MARINE RESERVE IMPLEMENTATION:
CENTRAL FOREST

MARINE BIOLOGICAL SURVEY FOR A MARINE PROTECTED AREA IN THE GEOGRAPHE BAY-CAPES-HARDY INLET REGION

Progress Report: MRI/CF/GBC-26/1999

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

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

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Direction

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Funding

- The marine biological survey for a marine protected area in the Geographe Bay-Capes-Hardy Inlet region is partially funded by a grant of $72,000 through the Natural Heritage Trust's Coast and Clean Seas Marine Protected Area Program.

- The Department of Conservation and Land Management supports the planning and pre-declaration processes for a marine protected area in the Geographe Bay-Capes-Hardy Inlet region with the provision of technical, logistical and human resources ($75,000).

This report may be cited as:

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Copies of this report may be obtained from:

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1 INTRODUCTION

This report details progress achieved on Project No WA9703 "Marine biological survey for a Marine Protected Area in the Geographe Bay-Capes-Hardy Inlet region" up to November 1999. It addresses all the scope items and refers to the progress against the Work Schedule.

1.1 BACKGROUND

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

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

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

> *"Extensive assessment, community consultation and management planning before a new marine conservation reserve is established."*

An essential component of this is that:

> *"A comprehensive assessment of the area's biological and economic resources, and social values is carried out."*

In view of the high standing that the Geographe Bay-Capes-Hardy Inlet region has in the MPRA's priority list for new marine conservation reserves, CALM applied to Environment Australia for funding to perform a biological survey in the area. Partial funding of $72,000 for the project has been obtained through Environment Australia's Natural Heritage Trust, via the Coast and Clean Seas Marine Protected Area Programme. CALM will contribute further resources to the project, valued at approximately $75,000.

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

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

1.2 AIMS

The aims of the project are:

1. to provide the biological and physical information layers necessary to initiate the establishment of a multiple use marine conservation reserve in the Geographe Bay-Capes-Hardy Inlet Region, and;

2. to provide information on the conservation values of the candidate area for the stakeholder advisory committee and community consultation processes during the implementation phase of this reserve.

2 AREA OF INTEREST

The area of interest (Figure 1) referred to as the Geographe Bay-Capes-Hardy Inlet region, falls in the Leeuwin-Naturaliste IMCRA bioregion.

This area is covered by AUSLIG Topographic Series 1:250,000 SI50-5 Busselton and SI50-9 Augusta, and by AUSLIG Topographic Series 1:100,000 1929 Leeuwin and 1930 Busselton.

The following latitudes and longitudes cover the extent of the area of interest (*datum* WGS84).

Bearing	Latitude	Longitude
North	33° 28’ 48” S	115° 00’ 00” E
North west	33° 40’ 12” S	114° 55’ 12” E
West	33° 58’ 12” S	114° 54’ 36” E
South west	34° 22’ 12” S	115° 00’ 00” E
South	34° 28’ 12” S	115° 12’ 36” E
South east	34° 18’ 36” S	115° 15’ 00” E
East	34° 00’ 36” S	115° 00’ 00” E
North east	33° 36’ 12” S	115° 15’ 00” E

