

**MARINE RESERVE IMPLEMENTATION  
PILBARA**

**HUMAN USAGE IN MONTEBELLO/ BARROW  
ISLANDS**

**Data Report: MRI/PI/MBI - 36/2000**

A collaborative project between CALM Marine Conservation Branch, CALM Karratha Regional Office.

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**FOR INTERNAL USE ONLY**



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**TABLE OF CONTENTS**

**ACKNOWLEDGEMENTS.....II**

**1 INTRODUCTION.....1**

**2 SOURCES & METHODS .....1**

**3 DATA MANAGEMENT.....3**

    3.1 RAW DATA.....3

    3.2 FINAL PRODUCT .....3

**4 RESULTS.....5**

**5 REFERENCES ..... 10**

**LIST OF FIGURES**

Figure 1. Montebello and Barrow Islands Study Area .....2

Figure 2. CALM Reserves ..... 11

Figure 3. Culturally Significant Sites ..... 12

Figure 4. Petroleum Lease..... 13

Figure 5. Oil and Gas Wells ..... 14

Figure 6. Navigation Chart ..... 15

Figure 7. Navigation and Chart Inset..... 16

Figure 8. Transport..... 17

Figure 9. Camps and Moorings ..... 18

Figure 10. Non-extractive Recreation..... 19

Figure 11. Fisheries Licence Aeras ..... 20

Figure 12. Aquaculture Licence Areas ..... 21

Figure 13. Tour Operator Sites ..... 22

**LIST OF TABLES**

Table 1. Required Socio-Cultural Datasets for Management of Marine Parks .....4

Table 2. Data Availability.....5

Table 3. Metadata ..... 7

## 1 INTRODUCTION

The Montebello/Barrow Islands region has been selected by the state government for consideration as a marine conservation reserve under the CALM Act. The region was selected after being identified in the report, *A Representative Marine Reserve System for Western Australia* (CALM 1994) as an area worthy of reservation. To assist in the planning process, data have been gathered on the human activities currently undertaken in the study area (Figure 1). This report presents the spatial boundaries and intensities of various human activities, including recreation and industrial activities, as of December 1999. The human usage data are being continually updated for the marine reserve planning process and the data presented in this report were the first attempt by CALM at data collection for the study area. The updated data are on the Marine Conservation Branch database. The human usage data has been used in the report *Regional Perspective of Montebello/Barrow Islands* (CALM 2000).

## 2 SOURCES & METHODS

Data was collected based on the general list in Table 1, which lists required socio-cultural datasets for management of marine parks. All data except the recreational and tourism data were taken from existing digital datasets from government departments. A summary of data availability is shown in Table 2.

Digital data were clipped to the extent of the study area and the projection and datum adjusted as necessary. Table 3 shows the source of each dataset and the source filename. The filename of the modified data is also given, which allows it to be traced within the CALM directory structure. Rows that are left blank indicate that data are not available at this time.

Andrew Hill of CALM consulted with Montebello Safaris to document moorings and campsites on the islands. Surfing and SCUBA diving sites in the study area were also identified.

The recreational fishing and tourism data were gathered using the following process:

Step 1. Fisheries WA provided a digital dataset of fishing usage around Montebello, Lowendal and Barrow Islands. This could not be made public as it was not gathered from a consultative process.

Step 2. The Pilbara Recreational Fishing Advisory Committee was consulted, and their advice was that most recreational fishing in the area took place through the commercial tour operators.

Step 3. Letters were sent to seven tour operators that operate in the Montebello Island area requesting spatial data of their activities. The letters were sent to:

- Ron Kitcher of Treganna PL
- Hugh Briotti of Deck 'em Charters
- Katie McCabe of Sail-A-Way Charters
- Linley Thomas of Montebello Island Safaris
- Andy Young of Northcoast Charters
- Wayne Stewart of Snappy Gum Safaris
- Brian Johnson of Northwest Training

Step 4. At the time this report was published only three tourist operators had responded with information. Their data have been summarised in Figure 13.

