

School of Media, Society and Culture

Department of Social Sciences

**Parks, People and Planning: Local perceptions of park management
on the Ningaloo Coast, North West Cape, Western Australia**

Colin Barry Ingram

**This thesis is presented for the Degree of
Master of Philosophy
of
Curtin University of Technology**

May 2008

DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any person except where due acknowledgement has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature.....

Date.....

ABSTRACT

Attaining the ‘appropriate’ balance between human use of national parks and their protection is a topic of considerable public, scientific and business interest and is thus an important focus for research. An increasingly affluent and mobile western society has made tourism the world’s largest industry; an industry with a significant reliance on the attractions of protected areas such as national parks and their wildlife.

Regional communities have benefited from protected areas through local tourism expenditure and government recognition of the economic and social values realised from protected areas. High levels of visitation, and the management of this human use require effective management. But tensions arise when park managers invoke policies and management prescriptions to mitigate the adverse affects of human use. These actions and the way they are implemented can have an alienating impact on local communities, particularly those with a direct business dependency on park tourism.

This thesis explores the notion that truly sustainable management of national parks can only be achieved if park managers and communities living adjacent to parks work together in a partnership to meet each other’s needs and through this process, foster the long-term environmental, social and economic benefits that can be derived from these parks. This thesis documents how a local community perceives its park managers and thereby the impact that park management has on local communities. It then seeks to identify the opportunities for park managers and communities to improve the way they view each other and the skills, attitudes and approaches necessary to create the environment for a sustainable relationship and can deliver sustainable outcomes for both parties.

Three methods were employed to progress this research; an extensive review of literature and theory on relevant aspects of the people and parks relationship; the use of a case study of communities adjacent to parks on the Ningaloo Coast; and, qualitative and quantitative surveys to inform those case studies. A resident perception survey of the Exmouth and Coral Bay communities was conducted in

August 2005. At the same time key stakeholder representatives were interviewed. Secondary quantitative data on the areas economy and demographics was also collected to triangulate aspects of the primary data.

The Ningaloo coast community's perception of park management has been adversely affected by a recent (2004) management planning process for Ningaloo Marine Park that culminated in significant constraints being placed on recreational fishing access. Both the planning process and the decision have been the focus of community anger. Currently the levels of trust and respect within the community for the park agency and its management performance are low.

Despite evidence that the parks of the Ningaloo coast make important social and economic contributions to the local communities of this area, the local community holds negative perceptions of the social and economic impacts of park management, and are influenced strongly by the local community's attitudes, perceptions and feelings towards the park agency. The park agency's inability to consult, involve and communicate with the local community (to the satisfaction of the local community) contributes to these attitudes, feelings and perceptions.

Key findings include; the prevailing norms and belief systems within the park agency reinforce the classic managerial paradigm; park management fails to accommodate broader social and economic measures, which diminishes trust and undermines attempts to foster community involvement and stewardship; ineffectual leadership, poor communication and outmoded approaches to planning and community engagement, local apathy to involvement in park planning and a lack of community education in regard to the promotion of park values, programs and activities compound this situation.

The Ningaloo coast has the potential to provide an exceptionally bright future for its local communities, based largely on the inherent natural and cultural values of Ningaloo Marine Park, Cape Range National Park and other associated reserves. Whether the potential to develop community stewardship of the parks of the Ningaloo coast is fully met depends largely on the willingness of park management to relinquish some of its power, establish a suitable governance model in order to

work collaboratively with the community and communicate effectively with it in order to achieve sustainable futures for both the park and the community.

ACKNOWLEDGEMENTS

With any thesis there are numerous people that need to be recognised and appreciated for the regular or periodic support and assistance they have provided. First and foremost I would like to thank my wife and two daughters for their support and patience during the past three and half years. They have given me the freedom to achieve the goals that I have set myself, and the inspiration to complete the thesis.

I have been fortunate to be supervised by Professor Roy Jones, whose deep and genuine interest in the study area, knowledge, gentle guidance and assistance has made the preparation of this thesis so much more enjoyable and achievable. I would also like to thank my co-supervisor Associate Professor Alan Pilgrim for his keen interest in the subject and his insightful comments on structure, presentation, relevance and elements of ambiguity. In addition I would like to thank Professor David Wood for the encouragement and assistance he provided in helping me to decide and undertake this thesis.

In addition I extend my appreciation to all the residents of Exmouth and Coral Bay who participated in the resident survey and the stakeholder representatives who gave of their time and knowledge and whose willingness to participate and passion for the Ningaloo coast provided me with inspiration and ideas. Hopefully this thesis will make a positive contribution to the Ningaloo community.

I would like to thank several staff in the Department of Environment and Conservation (DEC). Jim Sharp, the Director of Parks and Visitor Services for his support and encouragement for this ‘aberration’. Jennie Cary for her enthusiasm for the research and her staff at the Exmouth Office for their assistance with secondary data collection. I would like to thank my co-workers in the Parks and Visitor Services Division for their support and assistance, especially Julie Davies for advice and assistance with ‘document management’ and Luisa Liddicoat for providing SPSS ‘training’. To all my friends and colleagues who have shown an interest in this research, that provided support along the way and have looked forward to the results, I sincerely hope that it meets your expectations.

Finally I would like to thank all the staff in the Humanities Divisional Graduate Studies Office for their professional service, support, assistance and programs. In particular, I would like to recognise the contribution of the Library Skills Workshops and the Humanities Postgraduate/Supervisor Research Skills Workshops in assisting my learning and developing my research skills.

Table of Contents

ABSTRACT	ii
ACKNOWLEDGEMENTS	v
CHAPTER 1 GENERAL INTRODUCTION.....	1
1.1 ADDRESSING THE TOPIC.....	1
1.2 SITUATION STATEMENT.....	3
1.3 RESEARCH QUESTIONS AND OBJECTIVES OF THE STUDY	9
1.4 GENERAL METHODOLOGY AND STRUCTURE OF THIS THESIS...	11
CHAPTER 2 FACTORS INFLUENCING PROTECTED AREA MANAGEMENT	13
2.1 PUBLIC POLICY	13
2.2 INTERNATIONAL POLICY AND PROGRAMS	17
2.3 AUSTRALIAN POLICIES AND PROGRAMS	20
2.3.1 National Reserve System.....	21
2.4 WESTERN AUSTRALIAN POLICIES AND PROGRAMS.....	21
2.4.1 Legislation	21
2.4.2 Biodiversity Conservation Policy	24
2.4.3 Recreation Policy	25
2.5 OTHER FACTORS INFLUENCING PROTECTED AREA MANAGEMENT	27
2.5.1 Organisational culture, power and governance	27
2.5.1.1 Organisational culture.....	27
2.5.1.2 Management paradigms	31
2.5.1.3 Power	35
2.5.1.4 Governance.....	35
2.5.1.5 Communication.....	37
2.5.2 Values of Protected Areas.....	37
2.5.2.1 Economic values.....	44
2.5.2.2 Social values.....	44
2.5.2.3 Environmental Values.....	51
2.5.3 Tourism	52
2.5.3.1 In the beginning - tourism in parks.....	52
2.5.3.2 Early national parks legislation in Australia	54
2.5.3.3 A change in emphasis - conservation.....	54
2.5.3.4 The advent of ecotourism.....	55
2.5.3.5 Tourism and protected areas.....	57
2.5.3.6 Tourism and the economic contribution of protected areas ...	58
2.5.4 The changing dimensions of rural Australia.....	61
2.6 CONCLUSION	63
CHAPTER 3 TOURISM, PROTECTED AREAS AND SUSTAINABILITY.....	67
3.1 COMMUNITIES AND PROTECTED AREA TOURISM.....	67
3.2 SUSTAINABILITY OF TOURISM IN NATURAL AREAS	78
3.3 TOURISM PLANNING AND COMMUNITY PARTICIPATION	84
3.3.1 Planning.....	84

3.3.2	Tourism Planning.....	85
3.3.4	Community (local) participation in planning	90
3.4	CONCLUSION	94
CHAPTER 4	PHYSICAL, SOCIAL AND ECONOMIC CHARACTER OF THE NORTH WEST CAPE	97
4.1	LANDSCAPE AND ENVIRONMENT.....	97
4.1.1	Background.....	97
4.1.2	Climate	99
4.1.3	Geology, Hydrology and Landform.....	99
4.1.4	Flora and Fauna	102
4.1.5	Managing Ningaloo and the North West Cape.....	103
4.2	HISTORY AND PEOPLE.....	105
4.2.1	History	105
4.2.1.1	Aboriginal History	105
4.2.1.2	European History	106
4.2.2	Population.....	113
4.2.3	Workforce.....	116
4.3	BUSINESS AND ECONOMY	117
4.3.1	Tourism	117
4.3.1.1	Ningaloo communities and the Tourism Area Life Cycle ...	120
4.3.2	Commercial Fishing.....	122
4.3.3	Pastoral industry.....	122
4.3.4	Government	122
4.5	CONCLUSION	124
CHAPTER 5	RESEARCH METHODOLOGY	127
5.1	STUDY DESIGN.....	127
5.1.2	Design.....	128
5.2	DATA COLLECTION	130
5.2.1	Literature Review.....	130
5.2.2	Survey questionnaire.....	130
5.2.3	Interviews	136
5.3	DATA PROCESSING.....	138
5.3.1	Surveys	138
5.3.2	Interviews	139
CHAPTER 6	CASE STUDY RESULTS – THE NINGALOO COAST COMMUNITY	140
6.1	COMMUNITY ATTITUDINAL PROFILE	141
6.1.1	Demographics.....	141
6.1.2	Community interests	144
6.1.3	Values of importance to the local community.....	146
6.1.3.1	Recreation, access to fishing and social cohesion	146
6.1.3.2	Changing community values about protected areas and the contribution of the parks to the local community.....	147
6.1.4	As a tourism centre	148
6.1.4.1	Tourism, planning, development and growth.....	148
6.1.4.2	Identification with tourism	149
6.1.5	Living with change.....	152

6.1.6	Sustainability: Recognising connections between environmental, social and economic benefits.....	155
6.1.7	Community participation in park management	158
6.2	BROAD ASPECTS OF PARK MANAGEMENT	162
6.2.1	Environmental management.....	163
6.2.2	Economic issues and indicators of management on tourism.....	167
6.2.2.1	Sanctuary zones	168
6.2.2.2	Property values	170
6.2.2.3	Park Visitation	171
6.2.2.4	Airport arrivals	172
6.2.2.5	Visitor accommodation levels	173
6.2.2.6	Tourism development	174
6.2.2.7	Tourism expenditure and profitability	175
6.2.2.8	Regional economic development.....	175
6.2.3	Social issues and their management.....	176
6.2.3.1	Management Impacts	179
6.2.3.2	Employment opportunities	181
6.2.3.3	Recreational use.....	182
6.2.3.4	Indigenous involvement in park management.....	183
6.2.4	Overall impact of park management.....	184
6.3	ISSUES OF MANAGEMENT EFFECTIVENESS	187
6.3.1	Community involvement and park planning and management ...	187
6.3.2	Resources for management.....	191
6.3.3	The culture of park management	195
6.3.5	Community education	199
6.3.6	The planning process.....	200
6.3.7	Communities and community involvement.....	202
6.3.8	Government and political processes	204
6.3.9	Sustainability	205
6.3.10	Rebounding Impacts	206
6.3.10.1	The image of park management	206
6.3.10.2	Marginalisation	207
6.4	CONCLUSION	207
CHAPTER 7	CONCLUSIONS, MANAGEMENT IMPLICATIONS AND RECOMMENDATIONS.....	212
7.1	ADDRESSING THE RESEARCH QUESTIONS	212
7.1.1	Research Question 1 and Research Question 2	213
7.1.2	Research Question 3.....	221
7.1.3	Research Question 4.....	222
7.1.4	Research Question 5.....	225
7.2	IMPLICATIONS FOR MANAGEMENT	226
7.2.1	Balancing competing values.....	227
7.2.2	Governance.....	228
7.2.3	Managing tourism growth	229
7.2.4	Transferability of the research	230
7.3	RECOMMENDATIONS	230
REFERENCES	235

- APPENDIX 1: PROTECTED AREA MANAGEMENT CATEGORIES**
- APPENDIX 2: THE BENEFITS OF RECREATION TO PERSONAL HEALTH**
- APPENDIX 3: MIND MAP**
- APPENDIX 4: RESEARCH OUTLINE**
- APPENDIX 5: RESEARCH DESIGN**
- APPENDIX 6: SURVEY QUESTIONNAIRE**
- APPENDIX 7: INTERVIEW QUESTIONS**
- APPENDIX 8: STAKEHOLDER QUOTES (not included in the text)**

List of Tables

Table 2.1	Interpretation of protected area agency institutional arrangements.....	34
Table 2.2 -	Use and non-use values of protected areas.....	42
Table 2.3 -	Intangible values of protected areas.....	43
Table 2.4 -	The social values of protected areas.....	45
Table 2.5 -	Changes and impacts as a result of park management.....	50
Table 2.6 -	Direct use values of Australian protected areas.....	60
Table 5.1 -	Additional quantitative social, economic and environmental indicators.....	136
Table 6.1 -	Age distribution - comparison of survey data with ABS data and Hollet survey.....	142

List of Figures

Figure 1.1 -	The Gascoyne Region of Western Australia.....	2
Figure 2.1 -	Classification system for the values of nature.....	39
Figure 2.2 -	A protected areas values framework.....	41
Figure 3.2 -	The park, tourism and local community relationship.....	75
Figure 3.3 -	Tourism destination scenarios.....	81
Figure 4.1 -	The study area.....	98
Figure 4.2 -	Diagrammatic west–east geological section near Exmouth.....	101
Figure 4.3 -	Exmouth residents age structure, 2001 Census.....	115
Figure 4.4 -	Visitor profile, Exmouth 2001 Census.....	115
Figure 4.5 -	Age distribution of visitors to Exmouth.....	118
Figure 4.6 -	Age comparison between Exmouth residents and visitors.....	119
Figure 5.1 -	Mind Map Example 1.....	128
Figure 5.2 -	Mind Map Example 2.....	128
Figure 5.3 -	Sources of data collected.....	129
Figure 6.1 -	Age distribution of survey respondents.....	141
Figure 6.2 -	Levels of satisfaction with park management by age group.....	143
Figure 6.3 -	Identification of respondents with particular stakeholder groups.....	144
Figure 6.4 -	Main interests of respondents in the Cape Range National Park and Ningaloo Marine Park.....	145
Figure 6.5 -	Local community rating of the importance of activities.....	145
Figure 6.6 -	The importance of park management in contributing to various social values.....	147
Figure 6.7 -	The importance of park management to aspects of tourism.....	149
Figure 6.8 -	Employment status of respondents.....	150
Figure 6.9 -	Level of organisation of the local tourism industry.....	151
Figure 6.10 -	Willingness of local tourism industry to work with park management.....	151
Figure 6.11 -	Length of residence of respondents.....	153
Figure 6.12 -	Level of support for park management given greater consideration of social and economic issues.....	155
Figure 6.13 -	Extent to which economic future of the local community is linked to the management of Cape Range National Park and Ningaloo Marine Park.....	157

