
Theses

2014

Factors that contribute to the establishment of marine protected areas in Western
Australia

Andrew Hill
University of Notre Dame Australia

Follow this and additional works at: <http://researchonline.nd.edu.au/theses>



COMMONWEALTH OF AUSTRALIA
Copyright Regulations 1969

WARNING

The material in this communication may be subject to copyright under the Act. Any further copying or communication of this material
by you may be the subject of copyright protection under the Act.

Do not remove this notice.

Publication Details

Hill, A. (2014). Factors that contribute to the establishment of marine protected areas in Western Australia (Doctor of Natural
Resource Management). University of Notre Dame Australia. <http://researchonline.nd.edu.au/theses/92>

This dissertation/thesis is brought to you by ResearchOnline@ND. It has
been accepted for inclusion in Theses by an authorized administrator of
ResearchOnline@ND. For more information, please contact
researchonline@nd.edu.au.



Factors that Contribute to the Establishment of Marine Protected Areas in Western Australia

Andrew Hill

School of Arts and Sciences,
University of Notre Dame, Australia

Thesis submitted in partial fulfilment of the requirements for the award of the degree
of Doctor of Natural Resource Management

May 2014

DECLARATION

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any University or other institute of tertiary education. Information derived from published and unpublished work of others has been acknowledged in the text with references provided for that material.

.....

Andrew Hill

.....

Date

Abstract

Five Marine Protected Area (MPA) establishment processes undertaken between 1998 and 2012 in Western Australia were reviewed using a case study approach to identify factors affecting establishment. While three MPAs were legally created, two were not, despite significant investment in planning, research and public participation. Processes were generally influenced by complex local and strategic planning issues that were significant barriers to legal establishment.

Planning and public participation processes were generally successful at addressing local concerns, deriving consensus and building ownership but ineffectual at addressing key strategic issues. MPA establishment was primarily influenced by the social, economic and political influences rather than the planning approach and public participation process employed. MPA establishment has readily identifiable and quantifiable short- to medium-term costs that dominate state politics and government decision-making, but the benefits are long-term, subject to debate and difficult to quantify.

The absence of government leadership, and effective cross-jurisdictional strategic marine planning and policy at state and regional levels was a key impediment to establishment, and in many cases the MPA establishment process became a de facto marine spatial planning exercise being forced to address strategic tenure and marine use planning matters to facilitate legal establishment. However, the public participation process and mechanisms were not well structured for this purpose and largely outside the remit of the conservation agency.

Creating an MPA that meets its defined long-term objectives at the establishment stage may be unrealistic. In practice, achieving an MPA that meets defined success criteria should realistically be viewed as a multi-decadal objective. Forcing robust conservation outcomes that have significant social impacts is a high risk strategy that can trigger community and political opposition to MPA creation and be detrimental to the long-term goal of a comprehensive MPA network supported by the community.

Taking advantage of political ‘windows of opportunity’ to establish ‘imperfect’ MPAs and then improving the management framework over time is less costly, lower risk, and a more realistic long-term strategy to establishing MPA networks, particularly in areas with high socio-economic values. However, this approach is

predicated on there being appropriate legislative frameworks and government commitment to continual improvement.

Greater government policy leadership and a more strategic approach with broad-based marine spatial planning ahead of MPA establishment is recommended to address the key impediments to MPA establishment, particularly in areas with high social and economic values. This should make public participation processes more efficient and contribute to faster MPA establishment with less stakeholder and community opposition.

Acknowledgements

I wish to acknowledge the support of the Department of Conservation and Land Management (now the Department of Parks and Wildlife) in providing financial support through the *Seamus Mulholland Leadership Scholarship*. Seamus and I met in 1982 and in 1983 drove to Canberra to attend the Australian National University. On completing our degrees we returned to Western Australia and commenced our careers in natural resource management. In the process we became close friends and his passing was a tragic loss of a person of great character, talent and intellect. I would like to dedicate this thesis to his memory.

