweep 14-16cm																					1	1		
Footballer Sweep 18-20cm																			1					
Footballer Sweep 6-8cm			1													2								
Herring Cale 10-12cm			1																					
Herring Cale 12-14cm																								
Herring Cale 14-16cm													1											
Herring Cale 16-18cm				1																				
Herring Cale 20-25cm				1																	1			
Herring Cale 25-30cm																								
Herring Cale 30-35cm	1							1	1			1									1			
Maori Wrasse 10-12cm			1																					
Maori Wrasse 14-16cm			1			1																		
Maori Wrasse 18-20cm				1	1			1																
Maori Wrasse 20-25cm									1															
Maori Wrasse 2-4cm																								
Maori Wrasse 25-30cm							1																	
McCulloch's Scalyfin 14-16cm	1		1																					
McCulloch's Scalyfin 16-18cm	1				1					1				1										
McCulloch's Scalyfin 18-20cm											1													
McCulloch's Scalyfin 20-25cm			1	1																				
McCulloch's Scalyfin 2-4cm																								
McCulloch's Scalyfin 25-30cm																								1
Moonlighter 30-35cm																								
Noarlunga Hulafish 2-4cm														5								15		
Noarlunga Hulafish 4-6cm														10								15		
Pencil Whiting 6-8cm				1																				
Red Banded Wrasse 10-12cm																								
Red Banded Wrasse 12-14cm																								
Red Banded Wrasse 14-16cm																								
Red Banded Wrasse 16-18cm																								
Red Banded Wrasse 25+ cm								1																
Rough Bullseye 10-12cm																								
Rough Bullseye 4-6cm																								
Rough Bullseye 6-8cm																								
Rough Bullseye 8-10cm																								
Senator Wrasse 10-12cm																								1
Senator Wrasse 12-14cm																								1
Silver Drummer 30-35cm					1																			
Silver Drummer 45-50 cm		1																						
Silver Drummer 55-60 cm			1																					
Western King Wrasse 10-12cm																		1						
Western King Wrasse 12-14cm																								1
Western King Wrasse 20-25cm																								
Western King Wrasse 25-30cm																			1					
Western King Wrasse 35-40cm																								1

Species	GBC_384/t1 GBC_384/t2 GBC_384/t3 GBC_384/t4 GBC_384/t5 GBC_384/t6 GBC_384/t7 GBC_384/t8 GBC_384/t9 GBC_384/t10 GBC_384/t11 GBC_384/t12	GBC_386/t1 GBC_386/t2 GBC_386/t3 GBC_386/t4 GBC_386/t5 GBC_386/t6 GBC_386/t7 GBC_386/t8 GBC_386/t9 GBC_386/t10 GBC_386/t11 GBC_386/t12
Western King Wrasse 8-10cm Western Sea Carp 40-45 cm Western Sea Carp 45-50 cm Zebra fish 18-20cm Zebra fish 20-25cm Zebra fish 30-35cm	1 1 1 1 1 1 1 1 1 1 1	1