Figure 6.14 - Levels of community participation in park planning opportunities..	158
Figure 6.15 - Level of organisation of community to respond to park planning and community involvement processes.....	160
Figure 6.16 - Willingness of community to work with the park management for mutual benefits	160
Figure 6.17 - Level of community awareness of joint community and park agency projects	161
Figure 6.18 - The impact of park management on the parks' natural values.....	164
Figure 6.19 - The impact of park management on the parks' natural values (excluding recreational fishers)	165
Figure 6.20 - The perceived impact of park management on economic issues.....	167
Figure 6.21 - Level of respondents' agreement with the increase in sanctuary zones in Ningaloo Marine Park	168
Figure 6.22 - Respondents perception of the economic benefits of sanctuary zones.....	169
Figure 6.23 - Average value of residential property in Exmouth, 1996/97-2005/06.....	171
Figure 6.24 - Total value of residential property sales, Exmouth 1996/97 - 2005/06.....	171
Figure 6.25 - Comparison of visitation between Monkey Mia, Karijini National Park and Cape Range National Park, 1996-2006	172
Figure 6.26 - Commercial passenger arrivals and departures, Exmouth, 1997/98 - 2004/05	173
Figure 6.27 - Visitor night accommodation, Exmouth, 1995-2005.....	174
Figure 6.28 - Level of DEC's capital expenditure in Cape Range National Park and Ningaloo Marine Park.....	175
Figure 6.29 - Turnover by industry sector for the Gascoyne Region, 1999 - 2006.....	176
Figure 6.30 - The perceived impact of park management on social values.....	178
Figure 6.31 - Unemployment rate for the Gascoyne Region, 1994/95- 2005/06 ...	181
Figure 6.32 - Number of park passes sold to Exmouth residents, 2000-2006	182
Figure 6.33 - Use levels of Ningaloo Marine Park by the local community prior to and following the changes to sanctuary zones	183
Figure 6.34 - The effect of park management on business and lifestyle on local residents.....	184
Figure 6.35 - The contribution of Ningaloo Marine Park and Cape Range National Park to the economy and lifestyle of local communities ...	185
Figure 6.36 - Level of community satisfaction with aspects of park management relating to sustainability	186
Figure 6.37 - The importance the community places on community involvement in park planning.....	187
Figure 6.38 - Perceived effectiveness of park agency management of various aspects of planning and management.....	188
Figure 6.39 - Perceived effectiveness of park agency communication with community and stakeholders during management planning	190
Figure 6.40 - Perceptions of the adequacy of resources available for community and stakeholder engagement.....	192
Figure 6.41 - Perceptions of the adequacy of resources available for park management.....	192

Figure 6.42 - Level of recurrent expenditure by local park management, 2001/02-2005/06.....	194
Figure 6.43 - Level of staffing by local park management, 1999/2000-2005/06 ...	195
Figure 6.44 - Perceptions of the culture of park management	196
Figure 6.45 - The community's perception of the importance park management places on social issues	197
Figure 6.46 - The community's perception of the importance park management places on economic issues.....	197
Figure 6.47 - Levels of volunteer involvement in local park management.....	204
Figure 7.1 - Perceptions of the impact of the park management agency on local communities.....	215
Figure 7.2 - Perceptions of the impact of the existence of parks on local communities.....	215

CHAPTER 1 GENERAL INTRODUCTION

1.1 ADDRESSING THE TOPIC

The Ningaloo coast in the Gascoyne region of Western Australia extends over 250 km in length from the North West Cape to Carnarvon See Figure 1.1. The area includes Cape Range National Park and Ningaloo Marine Park and both parks are considered by the scientific community to possess environmental, scientific and recreational values worthy of international recognition. The Ningaloo reef is the largest fringing coral reef in Australia and is a prime conservation area in Australia as well as one of Western Australia's great nature-based tourism attractions (CALM and MPRA, 2004a). The adjoining Cape Range National Park also contains extremely rare and distinctive underground cave fauna.

Ningaloo Marine Park, the major tourism destination in the region, is one of Australia's most bio-diverse marine ecosystems and the small local communities of Exmouth and Coral Bay are heavily dependent on the tourism and recreational fishing that it provides. To a lesser degree commercial fishing is a further local source of employment.

Concerns over the long-term future environmental sustainability of this area arise from a range of pressures: demand for large-scale tourism accommodation; the impact of unmanaged dispersed camping on coastal and marine environments; the world heritage nomination process for the Ningaloo area; and concerns about over-fishing. These pressures have resulted in a number of State government planning exercises being conducted in the region in recent years. These in turn have highlighted the impact that government land use planning decisions can have, or can be perceived to have, on the social and economic sustainability of local communities.

Figure 1.1 - The Gascoyne Region of Western Australia



GASCOYNE REGION KEY FEATURES



0 50 100
KILOMETRES

Produced by the Geological Survey of Western Australia.
Map product is to be used for broad based planning only.
© Western Australia 2005
September 2005

DATA DIRECTORY		
THEME	SOURCE	DATE
Cultural	DL/DaIR	1999
Transport	DJ	1996
Hydrography	DJ	1996
Towns	CALM	Mar 2005
LGA Boundaries	DJ	2004
Aboriginal Communities	Department of Indigenous Affairs	2004
Important Resource Projects	DaIR - modified from MINEDEX and WAPIMS databases	Nov 2004

1.2 SITUATION STATEMENT

The world's natural environment is experiencing unprecedented challenges from: increasing human consumption of resources; population growth; land clearing and land degradation, a reduction in critical resources; climate change and inappropriate government policy and institutional measures for managing the natural environment. These challenges in turn place pressure on the capacity of protected area managers to maintain the natural and cultural values that protected area designation seeks to embed (Conner and Gilligan, 2003).

Australia has a well-established and expanding system of protected areas. In Western Australia 24.7 million hectares of land and water are managed for biodiversity conservation and recreation. A further 1.4 million hectares of State forest are managed for multiple uses (CALM, 2006a). Worldwide, and in Australia, the designation and maintenance of protected areas remain a key strategy in the struggle to conserve biodiversity (Murray, 2005).

Protected areas are social constructions. Eagles and McCool (2004:66) suggest that they are the “products of the culture that creates them; they are social institutions in the truest sense of the word”. The (dynamic) societal, community and government expectations of what protected areas are meant to achieve, changes the ways in which protected areas are planned, managed and governed. For the latter part of the 20th century the primary focus of management has been on biodiversity conservation and the measures of success for this purpose have been almost entirely objective ones centred on biological and ecological parameters. Any social parameters have been used purely as a ‘means to an end’. In other words they have been viewed only in terms of their value in contributing to improvements in these biological parameters. This dominance of the scientific rationalist approach to park management¹ largely excluded community and informal forms of knowledge and valuation of such areas (Eagles and McCool 2004). Since the turn of the century some commentators have questioned this scientific assertion, suggesting that this

¹ “park management” in the context of this research refers to planning, organising, leading and controlling the activities associated with the formal administration of protected areas (such as national parks and marine parks) to achieve biodiversity protection and provide recreation opportunities. Lockwood *et al.*, (2006)

focus may not adequately reflect the objectives of the spectrum of stakeholders involved (Murray, 2005).

Supporting this view, Trakolis (2001:228) points out that “protected areas cannot coexist with communities that are hostile to them” and therefore the management of protected areas and the use of resources in them must be socially responsible and responsive. Murray’s (2005) study of marine parks in Mexico suggests that a wide range of stakeholders want protected areas established or managed for reasons other than those of biodiversity including recreation, tourism development, regional economic development, preservation of heritage and culture and the protection of local inhabitants and traditional indigenous communities.

Where these values are deemed worthy, success in achieving conservation outcomes through planning and management will depend largely on the capacity and ability of protected areas managers to consider and accommodate the concerns and values of others. An emerging new management paradigm in the administration of protected areas therefore must encompass the processes of interaction with, and involvement of, local communities in order to achieve multiple and mutually agreeable objectives, which spans environmental social and economic ends. An example of this is the growth of “Friends of Parks groups” as a source of volunteer labour in the USA and Australia.

In this situation, a fundamental function of protected area management is to sustain the particular benefits that the local community values within and adjacent to protected areas. However, the values ascribed to a particular protected area may be endemic or generic, and different organisations, groups and individuals will hold different and widely varied views of those values. As such, protected areas serve a range of functions and roles and these functions and roles may well change over time as societal values change (Eagles and McCool, 2004). This is evidenced by the changing values and roles that protected areas have been required to embrace over time. The world’s earliest national parks in the United States were created largely for their aesthetic, landscape and recreational values. (Butler and Boyd, 2000:15) (Wright, 2008). Between 1930 and 1960 and commencing in the USA scientific knowledge began being applied to protected areas, and thus, over the past three or

four decades they have also been valued for their intrinsic biodiversity values (Wright, 2008). An emerging trend is that, national parks and protected areas are being valued for their economic contributions and their wide range of social and cultural attributes.

It is against this backdrop that this research considers the range of values the Ningaloo coast has to offer, how park management policy and practice has attempted to address the planning, protection and management of these valuable assets and, through that process the impacts that park management has on the local community. This study occurs at a time of growing academic, public policy and community interest in recent government and community actions relating to the current and future management of the parks of the Ningaloo coast.

The designation and management of national parks and other types of protected areas constitute the primary strategy of most countries to protect biodiversity, outstanding landscapes and ecological systems. In addition to their biodiversity values, protected areas contain areas of outstanding natural beauty, wildlife or natural heritage (DITR, 2003) and their existence provides important opportunities for people, as tourists, to experience nature and to recreate in natural environments (Worboys *et al.*, 2001, Eagles *et al.*, 2002).

Tourism is now widely regarded as the world's largest industry (Hall and Page, 2006:1). Between 1970 and 1990 world tourism grew by 260% (Wearing and Neil, 1999). More recently ecotourism has developed as a particular variant of tourism partly in response to growing concerns over the environmental impacts of mass tourism on the environment. These were first noted in the 1980s and ecotourism is now the fastest growing component of the world's fastest growing industry (Page and Dowling, 2002).

The dramatic growth of ecotourism has benefited places with outstanding natural values and landscapes, such as Ningaloo Marine Park. Historically, the economy of the Ningaloo coast was based on pastoralism, fishing and a military base. Since the 1980s all these industries have been in decline and a small but productive ecotourism industry centred on the national park and marine park has developed. Ecotourism is

now the mainstay of the local economy and, in particular of the local centre of Exmouth.

Governments (state and federal) have embrace tourism (at least rhetorically) because of the significant economic and social contribution that it can make, particularly in rural and regional Australia (Australian Government, 2003). In 2002, Australians spent \$51 billion, on travel within Australia, of which almost half was spent in regional Australia (Australian Government, 2003) (Barry and Robins, 2001).

Australia's protected areas are predominantly located in regional locations and tourism is now a well-established industry within many of these areas. Properly managed, tourism can provide economic benefits both within and adjacent to national parks (Wearing and Neil, 1999). It is broadly accepted that Australia's \$70 billion tourism industry is based on the natural environment, cultural heritage and wildlife, prime examples of which can be found in protected areas (DITR, 2003, Figgis, 1999).

Thus the economic and social impacts of the growth of tourism in protected areas have administrative and political implications for protected area managers. How park managers deal with the competing values and demands for resources (conservation versus use) within parks is a critical issue for governments, community and park managers alike. However the extent to which local communities benefit or are negatively impacted upon socially and economically by the presence of protected areas and their management is an issue that has not been closely examined in Australia.

The growth of tourism based on national parks can have both benefits and dis-benefits for neighbouring local communities (Boo, 1990, World Tourism Organisation, 1994). The economic benefits include local expenditure and both direct and indirect employment. The institutional, political and policy frameworks that park agencies work within have a significant influence on the impacts that protected areas have on local host communities, local economies and the tourism industry more generally.

In this thesis a case study of Ningaloo Marine Park and its adjoining conservation reserves will be used to identify those aspects of protected area management that impact on the social and economic experience of adjacent local communities. The Ningaloo Marine Park and Cape Range National Park form an important conservation zone on the North-West Cape. Park managers and park users alike are serviced by the town of Exmouth and the holiday village of Coral Bay. Additions to the conservation reserve systems are recommended under the current Carnarvon-Exmouth Strategy (DPI, 2004).

Approximately 200,000 people visited Ningaloo reef in 2004 (CALM and MPRA, 2005) and participated in a range of nature-based activities including wildlife viewing, boating, fishing, diving and snorkeling. The tourism industry generates significant income from the region with recent economic research revealing that the two parks contribute approximately \$127m annually to the local economy (Carlsen and Wood, 2004).

In 2005 the Ningaloo Marine Park Management Plan provided for an increase in the number of sanctuary zones from 9 to 18 and size as a measure to protect the range of marine habitats and the fish stocks. This increased the area covered by sanctuary zones from 10% to 34% of the marine park. (CALM and MPRA, 2004b, CALM and MPRA, 2005). Inevitably this decision had significant implications for recreational fishing access.

While some surveys suggest that recreational fishing activity on the Ningaloo coast is declining in real and relative terms (Wood and Dowling, 2002), local businesses believe that the sanctuary zoning decision would have a major negative impact on them because of the importance of recreational fishing to tourism (Barrass, 2004). This concern demonstrates that, irrespective of scientific and economic arguments pointing to a need for action to protect biodiversity, there is also a need to understand and respond to both the real and the perceived social and economic impacts of such management decisions. Therefore a primary focus of this research will be to examine the extent to which protected area agencies and other government bodies consider the potential and anticipated impacts of their planning and management decisions.

For park management agencies the challenge is to achieve a balance between conservation and its possibly adverse local social and economic impacts. Driml and Common (1995:24) suggest that “an optimal economic solution that coincides with achieving the conservation objectives for a particular protected area is arrived at when constraints that maintain a defined standard of environmental quality are incorporated in this balance.” This will not always provide acceptable outcomes for all stakeholders. Park management agencies therefore need to develop ways of engaging and working effectively with local communities in order to ameliorate the negative social and/or economic consequences of their decisions that nevertheless may be necessary to maintain biophysical and biodiversity values. The starting point for such a process begins with the development of a better understanding of the attitudes, perceptions, expectations and aspirations of local communities with regard to conservation and protected areas.

A means of resolving some of the problems that inevitably arise between conservation and development may lie in sustainable tourism planning. The traditional approach to tourism planning in protected areas is through more generalized local management plans in which tourism is just one of the values considered. Hall (2000b) argues that tourism (and tourism planning) is especially significant in these contexts because of the enormous impact that it has on people’s lives and on the places in which they live and because of the ways in which tourism is itself substantially affected by the world around it.

The importance of area management planning as a process for coordinating the activities of the private and public sectors in making decisions about tourism in protected areas is well documented (Page and Dowling, 2002, Eagles *et al.*, 2002, Wearing and Neil, 1999, Worboys *et al.*, 2001, Wood, 2000). Less well documented is how protected area agencies have integrated, or failed to integrate, park planning within the broader tourism planning processes. Hall (2000b) suggests that such an approach should be based on the principles of sustainable development and that management planning for parks (including planning for tourism) should also be integrated with broader regional land use plans (World Tourism Organisation, 1994). Presently, in Western Australian the protected area agency does not consider management plans as vehicles for tourism planning *per se* but rather as a mechanism

in which policy guidelines to facilitate tourism (or to manage the impacts of tourism) are included. Parker and Ravenscroft, (2000) suggest that this is the typical approach taken by most protected area agencies in Australia. If this is the case, this approach limits the capacity of protected area agencies to engage fully in tourism planning at a local, regional or national level and to achieve sustainable economic social and environmental outcomes.

As already noted tourism is an important regional and national industry in Australia and is closely linked to protected areas. This places pressure on park agencies to consider the impacts of any decisions that may impact adversely on the tourism and recreation-based social and economic activities of local communities. This may have environmental and political implications since park management agencies are now required to consider broader sustainable development issues. If park agencies can better achieve their own objectives when greater community support can be obtained for their activities through improved planning and engagement and consideration of local issues, more sustainable outcomes can be achieved overall. A critical question therefore is whether greater consideration of socio-economic issues by park managers might lead to greater support of conservation objectives by local communities.