I would like to thank my two supervisors, Professor Syd Shea (Notre Dame University) and Dr Chris Simpson (Department of Environment and Conservation). Their enthusiasm for this project and their ongoing support was instrumental and is duly acknowledged. Dr Julian Clifton (UWA) provided valuable support in implementation of stakeholder interviews and finalising this thesis. Thanks also to the support of the Notre Dame Research Office, in particular Dr Marc Fellman and Lorraine Mayhew, who provided valuable advice on enrolment, research and administrative support.

The support of Department of Environment and Conservation staff John Lloyd, Liesl Ludgerus, Mark Sheridan and Dale Harvey in providing access to files and other records was instrumental. The assistance of Eve Bunbury (Department of Fisheries) in reviewing a proposed scoring framework is also acknowledged.

I also wish to thank the stakeholder and Government representatives who provided their time and opinions through participation in interviews and completing surveys for this project.

Finally I wish to thank my family; Andi, Jami and Jacob for their support and understanding in finalising this project.

CONTENTS

DECLARATION	2
ABSTRACT	3
ACKNOWLEDGEMENTS	5
CONTENTS	6
FIGURES	8
TABLES	9
AUTHOR'S PREFACE	10
GLOSSARY	11
ACRONYMS	13
1. INTRODUCTION	14
1.1. AUSTRALIAN CONTEXT.....	15
1.2. THE AUSTRALIAN POLITICAL SYSTEM.....	17
1.3. MPA ESTABLISHMENT IN WA.....	19
1.4. THE LEGISLATIVE FRAMEWORK IN WA.....	21
1.5. APPROACHES TO MPA ESTABLISHMENT.....	23
1.6. PUBLIC PARTICIPATION.....	24
1.7. LEVELS OF PROTECTION.....	29
1.8. CASE STUDY RESEARCH.....	31
2. RESEARCH METHODOLOGY	34
2.1. RESEARCH OBJECTIVES.....	34
2.2. CASE STUDY METHODOLOGY.....	34
2.2.1. SELECTION OF CASE STUDIES.....	35
2.2.2. DATA MANAGEMENT.....	40
3. CASE STUDY OVERVIEW	42
3.1. JURIE BAY.....	42
3.2. MONTEBELLO COMPLEX.....	44
3.3. DAMPIER ARCHIPELAGO.....	47
3.4. NINGALOO MARINE PARK.....	50
3.5. CAPES.....	54
4. THE ROLE OF PLANNING INFORMATION IN MPA ESTABLISHMENT	57
4.1. INTRODUCTION.....	57
4.2. JURIE BAY.....	61
4.2.1. EXTENSION OF THE AREA UNDER CONSIDERATION.....	62
4.2.2. SCALE AND AVAILABILITY OF INFORMATION ON COMMERCIAL FISHING.....	62
4.2.3. AVAILABILITY OF A COMPREHENSIVE HABITAT DATASET.....	64
4.3. MONTEBELLO COMPLEX.....	64
4.3.1. INFORMATION ON EXISTING AND FUTURE PETROLEUM ACTIVITIES.....	64
4.3.2. AVAILABILITY OF A COMPREHENSIVE HABITAT DATASET.....	65
4.4. DAMPIER ARCHIPELAGO.....	66
4.4.1. AVAILABILITY OF A COMPREHENSIVE HABITAT DATASET.....	66
4.4.2. KNOWLEDGE OF INDIGENOUS VALUES.....	67
4.4.3. EXISTING AND FUTURE INDUSTRIAL USES.....	68
4.4.4. RECREATIONAL FISHING DATA.....	69
4.4.5. COMMERCIAL FISHING DATA.....	71
4.5. NINGALOO MARINE PARK.....	71
4.5.1. AVAILABILITY OF A COMPREHENSIVE HABITAT DATASET.....	72
4.5.2. EFFECTIVENESS OF NO-TAKE ZONES AND THE IMPACTS OF FISHING.....	73
4.5.3. NON-EXTRACTIVE RECREATION AND TOURISM USE (ECONOMIC BENEFITS).....	74
4.6. CAPES.....	74