**Figure 1. Montebello and Barrow Islands Study Area**

### **3 DATA MANAGEMENT**

#### **3.1 RAW DATA**

The recreation and tourism activity datasets were the only ones for which raw data were collected. The hand drawn and edited maps will be stored in hard copy, either at the Marine Conservation Branch Office or the regional office.

#### **3.2 FINAL PRODUCT**

The spatial data is stored in this report and within the Marine Conservation Branch spatial database.

**Table 1. Required Socio-Cultural Datasets for Management of Marine Parks**

<p><b><u>Tenure</u></b></p> <ul style="list-style-type: none"> <li>• Territorial Water Limits</li> <li>• Existing management/Ownership Conservation Reserves (CALM) Other Reserves (Govt./vested) Private/Leasehold/VCL</li> <li>• Proposed Conservation Reserve</li> <li>• Marine Park Zoning</li> <li>• Petroleum Leases</li> <li>• Mining Leases</li> <li>• Aboriginal Claim Boundaries</li> <li>• Historical Australian Heritage Commission areas Aboriginal Sacred and Ceremonial Sites Heritage/ Historical Sites Shipwrecks</li> </ul>	<p><b><u>Urbane &amp; Tourism Development</u></b></p> <ul style="list-style-type: none"> <li>• Urban Development existing proposed</li> <li>• Resort existing proposed</li> <li>• Camping existing wild (free) proposed</li> </ul>	<p><b><u>Industrial Development</u></b></p> <ul style="list-style-type: none"> <li>• shipping</li> <li>• oil &amp; gas exploration</li> <li>• oil &amp; gas production</li> <li>• mining</li> <li>• other industries</li> </ul>	<p><b><u>Maritime Infrastructure</u></b></p> <ul style="list-style-type: none"> <li>• anchorages</li> <li>• shipping lanes</li> <li>• port facilities</li> <li>• marina facilities</li> <li>• moorings</li> <li>• groynes</li> <li>• boat ramps</li> <li>• navigation markers</li> <li>• fish attracting devices</li> </ul>
<p><b><u>Commercial Fishing</u></b></p> <ul style="list-style-type: none"> <li>• trawling</li> <li>• wetline fishing</li> <li>• netting</li> <li>• fish-trapping</li> <li>• rock lobster</li> <li>• abalone</li> <li>• aquaculture non-feeding feeding</li> <li>• collection invertebrates vertebrates</li> </ul>	<p><b><u>Recreation: Fishing</u></b></p> <ul style="list-style-type: none"> <li>• rod &amp; line fishing shore based boat based</li> <li>• netting set haul throw</li> <li>• drop netting</li> <li>• spearfishing</li> <li>• shell collection</li> <li>• rock lobster</li> <li>• crabbing</li> <li>• abalone</li> <li>• game fishing</li> <li>• bait collection</li> </ul>	<p><b><u>Recreation: Non-extractive</u></b></p> <ul style="list-style-type: none"> <li>• powerboats</li> <li>• hovercraft</li> <li>• water skiing</li> <li>• jet skiing</li> <li>• parasailing</li> <li>• float planes</li> <li>• sailing vessels</li> <li>• paddle boats</li> <li>• kayaks/canoes</li> <li>• windsurfing</li> <li>• scuba diving</li> <li>• snorkelling</li> <li>• wildlife viewing</li> <li>• wildlife interaction</li> <li>• surfing</li> <li>• swimming</li> <li>• reef walking</li> <li>• beach walking</li> <li>• beach launching</li> </ul>	<p><b><u>Scientific</u></b></p> <ul style="list-style-type: none"> <li>• research and monitoring</li> <li>• extractive</li> </ul>

## 4 RESULTS

The data are summarised in Table 2 and Figures 2 to 13. For more information about each dataset, consult the metadata in Table 3.

