

**BIBLIOGRAPHY OF MARINE SCIENTIFIC RESEARCH  
RELEVANT TO THE ROWLEY SHOALS MARINE PARK  
AND THE MERMAID REEF MARINE NATIONAL  
NATURE RESERVE**

**Data Report: OOS/RSMP-2007/01**



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June 2007



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17 Dick Perry Avenue  
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**Attention:**

In the event that any relevant reports or papers are not included within this report please advise DEC's Marine Science Program on 08 9334 0299. This information will be greatly appreciated.

**Reminder:**

Any research conducted within Marine Protected Areas and/or involving native flora and fauna requires departmental (DEC) licensing.

Contact DEC Wildlife Licensing:  
17 Dick Perry Ave, Technology Park,  
KENSINGTON, WA 6151  
Ph: (08) 9334 0434

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**Copies of this report may be obtained from:**

Marine Science Program  
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17 Dick Perry Ave, Technology Park  
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## SUMMARY

This bibliography contains a list of 54 references relevant to the conservation of the Rowley Shoals Marine Park (RSMP) and the Mermaid Reef Marine National Nature reserve (MRMNNR). The reference list contains both published and unpublished literature.

An accompanying report (Edwards & Bancroft, 2007) lists all current and proposed research projects relevant to the RSMP and MRMNNR, as of June 2007. Collectively, these reports address high priority management strategies within the RSMP Management Plan (Department of Environment and Conservation, 2007) and the MRMNNR Plan of Management (Environment Australia, 2000).

The bibliography will be used to identify gaps in the knowledge and information base necessary for management of the RSMP and MRMNNR, so that research can be prioritised to close those gaps. This report will be widely available to all relevant providers of marine science, to facilitate a strategic and collaborative approach towards marine research in the RSMP and MRMNNR.

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# 1 INTRODUCTION

The Rowley Shoals are made up of three isolated shelf atolls (Mermaid, Imperieuse and Clerke Reefs) off the north-western Australian coast, approximately 260 km west of Broome (Department of Environment and Conservation and Marine Parks and Reserves Authority 2007). In 1990, Imperieuse and Clerke Reefs were declared as the Rowley Shoals Marine Park (RSMP), which has recently been extended in the Rowley Shoals Marine Park Management Plan 2007-2017 (Department of Environment and Conservation and Marine Parks and Reserves Authority 2007). The Mermaid Reef Marine National Nature Reserve (MRMNNR) was established by the Commonwealth government in 1991, and is managed by the Department of Environment and Conservation (DEC) under a Memorandum of Understanding with the Department of Environment and Water Resources. Due to the remoteness of these reefs, they have been largely unstudied by marine scientists in the past. However, in recent times the pristine state of this area has brought new found interest from a variety of researchers.

This bibliographic report was initiated by the DEC's Marine Science Program (MSP) and has an accompanying report (Edwards & Bancroft, 2007) which lists all current and proposed research projects relevant to the RSMP and MRMNNR, as of June 2007. Collectively, these reports address high priority management strategies within the RSMP Management Plan (Department of Environment and Conservation, 2007) to "*develop and maintain a database of historical and current research in the reserves*", to "*develop and progressively implement a coordinated and prioritised research program focused on key values and processes of the park*" and to "*identify, prioritise and communicate high priority ecological and social research projects relevant to management of the park...*" and the MRMNNR Plan of Management (Environment Australia, 2000) to "*develop research and monitoring programs that will provide information for management*".

This report contains a comprehensive list of references, including published and unpublished literature, relevant to conservation and management of the RSMP and MRMNNR. The information given in this report will be used to identify gaps in knowledge and information necessary for successful management of the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve. Future research and monitoring programs will address these gaps.

## 2 METHODS

### 2.1 REFERENCE COLLATION

The MSP framework for the development of bibliographic databases was used to compile this bibliography (Appendix I). This framework should be used as a guideline for the future development of bibliographic databases for other marine protected areas.

The following process was undertaken to source the information presented in this report:

- Contacted key Western Australian marine research leaders, including researchers from the Australian Institute of Marine Science (AIMS), Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO), Department of Fisheries (DoF), Western Australian Museum (WAM) and DEC.

- Contacted academic research leaders from the main universities in Western Australia including the University of Western Australia (UWA), Edith Cowan University (ECU), Murdoch University (MU), Curtin University of Technology (CUT) and Notre Dame University (NDU).
- Contacted academic research leaders from other Australian universities that have a marine focus, including James Cook University, Charles Darwin University and Southern Cross University.
- Conducted internet searches of the web sites of all the above universities and State and Commonwealth government agencies.
- Contacted Australian Customs/CoastWatch.
- Contacted the Executive Officer of the Australian Marine Science Data Network, BlueNet, in Tasmania.
- Conducted general Internet searches using Google and other search engine tools.