4.6.1.	COMMERCIAL FISHING DATA	75
4.6.2.	THE SCALE OF MARINE HABITAT MAPPING.....	77
5.	PLANNING AND PUBLIC PARTICIPATION PROCESSES.....	78
5.1.	INTRODUCTION.....	78
5.2.	JURIEN BAY.....	79
5.2.1.	BACKGROUND	79
5.2.2.	COMMITTEE ESTABLISHMENT	80
5.2.3.	PUBLIC PARTICIPATION.....	80
5.2.4.	GOVERNMENT APPROVALS	86
5.3.	MONTEBELLO COMPLEX	92
5.3.1.	BACKGROUND	92
5.3.2.	COMMITTEE ESTABLISHMENT	93
5.3.3.	PUBLIC PARTICIPATION.....	93
5.3.4.	GOVERNMENT APPROVALS	97
5.4.	DAMPIER ARCHIPELAGO	98
5.4.1.	STUDY AREA.....	98
5.4.2.	COMMITTEE ESTABLISHMENT	99
5.4.3.	PUBLIC PARTICIPATION.....	100
5.5.	NINGALOO MARINE PARK	104
5.5.1.	BACKGROUND	104
5.5.2.	PUBLIC PARTICIPATION.....	106
5.5.3.	GOVERNMENT APPROVALS	109
5.6.	CAPES.....	115
5.6.1.	COMMITTEE ESTABLISHMENT	115
5.6.2.	PUBLIC PARTICIPATION.....	116
5.6.3.	GOVERNMENT APPROVALS	118
6.	GOVERNANCE, LEGISLATION AND POLICY ISSUES.....	124
6.1.	INTRODUCTION.....	124
6.2.	JURIEN BAY.....	125
6.3.	MONTEBELLO COMPLEX	128
6.3.1.	ENVIRONMENTAL APPROVALS AND REGULATION OF PETROLEUM ACTIVITIES	128
6.3.2.	PORTS AND STATE AGREEMENT ACTS.....	130
6.3.3.	POLICY GUIDANCE FOR MMAS.....	131
6.3.4.	STRATEGIC PLANNING FOR FUTURE DEVELOPMENT	131
6.4.	DAMPIER ARCHIPELAGO	132
6.4.1.	LEGAL AND STRATEGIC ISSUES AND CONFLICTS WITH INDUSTRIAL DEVELOPMENT	133
6.4.2.	BOUNDARY AND MPA TENURE ISSUES	136
6.4.3.	FISHERIES MANAGEMENT AND MPAS.....	138
6.5.	NINGALOO MARINE PARK	140
6.6.	CAPES.....	141
6.6.1.	FISHERIES MANAGEMENT ISSUES	142
6.6.2.	LEGAL TENURE AND BOUNDARY ISSUES	144
7.	ANALYSIS OF KEY THEMES.....	145
7.1.	THE IMPORTANCE OF SOUND PLANNING INFORMATION	145
7.1.1.	ECOLOGICAL KNOWLEDGE	146
7.1.2.	SOCIAL AND ECONOMIC KNOWLEDGE	153
7.1.3.	SPATIAL DATA INTEGRATION TO SUPPORT MPA PLANNING.....	165
7.2.	PUBLIC PARTICIPATION	167
7.2.1.	INFORMATION AND EDUCATION PROGRAMMES.....	167
7.2.2.	PUBLIC PARTICIPATION MECHANISMS	171
7.2.3.	PACE OF PUBLIC PARTICIPATION	179
7.2.4.	APPROACHES TO MPA ZONING.....	185
7.2.5.	THE INFLUENCE OF NATIONAL, STATE AND LOCAL INTERESTS.....	191
7.3.	RECONCILING STATE GOVERNMENT OBJECTIVES IN MPA PLANNING	197
7.3.1.	RECREATIONAL AND COMMERCIAL FISHING	197
7.3.2.	CONFLICTS WITH PETROLEUM AND MINING	209
7.3.3.	SHIPPING, PORTS AND COASTAL INFRASTRUCTURE	213