Species	GBC_387/11	GBC_387/12	GBC_387/13	GBC_387/14	GBC_387/15	GBC_387/16	GBC_387/17	GBC_387/18	GBC_387/19	GBC_388/11	GBC_388/12	GBC_388/13	GBC_388/14	GBC_388/15	GBC_388/16	GBC_388/17	GBC_388/18	GBC_388/19	GBC_388/110	GBC_388/111	GBC_388/112
Banded Sweep 12-14cm																					1
Banded Sweep 14-16cm																					1
Banded Sweep 25-30cm									1												
Banded Sweep 25-30cm																2				1	
Banded Sweep 30-35cm																					1
Banded Sweep 30-35cm																					1
Black head Puller 2-4cm							20		10												
Black head Puller 4-6cm							20		10												
Black Spotted Wrasse 14-16cm										1											
Black Spotted Wrasse 16-18cm										1											
Black Spotted Wrasse 2-4cm											14										
Black Spotted Wrasse 4-6cm											5		1								
Black Spotted Wrasse 8-10cm																1					
Blue Lined leather jacket 20-25cm							1														
Breaksea Cod 30-35cm									1												
Brown Spotted Wrasse 18-20cm							1	1													
Brown Spotted Wrasse 20-25cm							1														
Brown Spotted Wrasse 25-30cm									1												
Circular Stingaree 50-55 cm										1											
Common Bullseye 10-12cm							2														
Common Bullseye 12-14cm							2	1													
Common Bullseye 14-16cm									1												
Common Bullseye 18-20cm									2												
Common Bullseye 8-10cm									2												
Footballer Sweep 10-12cm																					1
Footballer Sweep 4-6cm											4										
Footballer Sweep 6-8cm											6	1									1
Footballer Sweep 8-10cm																					1
Girella Zebra 14-16cm										1											
Herring Cale 25-30cm									1								1				
Herring Cale 30-35cm																					1
Long finned Pike 8-10cm												8									
Maori Wrasse 10-12cm										1											
Maori Wrasse 12-14cm																2			1		
Maori Wrasse 14-16cm										1								1	1		
Maori Wrasse 16-18cm										1											
Maori Wrasse 18-20cm									1	1											
Maori Wrasse 20-25cm							1	1	1												
Maori Wrasse 25-30cm							1														
Maori Wrasse 30-35cm									1												
Maori Wrasse 6-8cm											1										1
Maori Wrasse 8-10cm																				1	1
McCulloch's Scalyfin 20-25cm							1		1										1		
McCulloch's Scalyfin 25-30cm									1												
Moonlighter 20-25cm							1														
Pencil Whiting 10-12cm										1											
Pencil Whiting 4-6cm																2					
Pencil Whiting 6-8cm																	2				
Pencil Whiting 8-10cm										2	8	3									
Red Banded Wrasse 10-12cm										2											
Red Banded Wrasse 12-14cm										1											
Red Banded Wrasse 20-25cm								1	1												
Red Banded Wrasse 25+ cm								1	1												
Red Banded Wrasse 6-8cm										1											
Red Banded Wrasse 8-10cm										1											
Senator Wrasse 12-14cm											1										
Senator Wrasse 14-16cm											1										
Western Foxfish 20-25cm								1													
Western Foxfish 25-30cm																					1
Western King Wrasse 6-8cm																	1				1
Western King Wrasse 8-10cm																					1
Western Rock Blackfish 25-30cm																					1

Species	GBC_389/t1	GBC_389/t2	GBC_389/t3	GBC_389/t4	GBC_389/t5	GBC_389/t6	GBC_389/t7	GBC_389/t8	GBC_389/t9	GBC_389/t10	GBC_389/t11	GBC_389/t12	GBC_390/t1	GBC_390/t2	GBC_390/t3	GBC_390/t4	GBC_390/t5	GBC_390/t6	GBC_390/t7	GBC_390/t8	GBC_390/t9	GBC_390/t10	GBC_390/t11	GBC_390/t12
Banded Sweep 18-20cm							2																	1
Banded Sweep 20-25cm																				1				
Banded Sweep 30-35cm																					1			
Black head Puller 2-4cm							5														1			
Black head Puller 4-6cm								1																
Black Spotted Wrasse 8-10cm																						1		
Blue Lined leather jacket 16-18cm							1																	
Brown Spotted Wrasse 10-12cm									1															1
Brown Spotted Wrasse 12-14cm																							1	1
Brown Spotted Wrasse 18-20cm																								1
Brown Spotted Wrasse 20-25cm										1														1
Brown Spotted Wrasse 30-35cm																							1	1
Brown Spotted Wrasse 4-6cm																							1	
Brown Spotted Wrasse 6-8cm																							1	
Brown Spotted Wrasse 8-10cm																							1	
Brownfields Wrasse 14-16cm									1															
Footballer Sweep 10-12cm									1															
Girella Zebra 30-35cm																					1			
Herring Cale 20-25cm								1		1														
Herring Cale 25-30cm										1	1													
Little Rainbow Wrasse 8-10cm																					1			
Maori Wrasse 10-12cm							1	2	1															
Maori Wrasse 12-14cm								1		1														
Maori Wrasse 14-16cm										1														
Maori Wrasse 18-20cm										1														
Maori Wrasse 20-25cm								1																
Maori Wrasse 25-30cm											1													
Maori Wrasse 6-8cm							2																	
Maori Wrasse 8-10cm							1																	
Red Banded Wrasse 12-14cm								1																
Rough Bullseye 10-12cm							20					1												
Rough Bullseye 12-14cm							10																	
Rough Bullseye 6-8cm							10					2												
Rough Bullseye 8-10cm							10																	
Sea Sweep 18-20cm																								2
Senator Wrasse 14-16cm																								1
Senator Wrasse 6-8cm																								1
Western King Wrasse 10-12cm																					1			
Western King Wrasse 12-14cm																				1				
Western King Wrasse 2-4cm								1																
Western King Wrasse 6-8cm																					1			1
Western King Wrasse 8-10cm																						1		1
Western Rock Blackfish 10-12cm																								1