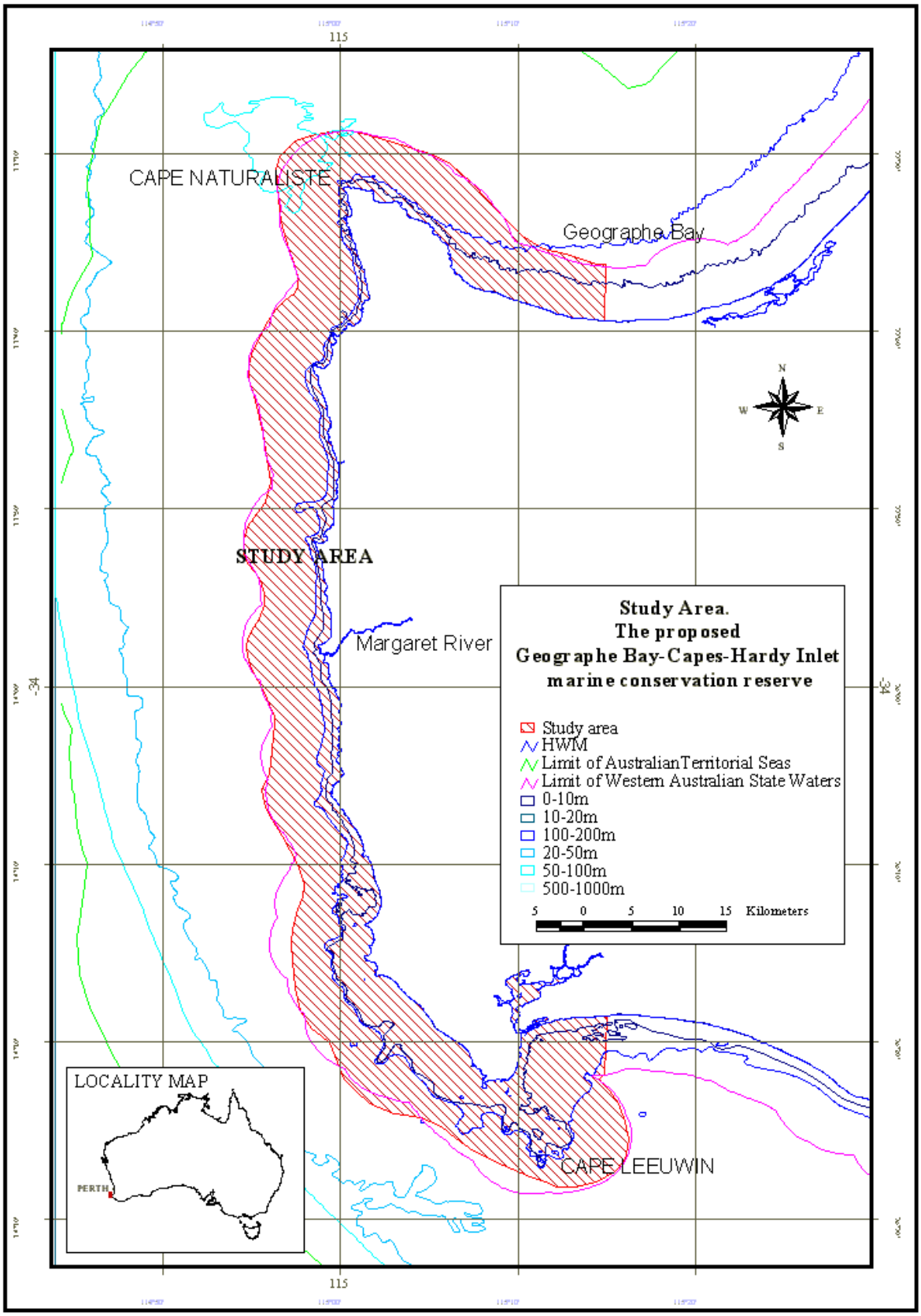


Figure 1. Study area. The proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve

3 PROGRESS AGAINST PROJECT SCOPE ITEMS

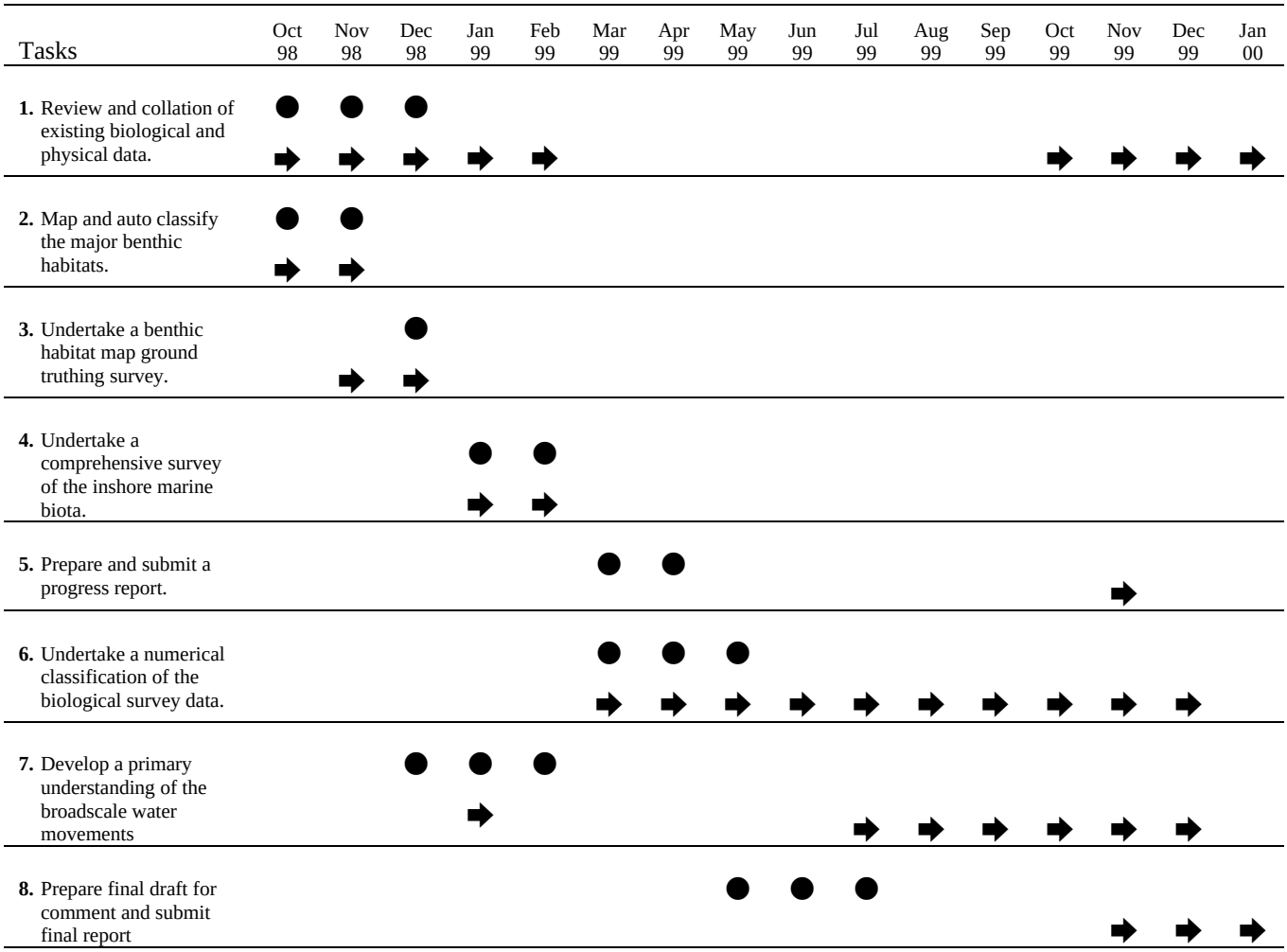
The progress against the scope items is as below.

