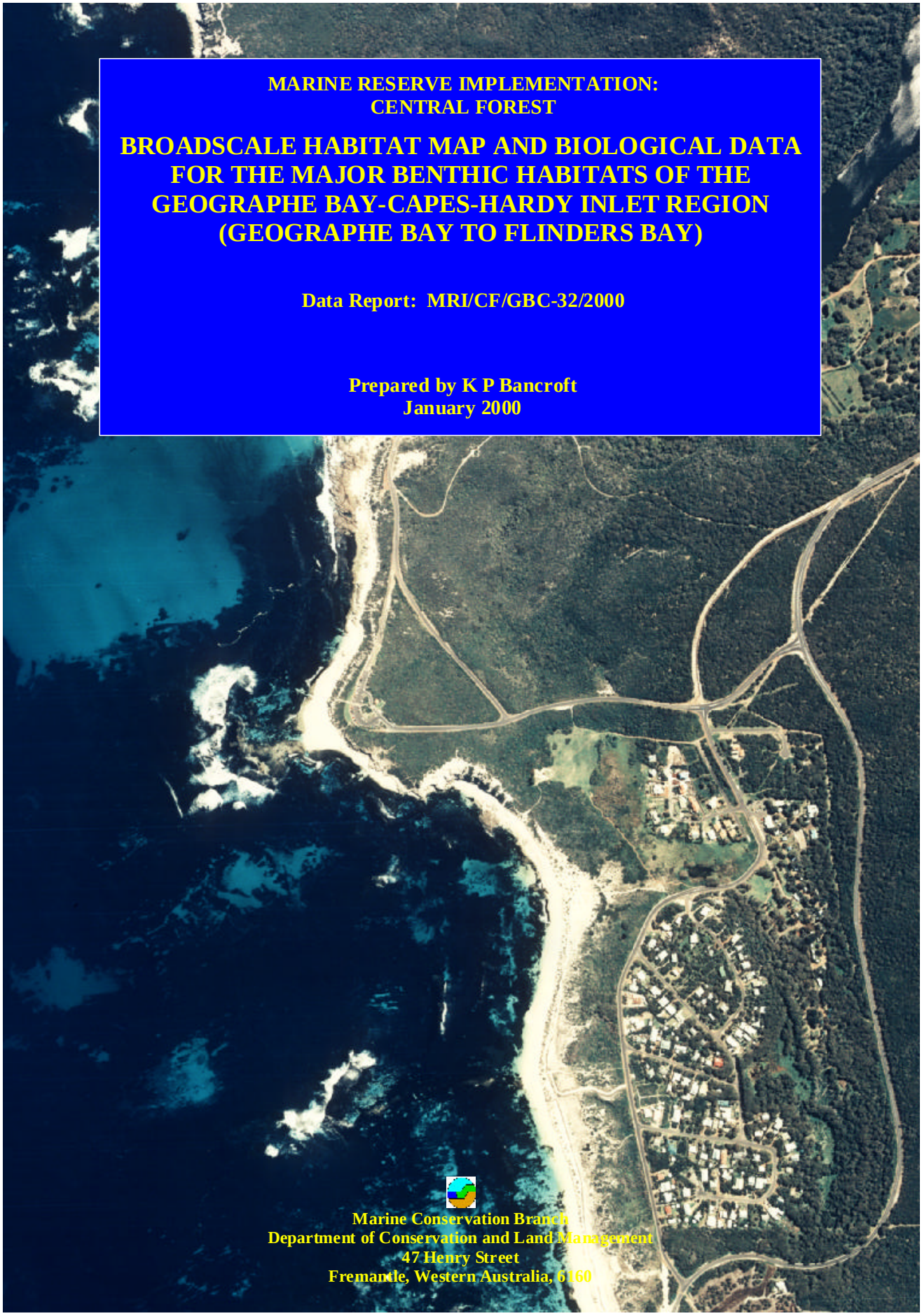

MARINE RESERVE IMPLEMENTATION:
CENTRAL FOREST

BROADSCALE HABITAT MAP AND BIOLOGICAL DATA FOR THE MAJOR BENTHIC HABITATS OF THE GEOGRAPHE BAY-CAPES-HARDY INLET REGION (GEOGRAPHE BAY TO FLINDERS BAY)

Data Report: MRI/CF/GBC-32/2000

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
Marine Conservation Branch

January 2000

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Department of Conservation and Land Management
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Direction

- Dr Chris Simpson-Manager, Marine Conservation Branch (MCB), Nature Conservation Division

Calm Collaboration

- Ray Lawrie, GIS Coordinator, MCB
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- Tim Daly, Marine Operations Officer, MCB
- Mike Lapwood, Marine Operations Officer, MCB
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Cover. Gnarabup Beach, Prevelly Park (orthophotograph)

This report may be cited as:

Bancroft, K.P. (2000). Broadscale habitat map and biological data for the major benthic habitats of the Geographe Bay-Capes-Hardy Inlet region (Geographe Bay to Flinders Bay). Data Report: MRI/CF/GBC-32/2000. January 2000. Marine Conservation Branch, Department of Conservation and Land Management, Fremantle, Western Australia. (Unpublished report)

Copies of this report may be obtained from:
Marine Conservation Branch
Department of Conservation and Land Management
47 Henry Street, Fremantle, Western Australia, 6160
Ph: 61-8-9432 5100 Fax: 61-8-9430 5408

SUMMARY

This data report presents the results of a shore-based field survey of the benthic habitats, undertaken from the 13th to 20th December 1998 along the coast of southwestern Western Australia from Geographe Bay to Flinders Bay (Bancroft & Colman, 1998).

This survey was coordinated by the Marine Conservation Branch (MCB) and conducted in collaboration with CALM's Central Forest Region, South West Capes District office.

The objectives of the field survey were:

(a) to ground-truth the existing digital benthic habitat map for the coastal waters between Geographe Bay and Flinders Bay which was developed by CSIRO, and;

(b) to provide additional biological data on major benthic community types, particularly in areas not covered by the existing benthic habitat map.

The results of the survey provided additional data on major benthic community types and improved the accuracy of habitat classification and spatial rectification of the existing habitat maps. The field survey grid of 350 pre-selected and seven opportunistic locations provided a relatively high-density coverage of sites in the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve area.

The benthic community data collected on this survey assisted in the planning of the sampling methodology and in the selection of sampling sites for a systematic marine biological survey of the Leeuwin-Naturaliste coast between Geographe Bay and Flinders Bay, conducted in January/February 1999 (Bancroft, 1999).

These datasets and the associated revised habitat map, will be important in determining the conservation values of the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve, as well as in the boundary and zoning planning processes for the proposed marine conservation reserve.

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1 INTRODUCTION

This data report presents the results of a field programme undertaken from the 13th to 20th December 1998, to ground-truth the biological and spatial accuracy of CALM's benthic habitat map for the waters in the southwest of Australia, between Geographe Bay and Flinders Bay (Bancroft & Colman, 1998).

1.1 GENERAL 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 role 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 recently 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 undertake a biological survey in the area. Partial funding of $72,000 for the project was 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 survey 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 survey was coordinated by CALM's Marine Conservation Branch (MCB) and conducted in collaboration with the Central Forest Region, South West Capes District office.

1.2 OBJECTIVES

The objectives of the field survey were as follows:

- to ground-truth the existing digital benthic habitat map for the coastal waters between Geographe Bay and Flinders Bay which was developed by CSIRO, and;
- to provide additional biological data on major benthic community types, particularly in areas not covered by the existing benthic habitat map.

Both objectives of this survey were achieved.

2 METHODS

2.1 SURVEY AREA

The study area for this survey comprised the marine waters from the Busselton Jetty in Geographe Bay to White Point on the eastern edge of Flinders Bay, and extends seaward to the State Territorial Limits, described as 3 nm from the State Territorial Baseline (Figure 1).

2.2 SITE SELECTION

Three hundred and fifty sampling sites were predetermined by identifying gaps in the existing data and identifying habitat changes from Landsat imagery and aerial photography (Figure 2). The selection of these sites were on the basis that they could be accurately located on both the existing digital benthic habitat map and on higher resolution aerial photographs (1:20,000). This enabled positions to be resolved to sub-pixel accuracy (<30 m). Further information regarding sampling sites such as latitude, longitude and locality are detailed in Appendix I.

In site selection, priority was assigned to areas where the error associated with the original habitat classification was considered the highest. Ong *et al.* (1995), in a similar ground-truthing survey in Perth's Southern Metropolitan coastal waters found that the effect of depth was a significant factor compounding the classification of benthic habitats particularly in the shallower nearshore waters. Relatively deep bathymetric features such as holes or basins in otherwise shallow waters were often misclassified as seagrass or macroalgae. Sites have been positioned at least 50 metres away from the boundary between habitat types to account for the spatial inaccuracy of the existing digital map. The surveying of the 350 ground-truthing sites had the highest priority, however other desirable sites were opportunistically included.

2.3 FIELD METHODS

To facilitate biological verification of benthic habitat maps, video footage of the major benthic community types (e.g. seagrass meadows, limestone reef etc.) and the visually dominant flora and fauna in coastal waters between Geographe Bay and Flinders Bay, was recorded using a manually

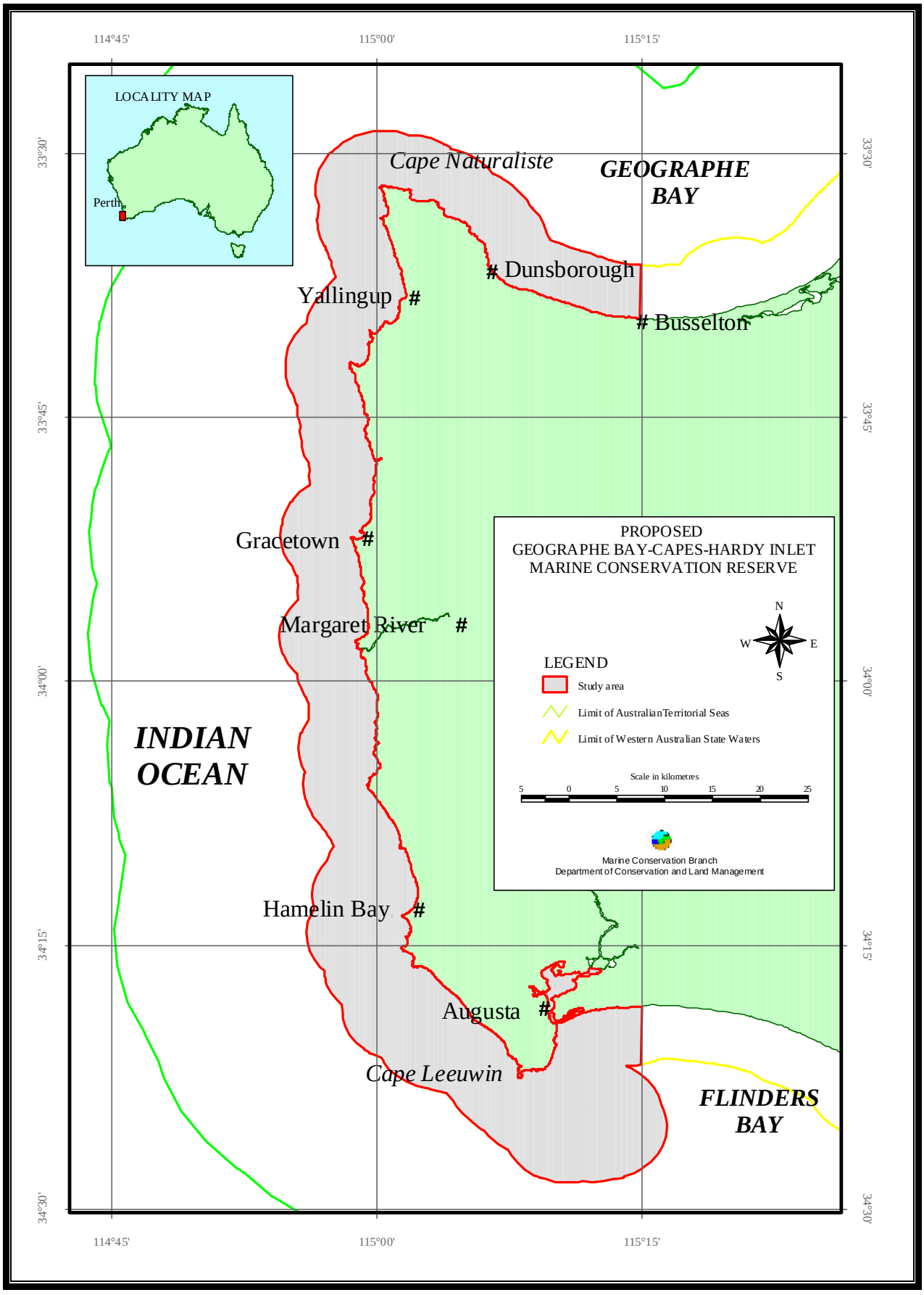

Figure 1. Survey location: Geographe Bay-Capes-Hardy Inlet region.

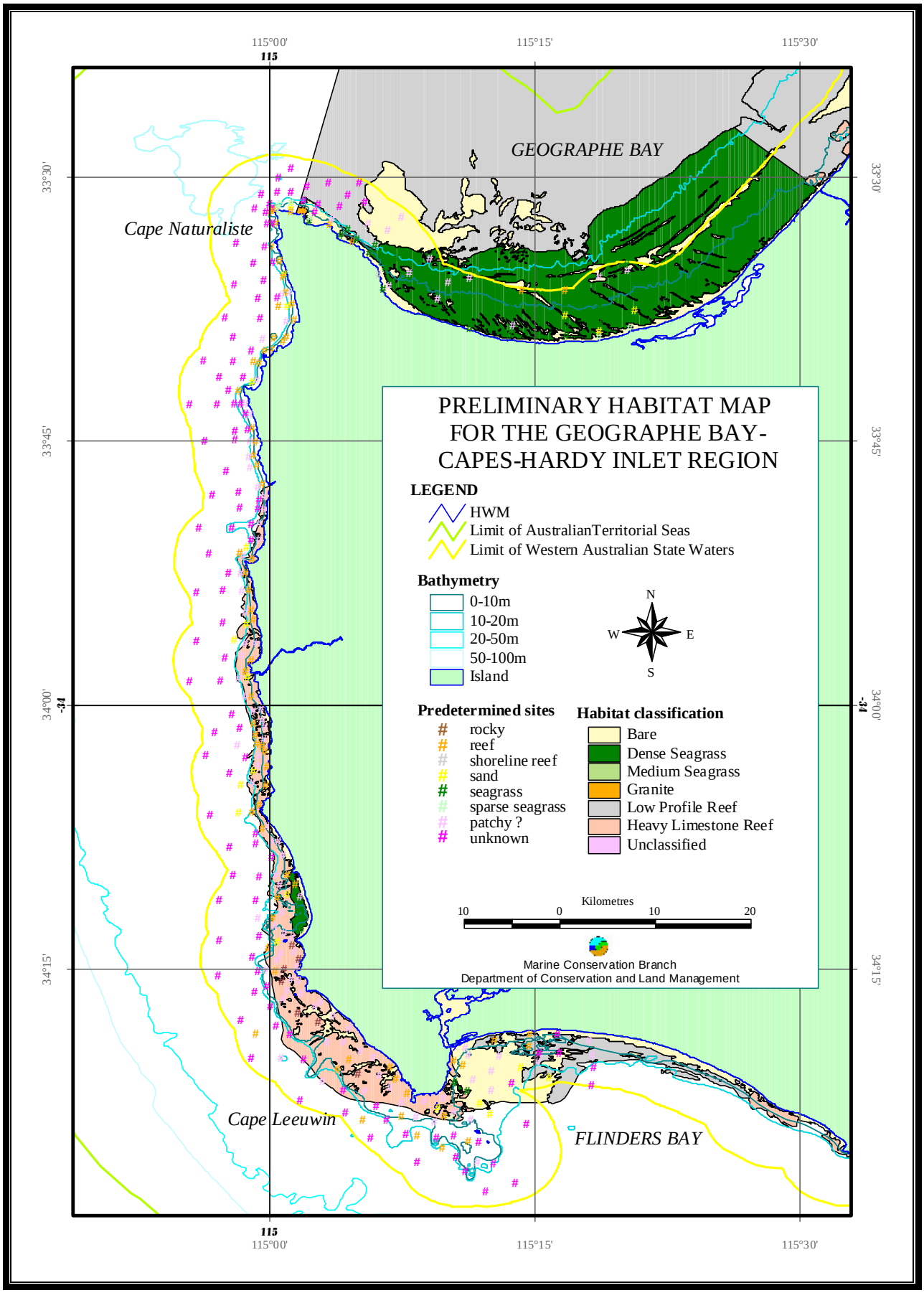

Figure 2. Predetermined sampling sites on the preliminary habitat map (Kirkman, CSIRO)

deployed drop-down underwater camera system. The existing benthic habitat map served as an indication of bottom type expected at any particular site. The video camera was lowered over the side of the field survey vessel and 30 seconds of video footage of the seabed was recorded at each of these sites. DGPS coordinates using WGS84 datum were recorded for the point at the end of 30 seconds of video footage (Appendix I). Site number, date, time, water depth, DGPS coordinates and habitat description was recorded for each section of video footage (Appendix II).

2.4 HABITAT CLASSIFICATION

The habitat shapes were determined using Landsat TM imagery and orthophotographs, in conjunction with the existing habitat map (CSIRO). In areas where water penetration by the remote sensing technologies was not sufficient to determine habitats, a linear interpolation between ground-truthing data points was used.

These habitat shapes were classified as per the draft classification scheme presented in Table 1. However a combination category of "*beach and rocky shore*" was used, and is described as:

(a) rocky shore, cliff, boulders or pavement around high water mark (HWM) with a sandy beach above HWM, or;

(b) sandy beach around HWM with rocky shore, cliff, boulders or pavement above HWM.

3 RESULTS

3.1 HABITAT DATA

The benthic habitats at a total of 357 sites were verified in the field (Figures 3, 4, 5 & 6). Site information, location, habitat classification and biological assemblage data was collected and are attached in Appendices I & II. The use of the verification data in conjunction with satellite imagery, aerial photography and a preliminary digital map of marine benthic habitats based on auto-classified shapes, resulted in the production of a revised broad-scale habitat map for the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve (Figures 7, 8, 9 & 10).

3.2 HABITAT VERIFICATION

There were 18 habitat classifications used to develop the revised broadscale habitat map (Figures 7, 8, 9, & 10):

1. Island;
2. Rocky shore;
3. Beach;
4. Beach and rocky shore;
5. Sand shoal;
6. Shoreline reef platform;

7. Offshore intertidal reef;
8. Macroalgae dominated limestone reef (high relief);
9. Macroalgae dominated limestone reef (low relief);
10. Macroalgae dominated granite reef (high relief);
11. Macroalgae dominated granite reef (low relief);
12. Perennial seagrass (dense);
13. Perennial seagrass (medium);
14. Perennial seagrass (sparse);
15. Ephemeral seagrass (sparse);
16. Sand, and;
17. Silt
18. Pelagic.

These categories are defined in Table 1.

The revised map of the benthic habitats (Figures 7, 8, 9 &10) has filled in the gaps of information, which were obvious in the preliminary habitat map (Figure 2). It has highlighted the coarseness of the existing habitat map of the region.

This data and the associated revised habitat map, will be important in the determination of the relative conservation values of the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve. They will also contribute to the information base for the boundary and zoning planning process for the proposed marine conservation reserve.