**Table 2. Data Availability**

<b>Human Usage Dataset</b>	<b>Available Data</b>
<b>Tenure</b>	
Territorial Water Limits	Yes
<b>Existing</b>	
<b>Leasehold/Management</b>	
- Conservation Reserves	Yes
- Other Reserves	None in study area
- Private/Leasehold/VCL	Yes (no map because it is all CALM reserve)
Proposed Conservation Area	Current Study Area
Marine Park Zoning	Not Applicable
Petroleum Leases	Yes
Mining Leases	No
Aboriginal Claim Boundaries	Not Applicable
<b>Historical</b>	
- Australian Heritage Commission Sites	
- Aboriginal Sacred and Ceremonial Sites	Yes
- Heritage/Historical Sites	
- Shipwrecks	Yes
<b>Urban &amp; Tourism Development</b>	
<b>Urban Development</b>	
Existing	
Proposed	
Roads	Montebello but not Barrow Island
Airstrips	Yes
Helipads	No
<b>Resort Development</b>	Not Applicable
Existing	
Proposed	
Campsites	Yes
<b>Industrial Development</b>	
Shipping	Yes (on Navigation Chart)
Oil/Gas Exploration	Wells
Oil/Gas Production	Wells
Mining	Not Applicable



<b>Maritime Infrastructure</b>	
Anchorage	Yes (on Navigation Chart)
Shipping Lanes	Yes (on Navigation Chart)
Port facilities	None in study area
Marina facilities	None in study area
Moorings	Yes
Groynes	None in study area
Boat ramps	None in study area
Navigation Markers	Yes (on Navigation Chart)
Fish Attracting Devices	No
<b>Commercial Fishing</b>	
Trawling	Fisheries Licence Areas
Wetline fishing	No
Netting	No
Fish-trapping	No
Rocklobster	Fisheries Licence Area
Abalone	No
Aquaculture (non-feeding/feeding)	Aquaculture licenses
<b>Recreation</b>	
<b>Fishing</b>	
Rod & line	Yes
Netting	No
Spearfishing	No
Shell collecting	No
Rocklobster	No
Crabbing	No
Game fishing	No
Bait collection	No
<b>Non-extractive</b>	
Water skiing	No
Jetskiing	No
Parasailing	No
Sailing	No
Powerboats	No
Hovercraft	No
Float planes	Yes (on Mooring/Campsite map)
Paddle boats	No
Kayaks/canoes	No
Windsurfing	No
Beach walking	Yes
Swimming	No
Reef walking	No
Beach launching	No
Surfing areas	Yes
ScubaDiving	Yes
Snorkelling	No
Wildlife Interactions	No
Wildlife Viewing	No

Table 3. Metadata

Required Dataset Tenure	Theme	Filename	Source	Source Filename	Completeness
Territorial Water Limits	Territorial Water Limits	Mbcoast_ll_wgs.shp	AMBIS	Ambis.shp	Complete
<b>Existing Leasehold/ Management</b>					
Conservation Reserves	CALM Reserves	Mbcalmreserves_ll_wgs.shp	CALM	Landswaters498_ll_agd.shp	complete 4/98
Other Reserves	Not Applicable				
Private/Leasehold/VCL	Cadastre (almost all CALM reserve or VCL)	Mbcadastre_ll_agd.shp	DOLA	SCDB CDROM	Complete
Proposed Conservation Area	Study area	Mbistudyarea_ll_agd.shp	CALM	-	Complete
Marine Park Zoning	Not Applicable				
Petroleum Leases	Petroleum Leases	Mbleases_ll_wgs.shp	DME	Wapmap_0299_ll_wgs84.shp	Complete 2/99
Mining Leases					
Aboriginal Claim Boundaries	Not Applicable				
<b>Historical</b>					
Australian Heritage					
Commission Sites					
Aboriginal Sacred and Ceremonial Sites	Aboriginal Sacred and Ceremonial Sites	Mbabsites_ll_wgs.shp	AAD	Absites_ll_wgs.shp	Complete
Heritage/Historical Sites					
Shipwrecks	1 site	Mbshipwrecks_ll_wgs.shp	Museum of WA	Shipwrcks_ll.shp	Complete
<b>Urban &amp; Tourism Development</b>					
Urban Development	Not Applicable				
Roads	Yes (for Montebello Is, not Barrow Is)	Mbroads_ll_wgs.shp	Apache		Complete for Montebello
Airstrips	Yes	Mbairstrip_mb_wgs.shp	Apache		Complete
Helipads	Not Applicable				
Resort Development	Not Applicable				
Campsites	Campsites	Mbcamp_ll_wgs.shp			
<b>Industrial Development</b>					
Shipping					
Oil/Gas Exploration	Wells	Mbwells_ll_wgs.shp	DME		Complete
Oil/Gas Production	Wells				
Mining	Not Applicable				