Species	GBC_391/t1	GBC_391/t2	GBC_391/t3	GBC_391/t4	GBC_391/t5	GBC_391/t6	GBC_391/t7	GBC_391/t8	GBC_391/t9	GBC_391/t10	GBC_391/t11	GBC_391/t12	GBC_392/t1	GBC_392/t2	GBC_392/t3	GBC_392/t4	GBC_392/t5	GBC_392/t6	GBC_392/t7	GBC_392/t8	GBC_392/t9	GBC_392/t10	GBC_392/t11	
Black head Puller 4-6cm	1																							
Black head Puller 6-8cm	2																							
Black head Puller 8-10cm				1																				
Black Spotted Wrasse 4-6cm								2		1														
Black Spotted Wrasse 6-8cm								1																1
Blue Lined leather jacket 25-30cm																						1		
Blue Spotted Toadfish 8-10cm	2																							
Brown Spotted Wrasse 10-12cm				1				1			1													
Brown Spotted Wrasse 14-16cm				1																				
Brown Spotted Wrasse 16-18cm			1																					
Brown Spotted Wrasse 18-20cm										1														
Brown Spotted Wrasse 20-25cm							1																	
Brown Spotted Wrasse 8-10cm							1	1																
Herring Cale 18-20cm	1			1																			1	
Little Rainbow Wrasse 6-8cm	2		1																					
Little Rainbow Wrasse 8-10cm		1																						
Maori Wrasse 10-12cm			1																					1
Maori Wrasse 12-14cm																	1							
Maori Wrasse 14-16cm			1		1																			
Maori Wrasse 16-18cm			1																					
Maori Wrasse 18-20cm				1		1																		1
Maori Wrasse 20-25cm		1		1	2																			1
Maori Wrasse 25-30cm	1				1																			1
McCulloch's Scalyfin 16-18cm						1																		
McCulloch's Scalyfin 18-20cm		2		1					1															1
McCulloch's Scalyfin 20-25cm	1	1							1															1
Old wife 10-12cm					1																			
Orange Wrasse 4-6 cm			2																					
Orange Wrasse 6-8 cm			2																					
Pencil Whiting 6-8cm			3																					
Red Banded Wrasse 10-12cm								1				1												
Red Banded Wrasse 8-10cm																								1
Rough Bullseye 12-14cm																								
Rough Bullseye 18-20cm						1																		
Rough Bullseye 4-6cm																								10
Rough Bullseye 6-8cm																								10
Roughy 16-18cm			1																					
Roughy 2-4cm						3																		
Senator Wrasse 10-12cm				2																				
Senator Wrasse 8-10cm					1																			
Silverbelly 16-18cm																								2
Silverbelly 2-4cm							20											1			1			
Six spined leatherjacket 16-18cm				1																				
Tommy ruff 14-16cm						2																		
Tommy ruff 16-18cm						5																		
Victorian Scalyfin 12-14cm						2																		1
Victorian Scalyfin 16-18cm					2																			1
Victorian Scalyfin 8-10cm			1																					1
Western King Wrasse 10-12cm				1				10																
Western King Wrasse 12-14cm				1				10																
Western King Wrasse 14-16cm								5																
Western King Wrasse 16-18cm								5	1															
Western King Wrasse 18-20cm									1															
Western King Wrasse 25-30cm			1	1																				
Western King Wrasse 4-6cm								5																
Western King Wrasse 6-8cm									1															
Western King Wrasse 8-10cm								10																
Yellow finned leatherjacket 20-25cm					1																			