8. DISCUSSION	218
8.1. POLITICS AND GOVERNMENT SUPPORT	218
8.1.1. FORCE FIELD ANALYSIS	221
8.2. ELECTORAL CYCLES AND WINDOWS OF OPPORTUNITY	230
8.3. CROSS-JURISDICTIONAL STRATEGIC PLANNING AND POLICY.....	233
8.4. INFORMATION TO SUPPORT MPA PLANNING.....	239
8.5. PUBLIC PARTICIPATION PROCESSES AND STRUCTURES	242
8.6. LONG TERM SUCCESS IN MPA ESTABLISHMENT.....	245
8.7. A REVISED PLANNING FRAMEWORK	254
8.7.1. STATE-WIDE LEGISLATIVE AND POLICY FRAMEWORK.....	254
8.7.2. MSP FRAMEWORK.....	255
8.7.3. STRATEGIC ASSESSMENT OF MPA PROPOSALS.....	260
8.7.4. APPROPRIATE MPA PUBLIC PARTICIPATION	267
9. CONCLUSION	269
10. REFERENCES	275
APPENDIX 1 MAJOR EVENTS IN MPA POLICY AND GOVERNANCE IN WA (1984–2012)	285
APPENDIX 2 COPY OF STAKEHOLDER QUESTIONNAIRE	289
APPENDIX 3 ENDNOTES	298

Figures

Figure 1 Levels of public involvement and influence in decision-making; from <i>Consulting Citizens: Planning for Success</i> (Government of WA 2003).....	26
Figure 2 Location of existing and proposed MPAs in WA (DEC 2011).....	37
Figure 3 The conceptual research framework.....	39
Figure 4 Locality map for the Jurien Bay Marine Park as established in 2003 (CALM and MPRA 2005).....	43
Figure 5 Locality of the Montebello/Barrow Islands MPAs as gazetted in 2005 (CALM 2004).....	46
Figure 6 Location of the proposed Dampier Archipelago/Cape Preston MPA (CALM 2005).....	48
Figure 7 Location map of the Ningaloo Marine Park (MPRA and CALM 2005b).....	51
Figure 8 Location of the proposed Capes MPA.....	54
Figure 9 Committee member/stakeholder positions for commercial fishing sector (left panel) and conservation sector (right panel).....	82
Figure 10 Zoning iterations for the proposed Jurien Bay Marine Park (sourced from CALM).....	85
Figure 11 Comparison of the original Dampier MPA study area in 2000 (top) to the boundary proposal as at 2011 (bottom).....	139
Figure 12 Diagrammatic interaction and influence between local, state and national interests in MPA processes	196
Figure 13 Driving and restraining forces for the Jurien Bay MPA.....	224
Figure 14 Driving and restraining forces for the Montebello/Barrow MPA.....	225
Figure 15 Driving and restraining forces for the Dampier Archipelago MPA	226
Figure 16 Driving and restraining forces for the Ningaloo Marine Park.....	227
Figure 17 Driving and restraining forces for the Capes MPA	228

Tables

Table 1 MPA reserves in WA and how management equates to IUCN categories	23
Table 2 Ecological and socio-economic parameters to inform the selection of case studies.	36
Table 3 Summary of information gathered for MPA planning and issues arising in the planning process.....	58
Table 4 Summary of views of marine stakeholders and agencies on the adequacy of planning information.....	61
Table 5 Development of management zoning for the NMP	113
Table 6 Key ecological data and the level of importance and influence on MPA planning and establishment processes	147
Table 7 Key social and economic information that influenced MPA planning and establishment processes	155
Table 8 Timing and use of recreational fishing survey information	159
Table 9 Relative investment in community education.....	168
Table 10 Summary of the principal public participation mechanisms to develop MPA proposals	172
Table 11 Approximate timing for MPA processes (as at December 2011).	180
Table 12 State Government governments and terms 1993–2012, showing MPA processes	183
Table 13 Summary of key socio-economic drivers, planning investment and outcomes	186
Table 14 Comparison of benefits (driving forces) and costs (restraining forces) in establishing MPAs	219
Table 15 Potential of public participation and education activities to address restraining forces in MPA establishment	229
Table 16 Progressive improvements in the MPA management framework for the NMP over time.	248
Table 17 Comparison of legal establishment and management planning cycles for three early MPAs.	249