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:/Current_Reports/MRI/MRI_3200/mri_3200.doc]

2. The Marine Conservation Branch homepage on the CALM intranet http://calmweb.calm.wa.gov.au/drb/ncd/mcb/rep_mri.htm#2000

3. MCB Server full backup DAT tape [T:/Current_Reports/MRI/MRI_3200/mri_3200.doc] and [T:\MarineWeb\rep_pdf\mri_reps\mri_00\mri_3200.pdf]

4. CD-ROM [MRI_3200]

Table 1. Draft habitat classification scheme

HABITAT CLASSIFICATION	TIDAL RANGE	SUBSTRATE TYPE	TROPICAL	TEMPERATE	RELIEF	MACROBIOLOGY	SUB -CATEGORIES	COMMENTS
1. Island	Supratidal	Sand igneous metamorphic sedimentary	✓	✓	high & low	Can be vegetated or bare		• Permanent land above HWM • May have seasonal vegetation • Seabirds, terrestrial mammals & reptiles • Important for marine mammals as haul out or breeding areas
2. Rocky shore	Intertidal Supratidal	igneous metamorphic sedimentary	✓	✓	high & low	bare		• continuous rocky shore • cliff, boulders, pavement • around HWM • "*uncomfortable to walk on*"
3. Beach	Intertidal Supratidal	sand	✓	✓	low	bare		• continuous intertidal sand • unvegetated • mobile sands • "*comfortable to walk on*"
4. Salt marsh	Intertidal Supratidal	mud silt	✓	✓	n/a	samphire saltmarsh blue-green algal mats can be bare		• continuous salt marsh cover (>1 ha) • on protected or low energy coastline • often landward of mangals and estuaries • includes unvegetated coastal saline flats
5. Mangal	Intertidal	Muds silts	✓	✓	n/a	mangroves		• continuous mangrove cover (>1 ha) • mud/sand/intertidal reef/shoreline reef may be present • intertidal gastropods and other invertebrates may be present
6. Mudflat	Intertidal	mud silts	✓	✓	low	bare blue-green algal mats		• continuous mudflat, intertidal or very shallow, <1m lowest astronomical tide (LAT) • includes mudflats behind mangals • intertidal gastropods and other invertebrates may be present

HABITAT CLASSIFICATION	TIDAL RANGE	SUBSTRATE TYPE	TROPICAL	TEMPERATE	RELIEF	MACROBIOLOGY	SUB-CATEGORIES	COMMENTS
7. Sand shoal	Intertidal	sand	✓	✓	low	bare little macroalgae		• Often in offshore macrotidal areas • medium to coarse sand • highly mobile sand • Intertidal or very shallow, <1m lowest astronomical tide (LAT)
8. Shoreline reef platform	Intertidal	igneous metamorphic sedimentary	✓	✓	low	bare, algal turf		• continuous reef platform along the shoreline • may be bare or have macroalgal turf or sand patches • intertidal gastropods and other invertebrates may be present
9. Offshore intertidal reef	Intertidal	igneous metamorphic sedimentary	✓	✓	low	coralline algae, macroalgal turf, macroalgae		• Offshore reef • Intertidal or very shallow, <1m lowest astronomical tide (LAT) • intertidal gastropods and other invertebrates may be present
10. Coral reef communities	Intertidal & subtidal	n/a	✓		high & low	hard & soft corals other sessile invertebrates	• **Coral reef communities (subtidal)** - subtidal, often high live coral cover , coral colonies with sand patches in lagoons ➢ *Seaward reef slope* ➢ *Deep lagoon* • **Coral reef communities (intertidal or shallow)** - intertidal or shallow, <1m lowest astronomical tide (LAT), often live coral cover is low, ➢ *Reef crest* ➢ *Back reef* ➢ *Reef flat* ➢ *Shallow lagoon*	• typical coral reef community-hard coral, soft coral, sponges, bryozoans, ascidians, etc. • seaward reef slope, reef crest, back reef, reef flat and individual bommies • some sand, pavement, macroalgae or seagrass interspersed
11. Rubble	Subtidal	dead coral	✓		low	sparse live coral sparse vegetation		• lagoonal areas • mainly unconsolidated coral rubble

HABITAT CLASSIFICATION	TIDAL RANGE	SUBSTRATE TYPE	TROPICAL	TEMPERATE	RELIEF	MACROBIOLOGY	SUB-CATEGORIES	COMMENTS
12. Subtidal reef platform	Subtidal	igneous metamorphic sedimentary	✓	✓	low	diverse algae sessile invertebrates (including sponges, sea-whips, sea-pens)	• **Subtidal reef platform (high relief)** - >1 m high • **Subtidal reef platform (low relief)** - <1 m high	• includes limestone pavement or low relief reef • may be covered with macroalgae or seagrass, patchy mobile sands • may incorporate sand patches, rubble and scattered isolated corals
13. Macroalgae dominated limestone reef	Subtidal	sedimentary	✓	✓	high & low	large fleshy macroalgae invertebrates	• **Macroalgae dominated limestone reef (high relief)** - >1 m high • **Macroalgae dominated limestone reef (low relief)** - <1 m high	• typically covered in macroalgae with diverse invertebrate life in overhangs & caves • may incorporate sand patches, rubble and scattered isolated corals
14. Macroalgae dominated granite reef	Subtidal	igneous metamorphic	✓	✓	high & low	Large fleshy macroalgae invertebrates	• **Macroalgae dominated granite reef (high relief)** - >1 m high • **Macroalgae dominated granite reef (low relief)** - <1 m high	• typically covered in macroalgae with diverse invertebrate life in overhangs & caves
15. Seagrass meadows	Subtidal	sand pavement	✓	✓	low	seagrasses	• **Perennial seagrass** - ➢ Perennial seagrass (dense) substrate cover < seagrass cover ➢ Perennial seagrass (medium) substrate cover = seagrass cover ➢ Perennial seagrass (sparse) substrate cover > seagrass cover • **Ephemeral seagrass** - ➢ Ephemeral seagrass (dense) substrate cover < seagrass cover ➢ Ephemeral seagrass (medium) substrate cover = seagrass cover ➢ Ephemeral seagrass (sparse) substrate cover > seagrass cover	• continuous seagrass coverage (>1 ha) • ephemeral seagrass species *Halophila* *Halodule* • perennial seagrass species *Amphibolis,* *Cymodocea,* *Enhalus,* *Heterozostera,* *Posidonia,* *Syringodium,* *Thalassia* *Thalassodendron,* *Zostera*

HABITAT CLASSIFICATION	TIDAL RANGE	SUBSTRATE TYPE	TROPICAL	TEMPERATE	RELIEF	MACROBIOLOGY	SUB -CATEGORIES	COMMENTS
16. Sand	Subtidal	Sand (generally white)	✓	✓	low	Bare may have seagrass or macroalgal patches		• little or no vegetation • may have patches of other habitat • may overlay reef platform • may have patches of seagrass or macroalgae • may have seasonal vegetation
17. Silt	Subtidal	muds silts	✓	✓	low	bare		• marine and/or terrigenous muds & silts • little or no vegetation • may have seasonal vegetation
18. Pelagic	In waters >50m	various	✓	✓	N/a	Mainly pelagic fish and invertebrates		• This category is specific to those areas that are greater than 50 metres in depth. • May have various substrates however the water column is dominant

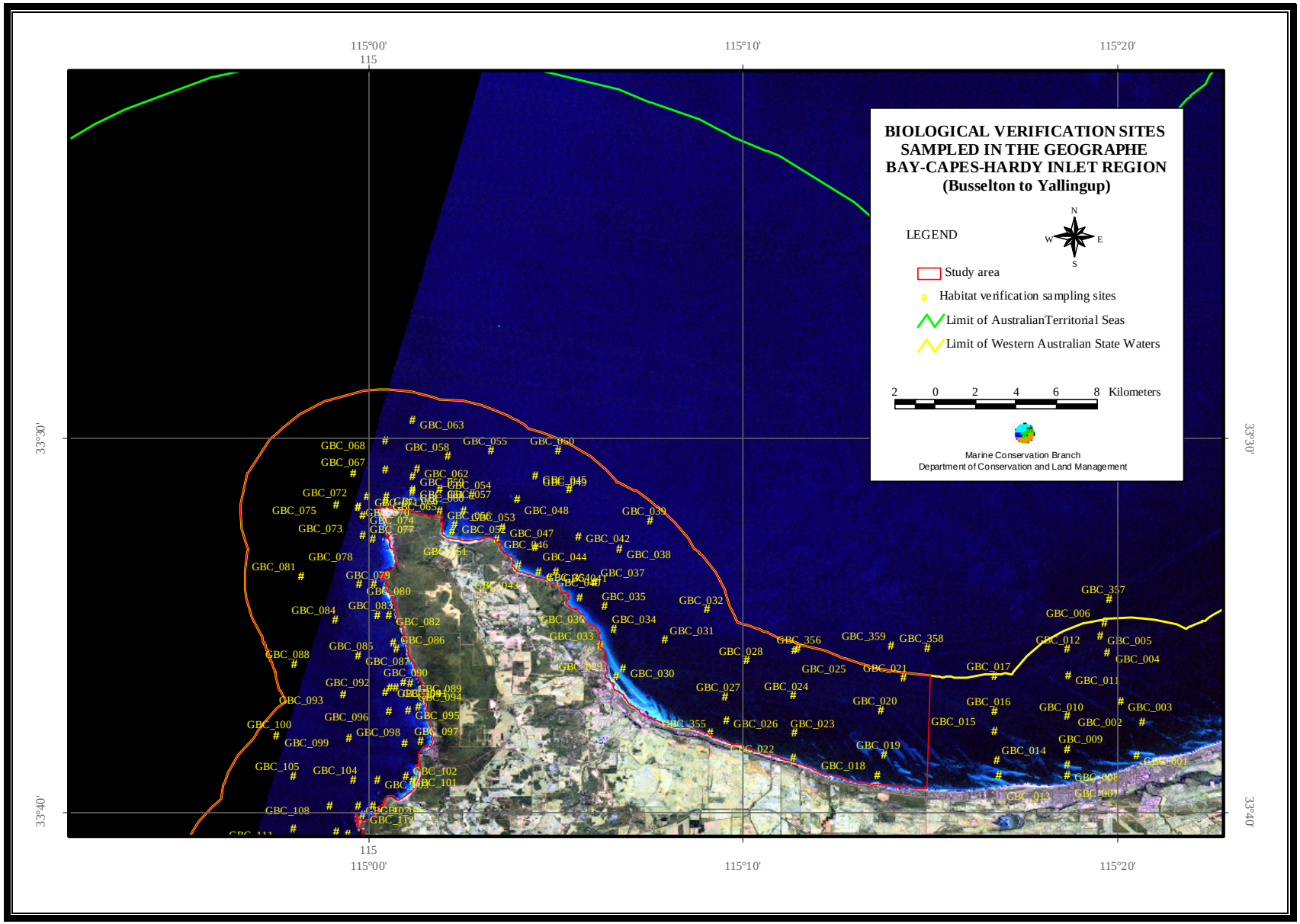

Figure 3. Habitat verification sample sites (Busselton to Yallingup)

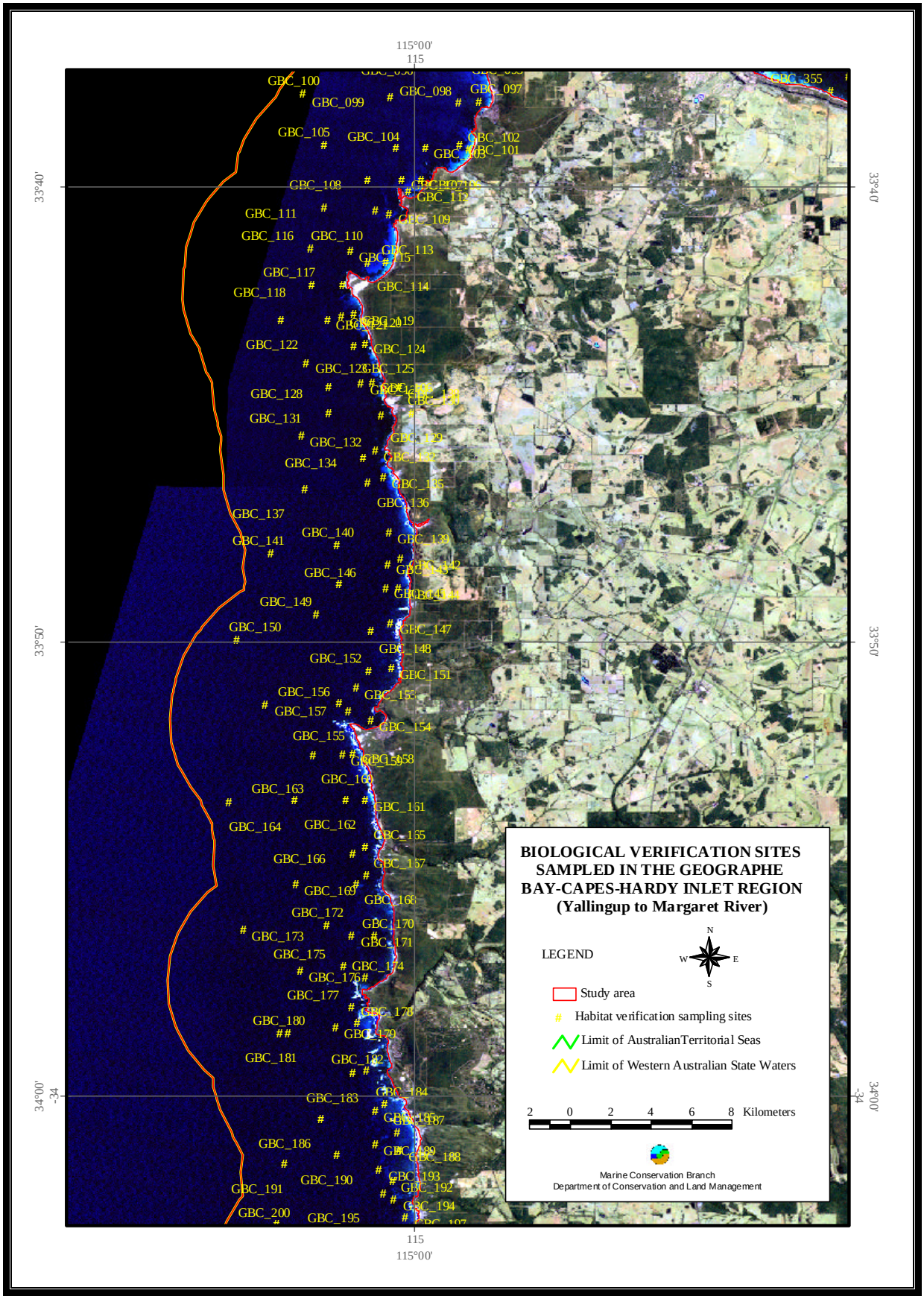

Figure 4. Habitat verification sample sites (Yallingup to Margaret River)

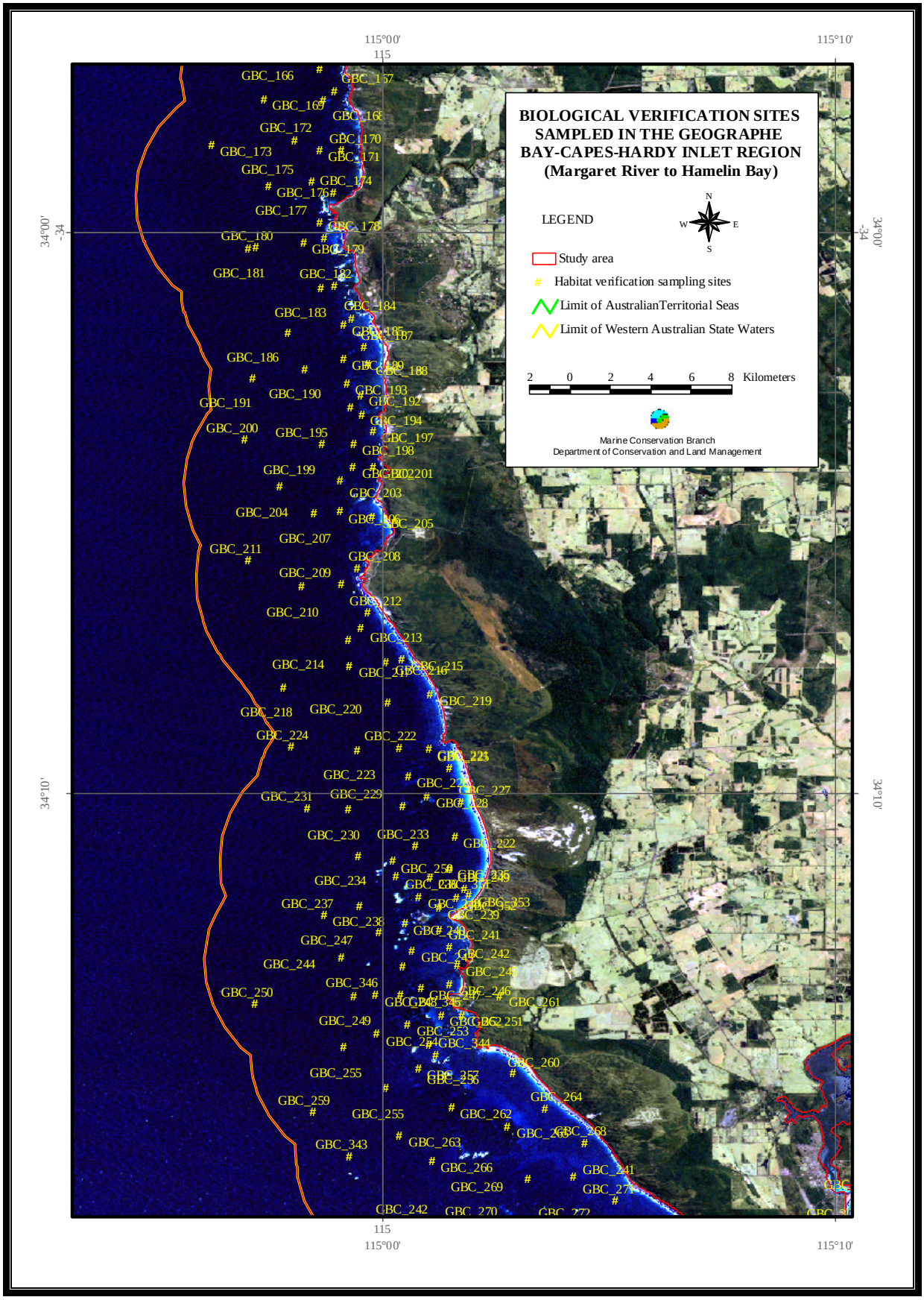

Figure 5. Habitat verification sample sites (Margaret River to Hamelin Bay)

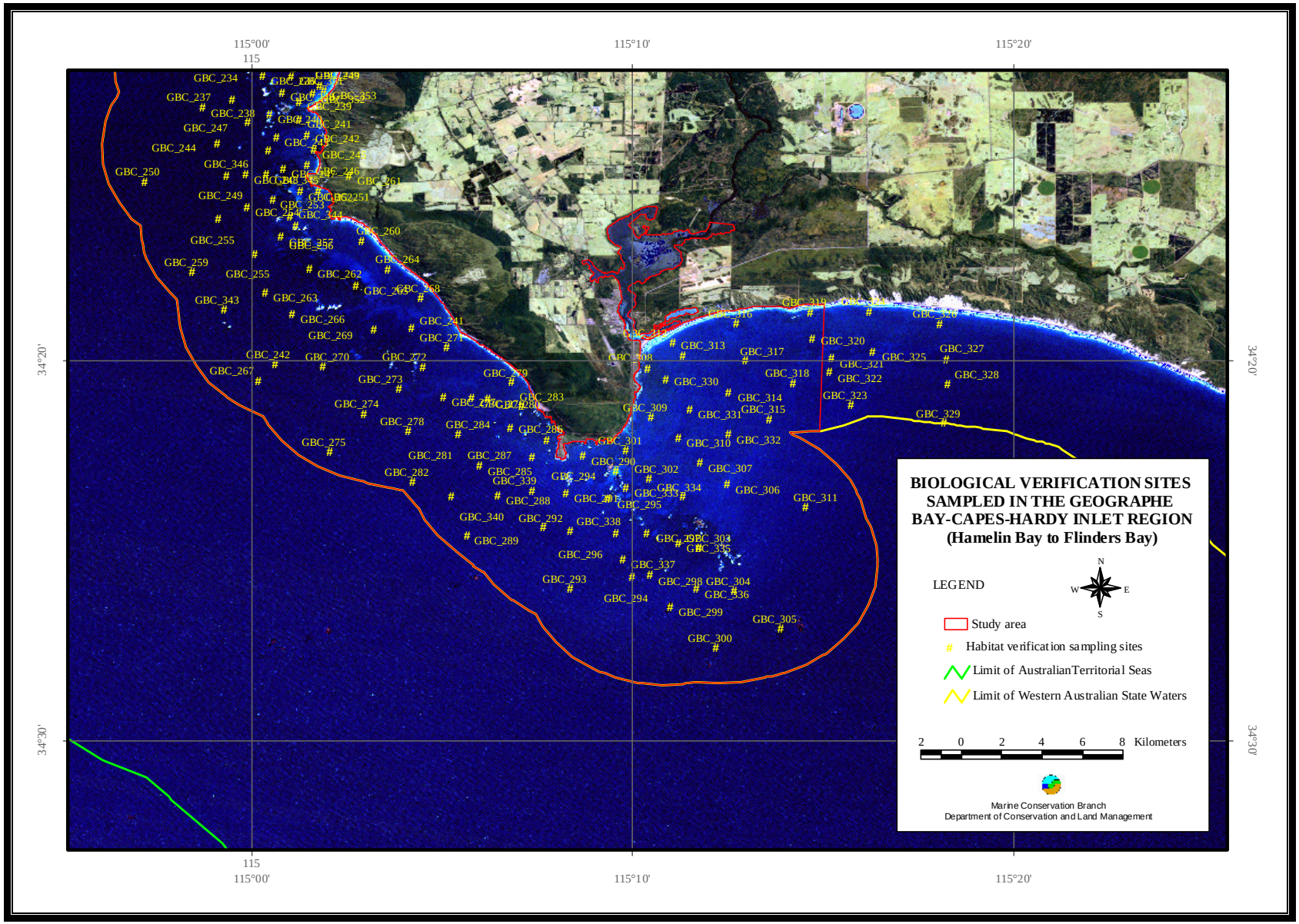

Figure 6. Habitat verification sample sites (Hamelin Bay to Flinders Bay)