## 2.2 BIBLIOGRAPHIC DATABASE

This bibliography was compiled as an electronic database, using EndNote Version X. Reference details including keywords, abstracts and research notes have been assigned to some references. Every reference has been assigned keywords unless the research subject is explicit within the reference title (see Appendix II for the list of keywords). The find function of EndNote can therefore be used to search the bibliography for research subjects, authors, project titles etc.

All references have been labelled with source location codes (acronyms) for hard copies of written materials (Table 1).

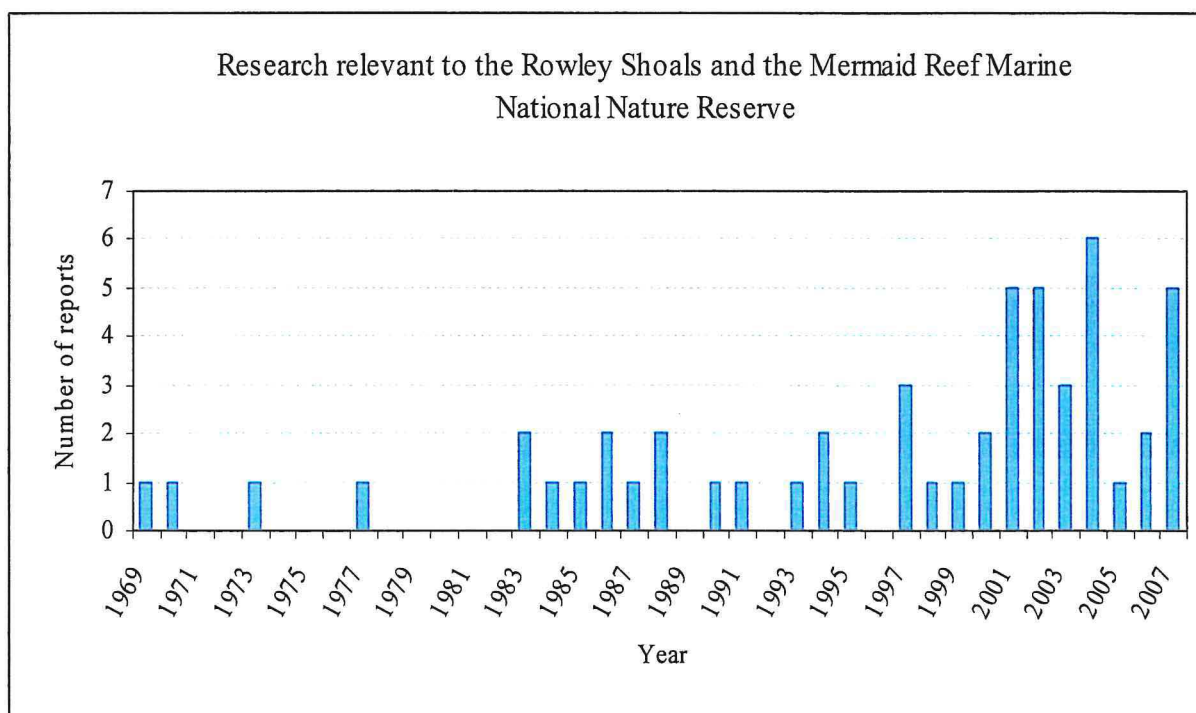
**Table 1. Source codes and locations of all the references relevant to the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve**

Acronym	Organisation/Institution	Location
AIMS	Australian Institute of Marine Science	Townsville, Queensland
DEWR	Department of Environment and Water Resources	Canberra, Aust Capital Territory
DoF	Department of Fisheries	Hillarys, Western Australia
JOURNAL	See relevant Journal	Relevant Journal
MSP	Marine Science Program, DEC	Kensington, Western Australia
UWA	University of Western Australia	Crawley, Western Australia
WSL	Woodvale Science Library DEC	Woodvale, Western Australia

### 3 RESULTS

Fifty four references relevant to the RSMP and MRMNNR were identified and are presented within this report. Figure 1 depicts the number of reports relevant to the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve produced each year since 1969 (see Appendix III for a table presenting the number of reports produced each year).

This bibliography was created from a wide variety of sources. Among other sources, information was obtained from State and Commonwealth government departments, universities, libraries and online bibliographies. Every effort has been made to ensure that all relevant scientific research references have been included in this bibliography, which is current as of June 2007.