1.3 RESEARCH QUESTIONS AND OBJECTIVES OF THE STUDY

Before informed decisions can be made about the impacts of park management on local communities it is necessary to understand the extent to which local communities are socially and economically impacted upon both positively and negatively by the presence and management of protected areas. For the region under discussion in this study, a review of its historical development and of the prevailing economic and social conditions will assist in this understanding.

This thesis seeks to contribute to the understanding of local community and stakeholder attitudes and perceptions relating to the socio-economic impacts of protected area management and planning both on the local tourist industry and on those local communities, dependent upon this industry. It is argued that a positive

relationship between park management and community is critical to achieving ecological sustainability in protected areas and, at the very least, desirable in achieving social sustainability for the local community. An understanding of the attitudes and behaviours of people within local communities adjacent to parks is essential in developing strategies for improving communication, involvement and engagement between the parties. Without local support for park management and the protection of park values, those values may be compromised over time through abuse, over-exploitation, a lack of resources and the political will to protect them.

The aim of this research is to explore, describe and explain some of the outcomes that arise from the local community tensions that occur as park management agencies attempt to achieve a balance between conservation and various levels of use (development) in protected areas. It will identify the nature of those consistent elements, which affect the social relationships between the community and the park agency and to seek possible ways in which the elements that damage these relationships might be ameliorated.

This research addresses five broad research questions in relation to park management and its impacts on local communities:

1. What are the social and economic impacts (benefits and dis-benefits) of protected area tourism on local and regional economies?

The following research questions are specific to a case study of the communities of the Ningaloo coast.

2. What are the community's perceptions (and understandings) of the social and economic impacts (benefits and dis-benefits) on adjacent local communities arising from protected areas and the management practices and policies applied to them?
3. What are the perceptions of the extent to which park management agencies consider the socio-economic concerns of local communities in their planning and management process?

4. What are the main factors that contribute to the positive and negative attitudes of local communities to the role of park management agencies in respect to the management of tourism in protected areas?
5. Would a greater consideration of socio-economic issues by park managers lead to greater support of their conservation objectives within local communities?

The main focus of this study will be on the park/community relationships between park management and the communities of the Ningaloo coast. For the purpose of this study, Research Question 1 will involve a broad investigation of the socio-economic impacts of protected area management and planning on tourism using examples from the national and international research literature. Research Questions 2, 3, 4 and 5 will focus largely on issues arising from the management of the area of land and water reserved for conservation and other public purposes on the North West Cape of Western Australia. Finally, the results from the Ningaloo case study will be reviewed in terms of their possible applicability to other areas.

1.4 GENERAL METHODOLOGY AND STRUCTURE OF THIS THESIS

This thesis comprises seven chapters. Following the introductory chapter, Chapter 2 provides a detailed description of the political and organisational structures within which protected area agencies operate, the approaches and techniques used in park planning including tourism planning, a review of the benefits and impacts of protected area tourism, and national and international examples of the social and economic benefits of tourism to local communities. Chapter 3 provides a review of literature on sustainable tourism planning, examines the theoretical approaches to tourism planning and reviews issues related to the sustainability of tourism and recreation in protected areas.

The Ningaloo Coast area of the North West Cape of Western Australia has been chosen as a case study area in which to undertake primary research and on which to test the research questions. This area was selected because of the public interest shown in the planning for Ningaloo Marine Park, the tourism growth associated with visitation to the Cape Range National Park and the marine park (both of which have

national and international significance) and the changes that are occurring in the adjacent local communities.

Chapter 4 provides a local and regional context for the study area including a description of environmental, historical, social and economic aspects of the Ningaloo coast. Chapter 5 provides a detailed description of the methodology used to undertake the research. The results of qualitative and quantitative research related to research questions 2, 3 and 4 are presented in Chapter 6. Chapter 7 concludes by reviewing the results of the study including an assessment of current protected area management practices in the context of sustainability and their possible applicability to other areas.

CHAPTER 2 FACTORS INFLUENCING PROTECTED AREA MANAGEMENT

The purpose of this chapter is to describe the main legislative, policy and other factors that influence the management of protected area agencies. The chapter provides an overview of the role and purpose of protected areas from an international, Australian and local perspective, and describes the organisational, policy and social environments in which protected areas are managed. The range of values that can be attributed to protected areas are also discussed, along with an examination of tourism, as one of the main social and economic drivers for protected areas.

2.1 PUBLIC POLICY

Public policy has significant influence on the management of protected areas. Simply defined public policy is “what governments do, why and with what consequences. Public policy is set apart from general government activity in that it contains a ‘purposive element’; a course of action (or inaction) to achieve a longer-term goal (Fenna, 1998:3). Public policy involves governments making authoritative choices which, when adopted and executed, have consequences for ordinary citizens (Fenna, 1998, Gosling, 2004).

According to the Queensland Government (DPC, 2000), governments have four main policy instruments available to them;

- Advocacy - education, advertising or propaganda
- Money - economic incentives and disincentives via taxes, subsidies, pricing
- Direct government activity - provision of governmental service
- Law – legislation and regulation - to control certain activities.

Policy is created through a dynamic range of forces representing economic, social, political, environmental interests. Individuals seeking support from other individuals who share similar interests pursue these interests. Individual interests become collective interests through the formation of interest groups or through their uptake

by political parties as vehicles for mobilising and expressing collective interests (Fenna, 1998).

In the past two decades the primary public policy debate in Australia has been dominated by economic rationalist arguments. Economic rationalism is characterised by its support for low levels of (government) intervention in a self-regulating market driven economy. Since this philosophy generally recognises the environment as a “public good” (Fenna, 1998:356), economic rationalist policy generally fails the environment because individuals, organisations and markets do not adequately consider the real costs of their production and often transfer (externalise) those costs to others (governments, individuals and society in general), where they may or may not be realised immediately.

This dilemma has given rise to an alternative public policy position which has evolved from an environmental perspective that seeks to place the environment ahead of economic rationalist (anthropocentric) policy. These opposing and often incompatible perspectives derive from different value sets, often making for a difficult challenge for government policy making.

The compromise or middle ground position is based on the premise that long-term economic growth is dependent on a healthy environment. This thinking has given rise to the concept of ecologically sustainable development (ESD) (see section 3.2 for further discussion on this topic).

Lowry (1998:4) suggests that national parks and protected areas are “intergenerational impure public goods”. Impure in that they are not entirely publicly owned, “consumers often pay for received benefits and their use often affects the quality and quantity still available” and intergenerational because government is involved in the long-term provision of these goods. Lowry (1998) argues that the provision of intergenerational public goods is not easy and that governments have a poor record in providing them because a variety of factors work against real delivery including the unpredictability of future demand, the long term stability of political systems and official commitment and the influences of other organisations at state and national levels.

It is important to consider the main factors that influence protected area management and policy. Protected area policy and management is strongly influenced by the prevailing local, national and international social, environmental and economic policies and circumstances as well as by local and organisational social norms.

Public sector environmental and conservation policies at the international and national level are major drivers of protected area policy in Australia. These include historical actions such as those of the World Conservation Strategy, the World Commission on Environment and Development, Agenda 21 and the Convention on Biological Diversity. More recent actions include the Kyoto Protocol on climate change, the World Summit on Sustainable Development and the World Congress on Protected Areas. These international initiatives have influenced Australian policy on sustainable development. For example, the National Strategy for Ecologically Sustainable Development is a framework for Commonwealth, State and Territory cooperation to achieve sustainable development. The creation of national programs such as the Natural Heritage Trust, the National Reserves System program and the National Ecotourism Strategy also contribute to achieving this end (DITR, 2003). The potential to list the Ningaloo reef and adjoining coastal areas as a World Heritage Area has been a significant influence on government policy at all levels in recent years.

Dominant institutions and the social norms of society affect individual and community attitudes to the environment. Attitudes can be changed through dominant individual and institutional action, and this can occur at local, national and international levels (Worboys *et al.*, 2005). In the Ningaloo coast region the dominant institutions and individuals include DEC, the Department of Fisheries, recreational fishing groups, the local authority, the conservation movement, local pastoralists and high profile identities such as Tim Winton.

Protected area policy is subject to social and economic influences from both the public and private sector. The public sector includes “the state” and comprises governments and parliaments. The private sector includes individuals, companies and businesses involved in exchanging goods and services. Four broad issues largely influence protected area policy and management:

- national and international markets and related economic policies and conditions;
- national and international environmental policies and programs;
- community aspirations; and
- the culture of protected area agencies (Worboys *et al.*, 2001).

The major factors affecting Australia's economic policy and conditions include the internationalisation of capital and markets, global trade and the development of global financial systems, the expansion of free trade and the development of continental trading blocs such as the European Economic Union, the Asia Pacific Economic Community and Australia's membership of the Organisation of Economic Co-operation and Development (OECD). Nationally policy initiatives under the theme of economic rationalism such as public-private partnerships (PPPs) and national competition policy (NCP) are a response to global conditions and serve to blur the once clear-cut role between private and public sector roles (Worboys *et al.*, 2005).

Environmental policy in Australia is focused at two levels of government, federal and state. Fenna (1998) notes that the Commonwealth has no direct land and resource management powers under the Australian *Constitution*. Only by financial influence or through the use of the "external affairs" powers of the *Constitution* is the Commonwealth able to leverage state policy on land and environmental issues. These powers relate to 'protecting areas of Australia necessary to give affect to an international treaty', 'matters of international concern' or the export of resources. Therefore public policy relating to protected areas operates at several levels. The public policy that drives the establishment and management of protected areas occurs at both the state and Commonwealth levels, but with slightly different policy objectives in mind. Commonwealth policy (particularly its major protected area initiative, the National Reserve System program) is aimed at meeting objectives of the National Forest Policy Statement (1992) and subsequently the National Strategy for the Conservation of Australia's Biological Diversity (1996) (DEH, 2006a), while state policy is more pragmatic in that protected areas policy attempts to achieve environmental as well as social and economic objectives.

Community aspirations are increasingly important components of policy and decision making in protected areas. These aspirations include both public interest goals and private sector interests. Fenna (1998) describes the fragile and changing relationship between society (community) and the state. Citizen involvement is central to the concept of sustainability (Brundtland, 1987) and arises from widespread discontent and mistrust of governments and from their inability to give affect to community aspirations (Worboys *et al.*, 2005, CSERGE, 1998). In addition, meeting the aspirations of indigenous people is a significant goal within the broader framework of the community aspiration, though this may spark conflicts with other broader community aspirations.

Economic and social benefits generated through tourism, recreation, and other social values, based in protected areas are often susceptible to changes in public policy. Protected areas create opportunities for businesses and recreation, which individuals and groups invest in over time. For some, this can create a dependency on the resources of those parks. Negative economic and social impacts can thus be created when parks undertake statutory planning or policy processes that either do not, or are unable to fully, consider the social and economic implications of these changes. Examples include decisions to restrict certain forms of tourism and recreation access in order to protect biodiversity or environmental values, or a decision to list a protected area as a national or world heritage site. In these cases policy instruments (State and or Commonwealth), in the form of statutory controls, are implemented where environmental values are deemed to deserve greater protection or recognition.

2.2 INTERNATIONAL POLICY AND PROGRAMS

Protected areas are an international phenomenon with more than 100,000 protected areas in over 200 countries. Terrestrial protected areas cover almost 12% of the world's continental landmass, while marine protected areas cover almost 1% of the world's seas and oceans (IUCN, 2005).

The World Conservation Union (abbreviated as IUCN) is the world's peak conservation body and plays a significant role in setting international policy and guidelines for protecting the world's natural environments. All of Australia's state

and territory conservation agencies and the Commonwealth environmental agency (Environment Australia) are members of the IUCN. Founded in 1948, the IUCN has a mission to:

“influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.” (IUCN, 2006a)

The World Conservation Union membership exceeds 1,000 organisations and includes members from almost 100 nations, over 100 government agencies and over 800 non-governmental organisations (NGOs). In addition the membership includes 10,000 individual scientists and experts from 181 countries (IUCN, 2006a). The Western Australian Department of Environment and Conservation and Environment (DEC)² is a member of the IUCN.

The IUCN operates under six themes or Commissions including one specifically for protected areas. The IUCN World Commission on Protected Areas has a mission to:

“promote the establishment and effective management of a worldwide, representative network of terrestrial and marine protected areas as an integral contribution to the IUCN mission.” (IUCN, 2006b)

The IUCN defines a protected area as:

an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources and managed through legal and effective means. (IUCN, 1994)

In 1994 Australia adopted the IUCN definition of a protected area and the internationally recognised IUCN six level system of categories used to describe the management intent as a basis for documenting Australia's various types of protected

² On 1 July 2006 during the course of this research the Department of Conservation and Land Management (CALM) and the Department of Environment (DoE) combined to become the Department of Environment and Conservation (DEC). Some references to CALM have been retained where quotes have been used, documents published etc to retain the original context.

areas (see Appendix 1). In 1992 the IUCN World Commission on Protected Areas identified that a minimum of 10% of each ‘biome’ (bioregion) should be preserved.

The Category II classification is defined as ‘protected areas managed mainly for ecosystem conservation and recreation’ (see Appendix 1). While individual state and national jurisdictions may use slightly different terminology to label reserves defined as Category II, the most common and widely accepted terms used for Category II are national park, marine park and conservation park. By definition most tourism and recreation in protected areas occurs in Category II lands/water.

The Fifth IUCN World Parks Congress held in Durban, South Africa in September 2003 agreed on new commitments and policy guidance for protected areas (IUCN, 2005). Thirty-two recommendations were ratified by the Congress participants, many of which related directly or indirectly to the protection of biodiversity, such as Recommendation 5.4 under the topic ‘Building Comprehensive and Effective Protected Area Systems’ was to: -

“Urge governments, non-government organisations and local communities to maximise representation and persistence of biodiversity in comprehensive protected area networks in all ecoregions by 2012, focussing especially on those species that qualify as globally threatened with extinction under the IUCN criteria.”

Additionally, Recommendation 5.22 under the theme ‘Building a Global System of Marine and Coastal Protected Areas Networks’, was approved by the Congress:

“Establish by 2012 a global system of effectively managed, representative networks of marine and coastal protected areas, consistent with international law and scientific information, ...”

Three main themes emerged from the Congress. Firstly, capacity building at the institutional, societal, group and individual level, which focuses on the need for strong and effective management structures and partnerships with the necessary

skills to deal with the increasing pressure on protected areas as a result of global changes such as climate change, shifting demographics, unsustainable human consumption, widespread poverty and the increasing demand for products services in parks. This also includes the securing of public and private funding and resources. Secondly, improved biodiversity protection through building comprehensive and effective marine and terrestrial reserve systems. Thirdly, the role of society in providing solutions for the protection of nature through education, funding, tourism, private conservation and exploiting the cultural and spiritual values of protected areas held by local communities.

2.3 AUSTRALIAN POLICIES AND PROGRAMS

At the national level the conservation of marine and terrestrial biodiversity, maintenance of ecosystem integrity and the sustainable use of marine resources are governed by the Intergovernmental Agreement on the Environment (Commonwealth of Australia, 1992a). The agreement is implemented through actions under national strategies such as:

- The National Strategy for Ecologically Sustainable Development (Commonwealth of Australia, 1992b)
- The National Strategy for Conservation of Australia's Biological Diversity (Commonwealth of Australia, 1996)
- Australia's Oceans Policy (DEH, 2006a)
- The National Reserves System Program (DEH, 2006a)
- The Strategic Plan of Action for the National Representative System of Marine Protected Areas

The implementation of these policies helps Australia to meet its international obligations and responsibilities to the Convention on Biological Diversity, the Convention on Migratory Birds, the Convention on Wetlands and the World Heritage Convention.