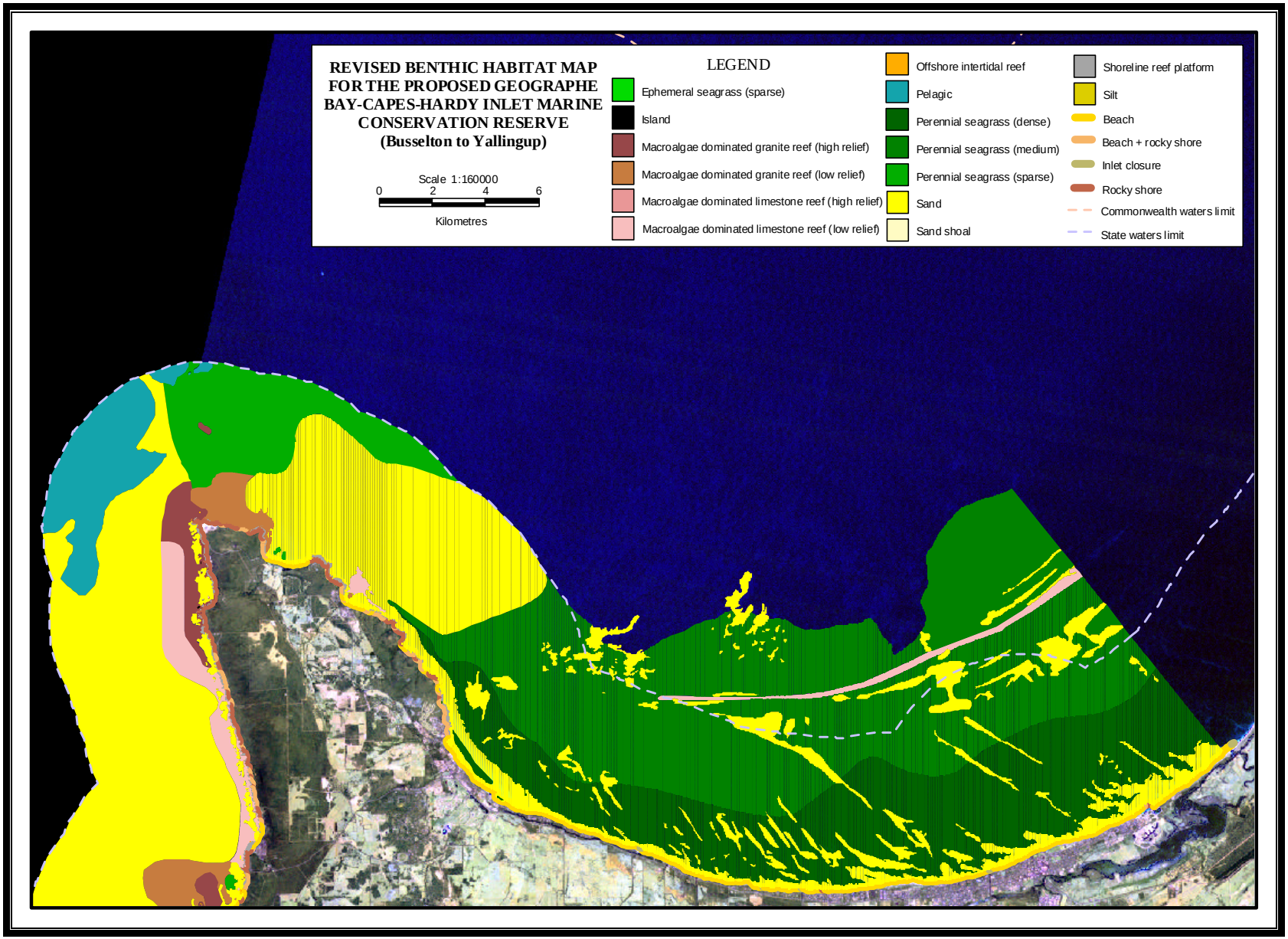

Figure 7. Revised habitat map (Busselton to Yallingup)

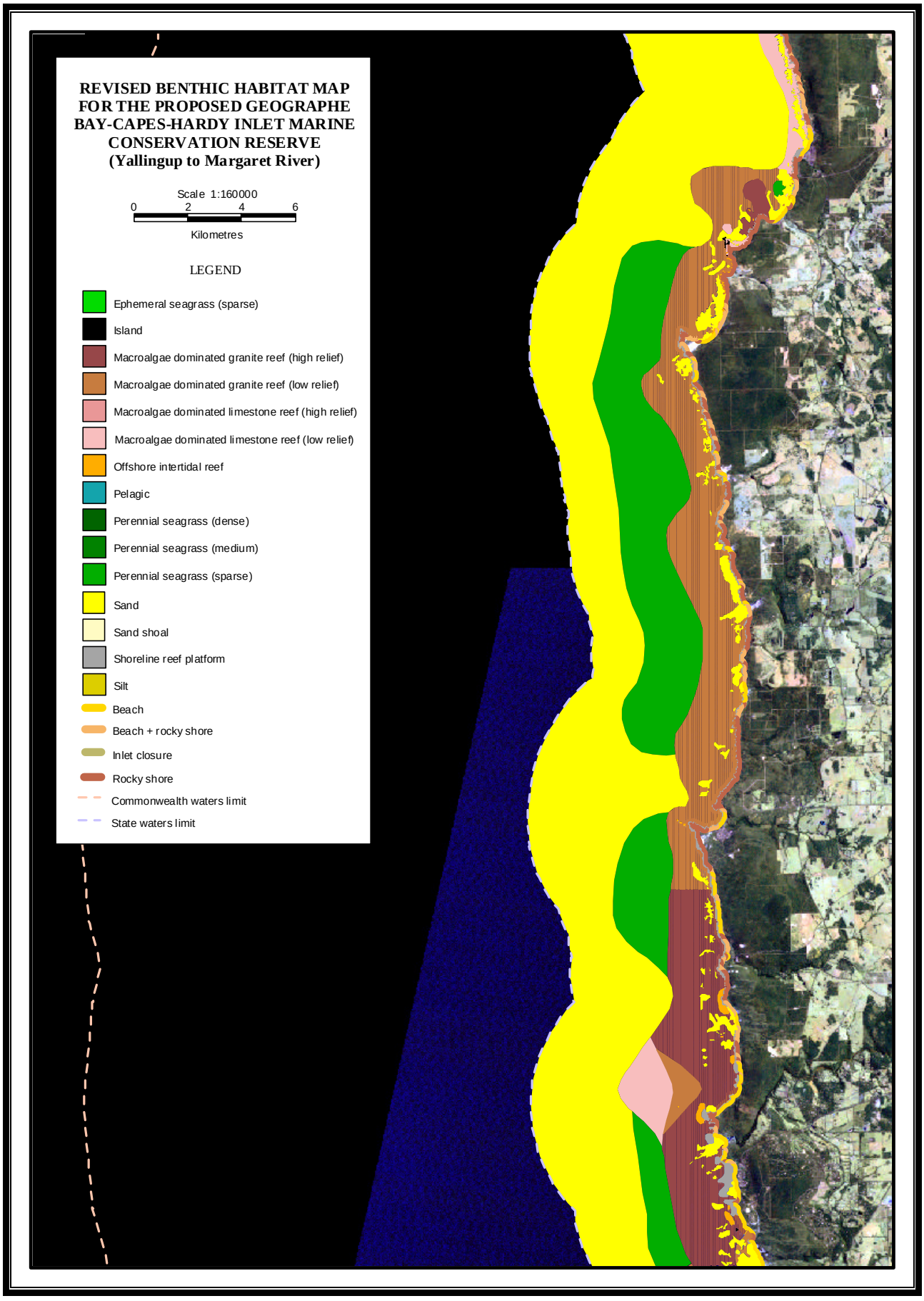

Figure 8. Revised habitat map (Yallingup to Margaret River)

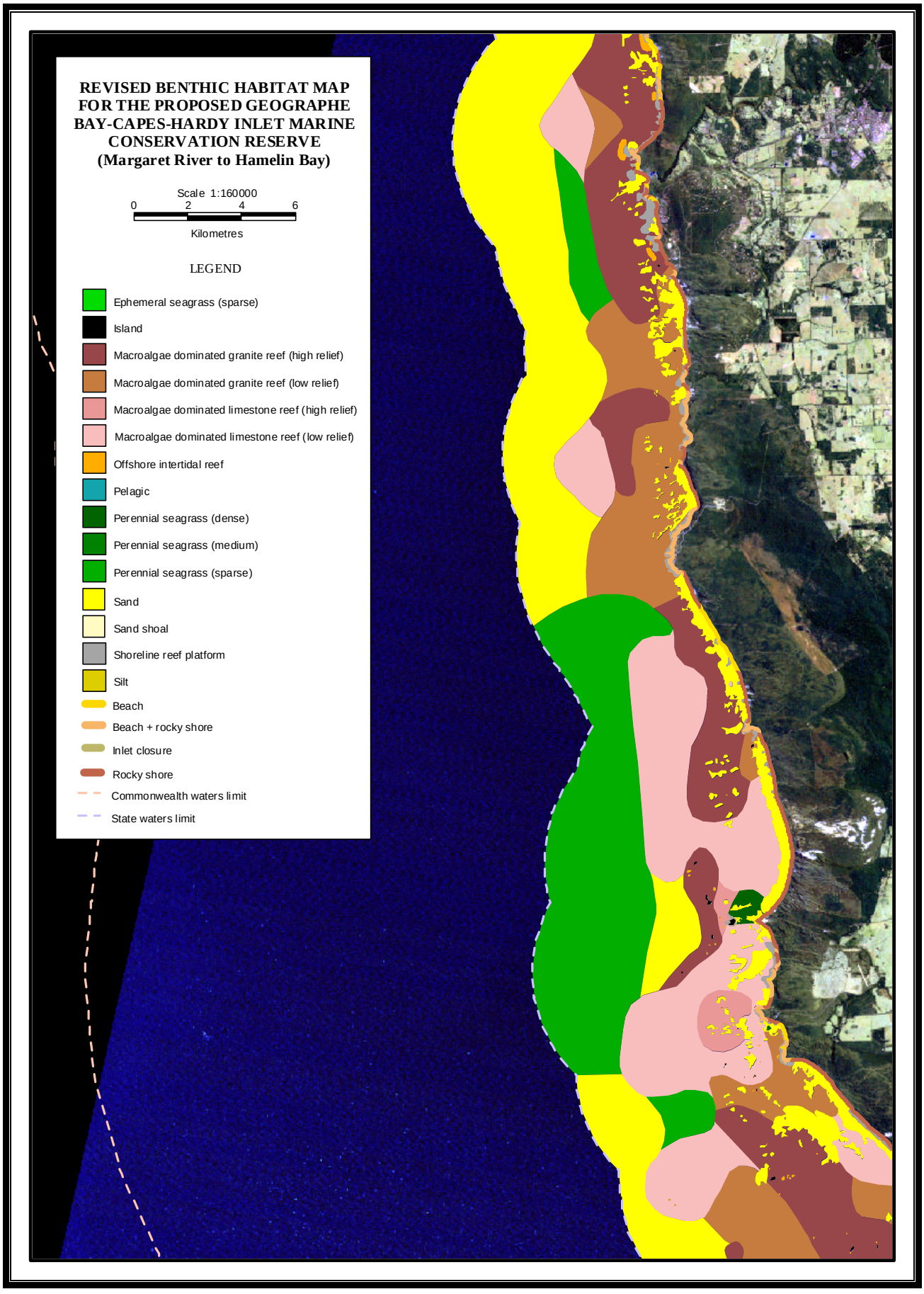

Figure 9. Revised habitat map (Margaret River to Hamelin Bay)

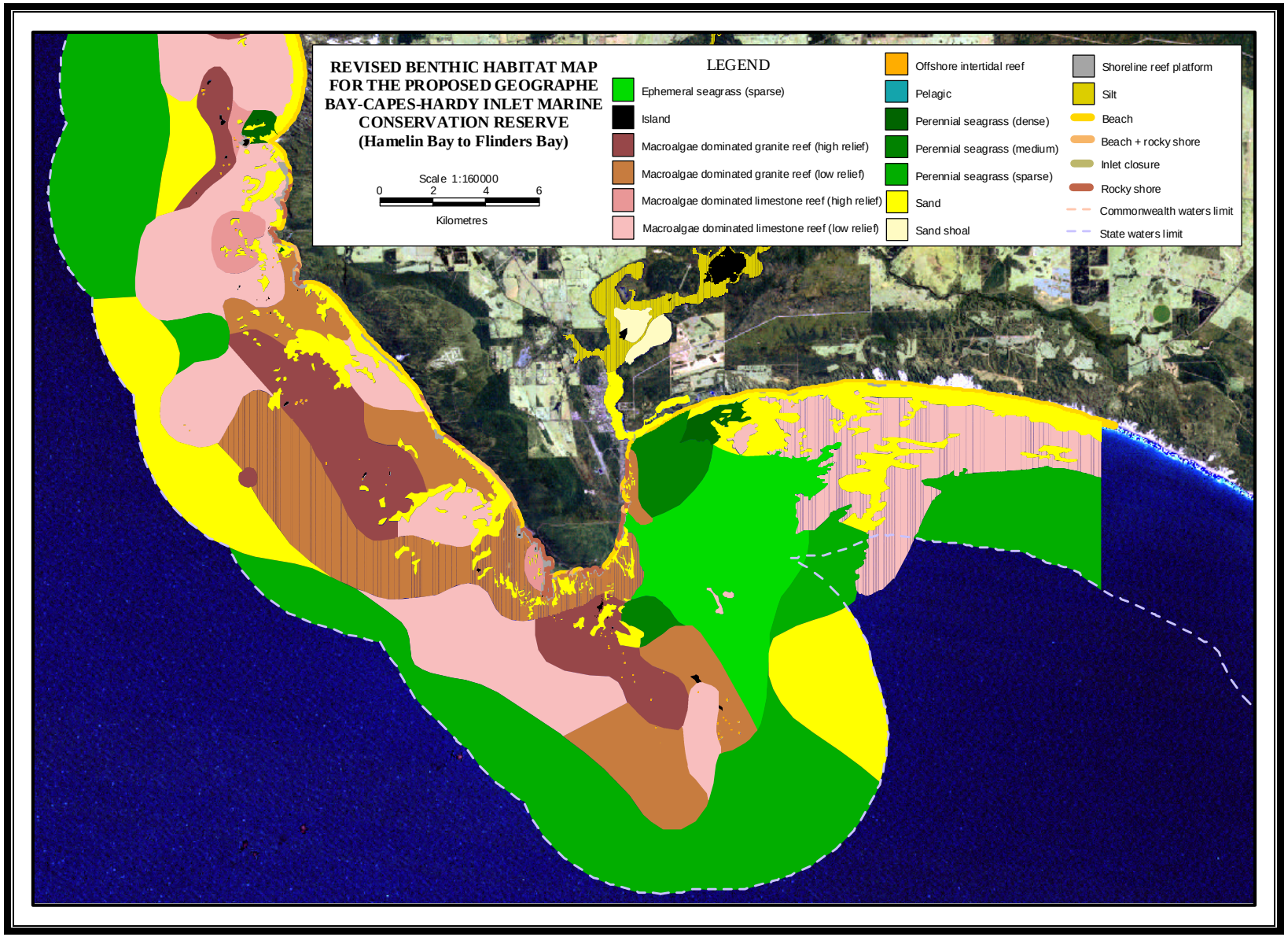

Figure 10. Revised habitat map (Hamelin Bay to Flinders Bay)

4.2 GIS DATA

Data presented in the form of GIS layers will be stored digitally at three locations:

1. The Marine Conservation Branch Server: GIS Data@FREM.SHARED@CALM on StreetTalk [L:/Marine_information/Data/Production/Marine_biology/Benthic_habitats/CALM/]

2. MCB Server full backup DAT tape: [L:/Marine_information/Data/Production/Marine_biology/Benthic_habitats/CALM/]

3. On GIS Information Coordinator's backup DAT tape: [L:/Marine_information/Data/Production/Marine_biology/Benthic_habitats/CALM/]

4.3 VIDEO RECORDS

Six VHS video cassette tapes were used to record habitat data. Tape numbers are:

1. MRI/CF/GBC/DD#1-12/1998
2. MRI/CF/GBC/DD#2-12/1998
3. MRI/CF/GBC/DD#3-12/1998
4. MRI/CF/GBC/DD#4-12/1998
5. MRI/CF/GBC/DD#5-12/1998
6. MRI/CF/GBC/DD#6-12/1998

Video footage will be held at two locations:

1. VHS masters to be archived at the CALM Information Management Branch, Como.

2. VHS & Mini-Digital Video copies to be stored at CALM Marine Conservation Branch Fremantle.

4.4 STILL PHOTOGRAPHY

All slide photographs are held at CALM's Marine Conservation Branch (MCB), Fremantle.

Digital images of selected slides are available on the MCB marine image library database.

5 REFERENCES

Bancroft (1999). Biological survey of the major benthic habitats in the Geographe Bay-Capes-Hardy Inlet region (Geographe bay to Flinders Bay): 28 January to 8 February 1999. Field Programme Report: MRI/CF/GBC-18/1999. January 1999. Marine Conservation Branch, Department of Conservation and Land Management, Fremantle, Western Australia. (Unpublished report)