Species	GBC_396/t1	GBC_396/t2	GBC_396/t3	GBC_396/t4	GBC_396/t5	GBC_396/t6	GBC_396/t7	GBC_396/t8	GBC_396/t9	GBC_396/t10	GBC_396/t11	GBC_396/t12	GBC_400/t1	GBC_400/t2	GBC_400/t3	GBC_400/t4	GBC_400/t5	GBC_400/t6	GBC_400/t7	GBC_400/t8	GBC_400/t9	GBC_400/t10	GBC_400/t11	GBC_400/t12
Banded Sweep 18-20cm	1																							
Banded Sweep 20-25cm			3		1																			
Banded Sweep 30-35cm					1				2	1														
Black Spotted Wrasse 14-16cm								1																
Black Spotted Wrasse 16-18cm								1																
Brown Spotted Wrasse 30-35cm				1																				
Common Bullseye 18-20cm		15																						
Dusky morwong 70-75 cm			2																					
Dusky morwong 80-85 cm			1																					
Footballer Sweep 20-25cm			1																					
Herring Cale 14-16cm				1																				
Herring Cale 16-18cm						1																		
Herring Cale 25-30cm										1														
Maori Wrasse 10-12cm				1																				
Maori Wrasse 12-14cm	1		1			1																		
Maori Wrasse 14-16cm	1	1	1	1		1																		
Maori Wrasse 16-18cm				1	1	2																		
Maori Wrasse 18-20cm				1			1		1															
Maori Wrasse 20-25cm				1				1	1				1											1
Maori Wrasse 25-30cm	1	1	1				1	1		1	1													
Maori Wrasse 30-35cm																								1
Maori Wrasse 35-40cm										1														
Maori Wrasse 6-8cm	1																							
Maori Wrasse 8-10cm	1	1	2	2																				
McCulloch's Scalyfin 12-14cm					1																			
McCulloch's Scalyfin 14-16cm			1	2	1																			
McCulloch's Scalyfin 16-18cm			3	2																				
McCulloch's Scalyfin 18-20cm	1						1																	
McCulloch's Scalyfin 20-25cm							1																	
McCulloch's Scalyfin 2-4cm																								
McCulloch's Scalyfin 6-8cm			2																					
Moonlighter 20-25cm						1																		
Red Banded Wrasse 10-12cm						1			1															
Red Banded Wrasse 12-14cm		1				2																		1
Red Banded Wrasse 14-16cm							1																	
Red Banded Wrasse 16-18cm		1							1															
Red Banded Wrasse 18-20cm		1					1																	1
Red Banded Wrasse 8-10cm						1																		
Sea Sweep 25-30cm				3																				
Sea Sweep 30-35cm				1																				
Seargent Baker 30-35cm				1																				
Silver Drummer 18-20cm		4																						
Silver Drummer 20-25cm		8																						
Silver Drummer 25-30cm					1																			
Silver Drummer 30-35cm		12	1																					
Silver Drummer 35-40cm			3																					
Silver Drummer 40-45 cm						1			1															
Silver Drummer 45-50 cm				1																				
Silver Drummer 55-60 cm		2																						
Silver Drummer 75-80 cm						1																		
Silverbelly 2-4cm										2														
Silverbelly 4-6cm										4														
Silverbelly 6-8cm										1														
Skipjack Trevally 4-6cm	5																							
Skipjack Trevally 6-8cm	1																							
Tommy ruff 14-16cm						1																		
Toothbrush leatherjacket 30-35cm																								1
Victorian Scalyfin 16-18cm				1																				
Victorian Scalyfin 18-20cm	2																							
Victorian Scalyfin 20-25 cm					1																			

Species	GBC_396/t1	GBC_396/t2	GBC_396/t3	GBC_396/t4	GBC_396/t5	GBC_396/t6	GBC_396/t7	GBC_396/t8	GBC_396/t9	GBC_396/t10	GBC_396/t11	GBC_396/t12	GBC_400/t1	GBC_400/t2	GBC_400/t3	GBC_400/t4	GBC_400/t5	GBC_400/t6	GBC_400/t7	GBC_400/t8	GBC_400/t9	GBC_400/t10	GBC_400/t11	GBC_400/t12
Western blue groper 30-35cm						1																		
Western King Wrasse 10-12cm										4														
Western King Wrasse 12-14cm										3														
Western King Wrasse 8-10cm										3														
Western Rock Blackfish 10-12cm						1																		
Western Rock Blackfish 12-14cm						1																		
Western Sea Carp 35-40cm									1															
Zebra fish 14-16cm		4				15																		
Zebra fish 16-18cm		3																						
Zebra fish 20-25cm		13																						
Zebra fish 25-30cm		2	1						1															
Zebra fish 30-35cm									1															
Zebra fish 35-40cm											1													