2.3.1 National Reserve System

In Australia terrestrial protected areas form part of the National Reserve System (NRS). The NRS represents the collective efforts of the states, territories, the Australian Government, non-government organisations and Indigenous landholders to achieve an Australian system of terrestrial protected areas as a major contribution to the conservation of the country's native biodiversity (NRMMC, 2005). It aims to contain samples of all regional ecosystems (bioregions), their constituent biota and associated conservation values. This NRS has both terrestrial and marine components. The Australian Government and the state and territory governments work together to establish a comprehensive, adequate and representative (CAR) system of protected areas.

Protected areas now make up approximately 10% of Australia's continental land mass contained within 85 bioregions (DEH, 2000). These bioregions define unique biogeographical regions and highlight the extraordinary diversity of life and ecological systems that exist in Australia. Australia's bioregions are described in IBRA (the Interim Biogeographic Regionalisation of Australia) (DEH, 2000). It is the framework under which the CAR reserve system is planned and delimited.

2.4 WESTERN AUSTRALIAN POLICIES AND PROGRAMS

2.4.1 Legislation

In Western Australia protected areas are managed under the *Conservation and Land Management Act (1984)* by DEC. The *CALM Act* defines the purpose of national park and conservation parks as :

“To fulfil so much of the demand for recreation by members of the public as is consistent with the proper maintenance and restoration of the natural environment, the protection of indigenous flora and fauna and the preservation of any feature of archaeological, historic or scientific interest”

In Western Australia marine parks are created under the *CALM Act* and defined as having a purpose of:

“allowing only that level of recreational and commercial activity which is consistent with the proper conservation and restoration of the natural environment, the protection of indigenous flora and fauna and the preservation of any feature of archaeological, historic or scientific interest.”

The State has developed a range of policies, programs and strategies in order to meet its legislative responsibilities and complement and meet national policies. The most significant of these include:

- New Horizons in Marine Management (Government of Western Australia, 1994)
- A Representative Marine Reserve System for Western Australia (Marine Parks and Reserves Selection Working Group, 1994)
- A Draft Biodiversity Strategy for Western Australia (DEC, 2007)
- A Nature-based Tourism Strategy for Western Australia (TWA, 2004b)

Western Australia’s conservation estate includes 25.4 million hectares of national parks, conservation parks, nature reserves, marine parks, marine nature reserves, State forest, timber reserves and other lands, including lands purchased for conservation and not yet formally reserved (CALM, 2005a). The terrestrial conservation reserve system and State forest and timber reserves, and the marine reserves system are vested respectively in two statutory bodies established under the *Conservation and Land Management Act 1984* (CALM Act), namely the Conservation Commission of Western Australia and the Marine Parks and Reserves Authority.

The terrestrial conservation reserve system comprises 96 national parks covering 5,591,090 hectares, 745,195 hectares in conservation parks, 10,856,529 hectares in nature reserves and 133,106 hectares in miscellaneous conservation reserves under the CALM Act (CALM, 2005a). The total area of 17,325,920 hectares equates to 6.8 per cent of Western Australia’s land area. In addition, 4,963,747 hectares of former pastoral leasehold land and about 7,700 hectares of former freehold land have been acquired for conservation reserves but are yet to be reserved. Furthermore, a total of

more than 1.4 million hectares of land in the rangelands has been identified for exclusion from pastoral leases when the leases expire in 2015, and will be incorporated in the conservation reserve system (CALM, 2006b). There are still significant gaps in meeting CAR targets in over a quarter of Western Australia's 26 Bioregions (CALM, 2006b).

Western Australia's marine conservation reserve system comprises nine marine parks, two marine management areas and one marine nature reserve, covering a total area of around 1.54 million hectares, or about 12% of the State's marine waters (CALM, 2005a).

Marine parks are created to protect natural features and aesthetic values while at the same time enabling sustainable recreational and commercial use where these activities do not compromise conservation values. There are four types of management zones applicable to marine parks: (i) recreation zones; (ii) general use zones; (iii) sanctuary zones; and (iv) special purpose zones. Sanctuary zones afford the highest level of protection for environmental values in marine parks, and allow passive recreational uses consistent with the protection of these values (CALM, 2006b). All extractive activities including exploration, mining, commercial, traditional and recreational fishing, aquaculture and pearling are forbidden in sanctuary zones. Commercial tourism activities that do not conflict with other uses will be considered in sanctuary zones (CALM and MPRA, 2005).

Marine management areas provide a formal framework over waters that have high conservation value and intensive multiple uses. These areas are selected primarily on the basis of their biological and recreational values and their existing or future commercial activities (Government of Western Australia, 1994).

Since 2003 the Jurien Bay Marine Park, the Montebello Islands Marine Park, the Barrow Island Marine Park, the Muiron Islands Marine Management Area and the Barrow Island Marine Management Area have been added to Western Australia's marine conservation reserve system. Furthermore the southern portion of the Ningaloo Reef was added to the Ningaloo Marine Park and all of the surrounding

State waters were added to the Rowley Shoals Marine Park at the same time, significantly increasing the ecological integrity of both reserves (CALM, 2006b).

Like the IBRA system that classifies terrestrial ecosystems, the Interim Marine and Coastal Regionalisation for Australia (IMCRA) is the ecosystem classification system for marine and coastal environments (Environment Australia, 1998). Of the 18 IMCRA bioregions in Western Australia, 11 have no marine reserves and four have less than three per cent of their area reserved (CALM, 2006b).

2.4.2 Biodiversity Conservation Policy

Protected area creation and designation constitutes the primary strategy of most countries to protect and preserve areas of outstanding biodiversity value. In addition to their biodiversity values, protected areas contain areas of outstanding natural beauty, wildlife or natural and cultural heritage (DITR, 2003) and their existence provides important opportunities for people to experience nature and to recreate in natural environments (Worboys *et al.*, 2001) (Eagles, 2002).

However, biodiversity protection is the foremost objective for conservation agencies in Australia because of the intrinsic and utilitarian values that biodiversity provides (CALM, 2004, Pouliquen-Young, 1997, Eagles, 2002, Wells *et al.*, 1992).

Biodiversity protection is best achieved through a range of activities including policy, acquisition and reservation, planning, zoning, land management, law enforcement and compliance, education and interpretation. Land and water acquisition and reservation programs are a prerequisite to meet CAR objectives and this is recognised as one of the main tools for achieving biodiversity goals.

The most significant policy in respect to the marine conservation was the 1994 State Government policy on marine conservation (New Horizons) that clarified marine management responsibilities and vested powers for the reservation and management of marine reserves with the then Department of CALM. The New Horizons policy was updated in 1998 (Government of Western Australia, 1998). This policy was quickly supported by the preparation of a strategy to create a comprehensive

adequate and representative marine reserve system by identifying the most important ecologically important marine ecosystems in Western Australian waters for reservation. This strategy recommended the expansion of Ningaloo Marine Park to include the entire Ningaloo Reef?

In 2006 DEC released a draft one hundred year strategy for the management of the State's biodiversity (DEC, 2007). The primary goals of the Draft Biodiversity Strategy are to:

- build biodiversity knowledge and improve information management;
- promote awareness and understanding of biodiversity and related conservation issues;
- engage and encourage people in biodiversity conservation management;
- improve biodiversity conservation requirements in natural resource use sectors;
- enhance effective institutional mechanisms and improve integration and coordination of biodiversity conservation;
- establish and manage the formal conservation reserve system;
- recover threatened species and ecological communities and manage other significant species/ecological communities and ecosystems; and
- conserve landscapes/seascapes for biodiversity (integrating on and off-reserve conservation and managing system-wide threats).

The New Horizons policy, the Representative Marine Reserve System report and the draft biodiversity strategy together, define the State's approach to conserving the marine and terrestrial biodiversity of Western Australia.

2.4.3 Recreation Policy

Significant components of the protected area system have a dual mandate, namely the protection of natural and cultural heritage and the provision for visitors the opportunities to enjoy and benefit from the parks (Boyd, 2000). The provision of sustainable recreation opportunities is an objective of some categories of protected areas (see Appendix 1) and as noted further in this Chapter, recreation has a

historically important place in the creation of the national park concept and the development of the very first national parks.

The Conservation and Land Management Act 1984 (CALM Act) empowers DEC with a statutory function to manage for tourism and recreation in certain tenures of land under its control (1984). The definition of national park and marine park both accommodate sustainable recreation (see above, section 2.4.1). This function is further enhanced in DEC's Corporate Plan that provides as one of four strategic directions – “**Creating sustainable community benefits**” which has an objective to “generate social, cultural and economic benefits through the provision of a range of services that is valued by the community and is consistent with the principles of ecological sustainability” (CALM, 2002).

Unlike nature conservation in protected areas that has established clear international and national programs for the conservation of biodiversity, the provision of recreation and tourism in protected areas are largely locally (State) based programs. International and national policies and programs for the provision of sustainable recreation and tourism opportunities have been few.

DEC's Recreation and Tourism Strategy; People in CALM Places (CALM, 1996) establishes its policy position for the provision and management of recreation and tourism opportunities in Western Australian protected areas. In addition to this, the Western Australian Ecotourism Strategy (WATC and CALM, 1997) (TWA, 2004b)(first produced in 1998and revised in 2004) recognise the important contribution of national parks and protected areas make to the nature-based and ecotourism industry. At a national level the Australian Ecotourism Strategy (DoT, 1994)was the first initiative aimed at achieving sustainable tourism practices in natural and protected areas. Very little has followed that would support a national approach to achieving sustainable tourism in protected areas (a topic further discussed in Chapter 3).

According to Boyd (2000), despite the clear legal and policy mandate for facilitating recreation and tourism in protected areas, and while not clearly defined by most Australian park management agencies, in their parks park managers tend to give

priority to the role of the maintenance of ecological integrity, over and above that given to recreation and tourism.

2.5 OTHER FACTORS INFLUENCING PROTECTED AREA MANAGEMENT

This section describes some of the other important factors influencing the management of protected areas including the main values of protected areas, tourism and tourism planning and the changes occurring to rural societies and economies.

2.5.1 Organisational culture, power and governance

2.5.1.1 Organisational culture

How organisations behave and react to the social, economic and political world around them is an important component of this research. In simple terms organisational culture is the personality of an organisation. In reality, particularly in large organisations, organisational culture is complex and may encompass numerous internal cultures or sub cultures. Very little has been written about the organisational culture of park agencies. However relevant insights can be drawn from general theories and applications of organisational theory and organisational culture.

Organisational culture focuses on the attitudes, beliefs, values and meanings used by members of an organisation that give meaning to that organisation's uniqueness (Schultz, 1994). Schein (1992) defines organisational culture as "the residue of success" which suggests that it is a product of an organisation's survival. Organisational culture develops when its members cope with particular problems in order for the organisation to function (Schultz, 1994).

A strong organisational culture exists where employees respond to stimuli because of their alignment to organisational values and goals. Conversely, there is weak culture where there is little employee alignment with organisational values and control must be exercised through extensive procedures and bureaucracy (Wikipedia, 2006b). This aligns with the views of North (1990:100) who suggests that individuals play vital roles in organisations in that institutional change (benefit) is achieved through

“individual entrepreneurs who attempt to maximise at those margins that appear to offer the most profitable (short term) alternatives” and thus become agents of change.

Three interactive aspects - formal institutions, informal institutions and compliance (James, 2001) influence organisational culture. Institutions, are “the rules of the game”, and may be explicit and formalised (Hall and Page, 2006, North, 1990). Institutions are not synonymous with organisations. North (1990) describes institutions as the constraints, restrictive or enabling, that direct human behaviour in social, political or economic exchange. Organisations and individuals are the players whose behaviour is governed by these rules. Institutions impose both formal and informal constraints that, with their respective enforcement characteristics, create a set of incentives that guide human behaviours and consequently determine (organisational) performance outcomes (North, 1990).

North (1990:3) defines formal institutions (also referred to as formal rules or formal constraints) as “humanly devised constraints that shape human interaction” and are usually official or statutory documents that provide a structure within which the activities of an organisation can be managed and controlled. These include political and economic rules such as laws, policies, regulations, property rights and contracts. Accordingly “the function of rules is to facilitate exchange, political or economic” (North, 1990:47) between bargaining parties. O’Riordan (in Hall and Page, 2006:320) describes the importance of formal institutions in natural resource management policy and planning.

“There is growing evidence to suggest that the form, structure and operational guidelines by which resource management institutions are formed and evolve clearly affect the implementation of resource policy, both as to the range of choice adopted and the decision attitudes of the personnel involved”.

Formal institutions are therefore important in shaping decision-making processes through the constraints and processes that they engender.

Informal institutions are “the written and unwritten rules that govern every-day human behaviour and include cultural norms, social conventions, codes of conduct, mores, etiquettes traditions and taboos” (North, 1990:6). Their purpose is to reduce uncertainty by making human behaviour more predictable. Compliance is the extent to which behavioural choices made by individuals and organisations reflect the purpose of the institution (James, 2001). That is, individual readiness and enthusiasm to adopt and implement organisational objectives.

Schein (1992:5) places a strong emphasis on the role of leadership in “the creation, management and sometimes, the destruction of culture”. Schein (1992:15) describes leadership and culture as “two sides of the same coin” and that creating and managing culture may be the singly most important thing that leaders do.

Schein’s (1992) model of organisational culture involves three levels – artefacts, values and basic assumptions. “Artefacts” are organisational attributes that can be seen felt, and heard by the uninitiated observer and include its language, technology, products, facilities, myths and stories, visible awards, and the way people dress and visibly interact with each other and with people external to the organisation (Schultz, 1994). These are often difficult to interpret. Schein’s second level is “values” or the “professed culture” of an organisation and aligns partially with North’s formal institutions. Schein’s model includes both implicit and explicit declarations about values. It includes written documents such as slogans, mission statements and other operational creeds. The third level of Schein’s model also has strong similarities with North’s informal institutions. These are termed “basic assumptions” and are the implicit and often invisible elements of culture that are not easily identified in everyday interactions. These are often the underlying and driving element within an organisation’s culture and include assumptions relating to truth and reality, the nature of time and space, the nature of human nature, human activity and human relationships (Schein, 1992).

In both models it is possible to understand how contradictions and inconsistencies apparent between the different levels or aspects of organisational culture could occur, particularly where sub-cultures within the organisations exhibit different underlying values and basic assumptions.

An alternative view of organisations is provided by Drucker and is based on how organisations function (in Lansbury and Spillane, 1983:4). Drucker says organisations discharge three functions, in that they are “economic, political and social institutions”. Economic, through long term investment in capital and the provision of goods and services, political in that they have “an internal order based on power, authority and subordination”, based on “rules, rewards and punishments” and “procedures for resolution of conflict” and social in that “they contain communities within a community”. The wider social environment also imposes limitations on the way in which organisations function (Drucker 1951, in Lansbury and Spillane, 1983).

Lansbury and Spillane (1983) note that an overriding feature of Australian culture is its bureaucracy and that this resides in the origins of Australian society and colonial past. The harshness of the Australian environment and the absence of substantial resources of most early settlers, led them to a “reliance on government” and “the growth of bureaucracy necessary to satisfy the social demand (Hancock, 1961). Australian bureaucracy has its origins in the 19th century and government intervention played a major role in capital formation during that era, and was important in the formation of the pastoral industry (Butlin 1962, in Lansbury and Spillane, 1983). Lansbury and Spillane (1983) describe this approach, where government is the principal economic agent, as ‘colonial socialism’ or ‘colonial governmentalism’. Notwithstanding the considerable shift to neo-liberalism in recent decades strong elements of this approach persist to the present day.