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6 APPENDICES

APPENDIX I: LATITUDES AND LONGITUDES OF SITES SAMPLED

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_001	Busselton	-33.64161	115.34205	DGPS	WGS84
GBC_002	Busselton	-33.62643	115.34466	DGPS	WGS84
GBC_003	Busselton	-33.61736	115.3349	DGPS	WGS84
GBC_004	Busselton	-33.59573	115.32913	DGPS	WGS84
GBC_005	Busselton	-33.58776	115.32596	DGPS	WGS84
GBC_006	Busselton	-33.58231	115.3278	DGPS	WGS84
GBC_007	Busselton	-33.65031	115.31111	DGPS	WGS84
GBC_008	Busselton	-33.6458	115.3111	DGPS	WGS84
GBC_009	Busselton	-33.63838	115.31145	DGPS	WGS84
GBC_010	Busselton	-33.6241	115.31121	DGPS	WGS84
GBC_011	Busselton	-33.60571	115.31185	DGPS	WGS84
GBC_012	Busselton	-33.59418	115.31108	DGPS	WGS84
GBC_013	Busselton	-33.65041	115.28083	DGPS	WGS84
GBC_014	Busselton	-33.64345	115.27961	DGPS	WGS84
GBC_015	Busselton	-33.6305	115.27868	DGPS	WGS84
GBC_016	Busselton	-33.62166	115.27908	DGPS	WGS84
GBC_017	Busselton	-33.606	115.27878	DGPS	WGS84
GBC_018	Marybrook	-33.65036	115.22681	DGPS	WGS84
GBC_019	Marybrook	-33.6411	115.2299	DGPS	WGS84
GBC_020	Marybrook	-33.62128	115.2282	DGPS	WGS84
GBC_021	Marybrook	-33.60655	115.23855	DGPS	WGS84
GBC_022	Marybrook	-33.64283	115.18943	DGPS	WGS84
GBC_023	Marybrook	-33.63138	115.18985	DGPS	WGS84
GBC_024	Marybrook	-33.61468	115.18901	DGPS	WGS84
GBC_025	Marybrook	-33.59433	115.18963	DGPS	WGS84
GBC_026	Dunn Bay	-33.6259	115.15908	DGPS	WGS84
GBC_027	Dunn Bay	-33.61516	115.15863	DGPS	WGS84
GBC_028	Dunn Bay	-33.59898	115.16865	DGPS	WGS84
GBC_029	Dunn Bay	-33.60606	115.1103	DGPS	WGS84
GBC_030	Dunn Bay	-33.60261	115.11305	DGPS	WGS84
GBC_031	Dunn Bay	-33.59001	115.13213	DGPS	WGS84
GBC_032	Dunn Bay	-33.57645	115.15081	DGPS	WGS84
GBC_033	Castle Rock	-33.5923	115.10288	DGPS	WGS84
GBC_034	Castle Rock	-33.5851	115.10926	DGPS	WGS84
GBC_035	Castle Rock	-33.57495	115.10533	DGPS	WGS84
GBC_036	Gannet Rock	-33.57138	115.0941	DGPS	WGS84
GBC_037	Gannet Rock	-33.5641	115.10066	DGPS	WGS84
GBC_038	Gannet Rock	-33.54953	115.11191	DGPS	WGS84
GBC_039	Gannet Rock	-33.53676	115.12543	DGPS	WGS84
GBC_040	Eagle Bay	-33.56205	115.08041	DGPS	WGS84
GBC_041	Eagle Bay	-33.55981	115.08311	DGPS	WGS84
GBC_042	Eagle Bay	-33.54381	115.09355	DGPS	WGS84
GBC_043	Eagle Bay	-33.55631	115.06666	DGPS	WGS84
GBC_044	Eagle Bay	-33.54855	115.07426	DGPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_045	Eagle Bay	-33.52271	115.08951	DGPS	WGS84
GBC_046	Rocky Point	-33.54501	115.05676	DGPS	WGS84
GBC_047	Rocky Point	-33.53985	115.05956	DGPS	WGS84
GBC_048	Rocky Point	-33.52713	115.066	DGPS	WGS84
GBC_049	Rocky Point	-33.51675	115.07425	DGPS	WGS84
GBC_050	Rocky Point	-33.50541	115.08455	DGPS	WGS84
GBC_051	Bunker Bay	-33.54121	115.03706	GPS	WGS84
GBC_052	Bunker Bay	-33.53833	115.03835	GPS	WGS84
GBC_053	Bunker Bay	-33.53243	115.04216	GPS	WGS84
GBC_054	Bunker Bay	-33.5252	115.04601	GPS	WGS84
GBC_055	Bunker Bay	-33.50541	115.05448	GPS	WGS84
GBC_056	Cape Naturaliste	-33.53235	115.03175	GPS	WGS84
GBC_057	Cape Naturaliste	-33.52243	115.03165	GPS	WGS84
GBC_058	Cape Naturaliste	-33.50788	115.03543	GPS	WGS84
GBC_059	Cape Naturaliste	-33.51698	115.01976	GPS	WGS84
GBC_060	Cape Naturaliste	-33.5238	115.01966	GPS	WGS84
GBC_061	Cape Naturaliste	-33.52265	115.01971	GPS	WGS84
GBC_062	Cape Naturaliste	-33.51323	115.02131	GPS	WGS84
GBC_063	Cape Naturaliste	-33.4918	115.01966	GPS	WGS84
GBC_065	Cape Naturaliste	-33.52823	115.0073	GPS	WGS84
GBC_066	Cape Naturaliste	-33.5254	115.00803	GPS	WGS84
GBC_067	Cape Naturaliste	-33.5138	115.00746	GPS	WGS84
GBC_068	Cape Naturaliste	-33.5005	115.00756	GPS	WGS84
GBC_070	Cape Naturaliste	-33.5308	114.99538	GPS	WGS84
GBC_071	Cape Naturaliste	-33.52583	114.9995	GPS	WGS84
GBC_072	Cape Naturaliste	-33.51528	114.99341	GPS	WGS84
GBC_073	Cape Naturaliste	-33.5308	114.99538	GPS	WGS84
GBC_074	Cape Naturaliste	-33.5342	114.99746	GPS	WGS84
GBC_075	Cape Naturaliste	-33.5297	114.98556	GPS	WGS84
GBC_077	Cape Naturaliste	-33.5447	115.00198	GPS	WGS84
GBC_078	Cape Naturaliste	-33.5435	114.99738	GPS	WGS84
GBC_079	Sugarloaf Rock	-33.5653	115.00245	GPS	WGS84
GBC_080	Sugarloaf Rock	-33.5653	114.99586	GPS	WGS84
GBC_081	Sugarloaf Rock	-33.56155	114.96966	GPS	WGS84
GBC_082	Three Bears	-33.57891	115.00891	GPS	WGS84
GBC_083	Three Bears	-33.57891	115.00376	GPS	WGS84
GBC_084	Three Bears	-33.58086	114.98491	GPS	WGS84
GBC_085	Yallingup	-33.59106	115.01083	GPS	WGS84
GBC_086	Yallingup	-33.59406	115.01255	GPS	WGS84
GBC_087	Yallingup	-33.59716	114.99503	GPS	WGS84
GBC_088	Yallingup	-33.60083	114.96665	GPS	WGS84
GBC_089	Yallingup	-33.6091	115.01835	GPS	WGS84
GBC_090	Yallingup	-33.60883	115.0154	GPS	WGS84
GBC_091	Yallingup	-33.611	115.01181	GPS	WGS84
GBC_092	Yallingup	-33.61325	115.00741	GPS	WGS84
GBC_093	Yallingup	-33.6141	114.98873	GPS	WGS84
GBC_094	Yallingup	-33.61986	115.02186	GPS	WGS84
GBC_095	Yallingup	-33.62133	115.01733	GPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_096	Yallingup	-33.62165	115.009	GPS	WGS84
GBC_097	Yallingup	-33.63515	115.0233	GPS	WGS84
GBC_098	Yallingup	-33.6358	115.01583	GPS	WGS84
GBC_099	Yallingup	-33.63348	114.99108	GPS	WGS84
GBC_100	Yallingup	-33.63225	114.95866	GPS	WGS84
GBC_101	Yallingup	-33.6509	115.0164	GPS	WGS84
GBC_102	Yallingup	-33.65281	115.0196	GPS	WGS84
GBC_103	Yallingup	-33.65231	115.0038	GPS	WGS84
GBC_104	Yallingup	-33.65248	114.99316	GPS	WGS84
GBC_105	Yallingup	-33.65085	114.96656	GPS	WGS84
GBC_106	Yallingup	-33.66383	115.00206	GPS	WGS84
GBC_107	Yallingup	-33.6638	114.9952	GPS	WGS84
GBC_108	Yallingup	-33.66383	114.98246	GPS	WGS84
GBC_109	Winjee Sam Rock	-33.67648	114.9907	DGPS	WGS84
GBC_110	Winjee Sam Rock	-33.67545	114.98551	DGPS	WGS84
GBC_111	Winjee Sam Rock	-33.67421	114.96655	DGPS	WGS84
GBC_112	Winjee Sam Rock	-33.66801	114.99741	GPS	WGS84
GBC_113	Cape Clairault	-33.69413	114.98915	DGPS	WGS84
GBC_114	Cape Clairault	-33.69456	114.98276	DGPS	WGS84
GBC_115	Cape Clairault	-33.69003	114.97616	DGPS	WGS84
GBC_116	Cape Clairault	-33.68893	114.96165	GPS	WGS84
GBC_117	Cape Clairault	-33.70233	114.97321	DGPS	WGS84
GBC_118	Cape Clairault	-33.70243	114.96216	DGPS	WGS84
GBC_119	Cape Clairault	-33.71341	114.9774	DGPS	WGS84
GBC_120	Cape Clairault	-33.7143	114.97298	DGPS	WGS84
GBC_121	Cape Clairault	-33.71523	114.96783	DGPS	WGS84
GBC_122	Cape Clairault	-33.71553	114.951	DGPS	WGS84
GBC_123	Cape Clairault	-33.73106	114.9602	GPS	WGS84
GBC_124	Cape Clairault	-33.72405	114.9817	DGPS	WGS84
GBC_125	Cape Clairault	-33.72496	114.97733	DGPS	WGS84
GBC_126	Cape Clairault	-33.73813	114.98431	DGPS	WGS84
GBC_127	Cape Clairault	-33.73876	114.98028	DGPS	WGS84
GBC_128	Cape Clairault	-33.74011	114.96856	DGPS	WGS84
GBC_129	Wilyabrup	-33.75026	114.98775	DGPS	WGS84
GBC_130	Wilyabrup	-33.74956	114.98222	DGPS	WGS84
GBC_131	Wilyabrup	-33.7494	114.9682	DGPS	WGS84
GBC_132	Wilyabrup	-33.75803	114.95831	GPS	WGS84
GBC_132	Wilyabrup	-33.7632	114.98538	DGPS	WGS84
GBC_134	Wilyabrup	-33.76568	114.98105	DGPS	WGS84
GBC_135	Wilyabrup	-33.7731	114.98836	DGPS	WGS84
GBC_136	Wilyabrup	-33.77526	114.98268	DGPS	WGS84
GBC_137	Wilyabrup	-33.77773	114.9597	GPS	WGS84
GBC_138	Wilyabrup	-33.77337	114. 944083	GPS	WGS84
GBC_139	Wilyabrup	-33.79353	114.99051	DGPS	WGS84
GBC_140	Wilyabrup	-33.79795	114.97125	DGPS	WGS84
GBC_141	Wilyabrup	-33.8009	114.94713	GPS	WGS84
GBC_142	Wilyabrup	-33.80303	114.9947	DGPS	WGS84
GBC_143	Wilyabrup	-33.80496	114.99	DGPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_144	Wilyabrup	-33.81386	114.99398	DGPS	WGS84
GBC_145	Wilyabrup	-33.81371	114.9891	DGPS	WGS84
GBC_146	Wilyabrup	-33.81235	114.972	DGPS	WGS84
GBC_147	Cowaramup	-33.8267	114.991	DGPS	WGS84
GBC_148	Cowaramup	-33.82921	114.98385	DGPS	WGS84
GBC_149	Cowaramup	-33.82328	114.96383	DGPS	WGS84
GBC_150	Cowaramup	-33.83263	114.93455	GPS	WGS84
GBC_151	Cowaramup	-33.84303	114.99118	DGPS	WGS84
GBC_152	Cowaramup	-33.8442	114.9829	DGPS	WGS84
GBC_153	Cowaramup	-33.85003	114.9784	DGPS	WGS84
GBC_154	Cowaramup	-33.86235	114.98385	DGPS	WGS84
GBC_155	Cowaramup	-33.85896	114.97558	DGPS	WGS84
GBC_156	Cowaramup	-33.85608	114.97203	DGPS	WGS84
GBC_157	Cowaramup	-33.85661	114.94516	GPS	WGS84
GBC_158	Cowaramup	-33.87423	114.97728	DGPS	WGS84
GBC_159	Cowaramup	-33.87493	114.9734	DGPS	WGS84
GBC_160	Cowaramup	-33.87547	114.96241	DGPS	WGS84
GBC_161	Cowaramup	-33.89156	114.9816	DGPS	WGS84
GBC_162	Cowaramup	-33.8916	114.97485	DGPS	WGS84
GBC_163	Cowaramup	-33.89155	114.95595	DGPS	WGS84
GBC_164	Cowaramup	-33.89255	114.93171	GPS	WGS84
GBC_165	Cape Mentelle	-33.90868	114.98175	DGPS	WGS84
GBC_166	Cape Mentelle	-33.911	114.97701	DGPS	WGS84
GBC_167	Cape Mentelle	-33.91928	114.98225	DGPS	WGS84
GBC_168	Cape Mentelle	-33.92261	114.9783	DGPS	WGS84
GBC_169	Cape Mentelle	-33.92231	114.95628	DGPS	WGS84
GBC_170	Cape Mentelle	-33.94131	114.98488	DGPS	WGS84
GBC_171	Cape Mentelle	-33.94121	114.9769	DGPS	WGS84
GBC_172	Cape Mentelle	-33.9373	114.9677	DGPS	WGS84
GBC_173	Cape Mentelle	-33.93928	114.9371	DGPS	WGS84
GBC_174	Cape Mentelle	-33.95665	114.98191	DGPS	WGS84
GBC_175	Cape Mentelle	-33.95245	114.9739	DGPS	WGS84
GBC_176	Cape Mentelle	-33.95418	114.9579	DGPS	WGS84
GBC_177	Cape Mentelle	-33.96766	114.97693	DGPS	WGS84
GBC_178	Margaret River	-33.97351	114.97863	GPS	WGS84
GBC_179	Margaret River	-33.97496	114.97083	DGPS	WGS84
GBC_180	Margaret River	-33.977	114.95353	DGPS	WGS84
GBC_181	Margaret River	-33.97701	114.95035	DGPS	WGS84
GBC_182	Margaret River	-33.991	114.9823	DGPS	WGS84
GBC_183	Margaret River	-33.99168	114.9771	DGPS	WGS84
GBC_184	Marmaduke Point	-34.00296	114.9888	DGPS	WGS84
GBC_185	Marmaduke Point	-34.00538	114.98551	DGPS	WGS84
GBC_186	Marmaduke Point	-34.00825	114.96533	DGPS	WGS84
GBC_187	Isaacs Rock	-34.01355	114.99326	DGPS	WGS84
GBC_188	Isaacs Rock	-34.0201	114.99436	DGPS	WGS84
GBC_189	Isaacs Rock	-34.01786	114.98556	DGPS	WGS84
GBC_190	Isaacs Rock	-34.02165	114.97135	DGPS	WGS84
GBC_191	Isaacs Rock	-34.025	114.95226	DGPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_192	Isaacs Rock	-34.03135	114.99175	DGPS	WGS84
GBC_193	Isaacs Rock	-34.02708	114.98686	DGPS	WGS84
GBC_194	Isaacs Rock	-34.0382	114.99231	DGPS	WGS84
GBC_195	Isaacs Rock	-34.03586	114.9884	DGPS	WGS84
GBC_197	Round Rock	-34.04466	114.99646	DGPS	WGS84
GBC_198	Round Rock	-34.04916	114.98946	DGPS	WGS84
GBC_199	Round Rock	-34.04938	114.97753	DGPS	WGS84
GBC_200	Round Rock	-34.0474	114.94915	DGPS	WGS84
GBC_201	Round Rock	-34.05755	114.99645	DGPS	WGS84
GBC_202	Round Rock	-34.05763	114.98913	DGPS	WGS84
GBC_203	Round Rock	-34.06255	114.9846	DGPS	WGS84
GBC_204	Round Rock	-34.06488	114.96213	DGPS	WGS84
GBC_205	Round Rock	-34.07616	114.99635	DGPS	WGS84
GBC_206	Round Rock	-34.07411	114.98433	DGPS	WGS84
GBC_207	Round Rock	-34.07473	114.97473	DGPS	WGS84
GBC_208	Cape Freycinet	-34.09468	114.99068	DGPS	WGS84
GBC_209	Cape Freycinet	-34.10053	114.98483	DGPS	WGS84
GBC_210	Cape Freycinet	-34.10171	114.97005	DGPS	WGS84
GBC_211	Cape Freycinet	-34.09206	114.9506	DGPS	WGS84
GBC_212	Cape Freycinet	-34.11098	114.99448	DGPS	WGS84
GBC_213	Cape Freycinet	-34.11698	114.99208	DGPS	WGS84
GBC_214	Cape Freycinet	-34.12131	114.9872	DGPS	WGS84
GBC_215	Cape Freycinet	-34.12828	115.0072	DGPS	WGS84
GBC_216	Cape Freycinet	-34.12978	115.0013	DGPS	WGS84
GBC_217	Cape Freycinet	-34.1309	114.98795	DGPS	WGS84
GBC_218	Cape Freycinet	-34.13885	114.9637	DGPS	WGS84
GBC_219	Quoin Rock	-34.14136	115.01763	DGPS	WGS84
GBC_220	Quoin Rock	-34.14435	115.00181	DGPS	WGS84
GBC_221	Quoin Rock	-34.16151	115.01695	DGPS	WGS84
GBC_222	Quoin Rock	-34.19371	115.02651	DGPS	WGS84
GBC_222	Quoin Rock	-34.1609	115.006	DGPS	WGS84
GBC_223	Quoin Rock	-34.1618	114.9908	DGPS	WGS84
GBC_224	Quoin Rock	-34.1607	114.9664	GPS	WGS84
GBC_225	Hamelin Bay	-34.16853	115.02468	DGPS	WGS84
GBC_226	Hamelin Bay	-34.17131	115.00935	DGPS	WGS84
GBC_227	Hamelin Bay	-34.18115	115.02896	DGPS	WGS84
GBC_228	Hamelin Bay	-34.1788	115.01631	DGPS	WGS84
GBC_229	Hamelin Bay	-34.18241	115.00726	DGPS	WGS84
GBC_230	Hamelin Bay	-34.18373	114.9874	DGPS	WGS84
GBC_231	Hamelin Bay	-34.18333	114.97216	DGPS	WGS84
GBC_233	Hamelin Bay	-34.19683	115.0188	DGPS	WGS84
GBC_234	Hamelin Bay	-34.20056	114.99098	DGPS	WGS84
GBC_235	Hamelin Bay	-34.20523	115.02448	DGPS	WGS84
GBC_236	Hamelin Bay	-34.20845	115.0051	DGPS	WGS84
GBC_237	Hamelin Bay	-34.21913	114.99141	DGPS	WGS84
GBC_238	Hamelin Bay	-34.22235	114.97858	DGPS	WGS84
GBC_239	Hamelin Bay	-34.21975	115.02081	DGPS	WGS84
GBC_240	Foul Bay	-34.22561	115.00811	GPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_241	Foul Bay	-34.22788	115.02098	GPS	WGS84
GBC_242	Foul Bay	-34.23415	115.02441	GPS	WGS84
GBC_243	Foul Bay	-34.23535	115.01098	DGPS	WGS84
GBC_244	Foul Bay	-34.23823	114.98495	DGPS	WGS84
GBC_245	Foul Bay	-34.24091	115.0274	GPS	WGS84
GBC_246	Foul Bay	-34.2479	115.0247	DGPS	WGS84
GBC_247	Foul Bay	-34.24948	115.01416	DGPS	WGS84
GBC_248	Foul Bay	-34.25195	114.99751	DGPS	WGS84
GBC_249	Foul Bay	-34.25216	114.98938	DGPS	WGS84
GBC_250	Foul Bay	-34.25515	114.9532	DGPS	WGS84
GBC_251	Cosy Corner	-34.25935	115.02926	DGPS	WGS84
GBC_252	Cosy Corner	-34.25926	115.02151	DGPS	WGS84
GBC_253	Cosy Corner	-34.26265	115.00931	DGPS	WGS84
GBC_254	Cosy Corner	-34.26623	114.99796	DGPS	WGS84
GBC_255	Cosy Corner	-34.27123	114.98586	DGPS	WGS84
GBC_256	Cape Hamelin	-34.27398	115.01953	DGPS	WGS84
GBC_257	Cape Hamelin	-34.27906	115.0132	DGPS	WGS84
GBC_258	Cosy Corner	-34.28636	115.00135	DGPS	WGS84
GBC_259	Cape Hamelin	-34.29478	114.97426	DGPS	WGS84
GBC_260	Sandy Patch	-34.28093	115.04816	DGPS	WGS84
GBC_261	Sandy Patch	-34.28572	115.04305	DGPS	WGS84
GBC_262	Sandy Patch	-34.29318	115.02545	DGPS	WGS84
GBC_263	Sandy Patch	-34.30368	115.00625	DGPS	WGS84
GBC_264	Sandy Patch	-34.2936	115.05981	DGPS	WGS84
GBC_265	Sandy Patch	-34.30038	115.0461	DGPS	WGS84
GBC_266	Sandy Patch	-34.31276	115.01823	DGPS	WGS84
GBC_267	Sandy Patch	-34.34235	115.00285	DGPS	WGS84
GBC_268	Sandy Patch	-34.30621	115.07446	DGPS	WGS84
GBC_269	Sandy Patch	-34.31976	115.05365	DGPS	WGS84
GBC_270	Jacks Ledge	-34.33601	115.03151	GPS	WGS84
GBC_271	Jacks Ledge	-34.32745	115.08591	DGPS	WGS84
GBC_272	Jacks Ledge	-34.33636	115.07528	DGPS	WGS84
GBC_273	Jacks Ledge	-34.34605	115.06473	GPS	WGS84
GBC_274	Jacks Ledge	-34.3567	115.04953	DGPS	WGS84
GBC_275	Jacks Ledge	-34.37323	115.03461	DGPS	WGS84
GBC_276	Jacks Ledge	-34.3499	115.09678	DGPS	WGS84
GBC_277	Jacks Ledge	-34.34915	115.08396	DGPS	WGS84
GBC_278	Jacks Ledge	-34.36433	115.0689	DGPS	WGS84
GBC_279	Cape Leeuwin	-34.34286	115.11396	DGPS	WGS84
GBC_280	Cape Leeuwin	-34.35026	115.10348	DGPS	WGS84
GBC_281	Cape Leeuwin	-34.36595	115.09078	DGPS	WGS84
GBC_282	Cape Leeuwin	-34.38673	115.07075	GPS	WGS84
GBC_283	Cape Leeuwin	-34.35348	115.11873	DGPS	WGS84
GBC_284	Cape Leeuwin	-34.36251	115.11368	DGPS	WGS84
GBC_285	Cape Leeuwin	-34.37946	115.10023	GPS	WGS84
GBC_286	Cape Leeuwin	-34.3681	115.12926	GPS	WGS84
GBC_287	Cape Leeuwin	-34.37568	115.12295	DGPS	WGS84
GBC_288	Cape Leeuwin	-34.39253	115.10826	DGPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_289	Cape Leeuwin	-34.40983	115.0944	DGPS	WGS84
GBC_290	Cape Leeuwin	-34.37498	115.14526	DGPS	WGS84
GBC_291	Cape Leeuwin	-34.3917	115.13805	DGPS	WGS84
GBC_292	Cape Leeuwin	-34.4067	115.12811	GPS	WGS84
GBC_293	Cape Leeuwin	-34.43335	115.1398	GPS	WGS84
GBC_294	Cape Leeuwin	-34.38173	115.1597	DGPS	WGS84
GBC_295	Cape Leeuwin	-34.39418	115.15658	DGPS	WGS84
GBC_296	Cape Leeuwin	-34.409	115.15998	GPS	WGS84
GBC_297	Cape Leeuwin	-34.4087	115.1735	GPS	WGS84
GBC_298	Cape Leeuwin	-34.42763	115.17493	DGPS	WGS84
GBC_299	Cape Leeuwin	-34.4414	115.18365	GPS	WGS84
GBC_300	Cape Leeuwin	-34.45931	115.2034	DGPS	WGS84
GBC_301	Cape Leeuwin	-34.37271	115.16431	DGPS	WGS84
GBC_302	Cape Leeuwin	-34.38521	115.17418	DGPS	WGS84
GBC_303	Cape Leeuwin	-34.41568	115.19631	DGPS	WGS84
GBC_304	Cape Leeuwin	-34.43453	115.21143	DGPS	WGS84
GBC_305	Cape Leeuwin	-34.45078	115.23191	DGPS	WGS84
GBC_306	Cape Leeuwin	-34.38763	115.20836	DGPS	WGS84
GBC_307	Cape Leeuwin	-34.37818	115.19666	DGPS	WGS84
GBC_308	Hardy Inlet	-34.33678	115.1735	DGPS	WGS84
GBC_309	Cape Leeuwin	-34.35835	115.1752	DGPS	WGS84
GBC_310	Cape Leeuwin	-34.36703	115.187	DGPS	WGS84
GBC_311	Cape Leeuwin	-34.39771	115.24285	DGPS	WGS84
GBC_312	Hardy Inlet	-34.32565	115.18471	DGPS	WGS84
GBC_313	Hardy Inlet	-34.33131	115.18908	DGPS	WGS84
GBC_314	Hardy Inlet	-34.34711	115.20933	DGPS	WGS84
GBC_315	Hardy Inlet	-34.35903	115.22713	DGPS	WGS84
GBC_316	Flinders Bay	-34.31716	115.21243	DGPS	WGS84
GBC_317	Flinders Bay	-34.3335	115.2164	DGPS	WGS84
GBC_318	Flinders Bay	-34.34333	115.2372	DGPS	WGS84
GBC_319	Flinders Bay	-34.31228	115.24498	DGPS	WGS84
GBC_320	Flinders Bay	-34.324	115.24568	DGPS	WGS84
GBC_321	Flinders Bay	-34.33231	115.25425	DGPS	WGS84
GBC_322	Flinders Bay	-34.33821	115.25333	DGPS	WGS84
GBC_323	Flinders Bay	-34.35296	115.2629	DGPS	WGS84
GBC_324	Flinders Bay	-34.31185	115.27075	DGPS	WGS84
GBC_325	Flinders Bay	-34.3294	115.27248	DGPS	WGS84
GBC_326	Flinders Bay	-34.31733	115.30185	DGPS	WGS84
GBC_327	Flinders Bay	-34.33275	115.30441	DGPS	WGS84
GBC_328	Flinders Bay	-34.34395	115.30515	GPS	WGS84
GBC_329	Flinders Bay	-34.36078	115.30366	DGPS	WGS84
GBC_330	Hardy Inlet	-34.34208	115.18161	DGPS	WGS84
GBC_331	Hardy Inlet	-34.3547	115.19201	DGPS	WGS84
GBC_332	Hardy Inlet	-34.36553	115.20903	DGPS	WGS84
GBC_333	Cape Leeuwin	-34.38916	115.16435	DGPS	WGS84
GBC_334	Cape Leeuwin	-34.39311	115.18931	DGPS	WGS84
GBC_335	Cape Leeuwin	-34.4134	115.18718	DGPS	WGS84
GBC_336	Cape Leeuwin	-34.43328	115.19505	GPS	WGS84