Species	GBC_401/t1	GBC_401/t2	GBC_401/t3	GBC_401/t4	GBC_401/t5	GBC_401/t6	GBC_401/t7	GBC_401/t8	GBC_401/t9	GBC_401/t10	GBC_401/t11	GBC_401/t12
Banded Sweep 20-25cm			1									
Black head Puller 2-4cm		4	77	80			15					
Black head Puller 4-6cm		8		20			15					
Black head Puller 6-8cm							15					
Black head Puller 8-10cm							15					
Black reef leatherjacket 14-16cm	1											
Blue Lined Hulafish 2-4cm				20		26						
Blue Lined Hulafish 4-6cm			48	30		16						
Blue Lined leather jacket 35-40cm	1											
Brown Spotted Wrasse 10-12cm				1								
Brown Spotted Wrasse 12-14cm								1				
Brown Spotted Wrasse 8-10cm							1					
Common Bullseye 6-8cm									8			
Common Bullseye 8-10cm									5			
Herring Cale 12-14cm				1								
Herring Cale 14-16cm	1	1										
Herring Cale 16-18cm	1			1								
Herring Cale 18-20cm				1								
Herring Cale 25-30cm					1							
Herring Cale 30-35cm					1							
Maori Wrasse 12-14cm							1					
Maori Wrasse 14-16cm							2					
Maori Wrasse 16-18cm			2				2					
Maori Wrasse 18-20cm							1					
McCulloch's Scalyfin 10-12cm					2							
McCulloch's Scalyfin 12-14cm			3	1		1						
McCulloch's Scalyfin 14-16cm	3	1	2	1				1	1			
McCulloch's Scalyfin 16-18cm	1	2	1	1			1	1	1			
McCulloch's Scalyfin 18-20cm	1		1	4						1		
McCulloch's Scalyfin 20-25cm					1	1		1			1	
McCulloch's Scalyfin 25-30cm							1	1		1		
McCulloch's Scalyfin 30cm +							1					
McCulloch's Scalyfin 6-8cm				2								
McCulloch's Scalyfin 8-10cm			2	1								
Noarlunga Hulafish 2-4cm				25		5						
Noarlunga Hulafish 4-6cm				16		15						
Old wife 14-16cm	1											
Old wife 16-18cm	1											
Red Banded Wrasse 14-16cm			1									
Red Banded Wrasse 18-20cm			1									
Red Banded Wrasse 20-25cm			1					1				
Red Banded Wrasse 4-6cm			5									
Rough Bullseye 4-6cm					4							
Senator Wrasse 18-20cm							1					
Silver Drummer 18-20cm	1											
Silver Drummer 20-25cm	1											
Silver Drummer 35-40cm			6	1								
Silver Drummer 45-50 cm			2		1							
Silver Drummer 50-55 cm	2	1			1							
Silver Drummer 55-60 cm			7									
Silver Drummer 60-65 cm	1						1					
Silver Drummer 65-70 cm	4			1			1					
Skipjack trevally 10-12cm	2											
Skipjack trevally 8-10cm	2											
Tommy rough 10-12cm	1											
Tommy rough 12-14cm	1			3								
Tommy rough 14-16cm	2											
Western King Wrasse 10-12cm							1					
Western King Wrasse 12-14cm							1					
Western King Wrasse 30-35cm	1			1			1					
Western King Wrasse 35-40cm				1		2						
Yellow striped leatherjacket 16-18cm			1									
Yellow striped leatherjacket 18-20cm			1									