However, Australia’s protected area bureaucracy is exceptional (along with other government agencies) in that it does not have these colonial beginnings having its genesis in the mid 20th century and is often perceived (particularly by proponents of competing land uses) as providing no obvious or tangible services to the community. None the less, protected area bureaucracies are now well established in all Australian States and Territories.

2.5.1.2 Management paradigms

It is therefore important to understand the context in which protected area thinking and culture has evolved and operates. According to Blaikie and Jeanrenaud (1997) three distinct paradigms or approaches to conservation and biodiversity conservation exist. These are ‘classic’, ‘neo-populist’ and ‘neo liberal’.

‘Classic’ is concerned almost entirely with environmental solutions to problems and largely ignores the potential for a social contribution to achieving conservation outcomes or for a social or economic contribution to be made by conserved areas. Protected area systems are characteristically seen as adopting this classic approach, which has tended to be exclusionary in approach. In this model the State “plays a major and leading role in defining the problem, formulating policy and implementing it. The central policy of this paradigm is the protected area network, as the key instrument in conservation” (Blaikie and Jeanrenaud, 1997:62). The classic paradigm places strong emphasis on empirical science (positivism), state power and the institution of “state property” to achieve its policies and solve problems (Blaikie and Jeanrenaud, 1997).

The ‘neo-populist’ approach has evolved as a response to the perceived failures of the ‘classic’ approach over the past twenty years. This approach recognises the knowledge, skills and experience inherent in the community and adopts a more people-oriented approach. It embraces techniques such as joint management and public participation. It adapts agency agendas to meet community concerns and uses participatory techniques to engage in meaningful dialogue (Blaikie and Jeanrenaud, 1997). The neo populist approach poses major challenges for protected area agencies. In adapting to this new paradigm, agencies must facilitate internal cultural change and their staff must develop new skills. They need to manage the conflicts between the scientific discipline and local knowledge, and between environmental science and social science as well as internalising the varying understandings of biodiversity. Also, agencies are sometimes faced with dealing with local opposition to the preservation of long-term biodiversity at the expense of short-term economic and social interests.

Neo-liberalism refers to a new form of political-economic governance based on market relationships, which emphasises a minimalist non-interventionist state (Larner, 2000). It focuses on free market methods, fewer restrictions on business operations, and property rights. In the context of protected areas, neo-liberalism pays attention to the role of the market in regulating the use of natural resources. This approach has developed in recognition of the limitations and constraints of bureaucracies, it advocates the dominant power of the market economy it privileges and the limitations of citizen involvement (Blaikie and Jeanrenaud, 1997). Critics of neo-liberalism argue the inherent difficulties in placing values on biodiversity and in establishing the prerequisites for a biodiversity market. As Lockwood *et al.* (2006:62) suggests, neo-liberalism is largely insensitive to “public good” activities and fails to adequately consider the non-productive or intangible components of the environment.

There is relatively little literature on the systematic study of protected area agency organisational cultures. A notable analysis is that of Pimbert and Pretty (1997). The authors contend that protected area agencies operate in a narrow and strongly held paradigm of positivism and rationalism. These philosophies, which are adopted by conservation science, have fostered norms (including western ethnocentricity), beliefs and practices that have led to serious challenges and conflicts in the management of protected areas. The training of disciplinary (scientific) specialists working in protected areas forces them to focus on the methods of their own professional discipline to the exclusion of other ways of collecting and creating knowledge. Pimbert and Pretty (1997:305) suggest that “the positivist paradigm is so pervasive that by definition, those inside it cannot see that alternatives (to a scientific approach) exist”. Clearly, most stakeholders and residents of communities with a social and economic interest in the resources of a protected area will have very different perspectives.

Also relevant is Pimbert and Pretty’s assertion that the positivist philosophy supports a preservationist view. They believe biodiversity can be achieved without wildlife trading, that human use is the prime threat to biodiversity protection and that more land should be added to the protected area system to support biodiversity protection.

James (2001) applies the institutional approach of North (1990) to analyse protected area management performance. Table 2.1 provides a summary of James's construct of protected areas institutional arrangement using North's framework.

Table 2.1 - Interpretation of protected area agency institutional arrangements

Framework	Description	Examples
Formal Institutions	<p>Written instruments that provide legally enforceable frameworks such as</p> <ul style="list-style-type: none"> • Legislation • Policies • Regulations • Property rights • Taxes, and subsidies 	<ul style="list-style-type: none"> • Protected area legislation • Nature conservation or biodiversity legislation • Forestry, fishing and hunting laws • Other laws relating to land, water and minerals • State/national conservation reserve system • Government conservation policies such as <ul style="list-style-type: none"> - National Reserve System - National Heritage Trust - National Biodiversity Strategy • Land clearing legislation policies • Environmental assessment legislation and policies • Tax incentives for conservation • Economic subsidies for competing land uses • Law and policy relating to property rights • National and State tourism plans • Management Plans
Informal Institutions	<p>Include social conventions, mores. Etiquettes, traditions and taboos. They vary widely among organisations and social groups and are pervasive in nature. They evolve from repeated exchange between players and involve: -</p> <ul style="list-style-type: none"> • Extensions, elaborations and modifications of formal constraints (institutions). • Socially sanctioned norms of behaviour. • Internally enforced standards of conduct (North, 1990) 	<ul style="list-style-type: none"> • Codes of Conduct • Values statements <ul style="list-style-type: none"> - eg, Integrity, honesty, customer focus • Corporate Plans • Community engagement, consultation and involvement programs • Work ethics and traditions • Environmental and conservation ethics • Purchasing and budgeting rules • Artefacts such as dress, physical work environment, ceremonies and functions, awards, language and forms of communication, stories and histories, leadership traditions • Unwritten ground rules or basic underlying assumptions
Enforcement	<p>The degree to which individual behaviours reflect organisational goals (compliance).</p>	<ul style="list-style-type: none"> • Role of the judicial system • Effectiveness of statutory enforcement • Level of enforcement by field staff • Personal accountability • Degree to which of agency plans and programs are implemented • Extent of political pressure/support

After James (2001) and North (1990)

Clearly, the values held by protected area agencies and expressed through the culture of their organisation can and do have an important role in the ways in which these values are communicated to other stakeholders in protected areas.

2.5.1.3 Power

An important aspect of organisational culture is how organisations use of power. Mintzberg defines power as (1983:5) “the capacity to affect the behaviour of other people”. Power can be categorised in many ways but the following are typical: -

- Physical power - the power of superior force
- Resources power - power through possession of valuable resources
- Authoritative or legitimate power - power given by statute
- Position power - legal or legitimate power of a position
- Expert power - vested in someone because of knowledge or expertise
- Personal power - charisma, popularity and strength of personality
- Negative power - the power to stop or disrupt things happening, the power of resistance (Mintzberg, 1983) (Hardy, 1995).

Park management agencies exercise considerable power through the authority given to them through their statutes. Hardy (1995:xiv) suggests “authority is ‘legitimate’ power embodied in the hierarchy and is considered ‘normal’ and ‘inevitable’ and follows the formal design of the organisation”. Much of the research into power therefore, has focused on ‘illegitimate’ power, the use of dominant power and the relationship between power and resistance.

2.5.1.4 Governance

Related to power, organisational culture and institutional arrangements is the key issue of governance and of governance models for the management of protected areas. Various definitions of ‘governance’ abound including: “the actions, processes, traditions and institutions by which authority can be exercised” (Lockwood *et al.*, 2006:62) and “the interactions among structures, processes, and traditions that determine direction, how power is exercised and how the views of citizens or stakeholders are considered by those making decisions” (Dearden *et al.*, 2005).

Eagles (2008:39) suggests that management effectiveness is directly related to governance, in that “the means for achieving direction, control and coordination, determines the effectiveness of management”. Governance is not synonymous with government and exists from the community to the global level (Graham *et al.*, 2003). In the last decade, new governance models for protected areas have emerged (Eagles, 2008) mainly in response to globalisation, neo-liberalist policies and the increasing complexity of modern societies (Francis, 2008) and significantly, to the concept of sustainability which Francis (2008:30) regards as “a reformist protest to global capitalisation and market-state”. Buscher (2008) Locke and Dearden (2005) and Francis (2008) have all expressed concerns at the pervasive impact of neo-liberalism on protected area policy and management including the recasting and interpretation of IUCN protected area management categories and the growth of tourism in national parks. Buscher (2008:230) raises concerns that the field of conservation is “busy reinventing itself in order to remain politically acceptable in a neo-liberalist world”. Francis (2008) suggests that western governments have become subordinated to private economic interests, which diminish their ability to manage the growing demands placed upon them by new categories of people and services. Inevitably these growing pressures also impact on protected areas. Protected area management has responded by adapting its management in two ways: through the promotion and development of tourism in protected areas and by making protected areas more acceptable (understood and appreciated) and of greater benefit to people living in or near protected areas (Francis, 2008).

The societal shift toward more collaborative forms of governance is evident (Newman *et al.*, 2004) and this will affect the governance of protected areas. According to Alcorn *et al.* (2005) the future managers of protected areas will be a mix of government (national, state and local), private businesses and other non-government bodies including local communities, indigenous peoples, individual landowners, corporations, and international bodies.

The adaptation of management to accommodate different governance models is confirmed by Eagles (2008) who identified seven different models of governance for protected area management. Graham *et al.* (2003) have defined a set of principles for

good governance that has been adopted by the World Parks Congress: legitimacy and voice; direction; performance; accountability; and fairness.

2.5.1.5 Communication

Communication in the context of protected areas is multi-faceted and refers to a range of social instruments involving both one-way and two-way communication. Communication includes activities such as instruction; education; interpretation; information dissemination; advertising; public relations; stakeholder management; and public participation (Hamu *et al.*, 2004:277). The form and types of communication used have strong correlations with the form of governance and the management approach taken by the management agency.

Successful management of protected areas involves dealing with a range of external impacts and threats by moderating their impacts and by bringing about change in the attitudes and behaviours of people (Hamu *et al.*, 2004). Communication is complex and costly and is often applied as an end activity as opposed to an integrated and strategic activity. As such, communication is one of the most important but largely under valued management tools for protected area management.

2.5.2 Values of Protected Areas

The management of protected areas involves making difficult choices between competing and often conflicting values. According to Tranel and Hall (2003:253) protected area managers are tasked with “advocating the range of values for which an area is created and making critical decisions in favour of those values”.

The scientific criteria used to select representative ecosystems seem to dominate contemporary protected area management. According to Crespo and Flores (2003:117) “protected areas are now managed from an ecological point of view that assigns greatest value to biological diversity”. This trend has significant implications for the management of the social, economic and cultural values ascribed to protected areas by other groups.

While most people understand that protected areas contain significant biodiversity and other natural values, more recently, considerable attention has been given to examining the range and types of other values inherent in protected areas and to considerations of how these values can be measured and operationalised.

Understanding the values that people and groups assign to protected areas is a fundamental component of park management and thus an important aspect of this research. The attitudes and perceptions that local people and communities hold about protected areas are influenced strongly by the more general values that they hold.

Lockwood and Winter (2004:11) provides a summary of the importance of understanding the connection between values and management.

“Making decisions that affect natural environments whether for their use, protection or conservation is an important role for government. It is desirable that such decisions are based on a sound appreciation of how people value natural areas. Given there are many stakeholders concerned about natural areas value measurement is fundamental to making rational decisions about their management.”

The words value and value(s) have two different but related meanings. Values are defined as “something (as a principle or quality) intrinsically valuable or desirable of a person or group” (Merriam-Webster, 1986) and they form the basis of peoples’ attitudes. The term value has several meanings, which can create confusion and misunderstanding (Lockwood *et al.*, 2006). In this context, value can mean either the monetary worth of something, the desirability or utility of a thing or as an idea or feeling (Lockwood *et al.*, 2006:101).

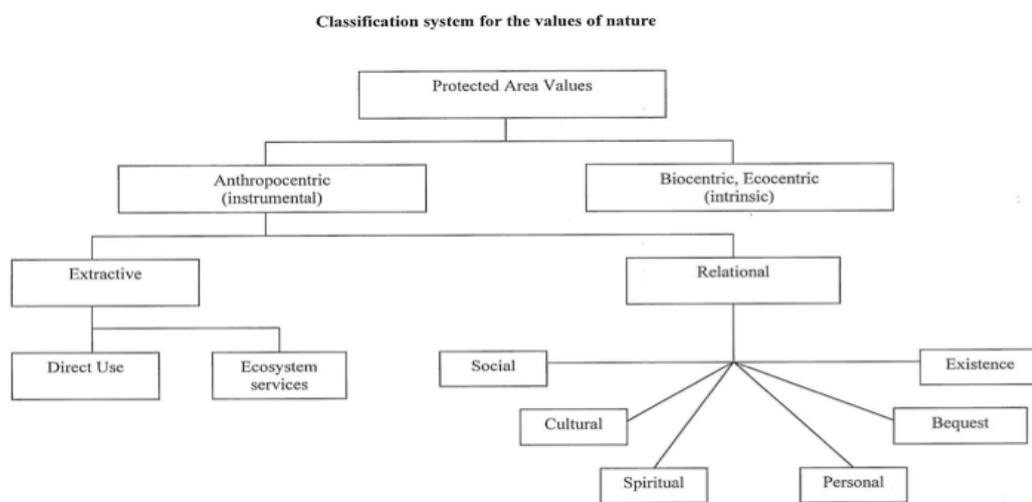
As Harmon (2003:5) suggests, because “protected areas are valued by society for a myriad of reasons, some of which are obvious, while others are more subtle” there are many ways of approaching or looking at the values areas ascribed to them. Nature in general and protected areas in particular possess a range of values. Dixon and Sherman (1990) describe eight broad values. There are: recreation/tourism;

watersheds; ecological processes; biodiversity; education and research; consumptive benefits; non-consumptive benefits; and future options.

Different typologies have been developed in an attempt to understand the range of values that exist in protected areas and how they inter-relate (Thomas, 1995, Worboys *et al.*, 2005, Harmon and Putney, 2003, Smith *et al.*, 2006).

A widely recognised typology is provided by Worboys *et al.*, (2005) based on Harmon and Putney (2003). See Figure 2.1.

Figure 2.1 - Classification system for the values of nature



This approach separates natural area values into two areas, anthropocentric (instrumental) and biocentric /ecocentric (intrinsic). Something is of intrinsic value if it is of value of or in itself. In other words, if nature or protected areas are of value irrespective of any benefits that humans may derive from them. The concept of intrinsic value has an ethical foundation and “means that society cannot simply treat nature as a resource to satisfy human wants and needs” (Worboys *et al.*, 2005:79). Anthropocentric views give primacy to human needs and primarily judge things according to human perceptions. Alternatively, biocentric and ecocentric views place greater value on the intrinsic worth of plants, animals and ecosystems.

Some benefits are inherent (intrinsic) and accrue automatically to society, whether recognised or not, such as biodiversity and ecosystem services, while others are generated or created by human thought, spirit and endeavour. The distinction between subjective and objective values is an important one as it goes to the heart of this research.