Site No	Location	Latitude	Longitude	GPS type	Datum
GBC_337	Cape Leeuwin	-34.42031	115.16273	GPS	WGS84
GBC_338	Cape Leeuwin	-34.40826	115.14005	DGPS	WGS84
GBC_339	Cape Leeuwin	-34.39043	115.12306	DGPS	WGS84
GBC_340	Cape Leeuwin	-34.39326	115.08775	GPS	WGS84
GBC_341	Sandy Patch	-34.31898	115.07028	DGPS	WGS84
GBC_342	Sandy Patch	-34.33493	115.01035	DGPS	WGS84
GBC_343	Sandy Patch	-34.3112	114.98793	DGPS	WGS84
GBC_344	Cosy Corner	-34.27025	115.01711	DGPS	WGS84
GBC_345	Foul Bay	-34.25196	115.0065	DGPS	WGS84
GBC_346	Foul Bay	-34.24151	115.00763	DGPS	WGS84
GBC_347	Foul Bay	-34.22885	114.99868	DGPS	WGS84
GBC_348	Hamelin Bay	-34.21575	115.01346	DGPS	WGS84
GBC_349	Hamelin Bay	-34.21301	115.03008	DGPS	WGS84
GBC_350	Hamelin Bay	-34.20256	115.0034	DGPS	WGS84
GBC_351	Hamelin Bay	-34.20873	115.01748	DGPS	WGS84
GBC_352	Hamelin Bay	-34.21643	115.02691	DGPS	WGS84
GBC_353	Hamelin Bay	-34.21511	115.03181	DGPS	WGS84
GBC_354	Dunn Bay	-33.55953	115.0759	DGPS	WGS84
GBC_354	Yallingup	-33.61116	115.0095	GPS	WGS84
GBC_355	Marybrook	-33.63151	115.1524	DGPS	WGS84
GBC_356	Marybrook	-33.59388	115.19141	DGPS	WGS84
GBC_357	Busselton	-33.57178	115.33011	DGPS	WGS84
GBC_358	Busselton	-33.59351	115.24903	DGPS	WGS84
GBC_359	Marybrook	-33.59243	115.23266	DGPS	WGS84
GBC_402	Cape Leeuwin	-34.42846	115.16663	DGPS	WGS84

APPENDIX II: HABITAT DATA

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_001	Busselton	Perennial seagrass (dense)	Patchy A. griffithii with some P. sinuosa. Sand patches.	KBA	Drop down video	16/12/98	-33.64161	115.34205
GBC_002	Busselton	Sand	Bare sand. NB. No video footage recorded.	KBA	Direct	16/12/98	-33.62643	115.34466
GBC_003	Busselton	Perennial seagrass (dense)	Dense P. sinuosa meadow. Few sand patches. Light epiphytic load.	KBA	Drop down video	16/12/98	-33.61736	115.3349
GBC_004	Busselton	Perennial seagrass (medium)	Patches of A. griffithii with some P. sinuosa. Quite patchy.	KBA	Drop down video	16/12/98	-33.59573	115.32913
GBC_005	Busselton	Perennial seagrass (medium)	Patches of A. griffithii with little P. sinuosa. Very patchy.	KBA	Drop down video	16/12/98	-33.58776	115.32596
GBC_006	Busselton	Perennial seagrass (medium)	Patches of A. griffithii with sand patches. Very patchy.	KBA	Drop down video	16/12/98	-33.58231	115.3278
GBC_007	Busselton	Perennial seagrass (dense)	Dense P. sinuosa with some sand patches.	KBA	Drop down video	16/12/98	-33.65031	115.31111
GBC_008	Busselton	Sand	Bare sand. NB. No video footage recorded.	KBA	Direct	16/12/98	-33.6458	115.3111
GBC_009	Busselton	Perennial seagrass (dense)	Dense P. sinuosa with little epiphyte cover.	KBA	Drop down video	16/12/98	-33.63838	115.31145
GBC_010	Busselton	Perennial seagrass (dense)	Moderate to dense P. sinuosa with some sand patches. Light epiphyte load.	KBA	Drop down video	16/12/98	-33.6241	115.31121
GBC_011	Busselton	Perennial seagrass (sparse)	Moderate cover of A. griffithii, interspersed with patches of P. sinuosa and bare sand. Some epiphytes on A. griffithii. Some wrack on bare sand.	JCO	Drop down video	16/12/98	-33.60571	115.31185
GBC_012	Busselton	Perennial seagrass (sparse)	Rippled sand - fine on ridges, coarse in furrows. Some shell fragments. Surrounded by patches of A. griffithii (33 35.608 S/115 18.676 E).	JCO	Drop down video	16/12/98	-33.59418	115.31108
GBC_013	Busselton	Perennial seagrass (dense)	Dense P. sinuosa meadow. Very sparse A. antarctica. Some epiphytic growth - forams and coralline red algae.	JCO	Drop down video	16/12/98	-33.65041	115.28083
GBC_014	Busselton	Perennial seagrass (dense)	Dense P. sinuosa meadow. Sparse A. antarctica around edges adjacent to sand patches. Lighter epiphyte loading than the previous site - 13 (Form number 149).	JCO	Drop down video	16/12/98	-33.64345	115.27961
GBC_015	Busselton	Perennial seagrass (medium)	Patches of A. antarctica and mixed patches of P. sinuosa and A. griffithii, interspersed with sand patches containing lines of wrack.	JCO	Drop down video	16/12/98	-33.6305	115.27868

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_016	Busselton	Perennial seagrass (dense)	Dense patches of P. sinuosa. Some A. griffithii around edges adjacent to sand patches.	JCO	Drop down video	16/12/98	-33.62166	115.27908
GBC_017	Busselton	Perennial seagrass (sparse)	Mixed patches of P. sinuosa and A. griffithii. Some sand patches. Limestone pavement with Scaberia, Padina and encrusting coralline reds.	JCO	Drop down video	16/12/98	-33.606	115.27878
GBC_018	Marybrook	Perennial seagrass (dense)	Dense meadow of P. sinuosa with some patches of A. antarctica, A. griffithii. Isolated small sand patches. Some epiphytes - forams and coralline reds.	JCO	Drop down video	16/12/98	-33.65036	115.22681
GBC_019	Marybrook	Perennial seagrass (dense)	Dense patches of P. sinuosa with some A. antarctica around edges adjacent to sand patches.	JCO	Drop down video	16/12/98	-33.6411	115.2299
GBC_020	Marybrook	Perennial seagrass (sparse)	Mixed patches of P. sinuosa, A. griffithii and A. antarctica, interspersed with sand patches.	JCO	Drop down video	16/12/98	-33.62128	115.2282
GBC_021	Marybrook	Perennial seagrass (sparse)	Very sparse cover of red tuft algae and A. griffithii on coarse sand. Some ripples.	JCO	Drop down video	16/12/98	-33.60655	115.23855
GBC_022	Marybrook	Perennial seagrass (medium)	Patches of dense A. antarctica and P. sinuosa. Reasonably heavy epiphytic load.	KBA	Drop down video	16/12/98	-33.64283	115.18943
GBC_023	Marybrook	Perennial seagrass (dense)	Dense P. sinuosa seagrass meadow with A. griffithii on edges. Moderate epiphyte load.	KBA	Drop down video	16/12/98	-33.63138	115.18985
GBC_024	Marybrook	Perennial seagrass (sparse)	Patches of A. griffithii with P. sinuosa interspersed. Some A. antarctica. Light to medium epiphytic load.	KBA	Drop down video	16/12/98	-33.61468	115.18901
GBC_025	Marybrook	Sand	Bare sand in furrows. Separation of coarse and fine sands.	KBA	Drop down video	16/12/98	-33.59433	115.18963
GBC_026	Dunn Bay	Perennial seagrass (dense)	Dense P. sinuosa with A. griffithii and some A. antarctica.	KBA	Drop down video	16/12/98	-33.6259	115.15908
GBC_027	Dunn Bay	Perennial seagrass (sparse)	A. griffithii with sand patches. Light epiphyte load.	KBA	Drop down video	16/12/98	-33.61516	115.15863
GBC_028	Dunn Bay	Perennial seagrass (sparse)	P. sinuosa sparse to moderate cover. Some A. antarctica on edges.	KBA	Drop down video	16/12/98	-33.59898	115.16865
GBC_029	Dunn Bay	Perennial seagrass (dense)	Dense meadow of Posidonia (augustifolia?) with sparse patches of A. antarctica, surrounded by coarse sand patches with shell fragments.	JCO	Drop down video	16/12/98	-33.60606	115.1103
GBC_030	Dunn Bay	Perennial seagrass (dense)	Dense meadow with some large patches of sand. Posidonia? sinuosa with sparse patches of A. antarctica.	JCO	Drop down video	16/12/98	-33.60261	115.11305
GBC_031	Dunn Bay	Perennial seagrass (sparse)	Patches of P. sinuosa?, interspersed with sand patches.	JCO	Drop down video	16/12/98	-33.59001	115.13213
GBC_032	Dunn Bay	Perennial seagrass (sparse)	A. griffithii sparse coverage, with some Posidonia sp.? Interspersed on sand.	KBA	Drop down video	16/12/98	-33.57645	115.15081

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_033	Castle Rock	Perennial seagrass (dense)	Dense patches of Posidonia (augustifolia?) with some A. antarctica patches, surrounded by sand patches.	JCO	Drop down video	16/12/98	-33.5923	115.10288
GBC_034	Castle Rock	Perennial seagrass (dense)	Moderate to dense patches of P. augustifolia. Some epiphytes, interspersed with sparse patches of A. antarctica. Sand patches with red algal tufts.	JCO	Drop down video	16/12/98	-33.5851	115.10926
GBC_035	Castle Rock	Perennial seagrass (sparse)	Very sparse seagrass - Posidonia sp.	KBA	Drop down video	16/12/98	-33.57495	115.10533
GBC_036	Gannet Rock	Perennial seagrass (dense)	Moderate to dense patches of P. augustifolia. Some forams and coralline red algae as epiphytic growth. Sparse A. antarctica. All interspersed with sand patches.	JCO	Drop down video	16/12/98	-33.57138	115.0941
GBC_037	Gannet Rock	Sand	Very coarse sand with lots of shell fragments. Some ripples and very sparse patches of red tuft algae.	JCO	Drop down video	16/12/98	-33.5641	115.10066
GBC_038	Gannet Rock	Sand	Bare sand. Bioturbated.	KBA	Drop down video	16/12/98	-33.54953	115.11191
GBC_039	Gannet Rock	Sand	Bare sand with shell grit.	KBA	Drop down video	16/12/98	-33.53676	115.12543
GBC_040	Eagle Bay	Macroalgae dominated limestone reef (low relief)	Moderate cover of mixed browns, predominantly Scaberia, Sargassum and some Cystophora. Isolated corals, some sponges and sand patches with sparse A. antarctica.	JCO	Drop down video	16/12/98	-33.56205	115.08041
GBC_041	Eagle Bay	Perennial seagrass (medium)	Sparse to moderate patches of P. augustifolia interspersed with sand patches and sparse red algal tufts. Very sparse A. antarctica.	JCO	Drop down video	16/12/98	-33.55981	115.08311
GBC_042	Eagle Bay	Perennial seagrass (sparse)	Coarse-grained sand with very sparse patches of seagrass - P. augustifolia and small groups of bivalve shells.	JCO	Drop down video	16/12/98	-33.54381	115.09355
GBC_043	Eagle Bay	Low relief macroalgae dominated granite reef	Low relief reef covered in algae and seagrass in sand patches. Posidonia, Amphibolis, Heterozostera, Sargassum, Cystophora, Padina.	KBA	Drop down video	16/12/98	-33.55631	115.06666
GBC_044	Eagle Bay	Sand	Coarse-grained sand. Rippled with some shell fragments.	JCO	Drop down video	16/12/98	-33.54855	115.07426
GBC_045	Eagle Bay	Sand	Bare sand with some shell grit.	KBA	Drop down video	16/12/98	-33.52271	115.08951
GBC_046	Rocky Point	Macroalgae dominated granite reef (low relief)	Algae covered granite rocks - Cystophora and other browns.	KBA	Drop down video	16/12/98	-33.54501	115.05676
GBC_047	Rocky Point	Sand	Bare sand.	KBA	Drop down video	16/12/98	-33.53985	115.05956
GBC_048	Rocky Point	Sand	Red algae tufts with some Caulerpa.	KBA	Drop down video	16/12/98	-33.52713	115.066
GBC_049	Rocky Point	Sand	Algal tufts sparse on sand plain. Possibly reds.	KBA	Drop down video	16/12/98	-33.51675	115.07425
GBC_050	Rocky Point	Perennial seagrass (sparse)	Patchy Thalassodendron with red algae tufts covered with sand.	KBA	Drop down video	16/12/98	-33.50541	115.08455

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_051	Bunker Bay	Perennial seagrass (sparse)	Patches of A. griffithii interspersed with reef patches. Sparse cover of Sargassum and Cystophora. Seagrass leaves with sparse epiphyte cover of Jania.	JCO	Drop down video	14/12/98	-33.54121	115.03706
GBC_052	Bunker Bay	Perennial seagrass (sparse)	Sand with very sparse patches of Posidonia ?augustifolia	JCO	Drop down video	14/12/98	-33.53833	115.03835
GBC_053	Bunker Bay	Perennial seagrass (sparse)	Very sparse patches of P. augustifolia.	JCO	Drop down video	14/12/98	-33.53243	115.04216
GBC_054	Bunker Bay	Sand	Very sparse cover of filamentous reds. Possibly pavement with veneer of sand. Coarse sand with scallop shells and other bivalve shells.	JCO	Drop down video	14/12/98	-33.5252	115.04601
GBC_055	Bunker Bay	Sand	Bare sand. Some reds and Pyura sea tulips.	KBA	Drop down video	14/12/98	-33.50541	115.05448
GBC_056	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Shallow boulder field. Dense cover of mixed browns, predominantly Sargassum, some Ecklonia, Cystophora spp.	JCO	Drop down video	14/12/98	-33.53235	115.03175
GBC_057	Cape Naturaliste	Sand	Bare sand and grit.	KBA	Drop down video	14/12/98	-33.52243	115.03165
GBC_058	Cape Naturaliste	Perennial seagrass (sparse)	Red tufts in coarse shell grit. Thalassodendron?	KBA	Drop down video	14/12/98	-33.50788	115.03543
GBC_059	Cape Naturaliste	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of mixed browns, predominantly Sargassum, some Cystophora. Small patches of coralline reds and sparse Caulerpa.	JCO	Drop down video	14/12/98	-33.51698	115.01976
GBC_060	Cape Naturaliste	Perennial seagrass (sparse)	A. antarctica patches. Very sparse. Some Gracilaria.	KBA	Drop down video	14/12/98	-33.5238	115.01966
GBC_061	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Ecklonia, Scytothalia, some Sargassum. Very dense algae on granite boulders.	KBA	Drop down video	14/12/98	-33.52265	115.01971
GBC_062	Cape Naturaliste	Perennial seagrass (sparse)	Red algae tufts. Sparse. 1 dominant species - Thalassodendron.	KBA	Drop down video	14/12/98	-33.51323	115.02131
GBC_063	Cape Naturaliste	Perennial seagrass (sparse)	Red algae tufts (sparse cover). Sponges, ascidians. Thalassodendron.	KBA	Drop down video	14/12/98	-33.4918	115.01966
GBC_065	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Dense macroalgal cover, predominantly Ecklonia. Moderate Sargassum, also Scytothalia. Boulder field extending from shore out past exposed rock (30m due east of rocks off northern side of C. Naturaliste).	JCO	Drop down video	14/12/98	-33.52823	115.0073
GBC_066	Cape Naturaliste	Macroalgae dominated granite reef (low relief)	Moderate cover of red turf algae on pavement area, interspersed with low relief granite covered in Ecklonia, Scytothalia. Pavement has a thin veneer of sand.	JCO	Drop down video	14/12/98	-33.5254	115.00803
GBC_067	Cape Naturaliste	Perennial seagrass (sparse)	Red algal tufts. Sparse patches of Thalassodendron.	KBA	Drop down video	14/12/98	-33.5138	115.00746
GBC_068	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Granite boulders with moderate algae coverage. Ecklonia and Scytothalia. Coralline red algae in bare patches.	KBA	Drop down video	14/12/98	-33.5005	115.00756