	Task	% Achieved	Details	Information attached
1.	Review and collation of existing biological and physical.	90%	• Literature review nearly finalised.	Will be incorporated in Item 8
2.	Map and auto classify the major benthic habitats.	100%	• Relevant biological information layers has been requested from appropriate government departments and agencies.	
		100%	• Preliminary habitat map has been produced	(a) Draft attached (Appendix a)
		65%	• Final broadscale habitat map	Will be incorporated in Item 8
3.	Undertake a ground truthing survey to verify the biological and spatial accuracy of the benthic habitat maps.	100%	• A habitat verification survey has been performed (Bancroft K.P. & Colman, 1998)	(b) Field programme report is attached (Appendix b)
4.	Undertake a comprehensive survey of the inshore marine biota to quantitatively describe the major benthic communities within representative habitats, in terms of relative diversity, abundance and primary productivity.	100%	• A biological survey has been performed (Bancroft, 1999)	(c) Field programme report is attached (Appendix c)
5.	Prepare and submit a progress report.	100%	• Progress report submitted	this report
6.	Undertake a numerical classification of the data collected during the biological survey to statistically determine relative conservation values based on species diversity, abundance and primary productivity.	90%	• A summary report is being finalised by the University of Western Australia	Will be incorporated in Item 8
7.	Develop a primary understanding of the broadscale water movements using, if necessary, satellite imagery, computer modelling and field validation techniques.	80%	• Summary report is being finalised	Will be incorporated in Item 8
8.	Final Report	50%	• A final report is being drafted	

4 EXPENDITURE TO DATE

Item	MPAP funding	MPAP Expenditure ($)	CALM Expenditure ($)	Total Expenditure ($)
NHT funds received 1998	$54,000			**$0**
Expenditure to June 1999		$72,000	$89,858	**$143,858**
Funds on progress report (Nov 1999)	$0			**$143,858**
Expenditure 1999/2000 (to Jan 1999)		$0		**$143,858**
Residual expenditure 1999/2000		$0		**$143,858**
Funds on final report 1999/2000	$18,000			**$143,858**
Totals	**$72,000**	**$72,000**	**$89,858**	**$143,858**

5 WORK SCHEDULE



As highlighted in the work schedule above, this project is running behind schedule. A variation of the timelines is currently being reviewed. The delays have occurred as a result of various factors such as:

(a) seasonal periods of excessive swell which hindered field surveys;

(b) the resignation of the principle project officer;

(c) the unexpected out-sourcing for scientific work, and;

(d) the unavoidable delay in the delivery of the summary report from the University of WA.