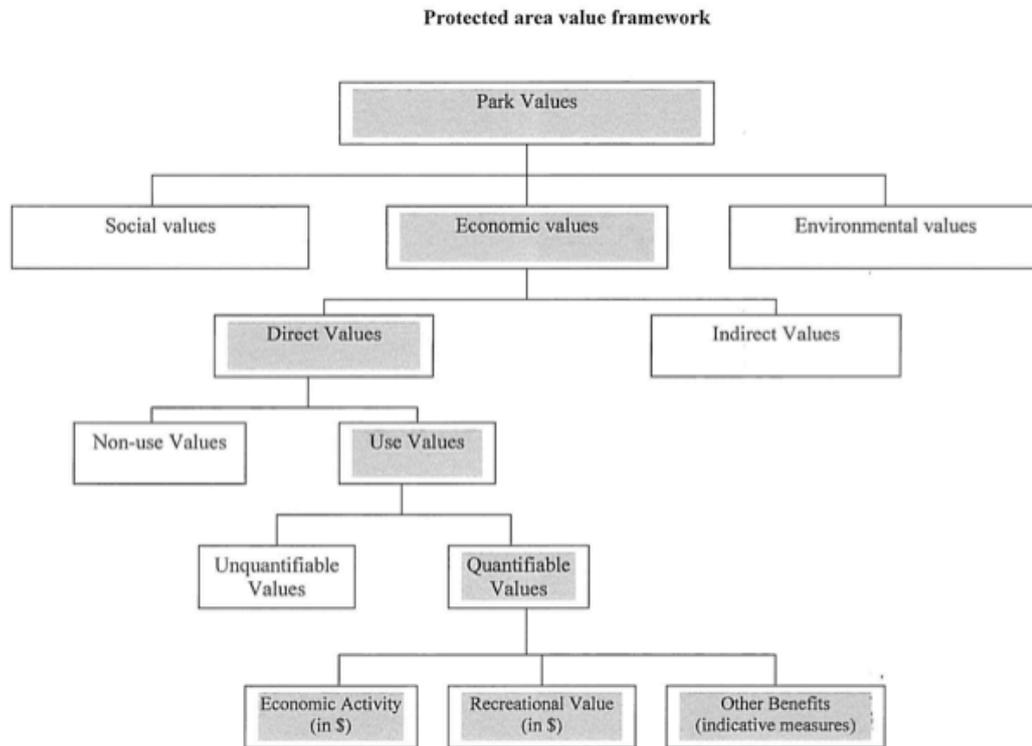
As Harmon (2003:15) contends:

“if values are exclusively objective then the biophysical features within a park all have some kind of arguable “true” value. In that case running a park should simply be a matter of discerning those values and protecting them, regardless of the divergent desires of park users or the general public. On the other hand if values are exclusively subjective, coming from people alone, if there is nothing enduring embedded in parks, then one can argue that there is no reason for managers to do anything other than track the shifting dunescape of public preference. Under these conditions, park management has the potential to become a travesty of democracy, an abdication of all professional judgement in favour of endless rounds of opinion polling, with managers sorting through value disagreements to try to come up with a consensus that is likely to be spurious.”

Essentially, all values commence as either intrinsic or instrumental values. The relationship between instrumental and intrinsic values is important. Instrumental values have the potential to be generated from intrinsic values through appreciation by an observer. Once appreciated, instrumental values have the potential to be used (utilitarian value) by a user. All intrinsic values have the potential to be translated into instrumental values and thus to derive either personal or public benefits (Harmon and Putney, 2003).

An alternative typology is offered by Thomas (1995) and Smith *et al.*, (2006) who describe protected areas as having three broad functions; economic, social and environmental (see Figure 2.2).

Figure 2.2 - A protected areas values framework



Those values in the shaded boxes are values that can be quantified.

Source: (Price Waterhouse Coopers, 2003)

Table 2.2 describes some of the use and non-use values of protected areas.

Table 2.2 - Use and non-use values of protected areas

<i>Direct use values</i>	<i>Indirect use values</i>	Non use values
Recreation	Ecosystem services	Option values
Education	Climate stabilisation	- Future options
Sustainable harvesting such as beekeeping	Flood control	- Future information
Tourism	Ground-water recharge	Bequest values
Fuel-wood	Carbon sequestration	Existence values
Gene harvesting	Habitat	- biodiversity
Agriculture	Nutrient retention	- ritual/spiritual values
Mining	Natural disaster prevention	- culture, heritage
Wildlife harvesting (fishing)	Water shed protection	- community values
Water abstraction		- landscape

Source : Based on (IUCN 1998)

Another way of considering protected area values is to see them as tangible or intangible. Harmon and Putney (2003:4) define intangible value as “that which enriches the intellectual, psychological, emotional, spiritual, cultural and or creative aspects of human existence and well-being”. They argue that scientists and environmentalists have largely appreciated the material values of protected areas, such as the conservation benefits of reserving land. Furthermore, that “the arguments relating to biodiversity conservation tend to be utilitarian in nature, relating to the economic value of wild species to humans, the maintenance of life support systems and the medicinal use of wild species for human health”. In contrast the public and park users tend to place greater importance on the intangible values of protected areas.

In recognition of this, the IUCN through the World Commission on Protected Areas (WCPA) established a Task Force in 1998 to identify and define the non-material (cultural and spiritual) values of parks. The range of intangible values of protected areas as defined by the WCPA Task Force (Harmon and Putney, 2003) are described in Table 2.3.

Table 2.3 - Intangible values of protected areas

Recreational values	The intrinsic qualities of natural areas that interact with humans to restore, refresh, or create anew through stimulation and exercise of the mind, body and soul.
Spiritual values	Those qualities of protected areas that inspire humans to relate with reverence to the sacredness of nature.
Cultural values	The qualities ascribed to sites by different social groups, traditions, beliefs or value systems that fulfil humankind's need to understand and connect in meaningful ways to the environment of its origin and the rest of nature.
Identity values	Those natural sites that link people to their landscape through myth, legend or history.
Existence values	The satisfaction, symbolic importance and even willingness to pay derived from knowing that a particular environmental resource is protected and exists.
Artistic values	The qualities of nature that inspire human imagination in creative expression.
Aesthetic values	Appreciation of the harmony, beauty and profound meaning found in nature.
Educational values	The qualities of nature that enlighten the careful observer with respect to human relationships with the natural environment, and by extension, people's relationships with one another, thereby creating respect and understanding.
Research and monitoring values	The function of natural areas as refuges, benchmarks, and baselines that provide scientists and interested individuals with relatively natural sites less influenced by human-induced change or conversion.
Peace values	The fostering of regional peace and stability through cooperative management across international land or sea boundaries, for development of understanding between traditional and modern societies or between distinct cultures.
Therapeutic values	The relationship between people and natural environments in protected areas that creates the potential for healing and for enhancing physical and psychological well being.

Source: (Harmon and Putney, 2003)

2.5.2.1 Economic values

Economic valuation is based on the premise that people have choices and can decide their wants and needs. The economic value of a particular item, or good, or service is measured by the maximum amount of other things that a person is willing to give up in terms of other goods/services in order to obtain the good. (Kulshreshtha and Johnston, 2000) (Ecosystem Valuation, 2008). The economic valuation of natural systems and related activities is difficult and complicate and confused by competing schools of economic theory.

Protected area managers have a particular interest in the economic value of ecosystem functions and services (usually measured through willingness to pay methods) and other values such as recreation and tourism. Protected area values can be categorised into two main areas: use values which can be defined as the value derived from the actual use of a good or service and non-use values, also referred to as “passive use” values, Non-use values are values that are not associated with actual use, or even the option to use a good or service (Ecosystem Valuation, 2008).

Some economists define all the quantifiable values of a natural environment as the Total Economic Value (TEV) (Tisdell and Wilson, 2004) and includes intangible values such as option, bequest and existence values, which are often difficult (but not impossible) to quantify.

While many and perhaps most protected areas managers will undoubtedly consider the non-economic values as being more important measures for society, public officials in charge of managing State and national economies will continue to use economics as the principal measure of the worth.

2.5.2.2 Social values

Because benefits can accrue from the generation of instrumental values there is a direct relationship between values and benefits. A benefit is “something that promotes or enhances well-being” (Merriam-Webster, 1986). Many of the social benefits that accrue from instrumental values can be derived from leisure activities.

The benefits of leisure are immense and protected areas are important venues for the undertaking of leisure activities. Harmon and Putney (2003) categorise leisure benefits into four main areas:

- personal benefits - eg sense of wellness, stress management, self confidence. and spiritual growth;
- social and cultural benefits - community satisfaction and pride, cultural identity and awareness, reduced social alienation, social support;
- economic benefits - reduced health costs, increased productivity, and
- environmental benefits – stewardship, awareness and appreciation of nature.

Of course tourism is both a leisure activity and an economic activity. Tourism is the most significant industry that operates within protected areas, and ecotourism in particular generates many of the leisure benefits described above. If managed sustainably tourism can provide social, economic and environmental benefits.

The social value of a place refers to the historical, cultural, physical, aesthetic, natural and/or economic qualities that have meaning in the everyday lives of community members. A community's sense of identity, psychological well being and physical health is connected to places that have social value (Griffin *et al.*, 2005). Table 2.4 provides a number of examples of the social values of protected areas.

Table 2.4 - The social values of protected areas

Historical	Cultural	Physical	Aesthetic	Natural	Economic
sites	Aboriginal	recreation	landscapes	places	employment
places	ethnic	tourism	smells		education
objects	family	leisure	sounds		science
structures	heritage	health	touch		
events		- physical	forms		
industries		- spiritual	shapes		
folklore		- emotional	features		
legends		- psychological			

Source: Adapted from Harmon and Putney (2003).

Griffin *et al.* (2005:4) suggests that protected areas such as national parks have significant social value in that, as physical spaces, “they denote cultural meaning and social interaction representing a social process”. It suggests that parks are a social resource that “over time has significance for a group of people”.

This view is supported by Worboys *et al.*, (2005) who suggest that people have spiritual and cultural connections with land and nature, which, in turn, play an important role in conservation. Indigenous people throughout the world also have strong cultural connections to specific places and their natural environments. Much of their spiritual belief system is based on associations with land and nature. Protected areas are now important to indigenous people because, in many countries, they are the only remaining areas that have been preserved in a state comparable to their condition prior to dispossession and provide access to sites and places of cultural importance. In turn, such places and sites have economic potential as venues for developing and presenting indigenous tourism products and services.

Research by a conglomerate of urban open space managers in Sydney, NSW indicates that open space contributes a wide range of community benefits including decreased health costs due to physical activity, reduced crime, education, individual development, conservation and increased access to social infrastructure (Hassall and Associates, 2002). Research by the Missoula County, Montana (Missoula County, 1999) indicates that recreation is a proven developmental and therapeutic tool, helping to build and restore physical, mental and social capacities and abilities. Appendix 2 provides a comprehensive list (unquantifiable and partially quantifiable) of the potential personal and community benefits of recreation.

The Healthy Parks Health People (HPPH) initiative of Parks Victoria (which has also been adopted by the Department of Environment and Conservation, Western Australia) is evidence of the health benefits of parks and protected areas. HPPH aims to “increase community support and involvement in the protection of parks while also contributing to the health of the community” (CALM, 2005b:4).

Recreation is an important social value of protected areas. Worboys *et al.*, (2001) suggest that most people visit national parks for recreational, experiential or

educational reasons. This is supported by research in the United States by Gilbert and Manning (2002:65) who found that “most park visitors place strong emphasis on the recreation, aesthetic, and educational functions of parks”. Aesthetic factors have played an important historical role in the protection of land. As noted by De Lucio in (Crespo and Flores, 2003:115) “landscape evokes deep emotions and strong attitudes towards conservation”. Because of their cultural importance some countries (eg Spain), have enshrined aesthetic values in federal law. More recently (in the 1970s and 1980s) landscape values have been assigned a secondary role to that of biodiversity. Crespo and Flores (2003:118) point to the view of the World Commission for Protected Areas (WCPA) which suggests that this is “due, perhaps, to growing globalisation of the western way of looking at the world that attaches singular importance to the scientific and technical, at the expense of the human, cultural and spiritual.”

On balance this research suggests that the Ningaloo community (and other stakeholders) value parks more for their social values than their environmental or biodiversity values. Of course the social values obtained from protected areas are dependent on the condition of the natural and environmental values. Nonetheless, recreational, landscape and aesthetic values may be a powerful instrument for garnering community support for the creation and ongoing protection and management of protected areas.

Protected areas also provide opportunities for business and economic activity, mostly deriving from recreation and tourism, which in turn provide social benefits through employment. Other indirect economic benefits derived from recreation and tourism include reduced health costs through preventative health measures and investment in environmental protection.

Through their creation and management protected areas also generate social impacts. Social impacts are defined by the ICGPSIA (Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 1994) as :

“the consequences to human populations of any public or private actions - that alter the way in which people live, work or play, relate to one another,

organise to meet their needs, and generally cope as members of society. The term also includes cultural impacts involving changes to norms, values and beliefs that guide and rationalise people's cognition of themselves and their society".

Hall and Page (2006:158) define the social impact of tourism as "the manner in which tourism or travel effects changes in collective and individual values systems, behaviour patterns, community structures, lifestyle and the quality of life".

The DEWR report (BDA Group and Gillespie Economics, 2007:8) on the economic and social impacts of protected areas suggests that very few studies have attempted to identify and quantify the economic, regional and social impacts of Australian protected areas. This report suggests that economic, social and environmental aspects of protected areas can bring about changes in the distribution of and aggregate welfare of communities.

Protected area management can cause significant adverse impacts on local communities. Firstly on businesses and lifestyle through changes to public policy created through the implementation of planning and or policy processes that either do not, or are unable to fully consider the social and economic implications of these changes. Second, through tourism attracted to protected areas that generates it own social impacts on surrounding communities including overcrowding, increased cost of living, cultural tensions, and competition for scarce resources and the displacement of indigenous communities. DEWR (BDA Group and Gillespie Economics, 2007) suggests two types of impacts: those that occur in the creation of parks and those that result from management initiatives.

An impact can be perceived as either positive or negative change, depending on one's standpoint. Different sectors of the same community can be experiencing an opposite impact at the same time from the same event. (e.g. an increase in property prices) Positive benefits can accrue immediately to individuals or groups in a community with the negative impacts being delayed for years, sometimes decades (eg, illegal water abstraction) with the costs often being externalised. Economic costs and benefits are often not distributed evenly throughout the community.

In countries such as Australia, New Zealand and USA, permanent human (Indigenous) habitation of protected areas has not generally been permitted. The removal and relocation of indigenous populations to the boundaries of protected areas has caused significant social dislocation, particularly in developing countries such as India and Uganda. Accounts of such actions and subsequent impacts are provided in West and Brechin (1991) and Wells *et al*, (1992). In most instances in Australia the physical displacement of indigenous people from land has preceded the subsequent creation of national parks, State forests and other reserves.

Little research has been conducted on the social impacts of protected areas on local communities in developed countries. Fortin and Gagon (1999) recorded a range of social impacts in two national parks in the Saguenay region of Quebec, Canada. The authors cite other research on the social impacts of Canadian protected areas, which include the expropriation of local populations from parks, land speculation, modifications to local employment structures, a rise in the cost of living, an increase in property taxes and an influx of workers and new residents. They also recorded that the presence of parks can create demands on local resources (such as water abstraction), which in turn affect park conservation objectives. In developed economies these impacts and demands appear to arise mainly from the growth and development of tourism.