Author's Preface

The author led and coordinated MPA planning and establishment processes in Western Australia between 1998 and 2005 for the state government agency responsible for MPA creation and management (the Department of Conservation and Land Management). This involved attendance at MPA public participation and planning forums, committees, briefings and discussions at the Marine Parks and Reserves Authority, agency and ministerial briefings, development of management plans and legislative documents, as well as the review and input into state-wide MPA policy. In 2005 he moved to the Department of Fisheries, which included responsibilities for MPA issues and planning processes. He was also responsible for coordinating the management planning of the Shark Bay Marine Park and early negotiations on MPA proposals for the Abrolhos Islands between 1990 and 1995.

The author has, therefore, been deeply immersed in the MPA processes covered by this research and has had an in-depth involvement with the stakeholders, processes and participants and has observed first-hand the effectiveness of different approaches to MPA planning and public participation. This involvement provided a thorough background to the case studies reviewed, and experience in the issues considered in this research, essentially as a 'participant-observer'. However, this also means that this research is not entirely independent and the author has opinions and ideas that have evolved over time during the practical application and trial and error of undertaking MPA processes. While this potential personal bias should be acknowledged, this experience of complex real-life situations has contributed to research conclusions that are well founded, and outcomes that are useful in a 'real world' sense and reflect the complexity of implementing MPA policy in difficult and unpredictable social and political environments.

Glossary

For ease of reading please refer to the following notes:

- ‘*Conservation agency*’ is used as a generic term to refer to the Western Australian State Government agency responsible for administration of the *Conservation and Land Management Act 1984*. This was the Department of Conservation and Land Management between 1984 and 2006, after which the agency changed to the Department of Environment and Conservation.
- ‘*Fisheries agency*’ is used as a generic term to refer to the Western Australian State Government agency responsible for administration of the *Fish Resources Management Act 1994* and the *Pearling Act 1990*. This is the Department of Fisheries (formerly known as Fisheries WA).
- ‘*Government*’ is used throughout this thesis as a generic term referring to the Western Australian State Government, and relevant state ministers with statutory roles in MPA establishment.
- ‘*Government approvals*’ is a generic term to refer to statutory requirements and non-statutory processes used by government ministers in approval of WA MPA proposals for public comment and for legislative creation of MPAs.
- ‘*Marine Authority*’ refers to the Marine Parks and Reserves Authority, the statutory vesting authority for marine conservation reserves in Western Australia.
- *MPAs* or ‘*Marine Protected Areas*’ is a generic term used to refer to the three types of marine conservation reserve that can be created under the *Conservation and Land Management Act 1984*.
- ‘*MPA outcomes*’ is used in this thesis to generically describe the actual results of MPA planning and consultative processes; i.e., the approved legal boundaries, type, management zoning and associated plans.
- ‘*MPA processes*’ is used in this thesis to generically describe the state government public participation and legal processes to create MPAs.
- ‘*No-take zone*’ refers to sanctuary zones within marine parks established under the *State Conservation and Land Management Act 1984* where no extractive activities

are permitted (i.e., equivalent to the International Union for Conservation of Nature Category IA).

Acronyms

- CALM Act: *Conservation and Land Management Act 1984*
- CAR: Comprehensive, Adequate and Representative
- EPA Act: *Environmental Protection Act 1986*
- FRICMR Act: *Fishing and Related Industries Compensation (Marine Reserves) Act 1997*
- FRM Act: *Fish Resources Management Act 1994*
- GBRMP: Great Barrier Reef Marine Park
- GIS: Geographic Information System
- IMCRA: The Integrated Marine and Coastal Regionalisation of Australia
- IMP: Indicative Management Plan
- MLPA: Marine Life Protection Act
- MMA: Marine Management Area
- MPRSWGR: The Marine Parks and Reserves Selection Working Group Report
- MSP: Marine Spatial Planning
- NGO: Non-Government Organisation
- NOI: Notice of Intent
- SRG: Sector Reference Groups