APPENDIX XII. FISH SPECIES LIST

Species	Common name
<i>Acanthaluteres spilomelanurus</i>	Bridled Leatherjacket
<i>Acanthistius pardalotus</i>	Western Leopard
<i>Achoerodus gouldii</i>	Western blue Groper
<i>Anoplocapros amygdaloides</i>	Western smooth Boxfish
<i>Anoplocapros lenticularis</i>	White barred Boxfish
<i>Aplodactylus westralis</i>	Western sea Carp
<i>Apogon ruepellii</i>	Gobbleguts
<i>Apogon victoriae</i>	Red striped Cardinal fish
<i>Aracana aurita</i>	Shaw's Cowfish
<i>Aracana ornata</i>	Ornate Cowfish
<i>Arothron hispidus</i>	Stars and stripes Toadfish
<i>Arripis georgianus</i>	Tommy ruff
<i>Aulopus purpurissatus</i>	Sargeant Baker
<i>Austrolabrus maculatus</i>	Black spotted Wrasse
<i>Bigener brownii</i>	Spiny Tailed Leatherjacket
<i>Bodianus frenchi</i>	Western Foxfish
<i>Brachaluteres jacksonia</i>	Pygmy Leatherjacket
<i>Centroberyx lineatus</i>	Swallowtail
<i>Cheilodactylus rubrolabiatus</i>	Red lipped Morwong
<i>Cheilodactylus gibbosus</i>	Western crested Morwong
<i>Cheilodactylus nigripes</i>	Magpie Perch
<i>Chelmonops curiosus</i>	Western Talma
<i>Chromis klunzingeri</i>	Black Headed Puller
<i>Chrysophrys auratus</i>	Snapper
<i>Contusus brevicaudus</i>	Prickly Toadfish
<i>Coris auricularis</i>	Western King Wrasse
<i>Dactylophora nigricans</i>	Dusky Morwong
<i>Dasyatis brevicaudata</i>	Smooth Stingray
<i>Dasyatis thetidis</i>	Black Stingray
<i>Dinolestes lewini</i>	Long finned pike
<i>Diodon nichthemerus</i>	Globe fish
<i>Dotalabrus alleni</i>	Little rainbow Wrasse
<i>Dotalabrus aurantiacus</i>	Pretty polly Wrasse
<i>Enoplosus armatus</i>	Old Wife
<i>Epenephelus rivulatus</i>	Chinaman cod
<i>Epinephelides armatus</i>	Breaksea cod
<i>Eubalichthys bucephalus</i>	Black Reef Leatherjacket
<i>Eubalichthys mosaicus</i>	Mosaic Leatherjacket
<i>Eupetrichthys angustipes</i>	Snakeskin Wrasse
<i>Gerres subfasciatus</i>	Roach
<i>Girella tephraeops</i>	Western rock Blackfish
<i>Girella zebra</i>	Zebra fish
<i>Glaucosoma hebracium</i>	Jewfish
<i>Halichoeres brownfieldi</i>	Brownfields Wrasse
<i>Heterodontus portusjackson</i>	Port Jackson shark
<i>Kyphosus cornelii</i>	Western Buffalo Bream
<i>Kyphosus sydneyanus</i>	Silver Drummer
<i>Lotella rhacinus</i>	Beardie
<i>Meuschenia flavolineata</i>	Yellow striped Leatherjacket
<i>Meuschenia freycineti</i>	Six spined Leatherjacket
<i>Meuschenia galii</i>	Blue lined Leatherjacket
<i>Meuschenia hippocrepis</i>	Horseshoe Leatherjacket
<i>Microcanthus strigatus</i>	Stripey
<i>Myliobatis australis</i>	Eagle ray
<i>Neatypus obliquus</i>	Footballer Sweep

Species	Common name
<i>Nelussetta ayraudi</i>	Chinaman Leatherjacket
<i>Nemadactylus valenciennes</i>	Queen Snapper
<i>Neodax balteatus</i>	Little weed Whiting
<i>Notalabrus parilus</i>	Brown spotted Wrasse
<i>Odax acroptilus</i>	Rainbow fish
<i>Odax cyanomelas</i>	Herring Cale
<i>Omegophora armilla</i>	Ringed Toadfish
<i>Omegophora cyanopunctata</i>	Blue spotted Toadfish
<i>Ophthalmolepis lineolata</i>	Maori Wrasse
<i>Orectolobus maculatus</i>	Spotted Wobbegong
<i>Orectolobus sp</i>	Western wobbegong
<i>Othos dentex</i>	Harlequin fish
<i>Paraplesiops meleagris</i>	Western Blue devil
<i>Parascyllium variolatum</i>	Varied Catshark
<i>Parequula melbournensis</i>	Silverbelly
<i>Parma mccullochi</i>	McCulloch's Scalyfin
<i>Parma occidentalis</i>	Western Scalyfin
<i>Parma victoriae</i>	Victorian Sclayfin
<i>Parupeneus signatus</i>	Black spotted Goatfish
<i>Pelates sexlineatus</i>	Striped Trumpeter
<i>Pelsartia humeralis</i>	Sea Trumpeter
<i>Pempheris klunzingeri</i>	Rough Bullseye
<i>Pempheris multiradiata</i>	Common Bullseye
<i>Penicipelta vittiger</i>	Toothbrush Leatherjacket
<i>Pictilabrus laticlavus</i>	Senator Wrasse
<i>Pictilabrus sp.</i>	False senator Wrasse
<i>Plectorinchus flavomaculatus</i>	Gold spotted sweetlips
<i>Pseudocaranx dentex</i>	Skipjack Trevally
<i>Pseudocaranx wrighti</i>	Sand Trevally
<i>Pseudolabrus biserialis</i>	Red banded Wrasse
<i>Pseudophycis barbata</i>	Bearded Cod
<i>Rhabdosargus sarba</i>	Tarwhine
<i>Sallaginoides punctata</i>	King George Whiting
<i>Schuettea woodwardi</i>	Woodwards Pomfret
<i>Scobinichthys granulatus</i>	Rough Leatherjacket
<i>Scorpius aequipinnis</i>	Sea Sweep
<i>Scorpius georgiana</i>	Banded Sweep
<i>Sillago maculata</i>	Trumpeter Whiting
<i>Siphonognathus beddomei</i>	Pencil Weed Whiting
<i>Siphonognathus caninus</i>	Sharp nosed Whiting
<i>Sphyræna obtusata</i>	Striped sea pike
<i>Tilodon sexfasciatum</i>	Moonlighter
<i>Torquener pleurogramma</i>	Banded Toadfish
<i>Trachichthys australis</i>	Roughy
<i>Trachinops brauni</i>	Blue lined Hulafish
<i>Trachinops noarlungae</i>	Noarlunga Hulafish
<i>Trachurus declivis</i>	Jack Mackerel
<i>Trachurus novaezelandiae</i>	Yellowtail Mackerel
<i>Trygonoptera mucosa</i>	Western Stingaree
<i>Trygonoptera ovalis</i>	Striped Stingaree
<i>Trygonoptera personata</i>	Masked Stingaree
<i>Upeneichthys lineatus</i>	Blue lined Goatfish
<i>Upeneichthys vlamingii</i>	Blue spotted Goatfish
<i>Urolophus circularis</i>	Circular Stingaree
<i>Urolophus paucimaculatus</i>	Sparsely spotted Stingaree