According to Fortin and Gagnon (1999:201) social (community) impacts are often overlooked by protected area agencies because they are often created by “centralised decision making and hierarchical processes...more or less indifferent to the structures that are already in place”

Most “impacts” are relative and may be best described as “change”, because depending on one’s perspective, the changes induced by protected areas can be perceived as either beneficial or negative. For example, increased property values can have both negative (for purchasers) and positive (for sellers) effects. Sanctuary zones can create beneficial environmental impacts and at the same time cause negative social impacts for some users, eg commercial and recreational fishers. Table 2.5 summarises the changes and impacts identified by Fortin and Gagnon.

Table 2.5 - Changes and impacts as a result of park management

Category	Impact	Example/comment
Resource management	<ul style="list-style-type: none"> - changes to zoning regulations - new regulations and controls limit use - removal of/restrictions on commercial activities - access restrictions - changes to traditional or spontaneous use 	<ul style="list-style-type: none"> - modifications to fishing, boating, trapping and camping rules - removal of logging, maple sugar production - barriers and gates, use fees - time and place restrictions on certain activities
Local economy	<ul style="list-style-type: none"> - Park expenditure by government - Tourism infrastructure expenditure by government - Job creation 	<ul style="list-style-type: none"> - New park infrastructure, eg, roads - New ski centre
Tourism	<ul style="list-style-type: none"> - Parks create economic and political conditions favourable to tourism 	<ul style="list-style-type: none"> - Parks, with their controls and regulations provide greater resource and business security.
Living conditions	<ul style="list-style-type: none"> - Change in community orientation to tourism - Reductions in standard of living - Increased cost of accommodation 	<ul style="list-style-type: none"> - shift to the tertiary end of the economy - tourism can bring increases in land/property values and the cost of living
Social mobilisation	<ul style="list-style-type: none"> - Mobilisation of local players - Desire for greater community involvement in park development 	<ul style="list-style-type: none"> - attendance at public meetings and hearings - more active involvement in park advisory committees and local government - protests, road blocks and demonstrations, vandalism - partnerships with park agency
Social organisation and dynamics	<ul style="list-style-type: none"> - Arrival of new families (workers) - Influx of casual workers 	<ul style="list-style-type: none"> - Changes to demographics - Perceptions about the values of “newcomers”

Source: Adapted from Fortin and Gagnon (1999)

2.5.2.3 Environmental Values

Besides the intrinsic or biodiversity values that protected areas provide there are a range of other environmental values that have indirect use value. Ecosystem service is a term used to describe the benefits derived from the earth's natural assets and the product of healthy ecosystems. Ecosystem services are environmental processes which produce resources that benefit humanity such as the filtering of air and water, the assimilation of waste, the cycling of nutrients and the creation of building materials (EPA, 2006) (Worboys *et al.*, 2005). Protected areas help maintain the health of ecosystems and contribute to the mitigation of environmental impacts.

Ecosystem services include:

- Pollination
- Regulation of climate
- Insect pest control
- Maintenance and provision of genetic resources
- Maintenance and regeneration of habitat
- Provision of shade and shelter
- Prevention of soil erosion
- Maintenance of soil fertility
- Maintenance of soil health
- Maintenance of healthy waterways
- Water filtration
- Regulation of river flows and groundwater levels
- Waste absorption and breakdown

(Adapted from ESP, 2005)

The importance of ecosystem services is not well understood and the important roles that these natural services provide is not being adequately recognised in economic markets, government policies or land management practices. As a result, ecosystems and the services they provide are in decline (ESP, 2005).

2.5.3 Tourism

2.5.3.1 In the beginning - tourism in parks

Protected areas and their managers have had a long association with recreation and tourism dating back to the establishment of Yellowstone National Park, in 1872. National parks originated in the United States in the 19th century from concern over the pace of deforestation, the over use of land and urbanisation (Butler and Boyd, 2000). Boundaries were drawn around special places so they could be “set aside” from the “ravages” of ordinary use (Hales (1989) in Wells *et al.*, 1992). However the concept and origins of “parks” had a social rather than an environmental emphasis. The hunting and shooting exploits of the privileged class on the large estates and parklands of Europe were attractive elements worthy of emulation in the new and developing culture of America. By the middle of the 19th century the “realisation of the need for open natural areas for people to use for relaxation” (Butler and Boyd, 2000) was evident and was consistent with trends relating to the advancement of leisure and recreation in Britain at the same time. These trends emerged as a consequence of the industrial revolution.

The social values of places (space for relaxation) like Yosemite Park were recognised as early as 1864 but it was Yellowstone that became the world’s first national park, being set aside as a “public park or pleasure ground for the benefit and enjoyment of people”. The creation of parks like Yosemite and Banff National Park in Canada shortly thereafter were influenced strongly by a perceived demand for recreation in ‘natural’ areas (Butler and Boyd, 2000).

The creation of parks in Australia mirrored many of the prevailing concerns manifested in the United States. Royal National Park, about 20 kilometres south of Sydney was created only three years after Yellowstone out of concerns for the social well being and health of the local population and “as a place for public recreation” (Hall, 2000a). Other States soon followed with national parks established in South Australia, Queensland, Western Australia and Victoria before the end of the century (Worboys *et al.*, 2005). Most were close to urban areas and were intended to satisfy social objectives such as recreation and the protection of urban water sources (Pouliquen-Young, 1997).

In Western Australia, the creation of Kings Park in 1872 and John Forrest National Park in 1894, mainly for purposes of recreation and enjoyment, followed the patterns in the United States and the eastern states of Australia (ACF, 1980). It was not until the impacts of land clearing became evident following the second World War that reservation for conservation purposes gained pace in Western Australia (Pouliquen-Young, 1997). An important action (as urged by C.E Lane Poole, the first Conservator of Forests in Western Australia) was the setting aside of forest reserves (to control timber harvesting and prevent land clearing for agriculture) which meant that, in later years, there were areas that could be designated as national parks (for example, Shannon and D'Entrecasteaux National Parks and the Walpole Wilderness Area).

The next major achievement in the history of park creation was the push for dedicated parks legislation. Again, recreation provided the impetus for future conservation initiatives. Bushwalking clubs became important vehicles for conservation campaigns (Hall and Page, 2006). Following the First World War, several bushwalking clubs, operating around Sydney and led by the well known conservationist Myles Dunphy, pushed for the creation of the Blue Mountains National Park to protect "primitive areas". Proposals for the park noted the benefits that tourism would bring to the area. In 1957 the Bushwalking Federation of NSW sponsored the creation of the NSW National Parks Association (Worboys *et al.*, 2005, Hall, 2000a).

However, throughout the first 70-80 years of protected area history, a pattern of reservation appeared. Many of the original national parks were created on the notion that they were "worthless lands" unsuitable for development for human use (Butler and Boyd, 2000). This notion originated in the United States and spread to Australia. Early national parks created in the Tambourine Mountains and the Blue Mountains were described as "unfit for any other purpose" and "potentially desert land" respectively (Hall, 2000a) (Hall, 2007). The initial area of Cape Range National Park was created largely on the same premise. Following the completion of unsuccessful mineral exploration throughout the Range in the 1950s, and with no other apparent value, the national park was created for its scenic and recreation values (Doug

Bathgate personal communications). This notion that parks are created from “left-over” or “worthless land” has influenced community views of protected areas and delayed their support, protection and true valuation.

2.5.3.2 Early national parks legislation in Australia

Because the Australian *Constitution* places responsibility for land with the States rather than the Commonwealth, the creation of parks legislation differs between States. Western Australia was the first State to create “park” legislation with the enactment of the Parks and Reserves Act in 1895. However the first specific national park legislation was established in Queensland in 1906. The Queensland State Forest and National Parks Act, 1906, provides, among other things for the creation of State forests and national parks that could only be alienated by Parliament (Worboys *et al.*, 2005).

The presence of tourism in protected areas today owes its inclusion in inaugural national park legislation to the recognition of the recreational benefits that natural areas provide to people. Between 1906 and 1985 all the States introduced and periodically improved their parks legislation.

2.5.3.3 A change in emphasis - conservation

A change in emphasis of the purpose of protected areas from recreation to conservation and recreation coincided with the introduction of national park legislation, growing appreciation of the intrinsic values of natural areas and the establishment of national park associations, wildlife preservation societies, and other conservation groups in the period 1930 - 1960.

The rapid post war agricultural expansion of the 1950s was nowhere more evident than in Western Australia. The Government released over 5.4 million hectares of land for farming and 24 million hectares for pastoralism. The consequences of this large-scale vegetation clearing were largely ignored. Agricultural subsidisation and patronisation in the absence of environmental and nature conservation policy led to only minor additions to the conservation estate. Any additions to the national park

estate during the 1950s were largely a result of individual action rather than government policy (Pouliquen-Young, 1997).

The 1960s saw the birth of environmental awareness and environmental groups on the local, national and world stages (Hall, 2000a, ACF, 1980). The pace of post war agricultural and industrial development led to concerns for the environment and prompted campaigns to protect areas such as Fraser Island, Kosciuszko, and the Great Barrier Reef. Western Australia lagged behind the rest of Australia in this era as large-scale land releases and land clearing continued up until 1970 by which time the potential of the mining industry was being realised in the Pilbara region and agriculture started to play a less important role in the economy of the State (Pouliquen-Young, 1997). Once again the economic growth achieved through resource development took precedence over a range of growing environmental issues including mining, erosion, salinity and logging practices.

Science and scientists gradually began to play a greater role in influencing environmental policy and action. The Australian Academy of Science conducted the first review of the system of protected areas in 1962 and, in contributing to that review, the WA Branch of the Academy of Science played an important role in accelerating land acquisition for conservation in the State (Pouliquen-Young, 1997).

The focus of protected areas shifted and, for the first time, park agencies recruited qualified staff with scientific, forestry and resource management backgrounds, tasked with reserving and managing land for conservation purposes.

2.5.3.4 The advent of ecotourism

Between 1970 and 1990 world tourism grew a phenomenal 260% (Wearing and Neil, 1999). This was associated largely with the growth of the consumer society in the post-war long boom during which social and economic development prevailed at the expense of the natural environment. Ecotourism has developed particularly in the period since then as an alternative form of tourism, partially in response to growing concerns over the environmental impacts of mass tourism on the environment, which were first acknowledged widely in the 1980s.

Ecotourism is nature-based tourism that involves education and interpretation of the natural environment and is underpinned by a philosophy that tries to be ecologically sustainable (DoT, 1994). Ecotourism is now the fastest growing component of the world's fastest growing industry (Page and Dowling, 2002).

With the advent of nature-based and eco-tourism in the early 1990s, national parks and forests became an important venue for nature-based and ecotourism activity. This is particularly so in Western Australia (Shea and Sharp, 1993). The boom in visitation and use of protected areas for nature-based tourism was far greater than anticipated and many national park agencies were not adequately prepared for the influx of visitors or the management challenges that increasing levels of tourism could create. Eagles (2002), in his review of international trends in park tourism noted that levels of tourism competency and policy development were low during these critical years of ecotourism development (1990-1998). This was particularly so in Western Australia when the Department of Conservation and Land Management was formed in 1985 from an amalgam of two agencies, (the Forests Department and the National Parks Authority) and part of a third (the wildlife section of the Department of Fisheries and Wildlife). The management of tourism and recreation were not established components of any of the former agencies. This shortcoming was identified by the new agency and thus adopted an express role to facilitate recreation and built a recreation and tourism management capability.

Eagles (2002) suggests that park agencies have traditionally been weak in tourism competencies. Major threatening processes such as salinity, forest disease and the impact of introduced species on native fauna have been the traditional priorities for park management. Consequently there were limited resources available to manage tourism and tourism growth and address the potential threats and opportunities presented by tourism.

CALM (DEC's predecessor) was one of the first park agencies in Australia to recognise the valuable role that tourism could play in resourcing parks and in advocating conservation objectives. Publications by CALM (Sharp, 1992, Shea and Sharp, 1993) clearly describe a policy of embracing tourism as a means of

contributing to conservation, while at the same time recognising that this can only be achieved through “effective management” such as management planning, statutory controls, regulation and enforcement, site planning and tourism licensing.

2.5.3.5 Tourism and protected areas

Protected areas have a special relationship with tourism because many of the world’s and indeed Australia’s important and globally recognised tourism icons are located within protected areas (TTF, 2004, DITR, 2003, Butler and Boyd, 2000).

Australia’s protected area system involving national parks, marine parks, forest and other reserves includes over 77 million hectares of land and water and attracts over 80 million visits per annum (Steffen, 2004, TTF, 2004).

Tourism in protected areas therefore involves public sector and private sector interactions. Crucial to this interaction is establishing the appropriate balance between the two sectors. This tension is highlighted by Butler and Boyd (2000) who describe “a long but uneasy relationship” between tourism and protected areas; a view reinforced by others (Figgis, 1999, Australian Government, 2003, DITR, 2003) who identify the two as having “divergent interests” (Australian Government, 2003). What is surprising in this relationship is that recreation and in protected areas was instrumental in the very genesis of national parks (Hall, 2007). Furthermore tourism, under the auspices of recreation, is firmly enshrined in the legislation and policy of almost every park system worldwide.

Despite this tension, tourism and protected areas have significant areas of common ground. Both sectors have a mutual interest in protecting the natural and cultural values of protected areas, albeit for apparently different reasons. Figgis (1999b) and Brown (2004) contend that the conservation movement has, at times, used nature-based tourism potential as a powerful argument to conserve natural areas or create protected areas such as the Franklin River, Fraser Island and the Daintree. Yet conservation groups and protected area agencies often cite examples of the impacts of tourism in protected areas as reasons for keeping tourism development outside of national parks.

Central to this tension between conservation and use are the competing views of anthropocentrism and biocentricism.

2.5.3.6 Tourism and the economic contribution of protected areas

Tourism is widely regarded as the world's largest industry (Hall and Page, 2006), and is the major economic activity associated with protected areas. Tourism in protected areas generates economic activity that can provide an indication of the financial value that people place on wildlife and natural areas or at least an indication of what they are prepared to outlay to enjoy such areas. Protected areas provide significant opportunities for the development of businesses, which directly or indirectly service the tourism industry. These activities can occur both in and adjacent to protected areas. As such, protected areas can convey significant economic and social benefits to both regional areas and the Australian economy (TTF, 2004). A detailed examination of this issue in respect to the Ningaloo coast can be found in Chapter 4.

In 2004 global (international) visitation in total exceeded 760 million, creating economic expenditure valued at over US\$6,000 billion (WTO, 2005, WTTC, 2005).

While small by international standards, Australia's tourism industry has experienced rapid growth in the past decade and is now a major industry (Higginbottom *et al.*, 2001). In 2005, more than 5.5 million international tourists visited Australia, spending \$AUD17.3 billion and accounting for 12% of export earnings (ABS, 2006c, ABS, 2006a).

The global value of protected area tourism is not known. However, tourism based on protected areas is a large and growing component of the economy of many countries. For example, Eagles (2002) calculates the economic value of Canada's protected area tourism to be between Cdn.\$2.2 and \$14 billion. He also suggests that protected area tourism in the USA and Canada in 1996 could have a combined economic value of between US \$236 billion and \$370 billion (Eagles, 2002). Nature-based tourism is

one of the largest and most rapidly growing tourism sectors globally, contributing as much as half of the world's total tourism revenue (Higginbottom *et al.*, 2001).

Figgis (1999) estimated that most of Australia's tourism industry is based on attractions of the Australian environment, the key elements of which are protected areas. This is supported by Steffen (2004) who estimates the value of Australia's tourism activity in 2004 to be AU\$70 billion and that the industry was "based on the attractions of the county's natural environment, wildlife and cultural heritage".