6 REFERENCES

Bancroft, K.P. (1999). Biological Survey of the major benthic habitats of the Geographe Bay-Capes-Hardy Inlet region (Geographe Bay to Flinders Bay). 28 January-8 February. 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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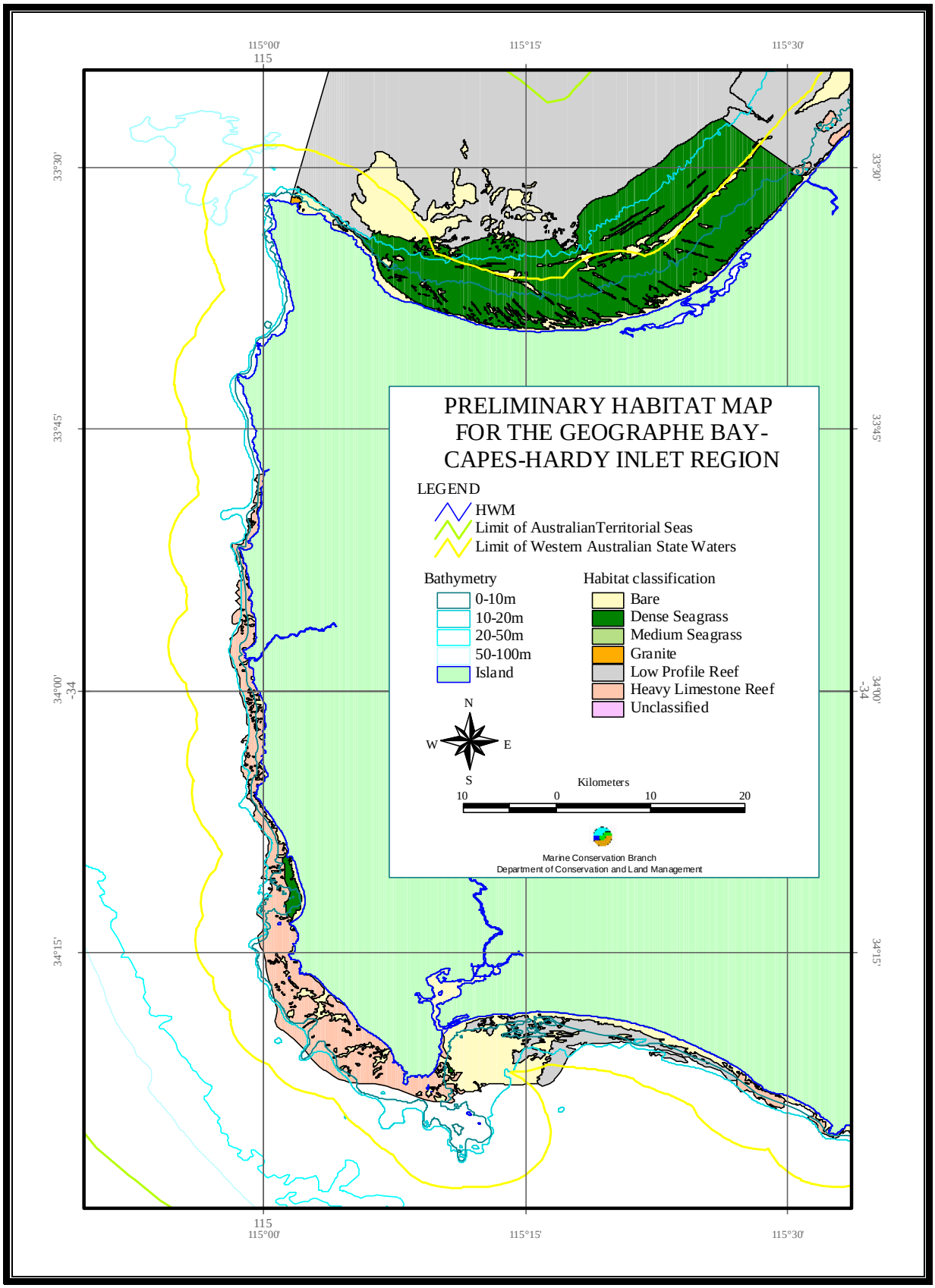
WAPC (1997). Leeuwin-Naturaliste Ridge: Statement of planning policy report. Prepared for the Western Australian Planning Commission by the Ministry for Planning in conjunction with the Shire of Busselton and the Shire of Augusta-Margaret River. May 1997.

7 APPENDICES

APPENDIX A. PRELIMINARY HABITAT MAP (KIRKMAN, CSIRO)



APPENDIX B. BIOLOGICAL VERIFICATION OF THE MAJOR BENTHIC HABITATS OF THE GEOGRAPHE BAY-CAPES-HARDY INLET REGION (GEOGRAPHE BAY TO FLINDERS BAY) (Bancroft & Colman, 1998).

APPENDIX B. BIOLOGICAL SURVEY OF THE MAJOR BENTHIC HABITATS OF THE GEOGRAPHE BAY-CAPES-HARDY INLET REGION (GEOGRAPHE BAY TO FLINDERS BAY) (Bancroft, 1999).