**Figure 1.** Number of reports relevant to Rowley Shoals Marine Park and Mermaid Reef Marine National Nature Reserve produced each year from 1969 to 2007 (n=53) (An undated reference was omitted from this graph).



## 4 BIBLIOGRAPHY

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- Wilson, B.R. (1990). A range of reefs. *Landscape*, 6, pp. 10-15 (WSL)

## 5 DATA MANAGEMENT

### 5.1 REPORT

Hard copies of this report will be held at five locations:

1. Marine Science Program (MSP) Library, Department of Environment and Conservation, Science Division, 17 Dick Perry Ave, Technology Park, Kensington, WA, 6151. Ph: (08) 9334 0299.
2. West Kimberley District Office, Department of Environment and Conservation, 111 Herbert Street, Broome WA 6725. Ph: (08) 9195 5500.
3. Woodvale Library, Science Division, Department of Environment and Conservation, Ocean Reef Rd., Woodvale, WA. Ph: (08) 9405 5100 Fax: (08) 9306 1641.
4. Archives, Woodvale Library, Science Division, Department of Environment and Conservation, Ocean Reef Rd., Woodvale, WA. Ph: (08) 9405 5100 Fax: (08) 9306 1641.
5. Serials Section, State Library of Western Australia, Alexander Library Building, Perth Cultural Centre, Perth, Western Australia 6000.

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

1. On CD-ROM [MSP\_2007-01].
2. On the DEC Science Division server:

T:\529-CALMscience\Shared Data\Marine Science Program\MSP\_REPORTS\MSP\_2007-01.pdf

### 5.2 DATABASE

The database will be located on the DEC Science Division Server:

T:\529-CALMscience\Shared Data\Marine Science Program\MSP\_DATABASES\Rowley Shoals Research Database\RSMP Bibliography 2007\Rowley Shoals Biblio.enl

### 5.3 DATABASE MAINTENANCE

Maintenance of the database will be the responsibility of MSP. However information regarding the publication or completion of any reports relevant to the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve will be gratefully accepted by MSP or West Kimberley District Office from any person or institution/organisation. The database will be updated on a six-monthly basis in order to enter newly publicised or completed reports into the database.

Please forward information regarding newly publicised or completed reports relevant to the Rowley Shoals Marine Park and the Mermaid Reef Marine National Nature Reserve to MSP or West Kimberley District Office. Contact details as below:

1. Marine Science Program, Science Division, 17 Dick Perry Ave, Kensington WA 6151.  
Ph: (08) 9334 0299  
Email: [Kevin.Bancroft@dec.wa.gov.au](mailto:Kevin.Bancroft@dec.wa.gov.au)
2. West Kimberley District Office, 111 Herbert St, Broome WA 6725.  
Ph: (08) 9195 5500

## APPENDICES

## APPENDIX I. FRAMEWORK FOR THE DEVELOPMENT OF A BIBLIOGRAPHIC DATABASE

This framework is a generic guideline for the development of a bibliographic database of marine scientific research relevant to an existing or proposed marine conservation reserve. The bibliographic database will assist in the identification of areas of research required for the management of marine conservation reserves.

There are four major steps:

- Step 1 - Data gathering and compilation.
- Step 2 - Database references.
- Step 3 - Peer review.
- Step 4 – Maintenance.

### STEP 1: Data gathering and compilation

Gather and compile a bibliographic list of marine scientific research conducted in or of relevance to the area of interest. This information may be obtained from the following sources:

- i. Libraries;
- ii. DEC Districts and Regional offices;
- iii. Other State government organisations including:
  - Department of Fisheries (DoF);
  - Environmental Protection Authority (EPA);
  - Department of Industry and Resources (DoIR).
- iv. Commonwealth government organisations including:
  - Commonwealth Science and Industry Research Organisation (CSIRO);
  - Australian Geographical Survey Organisation (AGSO);
  - Australian Institute of Marine Science (AIMS);
  - Department of Environment and Water Resources (DEWR);
  - Australian Customs/ Coast watch;
  - Australian Fisheries Management Authority (AFMA).
- v. Universities and other academic institutions.
- vi. Consultants.

Links to proponents of marine scientific research may also be obtained through contact details on the DEC research licensing database, held at DEC's Wildlife Conservation Section. Contact details are as follows:

Department of Environment and Conservation  
Wildlife Conservation Section  
Locked Bag 104  
Bentley Delivery Centre WA 6983  
Ph: 08 9334 0455  
Fax: 08 93340278

### STEP 2: Database references

Compile the bibliography as an electronic database, using the bibliographic management software *EndNote* Version X (ISI ResearchSoft).