APPENDIX XIII. INTERTIDAL SURVEY DATA

Habitat	BOULDER FIELDS														LIMESTONE PLATFORMS										
	North								West						South				North		West				
Region	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB
Site																									
No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15
																									80
Phylum Porifera																									
<i>Tethya sp.</i>															1										
other sponge spp	1														1										
Phylum Cnidaria Class Anthozoa																									
Order Actinaria																									
Brown Anemone	6			1			2	1	4						2				1				1		
Green Anemone	1						1								2										
White Anemone				1				1											2						
<i>Actinia tenebrosa</i>							1		5										1			1			
? <i>Isanemone sp.</i>								7	1										2			11			
Order Zooanthida																									
<i>Isaurus cliftoni</i>																						1			

Habitat	BOULDER FIELDS															LIMESTONE PLATFORMS									
	North								West					South				North		West					
Region	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB
Site																									
No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15
																									80
Order Scleractinia																									
brain coral	3 5																								
Phylum Mollusca Class Polyplecophora																									
<i>Clavarhizoma hirtosa</i>	4	23		3	56	9	26	86	1	87	20	54	24	90	1	1	1	43	25	3	2		4		34
Chiton sp2																									
Chiton sp3																									
Phylum Mollusca Class Gastropoda SubClass Prosobranchia																									
Family Acmaeidae																									
<i>Patelloida alticostata</i>	196	22	10	156	117	229	235	75	115	81	145	204	152	77	116	31	90	24	73	34		51	89	66	21
Limpet spp	12	14	73	110	90	139	261	143	128	195	201	150	210	444	64	31	68	60	276	87	10	129	139	96	99
Family Patellidae																									
<i>Patella laticostata</i>	1 1								2																
Phylum Mollusca Class Gastropoda SubClass Prosobranchia																									
Family Neritidae																									
<i>Nerita atrementosa</i>	58	106	181	210	154	120	213	13	228	231	125	106		86	199	15	12	51	114	2	1	256		3	

Habitat	BOULDER FIELDS														LIMESTONE PLATFORMS										
	North								West					South			North	West							
Region	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB
Site																									
No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15
																									80
Family Haliotidae																									
<i>Haliotis roei</i>	3				1		3				6	19													12
Family Fissurellidae																									
<i>Amblychilepas nigrita</i>																									1
<i>Scutus antipodes</i>														1											1
Family Trochidae																									
<i>Austrocochlea rudis</i>	48	305	175	131	312	352	82	32	184	76	411	285	264	13	115	225	42	55	160	111	32	279	684		99
<i>Notogibbula priceissiana</i>					5				1			1				3			2						3
<i>Cantharidus pulcherrimus</i>					1							1				2				1					3
Trochid spp.															1		1								
<i>Stomatella auricula</i>																				4				18	6
Family Turbinidae																									
<i>Turbo pulcher</i>					1						1	1													6
<i>Turbo torquata</i>																									3
Family Campanilidae																									
<i>Campanile symbolicum</i>																								5	1
																								1	