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_070	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Granite boulders, moderate macroalgal cover, predominantly Ecklonia and Cystophora.	JCO	Drop down video	14/12/98	-33.5308	114.99538
GBC_071	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Boulders with sparse cover of browns, predominantly Ecklonia. Some small sponges and coralline reds.	JCO	Drop down video	14/12/98	-33.52583	114.9995
GBC_072	Cape Naturaliste	Sand	Bare sand. A bit too deep for camera - Saw some small patches, possibly reds??	KBA	Drop down video	14/12/98	-33.51528	114.99341
GBC_073	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Large granite boulders, sparse cover of macroalgae, some Ecklonia, filamentous reds, sand in gutters and patches between the boulders. Depth 12-8m.	JCO	Drop down video	14/12/98	-33.5308	114.99538
GBC_074	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Dense macroalgal cover, predominantly Ecklonia and Scytothalia spp.	JCO	Drop down video	14/12/98	-33.5342	114.99746
GBC_075	Cape Naturaliste	Sand	Coarse-grained sand. Some ripples.	JCO	Drop down video	14/12/98	-33.5297	114.98556
GBC_077	Cape Naturaliste	Macroalgae dominated granite reef (high relief)	Dense macroalgal cover, predominantly Ecklonia, Scytothalia spp.	JCO	Drop down video	14/12/98	-33.5447	115.00198
GBC_078	Cape Naturaliste	Macroalgae dominated limestone reef (low relief)	Moderate macroalgal cover. Very sparse and small sand patches. Ecklonia, Scytothalia, Cystophora. Encrusting reds.	JCO	Drop down video	14/12/98	-33.5435	114.99738
GBC_079	Sugarloaf Rock	Macroalgae dominated granite reef (high relief)	Boulders - no sand patches. Dense cover of macroalgae, predominantly Ecklonia. Sparse Cystophora, Scytothalia and possibly Sargassum spp.	JCO	Drop down video	14/12/98	-33.5653	115.00245
GBC_080	Sugarloaf Rock	Macroalgae dominated limestone reef (low relief)	Some macroalgal cover interspersed with mobile sand patches. Sparse cover of Ecklonia, Cystophora, Sargassum and filamentous reds.	JCO	Drop down video	14/12/98	-33.5653	114.99586
GBC_081	Sugarloaf Rock	Sand	Mobile coarse-grained sand. Some rippling.	JCO	Drop down video	14/12/98	-33.56155	114.96966
GBC_082	Three Bears	Macroalgae dominated granite reef (high relief)	Boulders interspersed with sand patches. Moderate macroalgal cover. Sparse Ecklonia. Some Sargassum, Platythalia and Scytothalia. Crustose reds in patches.	JCO	Drop down video	14/12/98	-33.57891	115.00891
GBC_083	Three Bears	Macroalgae dominated limestone reef (low relief)	Dense cover of Ecklonia. Some Scytothalia. Sparse bare patches (rock) with encrusting reds. No sand patches.	JCO	Drop down video	14/12/98	-33.57891	115.00376
GBC_084	Three Bears	Sand	Mobile sand. Some small ripples.	JCO	Drop down video	14/12/98	-33.58086	114.98491
GBC_085	Yallingup	Sand	Bare mobile sand patch surrounded by low relief reef, as per site 86 (form number 18).	JCO	Drop down video	14/12/98	-33.59106	115.01083
GBC_086	Yallingup	Macroalgae dominated limestone reef (low relief)	Moderate cover of macroalgae. Some Ecklonia, Scytothalia, Platythalia sp. and encrusting coralline reds.	JCO	Drop down video	14/12/98	-33.59406	115.01255

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_087	Yallingup	Sand	Coarse-grained sand. Some ripples.	JCO	Drop down video	14/12/98	-33.59716	114.99503
GBC_088	Yallingup	Sand	Bare sand. Some ripples.	JCO	Drop down video	14/12/98	-33.60083	114.96665
GBC_089	Yallingup	Macroalgae dominated limestone reef (low relief)	Macroalgal covered reef. Sparse Ecklonia, Scytothalia. Some filamentous reds, epiphytes and others. Patches of Platythalia sp., coralline reds. Some large holes. Sand bottom.	JCO	Drop down video	14/12/98	-33.6091	115.01835
GBC_090	Yallingup	Macroalgae dominated limestone reef (low relief)	Brown algae. Ecklonia. Patchy to moderate cover. Flat limestone reef.	KBA	Drop down video	14/12/98	-33.60883	115.0154
GBC_091	Yallingup	Sand	Bare sand.	KBA	Drop down video	14/12/98	-33.611	115.01181
GBC_092	Yallingup	Sand	Bare sand.	KBA	Drop down video	14/12/98	-33.61325	115.00741
GBC_093	Yallingup	Sand	Coarse-grained sand. Rippled.	JCO	Drop down video	14/12/98	-33.6141	114.98873
GBC_094	Yallingup	Macroalgae dominated limestone reef (low relief)	Ecklonia dominates. Interspersed with A. griffithii? Scytothalia in dense patches.	KBA	Drop down video	14/12/98	-33.61986	115.02186
GBC_095	Yallingup	Sand	Bare sand.	KBA	Drop down video	14/12/98	-33.62133	115.01733
GBC_096	Yallingup	Sand	Bare sand.	KBA	Drop down video	14/12/98	-33.62165	115.009
GBC_097	Yallingup	Macroalgae dominated limestone reef (low relief)	Ecklonia/Scytothalia mixed with some A. griffithii. Ecklonia predominant.	KBA	Drop down video	14/12/98	-33.63515	115.0233
GBC_098	Yallingup	Sand	Bare.	KBA	Drop down video	14/12/98	-33.6358	115.01583
GBC_099	Yallingup	Sand	Sand rippled.	JCO	Drop down video	14/12/98	-33.63348	114.99108
GBC_100	Yallingup	Sand	Sand rippled.	JCO	Drop down video	14/12/98	-33.63225	114.95866
GBC_101	Yallingup	Perennial seagrass (sparse)	Moderate to patchy seagrass cover - Posidonia sp., interspersed with bare sand patches. Some reef (possibly limestone) with sparse macroalgal cover.	JCO	Drop down video	14/12/98	-33.6509	115.0164
GBC_102	Yallingup	Macroalgae dominated limestone reef (low relief)	Limestone reef with moderate cover of attached macroalgae, predominantly browns - Sargassum, Cystophora and Scytothalia. Some sand-filled gutters. Some coralline reds.	JCO	Drop down video	14/12/98	-33.65281	115.0196
GBC_103	Yallingup	Macroalgae dominated limestone reef (low relief)	Granite boulders interspersed with sand patches. Macroalgae attached on boulders, predominantly Ecklonia. Patches of Scytothalia.	JCO	Drop down video	14/12/98	-33.65231	115.0038
GBC_104	Yallingup	Low relief subtidal reef platform	Limestone pavement with expansive sand cover. Sparse attached macroalgal cover.	JCO	Drop down video	14/12/98	-33.65248	114.99316
GBC_105	Yallingup	Sand	Sand rippled.	JCO	Drop down video	14/12/98	-33.65085	114.96656
GBC_106	Yallingup	Macroalgae dominated granite reef (high relief)	Macroalgal covered granite boulders. Occasional sand patches. Ecklonia predominant and other browns.	KBA	Drop down video	14/12/98	-33.66383	115.00206

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_107	Yallingup	Low relief subtidal reef platform	Limestone pavement. Sparse cover of attached macroalgae and patches of overlying sand. Sparse cover of seagrass (Thalassodendron).	JCO	Drop down video	14/12/98	-33.6638	114.9952
GBC_108	Yallingup	Sand	Bare mobile coarse-grained sand.	JCO	Drop down video	14/12/98	-33.66383	114.98246
GBC_109	Winjee Sam Rock	Macroalgae dominated granite reef (low relief)	Granite boulders with mainly Scytothalia. Thick cover. Some sand patches.	KBA	Drop down video	15/12/98	-33.67648	114.9907
GBC_110	Winjee Sam Rock	Macroalgae dominated granite reef (low relief)	Ecklonia and Scytothalia attached to granite. Medium cover. Some sand patches with reds and browns.	KBA	Drop down video	15/12/98	-33.67545	114.98551
GBC_111	Winjee Sam Rock	Perennial seagrass (sparse)	Red algal tufts - moderate cover. Some sea tulips and sponges. Flat sand substrate. Thalassodendron?	KBA	Drop down video	15/12/98	-33.67421	114.96655
GBC_112	Winjee Sam Rock	Macroalgae dominated limestone reef (low relief)	Patchy cover of browns, mainly Cystophora. Some sand patches with A. antarctica. Small holes and ledges. Some corallines and small colonies of Turbinaria and sponges.	JCO	Drop down video	15/12/98	-33.66801	114.99741
GBC_113	Cape Clairault	Macroalgae dominated granite reef (high relief)	Granite boulders covered with Scytothalia/Sargassum. Some Ecklonia. Reef patchy.	KBA	Drop down video	15/12/98	-33.69413	114.98915
GBC_114	Cape Clairault	Sand	Bare sand - rippled.	KBA	Drop down video	15/12/98	-33.69456	114.98276
GBC_115	Cape Clairault	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia covering granite. Medium coverage. Some sandy patches.	KBA	Drop down video	15/12/98	-33.69003	114.97616
GBC_116	Cape Clairault	Perennial seagrass (sparse)	Moderate cover of coralline reds. Some Caulerpa and possibly Thalassodendron. Some sponges and ascidians.	JCO	Drop down video	15/12/98	-33.68893	114.96165
GBC_117	Cape Clairault	Macroalgae dominated granite reef (low relief)	Granite boulders patchy. Covered with kelp - Ecklonia/Scytothalia. Sand patches in gullies.	KBA	Drop down video	15/12/98	-33.70233	114.97321
GBC_118	Cape Clairault	Perennial seagrass (sparse)	Red algal tufts - sparse cover. Some sea tulips. Thalassodendron?	KBA	Drop down video	15/12/98	-33.70243	114.96216
GBC_119	Cape Clairault	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of browns. Some Ecklonia, Cystophora. Moderate cover of Platythalia in dense patches.	JCO	Drop down video	15/12/98	-33.71341	114.9774
GBC_120	Cape Clairault	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of Ecklonia and Scytothalia. Sparse Cystophora and some corallines on boulders.	JCO	Drop down video	15/12/98	-33.7143	114.97298
GBC_121	Cape Clairault	Sand	Coarse-grained sand, rippled with shell fragments. Some stones and very sparse cover of red algal tufts.	JCO	Drop down video	15/12/98	-33.71523	114.96783
GBC_122	Cape Clairault	Perennial seagrass (sparse)	Sand plain rippled with shell fragments and tufts of red algae - 2 dominant species. Thalassodendron?	JCO	Drop down video	15/12/98	-33.71553	114.951

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_123	Cape Clairault	Perennial seagrass (sparse)	Pavement with large sand patches. Sparse cover of tuft red, Caulerpa and Thalassodendron.	JCO	Drop down video	15/12/98	-33.73106	114.9602
GBC_124	Cape Clairault	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of browns. Some Ecklonia, Cystophora. Moderate cover of Platythalia. Some sand in gaps between boulders.	JCO	Drop down video	15/12/98	-33.72405	114.9817
GBC_125	Cape Clairault	Macroalgae dominated granite reef (low relief)	Boulders with moderate cover of browns, predominantly Scytothalia and Ecklonia, and encrusting coralline reds. Some sand in gutters.	JCO	Drop down video	15/12/98	-33.72496	114.97733
GBC_126	Cape Clairault	Macroalgae dominated granite reef (low relief)	Dense cover of browns, predominantly Ecklonia and Sargassum. Some Cystophora sp. Sand in gutters. Some ledges.	JCO	Drop down video	15/12/98	-33.73813	114.98431
GBC_127	Cape Clairault	Macroalgae dominated granite reef (low relief)	Moderate cover of browns on boulders, predominantly Ecklonia and Cystophora sp. Encrusting coralline reds.	JCO	Drop down video	15/12/98	-33.73876	114.98028
GBC_128	Cape Clairault	Perennial seagrass (sparse)	Pavement with occasional sand patches. Sparse cover of Thalassodendron. Some coralline reds. Very sparse cover of sponges and some ascidians.	JCO	Drop down video	15/12/98	-33.74011	114.96856
GBC_129	Wilyabrup	Macroalgae dominated granite reef (high relief)	Dense cover of browns, predominantly Ecklonia and Scytothalia. Some Cystophora. Patches of coralline encrusting reds.	JCO	Drop down video	15/12/98	-33.75026	114.98775
GBC_130	Wilyabrup	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia (dominant) covered granite rocks. Coralline reds encrusting.	KBA	Drop down video	15/12/98	-33.74956	114.09989
GBC_131	Wilyabrup	Perennial seagrass (sparse)	Limestone pavement with Thalassodendron and red tufts. Sparse coverage.	KBA	Drop down video	15/12/98	-33.7494	114.9682
GBC_132	Wilyabrup	Macroalgae dominated granite reef (high relief)	Large boulders with moderate cover of browns, predominately Ecklonia and Scytothalia, and encrusting coralline reds. On top of large area of reef coming up from approx. 40m to 20m.	JCO	Drop down video	15/12/98	-33.75803	114.95831
GBC_132	Wilyabrup	Macroalgae dominated granite reef (high relief)	Granite rocks covered with Ecklonia (dominant) and Scytothalia. Bare patches with red encrusting coralline algae.	KBA	Drop down video	15/12/98	-33.7632	114.98538
GBC_134	Wilyabrup	Macroalgae dominated granite reef (low relief)	Low profile granite reef. Mainly covered with Ecklonia. Some Scytothalia. Red coralline algae in bare spots.	KBA	Drop down video	15/12/98	-33.76568	114.98105
GBC_135	Wilyabrup	Macroalgae dominated granite reef (low relief)	Ecklonia dominated low profile reef. Some Scytothalia with coralline red algae encrusting bare areas.	KBA	Drop down video	15/12/98	-33.7731	114.98836

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_136	Wilyabrup	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia covered granite rock. Red coralline algae in bare areas.	KBA	Drop down video	15/12/98	-33.77526	114.98268
GBC_137	Wilyabrup	Perennial seagrass (sparse)	Very sparse cover of filamentous and thalassodendron on coarse sand. Some ripples.	JCO	Drop down video	15/12/98	-33.77773	114.9597
GBC_138	Wilyabrup	Macroalgae dominated granite reef (low relief)	Scytothalia covered low profile granite. Some Ecklonia. Platythalia?	KBA	Drop down video	15/12/98	-33.74003	114.09408
GBC_139	Wilyabrup	Macroalgae dominated granite reef (low relief)	Sand with pavement patches. Scytothalia attached. Pavement is probably granite.	KBA	Drop down video	15/12/98	-33.79353	114.99051
GBC_140	Wilyabrup	Perennial seagrass (sparse)	Red algal tufts. Sparse cover. Thalassodendron?	KBA	Drop down video	15/12/98	-33.79795	114.97125
GBC_141	Wilyabrup	Sand	Algal tufts - sparse cover over sand. Thalassodendron?	KBA	Drop down video	15/12/98	-33.8009	114.94713
GBC_142	Wilyabrup	Macroalgae dominated granite reef (low relief)	Dense cover of browns, predominantly Ecklonia, Scytothalia and Sargassum sp.	JCO	Drop down video	15/12/98	-33.80303	114.9947
GBC_143	Wilyabrup	Macroalgae dominated granite reef (low relief)	Dense cover of brown algae, predominantly Ecklonia, Sargassum and some Scytothalia.	JCO	Drop down video	15/12/98	-33.80496	114.99
GBC_144	Wilyabrup	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of Scytothalia. Some Ecklonia. Occasional sand patches.	JCO	Drop down video	15/12/98	-33.81386	114.99398
GBC_145	Wilyabrup	Macroalgae dominated granite reef (low relief)	Boulders with moderate cover of Ecklonia, and encrusting coralline reds.	JCO	Drop down video	15/12/98	-33.81371	114.9891
GBC_146	Wilyabrup	Perennial seagrass (sparse)	Red algal tufts. Sparse cover. Thalassodendron?	KBA	Drop down video	15/12/98	-33.81235	114.972
GBC_147	Cowaramup	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of browns, predominantly Cystophora spp., Ecklonia, Scytothalia and some sparse Sargassum.	JCO	Drop down video	15/12/98	-33.8267	114.991
GBC_148	Cowaramup	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of Ecklonia and Scytothalia.	JCO	Drop down video	15/12/98	-33.82921	114.98385
GBC_149	Cowaramup	Perennial seagrass (sparse)	Tufts of red algae - 2 species dominant. Sparse patches of Thalassodendron.	JCO	Drop down video	15/12/98	-33.82328	114.96383
GBC_150	Cowaramup	Sand	Algal tufts (sparse) on sand. Thalassodendron?	KBA	Drop down video	15/12/98	-33.83263	114.93455
GBC_151	Cowaramup	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of browns, mainly Scytothalia, Cystophora spp. Possibly some Platythalia sp.	JCO	Drop down video	15/12/98	-33.84303	114.99118
GBC_152	Cowaramup	Macroalgae dominated granite reef (low relief)	Boulders with dense to moderate cover of Ecklonia and Scytothalia. Some encrusting coralline reds.	JCO	Drop down video	15/12/98	-33.8442	114.9829
GBC_153	Cowaramup	Macroalgae dominated granite reef (low relief)	Boulders with dense cover of browns, mainly Scytothalia and Ecklonia.	JCO	Drop down video	15/12/98	-33.85003	114.9784
GBC_154	Cowaramup	Macroalgae dominated granite reef (low relief)	Boulders with very dense cover of browns, predominantly Cystophora spp. (monilifera, botrycystis?) and perhaps some Sargassum.	JCO	Drop down video	15/12/98	-33.86235	114.98385

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_155	Cowaramup	Macroalgae dominated granite reef (low relief)	Moderate cover of Ecklonia, Scytothalia. Some filamentous reds and Sargassum sp. (very sparse). Reef may be limestone??	JCO	Drop down video	15/12/98	-33.85896	114.97558
GBC_156	Cowaramup	Sand	Very sparse cover of red tuft algae on coarse-grained sand.	JCO	Drop down video	15/12/98	-33.85608	114.97203
GBC_157	Cowaramup	Sand	Red algae tufts (sparse) on sand. Thallassodendron?	KBA	Drop down video	15/12/98	-33.85661	114.94516
GBC_158	Cowaramup	Macroalgae dominated granite reef (low relief)	Scytothalia dominated mixed algae bed on granite with some coralline algae encrusting bare spots.	KBA	Drop down video	15/12/98	-33.87423	114.97728
GBC_159	Cowaramup	Macroalgae dominated granite reef (low relief)	Ecklonia dominated with Scytothalia. Coralline red encrusting granite rock.	KBA	Drop down video	15/12/98	-33.87493	114.9734
GBC_160	Cowaramup	Perennial seagrass (sparse)	Thalassodendron on pavement with some reds and Ecklonia.	KBA	Drop down video	15/12/98	-33.87547	114.96241
GBC_161	Cowaramup	Macroalgae dominated granite reef (high relief)	Sargassum dominated. Mixed algal bed on granite. Some Ecklonia and other brown algae.	KBA	Drop down video	15/12/98	-33.89156	114.9816
GBC_162	Cowaramup	Sand	Bare sand - smooth.	KBA	Drop down video	15/12/98	-33.8916	114.97485
GBC_163	Cowaramup	Perennial seagrass (sparse)	Pavement with Thalassodendron, some Ecklonia and some reds (sparse cover). Mainly bare with encrusting coralline algae.	KBA	Drop down video	15/12/98	-33.89155	114.95595
GBC_164	Cowaramup	Sand	Sand plain with algae patches. Probably reds?? Thallassodendron?	KBA	Drop down video	15/12/98	-33.89255	114.93171
GBC_165	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Large boulders with moderate cover of Ecklonia, Scytothalia, Platythalia and coralline encrusting reds.	JCO	Drop down video	17/12/98	-33.90868	114.98175
GBC_166	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Large boulders with moderate cover of browns, predominantly Ecklonia and Scytothalia.	JCO	Drop down video	17/12/98	-33.911	114.97701
GBC_167	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Large boulders with moderate coverage of Ecklonia, Scytothalia and coralline encrusting reds.	JCO	Drop down video	17/12/98	-33.91928	114.98225
GBC_168	Cape Mentelle	Sand	Large area of rippled sand with isolated granite boulders covered with Scytothalia and Platythalia predominantly.	JCO	Drop down video	17/12/98	-33.92261	114.9783
GBC_169	Cape Mentelle	Sand	Rippled coarse sand with very sparse cover of red algal tufts and isolated patches of Thalassodendron.	JCO	Drop down video	17/12/98	-33.92231	114.95628
GBC_170	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Brown kelp covered granite reef - Ecklonia/Scytothalia. Platythalia also.	KBA	Drop down video	17/12/98	-33.94131	114.98488
GBC_171	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Ecklonia dominated reef. Some sponges. Coralline reds encrusting.	KBA	Drop down video	17/12/98	-33.94121	114.9769
GBC_172	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Ecklonia dominated granite boulders. Sponges and ascidians. Encrusting reds.	KBA	Drop down video	17/12/98	-33.9373	114.9677