Ensure that the appropriate reference details are assigned to all entries in the database. For example:

- the type of reference (journal, book, report, proceedings of a conference, etc.);
- author/s (avoid using *et al.*);
- date of publication;
- correct title;
- ensure that all source information is entered (journal name, volume, and issue, editor/s, book details, etc.); and
- assign appropriate keywords (*see* Appendix II).

**STEP 3: Peer review**

Copies of the draft bibliography may be sent to the appropriate DEC district or regional office, or the Marine Science Program, or government institutions and leaders in the marine scientific research field, for peer review to correct any inaccuracies in reference details and to add any omitted information.

**STEP 4: Maintenance**

Copies of the database will be held at the appropriate DEC district office and will be available upon request. The maintenance of the database will also be the responsibility of DEC's Marine Science Program.

## APPENDIX II. LIST OF KEYWORDS USED IN THE BIBLIOGRAPHIC DATABASE

Abrolhos Islands	Delambre Island
Abundance	Distribution
Acoustic System	Disturbance
AIMS report	Echinoderms
Albany	Economic value
Atolls	Ecosystem function
Australia	Endemism
Barrow Island	Fauna
Bedwell Island	Faunal survey
Benthic communities	Financial report
Benthic environment	Fish
Benthos	Fish communities
Bibliography	Fishing
Birds	Functional redundancy
Biodiversity	Geographic Information Systems
Bioerosion	Geology
Biological surveys	Giant clams
Biological value	GIS
Bioprospecting	Gorgonacea
Bonaparte Archipelago	Great Barrier Reef
Broome	Ground truth data
BRUVS	Habitat
Buccaneer Archipelago	Habitat mapping
Burrup Peninsula	Holothurians
Cambridge Gulf	Hotspots
Cape Leeuwin	Houtman Abrolhos
Cape Leveque	Human activities
Capes	Human usage
Cartier Island	Hydrocarbon
Cartier reef	Imperieuse Reef
Central west coast	Imposex
Clerke Reef	Indo-Pacific
Cnidaria	Internal report
Commercial	Inventory
Commercial species	<i>Junceella juncea</i>
Commonwealth	Jurien Bay
Coral	Kalbarri
Coral Bay	Kimberley
Coral bleaching	Lacepede Islands
Coral reef	Leeuwin current
Coral spawning	Management
Cretaceous-Tertiary carbonates	Management Plan
Crustacean	Maps
Dampier Archipelago	Marine biodiversity
Decapods	Marine environment

Marine Park	Scampi
Marine protected areas	Scott Reef
Marine reserves	Sea
Marmion Marine Park	Sea cucumbers
MCB report	Sediment
Mermaid Reef	Seismic profiles
Mermaid Reef Marine National Nature Reserve	Seringapatam Reef
Meta-data	Serranidae
Molluscs	Shark Bay Marine Park
Monitoring	Sharks
Monitoring strategy	Shell fish
Montebello Islands	Shipwreck
Montgomery Reef	Shoalwater Islands Marine Park
Morphology	Social value
MPA	Soft corals
New genus	South coast
Ningaloo	Spatial rectification
Ningaloo Marine Park	Species lists
North West Shelf	Sponges
Ocean floor	Storms
Oceanic shoals	Stratigraphic
Oceanography	Structural
Octocorallia	Submissions
Over fishing	Tantabiddi
Pilbara	Taxonomic relationship
PNG	Temperature loggers
Porifera	Temperature monitoring
Progress report	Terrestrial biodiversity
Quaternary evolution	Threats
Recherche	Tourism
Recreation	Traditional fishing
Recreational fishing	Trochus
Reef fish	Tropical
Reef morphology	Vansittart Bay
Reefs	Walpole
Research	Water temperature
Richness	West coast
Rottnest Island	Western Australia
Rowley Shoals	Worms
Rowley Shoals Marine Park	Wrasse

**APPENDIX III. NUMBER OF REPORTS PER YEAR SINCE 1969**

Number of reports relevant to Rowley Shoals Marine Park and Mermaid Reef Marine National Nature Reserve produced each year from 1969 to 2007 (n=53 reports' an undated reference was omitted from this table).

<b>Year</b>	<b>Number of reports</b>
1969	1
1970	1
1971	0
1972	0
1973	1
1974	0
1975	0
1976	0
1977	1
1978	0
1979	0
1980	0
1981	0
1982	0
1983	2
1984	1
1985	1
1986	2
1987	1
1988	2
1989	0
1990	1
1991	1
1992	0
1993	1
1994	2
1995	1
1996	0
1997	3
1998	1
1999	1
2000	2
2001	5
2002	5
2003	3
2004	6
2005	1
2006	2
2007	5
<b>TOTAL</b>	<b>53</b>