Required Dataset	Theme	Filename	Source	Source Filename	Completeness
<b>Maritime Infrastructure</b>					
Anchorage	Navigation Charts		RAN	A00061.tif	Complete
Shipping Lanes	Navigation Charts				
Port facilities	Not Applicable				
Marina facilities	Not Applicable				
Moorings	Moorings/houseboat moorings	Mbranchorages_ll_wgs.shp	Local Knowledge		Still being checked
Groynes					
Navigation Markers	Navigation Charts		RAN	A00061.tif	Complete
	Navigation Charts		RAN	A00061.tif	Complete
Boat ramps	Not Applicable				
Fish Attracting Devices	Not Applicable				
<b>Commercial Fishing</b>					
Fisheries Licence Areas	Pilbara trap managed fishery	Mbpilbtrapfla_ll_wgs.shp	Fisheries	Fl_ptmf.shp	Complete 1/98
	Tropical Rock Lobster fishery	Mbrocklobsterfla_ll_wgs.shp		Fl_trlf.shp	Complete 1/98
	Pilbara interim trawl managed fishery	Mbtrawlfla_ll_wgs.shp		Fl_pftmf.shp	Complete 7/97
	Onslo Prawn Managed fishery	Mbonslopfla_ll_wgs.shp		Fl_opmf.shp	Complete
Trawling					
Wetline fishing	Mackerel fishing area	Mbcomfish_ll_wgs.shp	Local Knowledge		Still being checked
Netting					
Fish-trapping					
Rocklobster					
Abalone	Not Applicable				
Aquaculture licenses (non-feeding/feeding)	Aquaculture licenses	Mbaquacult_ll_wgs.shp	Fisheries	Aquacultlicences052000_ll_wgs.shp	Complete 5/2000

Required Dataset	Theme	Filename	Source	Source Filename	Completeness
<b>Recreation (Non-extractive)</b>					
<b>Non-extractive</b> Water skiing Jetskiing Parasailing Sailing Powerboats Hovercraft Float planes Paddle boats Kayaks/canoes Windsurfing Beachwalking Swimming Reef walking	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Shown on mooring map Not Applicable Not Applicable Not Applicable				
Beach Walking Surfing areas Scuba Diving Snorkelling Wildlife Interactions	Surfing sites Scuba Diving Sites	Mbsurf_ll_wgs.shp Mbscuba_ll_wgs.shp	Local Knowledge Local Knowledge		Still being checked Still being checked
<b>Recreation(Extractive)</b>					
<b>Recreational Fishing</b> Netting Shell collecting Abalone Game fishing Bait collection Rod & line fishing Spearfishing Crabbing Shell collecting Rocklobster	Recfishing intensities	Mbirecfish_ll_wgs.shp	Fisheries	-	

## **5 REFERENCES**

Department of Conservation and Land Management (1994). A Representative Marine Reserve System for Western Australia. A report of the Marine Parks and Reserves Selection Working Group.

Department of Conservation and Land Management, 47 Henry Street, Fremantle, Western Australia.

Department of Conservation and Land Management (2000). Montebello/Barrow Islands Regional Perspective 2000. Department of Conservation and Land Management, 47 Henry Street, Fremantle, Western Australia.

**Figure 2. CALM Reserves**

**Figure 3. Culturally Significant Sites**

**Figure 4. Petroleum Lease**



**Figure 5. Oil and Gas Wells**

**Figure 6.      Navigation Chart**

**Figure 7. Navigation and Chart Inset**

**Figure 8. Transport**

**Figure 9.      Camps and Moorings**

**Figure 10. Non-extractive Recreation**

**Figure 11. Fisheries Licence Areas**

**Figure 12. Aquaculture Licence Areas**



**Figure 13. Tour Operator Sites**