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_173	Cape Mentelle	Sand	Rippled coarse sand, some shell fragments, very sparse cover of red algal tufts and possibly isolated Thalassodendron.	JCO	Drop down video	17/12/98	-33.93928	114.9371
GBC_174	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Ecklonia dominated granite boulders with Sargassum and Scytothalia. Encrusting reds.	KBA	Drop down video	17/12/98	-33.95665	114.98191
GBC_175	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Ecklonia dominated. Encrusting reds. Sponges and ascidians.	KBA	Drop down video	17/12/98	-33.95245	114.9739
GBC_176	Cape Mentelle	Macroalgae dominated limestone reef (low relief)	Ecklonia, Scytothalia and filamentous reds. Encrusting reds. Sponges and ascidians.	KBA	Drop down video	17/12/98	-33.95418	114.9579
GBC_177	Cape Mentelle	Macroalgae dominated granite reef (high relief)	Ecklonia dominant on granite boulders. Some Platythalia. Encrusting coralline reds.	KBA	Drop down video	17/12/98	-33.96766	114.97693
GBC_178	Margaret River	Sand	Bare sand.	KBA	Drop down video	17/12/98	-33.97351	114.97863
GBC_179	Margaret River	Macroalgae dominated granite reef (low relief)	Ecklonia dominant on granite boulders. Sand patches between. Sponges/coralline reds encrusting.	KBA	Drop down video	17/12/98	-33.97496	114.97083
GBC_180	Margaret River	Perennial seagrass (sparse)	Thalassodendron meadow attached to pavement. Some Caulerpa, sponges and encrusting coralline reds.	KBA	Drop down video	17/12/98	-33.977	114.95353
GBC_181	Margaret River	Sand	Rippled coarse sand with very sparse cover of filamentous red algal tufts. Some sponges and isolated other macroalgae (possibly Gracilaria?).	JCO	Drop down video	17/12/98	-33.97701	114.95035
GBC_182	Margaret River	Macroalgae dominated granite reef (high relief)	Ecklonia dominant on granite boulders. Some Platythalia. Sparse Sargassum. Coralline reds encrusted bare areas.	KBA	Drop down video	17/12/98	-33.991	114.9823
GBC_183	Margaret River	Macroalgae dominated granite reef (high relief)	Ecklonia dominant on granite boulders. Encrusting coralline reds in bare spots.	KBA	Drop down video	17/12/98	-33.99168	114.9771
GBC_184	Marmaduke Point	Macroalgae dominated granite reef (high relief)	Boulders with moderate cover of Ecklonia and Scytothalia, and coralline reds. Some calcareous sponges. Sand in gaps between boulders.	JCO	Drop down video	17/12/98	-34.00296	114.9888
GBC_185	Marmaduke Point	Macroalgae dominated granite reef (high relief)	Boulders with moderate cover of browns, predominantly Scytothalia and sparse Ecklonia. Some sand between boulders.	JCO	Drop down video	17/12/98	-34.00538	114.98551
GBC_186	Marmaduke Point	Perennial seagrass (sparse)	Rippled sand with tufts of filamentous red algae and ?1 other species with flattened thalli.	JCO	Drop down video	17/12/98	-34.00825	114.96533
GBC_187	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Ecklonia dominated granite rocks. Sand patches. Some Scytothalia. Encrusting reds.	KBA	Drop down video	17/12/98	-34.01355	114.99326
GBC_188	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Platythalia dominated brown macroalgal assemblage with Scytothalia and Ecklonia. Granite cobblestones. Sand patches.	KBA	Drop down video	17/12/98	-34.0201	114.99436

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_189	Isaacs Rock	Macroalgae dominated granite reef (high relief)	Ecklonia dominated granite rocks. Some Scytothalia and Platythalia. Encrusting coralline reds.	KBA	Drop down video	17/12/98	-34.01786	114.98556
GBC_190	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Low relief reef with Ecklonia. Mostly covered by encrusting reds.	KBA	Drop down video	17/12/98	-34.02165	114.97135
GBC_191	Isaacs Rock	Sand	Sand plain with red algal tufts and sponge.	KBA	Drop down video	17/12/98	-34.025	114.95226
GBC_192	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Ecklonia dominated. Kelp covered low relief reef. Sargassum and Scytothalia present. Sand patches.	KBA	Drop down video	17/12/98	-34.03135	114.99175
GBC_193	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Ecklonia and Scytothalia. Kelp covered rocks. Red encrusting algae on bare patches of rock.	KBA	Drop down video	17/12/98	-34.02708	114.98686
GBC_194	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Ecklonia dominated reef. Some Sargassum and Scytothalia. Encrusting reds.	KBA	Drop down video	17/12/98	-34.0382	114.99231
GBC_195	Isaacs Rock	Macroalgae dominated granite reef (low relief)	Ecklonia dominated reef. Some Platythalia and Scytothalia. Encrusting coralline algae. Sand patches.	KBA	Drop down video	17/12/98	-34.03586	114.9884
GBC_197	Round Rock	Macroalgae dominated granite reef (low relief)	Scytothalia dominated granite boulders. Some filamentous reds. Encrusting reds.	KBA	Drop down video	17/12/98	-34.04466	114.99646
GBC_198	Round Rock	Macroalgae dominated granite reef (high relief)	Ecklonia dominated patchy reef with Platythalia and Scytothalia. Large boulders. Sand patches.	KBA	Drop down video	17/12/98	-34.04916	114.98946
GBC_199	Round Rock	Macroalgae dominated granite reef (high relief)	Ecklonia dominated kelp covered granite. Isolated patch reefs (large granite boulder).	KBA	Drop down video	17/12/98	-34.04938	114.97753
GBC_200	Round Rock	Sand	Red algae tufts. Some sponges. Sparse coverage. Flat bladed red.	KBA	Drop down video	17/12/98	-34.0474	114.94915
GBC_201	Round Rock	Macroalgae dominated granite reef (low relief)	Kelp covered granite. Ecklonia, Scytothalia, Sargassum, Platythalia. Patches with encrusting red algae.	KBA	Drop down video	17/12/98	-34.05755	114.99645
GBC_202	Round Rock	Macroalgae dominated granite reef (low relief)	Flat boulders with sparse to moderate cover of Scytothalia, Ecklonia, Platythalia and crustose reds. Some sand patches with filamentous reds.	JCO	Drop down video	17/12/98	-34.05763	114.98913
GBC_203	Round Rock	Macroalgae dominated granite reef (low relief)	Moderate to dense cover of Scytothalia, Platythalia and Ecklonia. Some sand patches.	JCO	Drop down video	17/12/98	-34.06255	114.9846
GBC_204	Round Rock	Macroalgae dominated limestone reef (low relief)	Moderate cover of browns, largely Scytothalia and Ecklonia. Crustose reds. Some sand in pockets on pavement.	JCO	Drop down video	17/12/98	-34.06488	114.96213
GBC_205	Round Rock	Macroalgae dominated granite reef (low relief)	Flat boulders with patches of mobile sand. Moderate cover of Platythalia, Scytothalia and some Ecklonia. Filamentous reds on sand patches.	JCO	Drop down video	17/12/98	-34.07616	114.99635

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_206	Round Rock	Macroalgae dominated granite reef (low relief)	Boulders with moderate to dense cover of Ecklonia, Scytothalia and Platythalia. Crustose coralline reds on boulders.	JCO	Drop down video	17/12/98	-34.07411	114.98433
GBC_207	Round Rock	Macroalgae dominated granite reef (low relief)	Moderate cover of red turf algae. Occasional very sparse Ecklonia and Scytothalia.	JCO	Drop down video	17/12/98	-34.07473	114.97473
GBC_208	Cape Freycinet	Macroalgae dominated granite reef (low relief)	Slope with some cracks. Dense cover of Ecklonia and Scytothalia, and coralline crustose reds.	JCO	Drop down video	17/12/98	-34.09468	114.99068
GBC_209	Cape Freycinet	Macroalgae dominated granite reef (low relief)	Slope. Dense cover of Ecklonia and Scytothalia.	JCO	Drop down video	17/12/98	-34.10053	114.98483
GBC_210	Cape Freycinet	Macroalgae dominated granite reef (low relief)	Flat slope with moderate to dense cover of Ecklonia and Scytothalia.	JCO	Drop down video	17/12/98	-34.10171	114.97005
GBC_211	Cape Freycinet	Sand	Red algal tufts on sand. Thalassodendron attached to limestone pavement with red algal tufts. Sparse coverage. NB. Could be pavement under sand.	KBA	Drop down video	17/12/98	-34.09206	114.9506
GBC_212	Cape Freycinet	Macroalgae dominated limestone reef (low relief)	Moderate cover of browns, mainly Ecklonia and Scytothalia. Some sand patches with filamentous reds.	JCO	Drop down video	17/12/98	-34.11098	114.99448
GBC_213	Cape Freycinet	Macroalgae dominated granite reef (high relief)	Ecklonia dominated kelp covered granite boulders. Patch reef. Some Scytothalia.	KBA	Drop down video	17/12/98	-34.11698	114.99208
GBC_214	Cape Freycinet	Perennial seagrass (sparse)	Red algae tufts - 1 filamentous and another with flat thallus. Could be thallassodenronSparse cover. NB. Drifted onto granite boulder patch reef.	KBA	Drop down video	17/12/98	-34.12131	114.9872
GBC_215	Cape Freycinet	Macroalgae dominated granite reef (high relief)	Ecklonia dominated kelp covered patch reef - moderate cover. Sand patches with red algae tufts.	KBA	Drop down video	17/12/98	-34.12828	115.0072
GBC_216	Cape Freycinet	Macroalgae dominated granite reef (high relief)	Ecklonia dominated high relief reef. Some Platythalia and Scytothalia. NB. Video picture was poor.	KBA	Drop down video	17/12/98	-34.12978	115.0013
GBC_217	Cape Freycinet	Macroalgae dominated limestone reef (low relief)	Moderate cover of filamentous red turf algae. Very sparse Ecklonia, Scytothalia and isolated Caulerpa. Some mobile sand in pockets.	JCO	Drop down video	18/12/98	-34.1309	114.98795
GBC_218	Cape Freycinet	Perennial seagrass (sparse)	Moderate cover of filamentous red turf. Sparse Ecklonia. Patches of Thalassodendron. Some sponges and isolated sand patches. Also very sparse Caulerpa.	JCO	Drop down video	18/12/98	-34.13885	114.9637
GBC_219	Quoin Rock	Macroalgae dominated limestone reef (low relief)	Patches of reef with moderate cover of Cystophora and sparse Ecklonia. Surrounded by bare sand.	JCO	Drop down video	18/12/98	-34.14136	115.01763
GBC_220	Quoin Rock	Sand	Rippled sand.	JCO	Drop down video	18/12/98	-34.14435	115.00181

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_221	Quoin Rock	Macroalgae dominated granite reef (high relief)	Large boulders with dense cover of Ecklonia and Scytothalia.	JCO	Drop down video	18/12/98	-34.16151	115.01695
GBC_222	Quoin Rock	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia covered low relief reef with sand patches with red algal tufts.	KBA	Drop down video	18/12/98	-34.19371	115.02651
GBC_222	Quoin Rock	Macroalgae dominated limestone reef (low relief)	Slope with dense cover of Ecklonia.	JCO	Drop down video	18/12/98	-34.1609	115.006
GBC_223	Quoin Rock	Low relief subtidal reef platform	Moderate cover of Ecklonia and Caulerpa. Some filamentous reds and crustose corallines.	JCO	Drop down video	18/12/98	-34.1618	114.9908
GBC_224	Quoin Rock	Macroalgae dominated granite reef (low relief)	Moderate cover of filamentous red turf. Very sparse Ecklonia. Patches of Thalassodendron and Caulerpa. Some sand patches. Fox fish.	JCO	Drop down video	18/12/98	-34.1607	114.9664
GBC_225	Hamelin Bay	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia covered reef (dense). Some Platythalia and Zonaria?	KBA	Drop down video	18/12/98	-34.16853	115.02468
GBC_226	Hamelin Bay	Macroalgae dominated limestone reef (high relief)	Scytothalia/Ecklonia covered reef (moderate density). NB. Not too sure that it is granite.	KBA	Drop down video	18/12/98	-34.17131	115.00935
GBC_227	Hamelin Bay	Macroalgae dominated granite reef (high relief)	Ecklonia/Platythalia covered high relief reef. Some Scytothalia and Cystophora present.	KBA	Drop down video	18/12/98	-34.18115	115.02896
GBC_228	Hamelin Bay	Macroalgae dominated granite reef (high relief)	Ecklonia/Scytothalia/Platythalia kelp covered granite boulders (moderate to high density). Some Sargassum/Cystophora.	KBA	Drop down video	18/12/98	-34.1788	115.01631
GBC_229	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Ecklonia/Scytothalia covered granite reef (heavy coverage).	KBA	Drop down video	18/12/98	-34.18241	115.00726
GBC_230	Hamelin Bay	Low relief subtidal reef platform	Reef platform. Occasional sand patches. Moderate to sparse cover of Ecklonia and Scytothalia. Some filamentous red turf and coralline encrusting reds. Sponges and several nannygai.	JCO	Drop down video	18/12/98	-34.18373	114.9874
GBC_231	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Patches of mobile sand. Reef platform with moderate cover of filamentous red turf. Patches of Ecklonia, Thalassodendron. Sparse Caulerpa. Some sponges.	JCO	Drop down video	18/12/98	-34.18333	114.97216
GBC_233	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Ecklonia and Scytothalia covered low relief limestone reef (medium density).	KBA	Drop down video	18/12/98	-34.19683	115.0188
GBC_234	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Ecklonia/Scytothalia dominated reef (moderate density). Red turf and encrusting coralline algae.	KBA	Drop down video	18/12/98	-34.20056	114.99098
GBC_235	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Platythalia sp. dominated low relief reef (medium density).	KBA	Drop down video	18/12/98	-34.20523	115.02448
GBC_236	Hamelin Bay	Macroalgae dominated granite reef (high relief)	Ecklonia/Scytothalia covered granite rocks (moderate to dense).	KBA	Drop down video	18/12/98	-34.20845	115.0051

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_237	Hamelin Bay	Sand	Bare sand. NB. May not have got clapper board.	KBA	Drop down video	18/12/98	-34.21913	114.99141
GBC_238	Hamelin Bay	Perennial seagrass (sparse)	Moderate cover of filamentous reds and Thalassodendron. Some sand patches and very sparse Dictyopteris.	JCO	Drop down video	18/12/98	-34.22235	114.97858
GBC_239	Hamelin Bay	Perennial seagrass (dense)	A. griffithii seagrass with some P. sinuosa amongst it. Quite large epiphytic reds.	KBA	Drop down video	18/12/98	-34.21975	115.02081
GBC_240	Foul Bay	Low relief subtidal reef platform	Sand patch with patch reefs of Platythalia and red filamentous algae (red tufts).	KBA	Drop down video	18/12/98	-34.22561	115.00811
GBC_241	Foul Bay	Macroalgae dominated limestone reef (low relief)	Mixed algae covered low relief reef. Ecklonia, Scytothalia, Platythalia, Caulerpa, Cystophora, filamentous reds. NB. Patches of low relief reef south of Hamelin Island.	KBA	Drop down video	18/12/98	-34.22788	115.02098
GBC_242	Foul Bay	Sand	Bare sand.	KBA	Drop down video	18/12/98	-34.23415	115.02441
GBC_243	Foul Bay	Macroalgae dominated limestone reef (low relief)	Ecklonia dominated low relief reef with Scytothalia, filamentous reds and encrusting coralline reds.	KBA	Drop down video	18/12/98	-34.23535	115.01098
GBC_244	Foul Bay	Sand	Rippled coarse sand with very sparse cover of filamentous and other species of red tufts.	JCO	Drop down video	18/12/98	-34.23823	114.98495
GBC_245	Foul Bay	Macroalgae dominated granite reef (high relief)	Ecklonia/Scytothalia dominated reef with filamentous reds, Platythalia, Cystophora and possibly Zonaria (dense coverage).	KBA	Drop down video	18/12/98	-34.24091	115.0274
GBC_246	Foul Bay	Macroalgae dominated limestone reef (low relief)	Dense cover of Scytothalia and Platythalia. Some sand. Very sparse Dictyopteris.	JCO	Drop down video	18/12/98	-34.2479	115.0247
GBC_247	Foul Bay	Macroalgae dominated limestone reef (high relief)	Dense cover of Ecklonia, Scytothalia, Platythalia, some Caulerpa and filamentous reds. Occasional sand patches. Queen snapper.	JCO	Drop down video	18/12/98	-34.24948	115.01416
GBC_248	Foul Bay	Macroalgae dominated limestone reef (low relief)	Dense cover of Ecklonia and Scytothalia. Sparse Platythalia.	JCO	Drop down video	18/12/98	-34.25195	114.99751
GBC_249	Foul Bay	Macroalgae dominated limestone reef (low relief)	Dense cover of filamentous red turf algae. Very sparse Ecklonia, isolated Caulerpa and pockets of sand.	JCO	Drop down video	18/12/98	-34.25216	114.98938
GBC_250	Foul Bay	Perennial seagrass (sparse)	Moderate cover of filamentous reds. Some large sand patches. Possibly Thalassodendron - too high off the bottom to tell.	JCO	Drop down video	18/12/98	-34.25515	114.9532
GBC_251	Cosey Corner	Perennial seagrass (medium)	A. griffithii seagrass (moderate to dense). Some epiphytes (medium load).	KBA	Drop down video	18/12/98	-34.25935	115.02926
GBC_252	Cosey Corner	Low relief subtidal reef platform	Ecklonia on patch reefs. Filamentous reds and Sargassum on limestone pavement (sparse cover). Red algae turf in places and encrusting reds.	KBA	Drop down video	18/12/98	-34.25926	115.02151

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_253	Cosey Corner	Macroalgae dominated limestone reef (high relief)	Moderate cover of filamentous reds, some Ecklonia, sand patches and deep gutters.	JCO	Drop down video	18/12/98	-34.26265	115.00931
GBC_254	Cosey Corner	Macroalgae dominated limestone reef (low relief)	Dense cover of filamentous reds, sparse Ecklonia and some coralline reds.	JCO	Drop down video	18/12/98	-34.26623	114.99796
GBC_255	Cosey Corner	Macroalgae dominated limestone reef (low relief)	Moderate cover of red tuft algae. Very sparse Ecklonia and Thalassodendron. Some mobile sand in patches.	JCO	Drop down video	18/12/98	-34.27123	114.98586
GBC_256	Cape Hamelin	Macroalgae dominated limestone reef (low relief)	Cystophora spp. (racemosa is one) attached to pavement. Some Ecklonia (sparse). Encrusting coralline reds. Sand patches.	KBA	Drop down video	18/12/98	-34.27398	115.01953
GBC_257	Cape Hamelin	Macroalgae dominated granite reef (low relief)	Ecklonia and Scytothalia dominated kelp covered reef. Some Platythalia and Zonaria. Red turf.	KBA	Drop down video	18/12/98	-34.27906	115.0132
GBC_258	Cosey Corner	Perennial seagrass (sparse)	Thalassodendron, red filamentous and Ecklonia attached to pavement. Turf reds. Encrusting reds.	KBA	Drop down video	18/12/98	-34.28636	115.00135
GBC_259	Cape Hamelin	Sand	Rippled sand. Some shell fragments.	JCO	Drop down video	18/12/98	-34.29478	114.97426
GBC_260	Sandy Patch	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia on rocks. Patchy. Sand patches have red algal tufts and Thalassodendron.	KBA	Drop down video	18/12/98	-34.28093	115.04816
GBC_261	Sandy Patch	Macroalgae dominated granite reef (low relief)	Kelp covered reef has Ecklonia, Scytothalia, some Platythalia and Encyothalia. Patchy. Sand patches have filamentous red tufts.	KBA	Drop down video	18/12/98	-34.28572	115.04305
GBC_262	Sandy Patch	Macroalgae dominated granite reef (high relief)	Ecklonia/Scytothalia (dense) dominated kelp covered rocks. Some Platythalia present.	KBA	Drop down video	18/12/98	-34.29318	115.02545
GBC_263	Sandy Patch	Macroalgae dominated limestone reef (low relief)	Ecklonia and Scytothalia densely covered limestone pavement.	KBA	Drop down video	18/12/98	-34.30368	115.00625
GBC_264	Sandy Patch	Macroalgae dominated limestone reef (low relief)	Mixed macroalgae attached to pavement (under sand). Scytothalia, Ecklonia, Platythalia, Gracilaria, Sargassum, Dictyopteris. Large sand patches and weedwrack.	KBA	Drop down video	20/12/98	-34.2936	115.05981
GBC_265	Sandy Patch	Macroalgae dominated granite reef (high relief)	Ecklonia dominated (dense cover). Some Scytothalia and Platythalia and Sargassum. Platform reef.	KBA	Drop down video	20/12/98	-34.30038	115.0461
GBC_266	Sandy Patch	Sand	Bare sand.	KBA	Drop down video	20/12/98	-34.31276	115.01823
GBC_267	Sandy Patch	Sand	Red filamentous algal tufts (sparse cover).	KBA	Drop down video	20/12/98	-34.34235	115.00285
GBC_268	Sandy Patch	Macroalgae dominated limestone reef (low relief)	Platythalia, Scytothalia and some red algae spp. (moderate cover). Very patchy with sand.	KBA	Drop down video	20/12/98	-34.30621	115.07446
GBC_269	Sandy Patch	Macroalgae dominated granite reef (low relief)	Moderate to dense cover of Ecklonia and Scytothalia with some Platythalia. Some sandy patches.	KBA	Drop down video	20/12/98	-34.31976	115.05365