Habitat	BOULDER FIELDS														LIMESTONE PLATFORMS											
	North								West					South			North		West							
Region	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB	
Site																										
No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15	
																								80		
Family Littorinidae																										
<i>Littorina unifasciata</i>	21								1					1			2									
Family Muricidae																										
<i>Thais orbita</i>	5	4		5	10	3	8	5	3	4	10	3	8	1			4	1	4	3	2		1	1	2	
<i>Cronia avellana</i>																	1			4						
Phylum Mollusca Class Gastropoda SubClass Prosobranchia																										
Family Buccinidae																										
<i>Cominella tasmanica</i>																				1 4						
Family Vermetidae																										
<i>Serpulorbis cf siphon</i>														2												
Family Columbellidae																										
<i>Pyrene bidentata</i>									4											2 1 3 11						
Family Costellariidae																										
<i>Vexillum marrowi</i>																				1 1						
Family Conidae																										
<i>Conus anemone</i>	1								1																	

Habitat	BOULDER FIELDS														LIMESTONE PLATFORMS										
	North								West					South				North		West					
Region	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB
Site																									
No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15
																								80	
Phylum Mollusca Class Gastropoda SubClass Opisthobranchia																									
Order Anaspida Family Aplysiidae																									
<i>Aplysia oculifera</i>																			1						
<i>Aplysia dactylomela</i>																			1						
Order Nudibranchia																									
undetermined spp									1										1						
Phylum Mollusca Class Gastropoda SubClass Pulmonata																									
<i>Siphonaria jeanae</i>	138	281	228	599	802	888	1298	454	207	457	1331	908	533	1419	148	65	8352	1041	473	441	228	6	395	196	58
Phylum Mollusca Class Bivalvia																									
<i>Septifer bilocularis</i>	1								1										1						
?Lucinid sp																			1		1				
<i>Xenostrobus pulex</i>																			3						
Phylum Mollusca Class Cephalopoda																									
<i>Octopus sp</i>														1					1						
Phylum Annelida Class Polychaeta																									
Sabellid sp									1																
<i>Galeolaria sp</i>	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P			P	

Habitat	BOULDER FIELDS														LIMESTONE PLATFORMS										
	North								West					South				North	West						
Region	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB
Site																									
No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15
																								80	
Phylum Arthropoda SubPhylum Crustacea																									
Order Cirripedia																									
<i>Austromegabalanus</i>	1						1		4		1				1										
undetermined sp.			37		22						2		1		1		9					1			
Order Decapoda																									
Brachyuran spp	7	3	2						2		1		3		3		6		2		3		1		
Paguroid sp					4		2				2		1								1				
Palaemonid sp									1						1						1				
Phylum Echinodermata Class Asteroidea																									
<i>Coscinasterias muricata</i>																						3			
Phylum Echinodermata Class Ophiuroidea																									
undetermined sp.																						10		1	
Phylum Echinodermata Class Echinoidea																									
<i>Heliocidaris erythrogramma</i>																						1		1	
Phylum Echinodermata Class Holothuroidea																									
undetermined sp.																						1			

Habitat		BOULDER FIELDS															LIMESTONE PLATFORMS									
		North								West					South		North	West								
Region	Site	PT	GR	RE	RW	S1	S2	CE	CS	CR	SB	CO	CI	PS	FB	FL	GP	FR	RB	WW	QB	CP	MP	MB	CP	CB
	No of quadrats	30	30	30	30	30	30	30	15	30	15	30	30	30	20	20	20	20	20	20	20	20	20	20	45	15
Phylum Chordata Class Teleostei																										
	Blenniid spp	3	3			1	3						2	4					1	3	1				4	
TOTAL SPECIES																										
	Number of species	14	11	9	11	18	11	14	11	11	13	13	19	12	9	11	13	10	14	13	18	6	8	13	22	14
<p style="text-align: right;">22</p>																										

APPENDIX XIV. ALGAE AND SEAGRASSES COLLECTED IN THE LOW INTERTIDAL AT COWARAMUP BAY

Species

Acrocarpa robusta
Amphiroa anceps
Amphibolis antarctica *
Caulerpa brownii
Cladophora sp.
Codium spongiosum
Colpomenia sp
Crustose corallines
Cystophora harveyi
Dictyota sp.
Dictyosphaeria sericea
Ecklonia radiata adults
Halimeda cuneata
Haliptilon roseum
Hypnea sp
Jania sp
Laurencia cf majiculum
Lobophora variegata
Metagoniolithon radiatum
Metagoniolithon stelliferum
Neogoniolithon sp.
Pachydictyon sp
Sargassum arthrophyucus
Scaberia agardhii
Sphacelaria
Zonaria turneriana

* indicates a seagrass species