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_270	Jacks Ledge	Macroalgae dominated granite reef (low relief)	Scytothalia dominated kelp covered reef (moderate density). Some Ecklonia (sparse). Red turf. Encrusting coralline reds.	KBA	Drop down video	20/12/98	-34.33601	115.03151
GBC_271	Jacks Ledge	Macroalgae dominated granite reef (low relief)	Scytothalia dominated kelp covered reef (moderate cover) with Ecklonia. Some Platythalia. Sand patches. Substrate possibly gneissic?	KBA	Drop down video	20/12/98	-34.32745	115.08591
GBC_272	Jacks Ledge	Macroalgae dominated granite reef (high relief)	Moderate to dense cover of Scytothalia, Ecklonia and Platythalia.	KBA	Drop down video	20/12/98	-34.33636	115.07528
GBC_273	Jacks Ledge	Macroalgae dominated granite reef (high relief)	Ecklonia dominated kelp covered granite boulder (moderate to dense). Some Scytothalia (sparse). Some red turf. Encrusting coralline reds.	KBA	Drop down video	20/12/98	-34.34605	115.06473
GBC_274	Jacks Ledge	Macroalgae dominated granite reef (low relief)	Scytothalia/Ecklonia dominated kelp covered granite reef (sparse to moderate density). Some red turf and encrusting coralline reds.	KBA	Drop down video	20/12/98	-34.3567	115.04953
GBC_275	Jacks Ledge	Low relief subtidal reef platform	Filamentous red algae. Some Ecklonia and Caulerpa (both sparse). Some Thalassodendron - flora coverage moderate to sparse. Hard to tell if granite or limestone.	KBA	Drop down video	20/12/98	-34.37323	115.03461
GBC_276	Jacks Ledge	Macroalgae dominated limestone reef (low relief)	Scytothalia/Ecklonia dominated kelp covered reef (moderate) with Platythalia and other browns. Patchy reef with sand patches. Substrate possibly gneissic?	KBA	Drop down video	20/12/98	-34.3499	115.09678
GBC_277	Jacks Ledge	Macroalgae dominated limestone reef (low relief)	Moderate to dense cover of Ecklonia and Scytothalia. Some red algae turf and encrusting coralline reds. Substrate possibly gneissic?	KBA	Drop down video	20/12/98	-34.34915	115.08396
GBC_278	Jacks Ledge	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia kelp covered reef. Sparse to moderate cover.	KBA	Drop down video	20/12/98	-34.36433	115.0689
GBC_279	Cape Leeuwin	Sand	Algal tufts of filamentous reds. Dictyopteris and Platythalia with some A. antarctica. Patchy.	KBA	Drop down video	20/12/98	-34.34286	115.11396
GBC_280	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Moderate cover of Scytothalia /Ecklonia and some Platythalia. Very patchy. Sand patches. Substrate possibly gneissic?	KBA	Drop down video	20/12/98	-34.35026	115.10348
GBC_281	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Moderate cover of Ecklonia, Scytothalia and filamentous reds. Substrate possibly limestone?	JCO	Drop down video	20/12/98	-34.36595	115.09078
GBC_282	Cape Leeuwin	Perennial seagrass (sparse)	Sand over limestone pavement. Some Thalassodendron (sparse). Some filamentous reds (sparse to moderate). Large sand patches with red algal tufts.	KBA	Drop down video	20/12/98	-34.38673	115.07075

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_283	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia dominated kelp covered reef (moderate cover). Some Platythalia. Some filamentous reds. Substrate possibly limestone?	KBA	Drop down video	20/12/98	-34.35348	115.11873
GBC_284	Cape Leeuwin	Macroalgae dominated granite reef (high relief)	Moderate cover of Ecklonia, Scytothalia and Platythalia. Moderate patches of filamentous red turf algae. Substrate possibly limestone?	JCO	Drop down video	20/12/98	-34.36251	115.11368
GBC_285	Cape Leeuwin	Macroalgae dominated limestone reef (high relief)	Moderate to dense cover of Ecklonia, Scytothalia and filamentous red turf algae. Substrate possibly gneissic?	JCO	Drop down video	20/12/98	-34.37946	115.10023
GBC_286	Cape Leeuwin	Macroalgae dominated limestone reef (high relief)	Moderate cover of Ecklonia. Sparse Scytothalia. Some filamentous reds in patches. Isolated small sand patches. Substrate possibly gneissic?	JCO	Drop down video	20/12/98	-34.3681	115.12926
GBC_287	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Moderate cover of Scytothalia and Ecklonia. Some large patches of mobile sand. Substrate possibly limestone?	JCO	Drop down video	20/12/98	-34.37568	115.12295
GBC_288	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Moderate cover of filamentous reds. Sparse Ecklonia and Scytothalia. Some small sand patches. Substrate possibly gneissic?	JCO	Drop down video	20/12/98	-34.39253	115.10826
GBC_289	Cape Leeuwin	Perennial seagrass (sparse)	Sparse cover of Thalassodendron, Ecklonia and filamentous red tufts. Some sand patches.	JCO	Drop down video	20/12/98	-34.40983	115.0944
GBC_290	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Patchy reef with mixed browns, predominantly Scytothalia. Some Ecklonia and Platythalia. Interspersed with mobile sand patches.	JCO	Drop down video	20/12/98	-34.37498	115.14526
GBC_291	Cape Leeuwin	Macroalgae dominated granite reef (high relief)	Moderate cover of Ecklonia. Sparse Scytothalia.	JCO	Drop down video	20/12/98	-34.3917	115.13805
GBC_292	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Moderate cover of Ecklonia. Sparse Scytothalia on boulders. Some filamentous and crustose reds.	JCO	Drop down video	20/12/98	-34.4067	115.12811
GBC_293	Cape Leeuwin	Perennial seagrass (sparse)	Sparse cover of Thalassodendron in patches. Very sparse Ecklonia. Some sponges, filamentous red tufts and sand patches.	JCO	Drop down video	20/12/98	-34.43335	115.1398
GBC_294	Cape Leeuwin	Sand	Bare sand.	KBA	Drop down video	20/12/98	-34.38173	115.1597
GBC_295	Cape Leeuwin	Macroalgae dominated granite reef (high relief)	Dense cover of Scytothalia and Ecklonia. Sides of boulders covered with encrusting coralline reds.	JCO	Drop down video	20/12/98	-34.39418	115.15658
GBC_296	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Moderate to dense cover of Ecklonia and Scytothalia. Some isolated sand patches. Hard to tell if substrate is limestone or granite.	JCO	Drop down video	20/12/98	-34.409	115.15998
GBC_297	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Scytothalia dominated kelp covered reef (moderate to dense). Some Ecklonia. Some filamentous red algae.	KBA	Drop down video	20/12/98	-34.4087	115.1735

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_298	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Dense cover of Scytothalia and Ecklonia.	JCO	Drop down video	20/12/98	-34.42763	115.17493
GBC_299	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Dense cover of Ecklonia, Scytothalia and Platythalia.	JCO	Drop down video	20/12/98	-34.4414	115.18365
GBC_300	Cape Leeuwin	Perennial seagrass (sparse)	Moderate cover of Thalassodendron and filamentous red tufts. Some sponges and isolated sand patches.	JCO	Drop down video	20/12/98	-34.45931	115.2034
GBC_301	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Platythalia dominated macroalgae covered reef (moderate). Some Cystophora and Sargassum.	KBA	Drop down video	20/12/98	-34.37271	115.16431
GBC_302	Cape Leeuwin	Perennial seagrass (sparse)	A. antarctica seagrass (sparse to moderate). Patchy. Some A. griffithii, Sargassum and Cystophora.	KBA	Drop down video	20/12/98	-34.38521	115.17418
GBC_303	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Ecklonia/Scytothalia on low relief reef (dense cover). Some filamentous reds. Substrate difficult to determine.	KBA	Drop down video	20/12/98	-34.41568	115.19631
GBC_304	Cape Leeuwin	Perennial seagrass (sparse)	Red algal tufts and Thalassodendron on pavement (sparse to moderate cover). Some exposed stones and sand patches.	KBA	Drop down video	20/12/98	-34.43453	115.21143
GBC_305	Cape Leeuwin	Perennial seagrass (sparse)	Sparse cover of Thalassodendron and filamentous red tufts. Some mobile sand patches and isolated sponges.	JCO	Drop down video	20/12/98	-34.45078	115.23191
GBC_306	Cape Leeuwin	Ephemeral seagrass (sparse)	Bare sand with little patches of sparse Heterozostera tasmanica.	KBA	Drop down video	21/12/98	-34.38763	115.20836
GBC_307	Cape Leeuwin	Ephemeral seagrass (sparse)	Mixed seagrass (sparse to moderate). H. tasmanica, Halophila australis and A. griffithii. Heavy epiphyte load on Amphibolis.	KBA	Drop down video	21/12/98	-34.37818	115.19666
GBC_308	Hardy Inlet	Macroalgae dominated granite reef (low relief)	Ecklonia, Scytothalia (moderate to dense cover). Patch reef. Some Platythalia. NB. Next to intertidal limestone reef platform.	KBA	Drop down video	21/12/98	-34.33678	115.1735
GBC_309	Cape Leeuwin	Ephemeral seagrass (sparse)	Mixed seagrass patches. Heterozostera tasmanica (Could be P. denhartogi?), Halophila (australis sp.), A. griffithii. Medium to heavy epiphytes on Amphibolis.	KBA	Drop down video	21/12/98	-34.35835	115.1752
GBC_310	Cape Leeuwin	Ephemeral seagrass (sparse)	Mixed seagrass patches. H. tasmanica (possibly P. denhartogi?), Halophila australis, A. griffithii. Amphibolis has heavy epiphyte load.	KBA	Drop down video	21/12/98	-34.36703	115.187
GBC_311	Cape Leeuwin	Sand	Bare sand.	KBA	Drop down video	21/12/98	-34.39771	115.24285
GBC_312	Hardy Inlet	Perennial seagrass (sparse)	Sparse patches of Posidonia and Heterozostera. Some very sparse A. griffithii. Lots of wrack in sand patches.	JCO	Drop down video	21/12/98	-34.32565	115.18471

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_313	Hardy Inlet	Perennial seagrass (sparse)	Moderate cover patches of P. australis?. Some sparse patches of A. griffithii. Possibly A. antarctica on edges of Posidonia patches.	JCO	Drop down video	21/12/98	-34.33131	115.18908
GBC_314	Hardy Inlet	Ephemeral seagrass (sparse)	Patches of sparse H. australis, A. griffithii, P. australis? and H. tasmanica.	JCO	Drop down video	21/12/98	-34.34711	115.20933
GBC_315	Hardy Inlet	Ephemeral seagrass (sparse)	Mixed sparse seagrass. H. tasmanica, P. australis, Halophila australis, A. griffithii. Lots of weedwrack.	KBA	Drop down video	21/12/98	-34.35903	115.22713
GBC_316	Flinders Bay	Perennial seagrass (dense)	Dense patches of P. australis with heavy epiphytic growth (coralline encrusting algae). Some Scaberia. Patches of Cladosiphon.	JCO	Drop down video	21/12/98	-34.31716	115.21243
GBC_317	Flinders Bay	Sand	Very sparse patches of P. denhartogi? and H. tasmanica. Mainly bare sand.	JCO	Drop down video	21/12/98	-34.3335	115.2164
GBC_318	Flinders Bay	Sand	Bare mobile sand.	JCO	Drop down video	21/12/98	-34.34333	115.2372
GBC_319	Flinders Bay	Low relief subtidal reef platform	Patches of A. antarctica interspersed with sand patches. Some rocks with Scaberia and other browns. High epiphyte load on the seagrass.	JCO	Drop down video	21/12/98	-34.31228	115.24498
GBC_320	Flinders Bay	Macroalgae dominated limestone reef (low relief)	Moderate to dense cover of mixed browns, predominantly Scytothalia, Platythalia, Cystophora. Some bare sand patches.	JCO	Drop down video	21/12/98	-34.324	115.24568
GBC_321	Flinders Bay	Macroalgae dominated limestone reef (low relief)	Mixed ground with dense patches of A. antarctica interspersed with bare sand and some macroalgae. Mainly very sparse Ecklonia, Scaberia and Platythalia.	JCO	Drop down video	21/12/98	-34.33231	115.25425
GBC_322	Flinders Bay	Macroalgae dominated limestone reef (low relief)	Moderate to dense cover of Ecklonia, Scytothalia. Some sand patches with dense P. australis.	JCO	Drop down video	21/12/98	-34.33821	115.25333
GBC_323	Flinders Bay	Sand	Bare sand. Some wrack.	KBA	Drop down video	21/12/98	-34.35296	115.2629
GBC_324	Flinders Bay	Sand	Mobile bare sand.	JCO	Drop down video	21/12/98	-34.31185	115.27075
GBC_325	Flinders Bay	Macroalgae dominated limestone reef (low relief)	Areas of pavement with moderate cover of mixed macroalgae. Some Scytothalia, Platythalia and Cystophora, interspersed with A. antarctica patches. Sparse A. griffithii.	JCO	Drop down video	21/12/98	-34.3294	115.27248
GBC_326	Flinders Bay	Perennial seagrass (dense)	Dense Thalassodendron meadow with a moderate epiphyte load. Some filamentous red algal tufts.	KBA	Drop down video	21/12/98	-34.31733	115.30185
GBC_327	Flinders Bay	Reef platform	Scytothalia, Caulerpa, Cystophora. Sparse algal cover on pavement. Some filamentous red algal tufts.	KBA	Drop down video	21/12/98	-34.33275	115.30441
GBC_328	Flinders Bay	Perennial seagrass (dense)	Thalassodendron (thick) meadow. Only a few small sand patches. Some red algal tufts.	KBA	Drop down video	21/12/98	-34.34395	115.30515

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_329	Flinders Bay	Perennial seagrass (sparse)	Thalassodendron, A. griffithii and red algal tufts (sparse cover). Substrate possibly limestone pavement?	KBA	Drop down video	21/12/98	-34.36078	115.30366
GBC_330	Hardy Inlet	Perennial seagrass (sparse)	Mixed seagrass - P. australis and A. griffithii. Some mixed algae - Platythalia and others. Quite patchy.	KBA	Drop down video	21/12/98	-34.34208	115.18161
GBC_331	Hardy Inlet	Sand	H. tasmanica is very sparse. Mainly bare sand.	KBA	Drop down video	21/12/98	-34.3547	115.19201
GBC_332	Hardy Inlet	Ephemeral seagrass (sparse)	Heterozostera tasmanica in sparse patches. Otherwise, bare sand.	KBA	Drop down video	21/12/98	-34.36553	115.20903
GBC_333	Cape Leeuwin	Macroalgae dominated granite reef (high relief)	Dense cover of Scytothalia and sparse Ecklonia.	JCO	Drop down video	20/12/98	-34.38916	115.16435
GBC_334	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Scytothalia dominated (dense) with some Ecklonia, Sargassum, Platythalia and filamentous red algae.	KBA	Drop down video	20/12/98	-34.39311	115.18931
GBC_335	Cape Leeuwin	Macroalgae dominated granite reef (high relief)	Ecklonia dominated high relief reef. Sparse distribution of Scytothalia also. Some reds.	KBA	Drop down video	20/12/98	-34.4134	115.18718
GBC_336	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Scytothalia/Ecklonia dominated kelp covered reef (moderate cover). Some filamentous reds. Hard to tell whether limestone or granite.	KBA	Drop down video	20/12/98	-34.43328	115.19505
GBC_337	Cape Leeuwin	Macroalgae dominated granite reef (low relief)	Moderate to dense cover of Ecklonia and Scytothalia. Hard to determine substrate - granite or limestone?	JCO	Drop down video	20/12/98	-34.42031	115.16273
GBC_338	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Moderate cover of Scytothalia. Some Ecklonia and filamentous reds. Crustose corallines on bare patches. Some sand patches.	JCO	Drop down video	20/12/98	-34.40826	115.14005
GBC_339	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Moderate cover of Ecklonia, Scytothalia, filamentous reds and coralline encrusting reds. Some isolated small sand patches.	JCO	Drop down video	20/12/98	-34.39043	115.12306
GBC_340	Cape Leeuwin	Macroalgae dominated limestone reef (low relief)	Ecklonia, Scytothalia (moderate coverage). Some red tufts (filamentous). Hard to tell whether granite or limestone.	KBA	Drop down video	20/12/98	-34.39326	115.08775
GBC_341	Sandy Patch	Macroalgae dominated granite reef (low relief)	Moderate to dense cover of Platythalia, Scytothalia and Ecklonia. Very patchy. Large sand patches.	KBA	Drop down video	20/12/98	-34.31898	115.07028
GBC_342	Sandy Patch	Macroalgae dominated granite reef (high relief)	Ecklonia dominated kelp covered granite boulder (moderate density). Scytothalia and filamentous red turf. Coralline encrusting reds.	KBA	Drop down video	20/12/98	-34.33493	115.01035
GBC_343	Sandy Patch	Macroalgae dominated limestone reef (low relief)	Moderate to dense cover of Ecklonia and Scytothalia. Coralline encrusting reds.	JCO	Drop down video	18/12/98	-34.3112	114.98793
GBC_344	Cosey Corner	Macroalgae dominated limestone reef (low relief)	Patchy area. Ecklonia/Scytothalia (moderate cover) attached to pavement. Sand patches. Platythalia and Caulerpa present. Patchy.	KBA	Drop down video	18/12/98	-34.27025	115.01711

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_345	Foul Bay	Macroalgae dominated limestone reef (high relief)	Dense to moderate cover of Ecklonia, Scytothalia and Platythalia. Some patches of red turf and Caulerpa. Occasional gutters and sand patches.	JCO	Drop down video	18/12/98	-34.25196	115.0065
GBC_346	Foul Bay	Macroalgae dominated limestone reef (low relief)	Moderate to dense cover of Ecklonia and Scytothalia.	JCO	Drop down video	18/12/98	-34.24151	115.00763
GBC_347	Foul Bay	Sand	Red algae tufts on sand. Sparse cover of filamentous reds approx. 300 tall.	KBA	Drop down video	18/12/98	-34.22885	114.99868
GBC_348	Hamelin Bay	Macroalgae dominated limestone reef (high relief)	Ecklonia and Scytothalia covered reef. Very dense coverage of browns.	KBA	Drop down video	18/12/98	-34.21575	115.01346
GBC_349	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Cystophora dominated limestone reef (medium coverage). A. griffithii on edges.	KBA	Drop down video	18/12/98	-34.21301	115.03008
GBC_350	Hamelin Bay	Macroalgae dominated granite reef (high relief)	Scytothalia dominated kelp covered granite boulders (dense). Ecklonia (sparse). Coralline algae.	KBA	Drop down video	18/12/98	-34.20256	115.0034
GBC_351	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Dense cover of Ecklonia and Scytothalia.	JCO	Drop down video	18/12/98	-34.20873	115.01748
GBC_352	Hamelin Bay	Perennial seagrass (dense)	Dense patches of Posidonia sp. Some epiphytic growth. Interspersed with large sand patches. Some wrack.	JCO	Drop down video	18/12/98	-34.21643	115.02691
GBC_353	Hamelin Bay	Macroalgae dominated limestone reef (low relief)	Large sand patches with small areas of mixed browns on reef.	JCO	Drop down video	18/12/98	-34.21511	115.03181
GBC_354	Dunn Bay	Macroalgae dominated limestone reef (high relief)	Very large Turbinaria (5m high, 10m diameter) bombie surrounded by low-relief reef and seagrass (Posidonia) patches and some sand.	JCO	Drop down video	16/12/98	-33.55953	115.0759
GBC_354	Yallingup	Sand	Bare sand.	KBA	Drop down video	14/12/98	-33.61116	115.0095
GBC_355	Marybrook	Perennial seagrass (dense)	P. sinuosa with sand patches. Thick seagrass with moderate epiphyte load.	KBA	Drop down video	16/12/98	-33.63151	115.1524
GBC_356	Marybrook	Low relief subtidal reef platform	Low relief reef with sponges, ascidians and red coralline encrusting algae. NB. Clapperboard at end of footage.	KBA	Drop down video	16/12/98	-33.59388	115.19141
GBC_357	Busselton	Macroalgae dominated limestone reef (high relief)	Moderate cover of mixed browns, some reds (mainly corallines). Sponges, ascidians and Caulerpa on rock. Patchy seagrass (Amphibolis) on sand either side. Narrow ridge - only 2-3m wide. Depth 15-17m.	JCO	Drop down video	16/12/98	-33.57178	115.33011
GBC_358	Busselton	Macroalgae dominated limestone reef (high relief)	2-2.5m high limestone ridge. Holes and ledges. Some large sponges, coralline algae, ascidians. Sand on either side with patchy P. sinuosa. Depth 18-16m.	JCO	Drop down video	16/12/98	-33.59351	115.24903

Site No	Location	Habitat type	Biological assemblage	Recorder	Observation	Date	Latitude	Longitude
GBC_359	Marybrook	Macroalgae dominated limestone reef (high relief)	1.5-2m high limestone ridge - approx. 2-3m wide. Holes and ledges, sponges, mixed browns and coralline reds. Bullseyes, Footballer sweep. P. sinuosa (patchy) on sand either side. Depth 18-16m.	JCO	Drop down video	16/12/98	-33.59243	115.23266
GBC_402	Cape Leeuwin	Macroalgae dominated granite reef (high relief)	Very large granite pinnacle with steep sides. Dense cover of Scytothalia and sparse Ecklonia on top. Sparse Ecklonia and reds on surrounding bottom. Depth 30-12m.	JCO	Drop down video	20/12/98		