Some aspects of nature-based tourism such as wildlife tourism have significant economic impacts. Wildlife tourism in Australia, which is largely dependent on protected areas, was valued at AU\$3.5 billion in 1996 (Higginbottom *et al.*, 2001).

Recent studies on the economic value of protected areas, reveal direct tourism expenditure of AU\$100 million per annum in the Daintree region of the Wet Tropics World Heritage Area of northern Queensland (Lindberg and Denstadli, 2003) and in Western Australia Carlen and Wood (2004) estimate that direct expenditure as a result of the Cape Range National Park and Ningaloo Marine Park exceeds AU\$127 million per annum.

The economic value of tourism in the Australian Alps is estimated at AU\$1 billion per annum, although only AU\$230 million comes from interstate and international visitors (Mules *et al.*, 2005). From the viewpoint of the State, the net economic impact of visitation should only include non-residents of that State. This viewpoint has implications for determining the economic value of protected area tourism in Western Australia. If the valuation of protected areas is stripped away to include only direct use values associated with non domestic tourists, then protected areas will not be attributed their real worth. Strong demand by the intrastate tourism market for State-based tourism destinations can have a significant positive economic impact.

Table 2.6 represents the most recent and comprehensive assessments of the direct use values derived for tourism and relating to protected areas.

Table 2.6 - Direct use values of Australian protected areas

	Value in AU\$ M p.a. (direct expenditure)	Reference
Great Barrier Reef, Queensland	4,064	(BTR, 2003, GBRMPA, 2003)
Australian Alps	1000	(Mules <i>et al.</i> , 2005)
Wet Tropics WHA, Queensland	443	(Driml, 1997)
Daintree National Park	100	(Lindberg and Denstadli, 2003)
Ningaloo Marine Park and Cape Range National Park, Western Australia	127 - 138	(Carlsen and Wood, 2004)
South west forests, Western Australia	61 - 70	(Carlsen and Wood, 2004)
Port Campbell National Park, Victoria	143	(Parks Victoria, 2005)
Grampians National Park, Victoria	186	(Parks Victoria, 2005)
Lamington National Park, Queensland	35	(Tisdell and Wilson, 2004)
Australian Antarctic Tourism	200	(Tisdell and Wilson, 2004)
Tasmanian WHA	122 -144	CREA (2000) in (Lindberg and Denstadli, 2003)

It should be noted that not all protected areas have a significant economic effect. Many parks and reserves attract little visitation and therefore have little direct economic value. Protected areas that have the greatest economic value are those that contain iconic natural features and/or wildlife or high levels of naturalness.

None of these studies have attempted to undertake a TEV by including a valuation for non-use values. Some studies suggest that, for some wildlife species, non-use economic values account for a substantial component of the TEV (Tisdell and Wilson, 2004). The significance of non-use values is highlighted by Hundloe *et al.*, who estimate that the existence and option values for the Great Barrier Reef as AU\$ 98 million per annum (2003 values) (in GBRMPA, 2003). Smith *et al.*, (2006) also remark that non-use values are “often nebulous, widely dispersed and normally go unmeasured”. The assessment of non-use values of natural areas and species is still rare and yet it is apparent that in economic terms their values is significant.

It is clear that current valuation approaches relating to natural areas are not comprehensive. Smith *et al.*, (2006:56) suggests that “uses (use and non-use) may be

interdependent and it is important to adopt a holistic view of the total value of protected areas to the community (economic, social, and environmental)” because “the total value may also impact much wider than the protected area”.

Eagles’ estimate of the economic value of Canada’s protected area tourism and Steffen’s valuation for Australia’s tourism industry provide a guide to the economic value of tourism in Australia’s protected areas. It is reasonable to speculate that the direct economic impact of tourism in Australia’s protected areas is likely to be in excess of \$50 billion. Even without the inclusion of non-use values in protected area valuations the economic impact of tourism in protected areas is immense.

There are also the economic benefits of recreational (day use) use of protected areas. Travel cost method studies in Australia show that such recreational impacts can be economically significant. Research in New South Wales (NSW) and Victoria shows that the value of day trip recreational direct expenditure alone makes significant contributions to local economies (Parks Victoria, 2005) (NSWNPWS, 2002).

Other economic values of protected areas derive largely from extractive uses such as fishing, honey production, timber production, horticulture, medical uses, water production and commercial filming and photography.

2.5.4 The changing dimensions of rural Australia

Protected areas are resources that sit within a rural landscape and are subject to the forces of rural and urban communities. In an attempt to understand the influences acting on rural resources in Australia, Holmes (Holmes, 2006) describes the driving forces for each of the three main purposes of rural Australia, that of production, consumption and protection;

- Production - characterised by endemic agricultural overcapacity, the translation of commodity surplus into land surplus or redundancy and the release of surplus resources to alternative purposes.

- consumption - enhanced access, higher incomes and lifestyle changes are leading to urban penetration of rural areas through recreation, tourism and residential living. The pursuit of rural/natural amenity adds a premium to land values.
- protection – changing societal values have seen the emergence of environmental (biodiversity and sustainable resource use) and social justice concerns (indigenous land rights) that can only be pursued in rural locations.

Holmes argues that rural landscapes are currently undergoing a rapid transition from a purely agricultural function to one that has multi-functionality (multi-functional rural transition). Shaw and Williams (Shaw and Williams, 1994) who note “the tourism demands are for a countryside to be constituted primarily as a zone of tourism, leisure and consumption, rather than a zone of production” support this.

Pastoralism is a declining economic and industrial force in Western Australia due to a range of factors that include the impacts of introduced species on production, reduced stocking rates, climate change (increasing affects of drought), depopulation and the purchase of pastoral leases as additions to the conservation reserve system. Many properties are diversifying into other land uses such as tourism, wood production, horticulture and aquaculture. Demand for rural retreats and lifestyle properties are also increasing (EPA, 2006). These forces are evident in the Gascoyne/North West Cape region of Western Australia. All six pastoral properties on the Ningaloo coast have capitalised on the natural and amenity values of the Ningaloo coast and reef through tourism, which is now an important source of income (albeit mostly unauthorised) for these holdings.

A complementary trend is that of a shift in the Australian population to the coast as described by Salt (2003) who describes the ‘beach culture’ as the third major Australian culture following those of the ‘the bush’ and ‘the city’. In 2001 85% of Australians lived within 50 km of the coast (ABS, 2003c). These two trends are no more evident than on the Ningaloo coast.

Strong residential growth in Exmouth and tourism growth in Coral Bay is now evident with land releases of over 40 hectares of land in Exmouth for residential and tourism development since 2003. A structure plan for Coral Bay will allow additional tourism accommodation to a maximum of 3000 beds (WAPC, 2004). While the resident population of Exmouth is not expected to grow in the next 10 years, the semi-resident population is expected to double the permanent population, driven largely by retirees and investors. Improved transport access has contributed to this change. The types of changes described by Holmes (2006), Shaw and Williams (1994) and Salt (2003) are occurring with greater intensity in other parts of Western Australia such as Busselton, Esperance, and Mandurah. Such rapid change places enormous demand on the provision of infrastructure and threatens natural resources (Harris, 2007). The Ningaloo coast communities can take important lessons from these experiences.

Protection of natural and cultural values has been a prominent activity on the Ningaloo Coast in the new millennium. This includes the extension of Ningaloo Marine Park, its improved protection through expanded sanctuary zones, the inclusion of the Murion Islands in the marine conservation estate and the commencement of joint management arrangements with indigenous people for Cape Range National Park and Ningaloo Marine Park.

2.6 CONCLUSION

The formal and informal frameworks within which public organisations operate, influences the way they behave and operate. These same frameworks also operate within protected area agencies. Protected area culture is typified by a highly driven, conservative and entrenched behaviour that employs its scientific knowledge, technical expertise and statutory powers (the ‘classic’ paradigm) to produce its desired outcomes.

In the classical top-down style, positivist conservation science, new technology and the preservationist ethic combine to create a dominant blueprint for protected area management. It is a blueprint that does not readily lend itself to meeting the complex

and dynamic nature of ESD, and in particular, the promotion of community involvement in planning.

These revelations have implications for the community stewardship, which is a major focus of this research. The limited adoption of elements of new paradigms by protected area agencies, such as the neo-populist and neo-liberalist approaches adds to this concern. While most planning and management activities have selectively incorporated elements of these approaches (more intensive community engagement, use of deliberative, cooperative and inclusionary processes and private sector investment) the concern is that the strong institutional pressures within park agencies will fail to bring about the necessary cultural changes needed to embrace these approaches fully and lead to a relationship that can foster community stewardship.

Leadership is an important factor in creating, maintaining or enhancing the appropriate organisational culture. Community stewardship of parks will only take hold through strong leadership or when entrepreneurs influence leadership to bring about changes in the form and quality of communication and interaction with the community, particularly in their approaches and attitudes to planning, tourism and community involvement in decision-making.

Protected areas are international phenomena that afford significant global environmental, social and economic benefits. Global and local threats to biodiversity values have shifted international and national policies and programs (within protected area agencies) to give prominence to meeting biodiversity and environmental objectives before social and economic considerations. This differs from the original motivations for creating national parks, which were primarily for social reasons.

This policy change has occurred during a time of the greatest growth in world travel and with this, the emergence of nature based and eco tourism. There is overwhelming evidence of the immense (and rapidly growing) economic value of protected areas derived from tourism and of its importance to local and regional communities. The competing interest of biodiversity conservation and the use of

protected areas for social and economic benefits, create a significant challenge for public policy makers.

Western Australia's protected area system, while significant in area, is well below international benchmarks for achieving a comprehensive, adequate and representative system. Western Australia's marine environment is considered to contain some of the most bio-diverse ecosystems in the world and yet the marine reserve system covers only 12% of State waters. These factors are likely to be important drivers in the government's agenda to expand and protect the Ningaloo reef.

Methods and approaches that value the full range of values of protected areas have only emerged since the 1990's. Economic and social value research has tended to be project specific and is typified by an absence of comprehensive (social, environmental, economic and regional) studies. This has delayed a full appreciation of the values of parks. While many natural area values are difficult to quantify this research indicates that community appreciation of non-use values means that consideration needs to be given to quantifying both use and non-use values.

Protected areas exist largely within and are influenced by the changing dynamics of rural economies and communities, currently being described as a post-rural transition. This phenomenon has implications for the management of protected areas, particularly in the Gascoyne where the decline in pastoralism will focus greater attention on tourism and, as a result, generate greater pressure on Ningaloo Marine Park and adjacent protected areas to accommodate more visitors.

Protected areas are social constructs operating within an institutional framework. They can be viewed as instruments to achieve environmental and social policy objectives. More recently this has begun to include economic objectives. Protected areas depend on political and community support to survive. If protected areas are to survive protected area management systems needs to ensure that protected areas provide a service to the community either through building broad community appreciation for their intrinsic values or their utilitarian values or a combination of both. Three factors emerge from this chapter that will define the future management

of Ningaloo coast; the pressure to conserve marine biodiversity of the Ningaloo reef, the growth of tourism to the area and the changing industrial landscape.

This chapter highlights the importance of the institutional frameworks in forming organisational behaviour and action that drive and determine the way an organisation's goals, policy and power is administered. It raises questions about how this power is used by park agencies in the context of protected area governance for planning and management.

CHAPTER 3 TOURISM, PROTECTED AREAS AND SUSTAINABILITY

The purpose of this chapter is to review contemporary academic views on a range of topics relevant to protected area management, to aid in understanding and evaluating the issues and aspects of individual, agency and community attitudes and behaviour that will arise in the case study. These topics include the relationship between local communities and protected areas and tourism, tourism planning and the theories and practice of sustainable development.

3.1 COMMUNITIES AND PROTECTED AREA TOURISM

This section explores current research on local community attitudes and perceptions of tourism in protected areas and on how these communities respond to the challenges of both tourism and protected area management. This is an important component in understanding how local community-park relationships contribute (or fail to contribute) to the long-term social, economic and environmental sustainability of areas such as the Ningaloo coast.

Much has been written about the negative impacts of tourism, including those experienced by destination communities. Singh *et al*, (2003:4) contextualise the issue of such tourism impacts when they state, “it is unlikely that tourism itself is bad, it is simply badly planned or managed”. This is frequently the case as regards tourism planning in and for protected areas and their surrounding communities.

Chapter 4 will highlight some of the difficulties in defining the relative importance of tourism impacts. The same impact can have contrasting effects on different people depending on people’s values, perceptions and aspirations. What is not in dispute is that social change is constant and that, in many areas tourism is a major factor driving social change. According to Pearce *et al*, (1996:6) “the issue of how communities shape and respond to social and environmental changes is a driving factor in assessing community response to tourism”.

Communities are complex and dynamic entities that are shaped by geography, ethnicity, demography, governance, stakeholders and the power and structures that exist within them (Swarbrooke 1999, in Singh *et al.*, 2003). As such, defining the meaning of community is not easy. In distilling the various literature on communities a number of elements emerge.

Communities:

- are usually not homogeneous;
- have differing interests and social strata;
- do not have an inherent potential to “come together” to manage a common resource - though they will tend to unite against a common threat;
- have a common interest in the resources of an area;
- often conflict over the use of resources; and
- usually have strong attachments to the physical environment of a location, space or place which is a critical element in defining the nature of a community.

In support of these assertions, Millar and Aitken suggest that “communities are not the embodiment of innocence; on the contrary they are complex and self serving entities as much driven by grievances, prejudices, inequalities and struggles for power as they are united by kinship, reciprocity, and interdependence. Decision making at the local level can be extraordinarily vicious, personal, and not always bound by legal constraints” (Millar and Aitken, 1995, in Hall, 2003:333).

Community can be defined as a set of people with a mutually recognised interest in the resources of a particular area, rather than simply as the people living in an area (Gilmour and Fisher, 1991). Thus, while place is an important aspect in defining a community, communities are not necessarily constrained by spatial boundaries. Ashley and Roe (1998) argue that a community represents users of a resource rather than a homogenous residential unit. This means that the concept of a relevant community (of interest) can extend well beyond the boundaries of a tourism destination.

In contrast, host (also referred to as local or destination) communities are specifically differentiated by the physical boundaries of the tourism destination. Destination communities differ in shape, scale and form depending on their function. For example, coastal resorts function differently from city destinations. The structure of host communities can vary from simple to complex depending on their size, functions and the make up of specific groups within the community.

Singh *et al*, (2003) list a number of other factors that shape the function and structure of host tourism communities. These include both endogenous (internal) and exogenous (external) factors. Endogenous factors include population mix, length of residency, the extent of local ownership, the level of local involvement in tourism, where decision-making power lies and the processes for decision-making. Exogenous factors include the level of migration to the community linked to or related to tourism, and the extent to which outsiders own businesses.

Pearce *et al*, (1996) take a detailed look at tourism communities and the perceptions and attitudes that communities hold towards tourism. They endorse the application of the ecologically sustainable development (ESD) framework (Brundtland, 1987) by countries like Australia and Canada as a means of managing the community-related implications of change initiated through tourism development.

The goal of ESD is to ensure that all development is ecologically sustainable in terms of environmental, social, and economic values. The four principles of ESD are:

- The precautionary principle
- Inter-generational equity
- Conservation of biodiversity and ecological integrity
- Improved valuation, pricing and incentive mechanisms

The Australian Commonwealth and State Governments adopted the principles of ESD in May 1992, through the Intergovernmental Agreement on the Environment (IGAE).

Community involvement and well-being is a fundamental component of ESD. Pearce *et al* argue that, unless development and planning processes give equal consideration to social and community impacts (both positive and negative), ESD as a tool in tourism planning will “lose power and become synonymous with environmental impact assessment”.

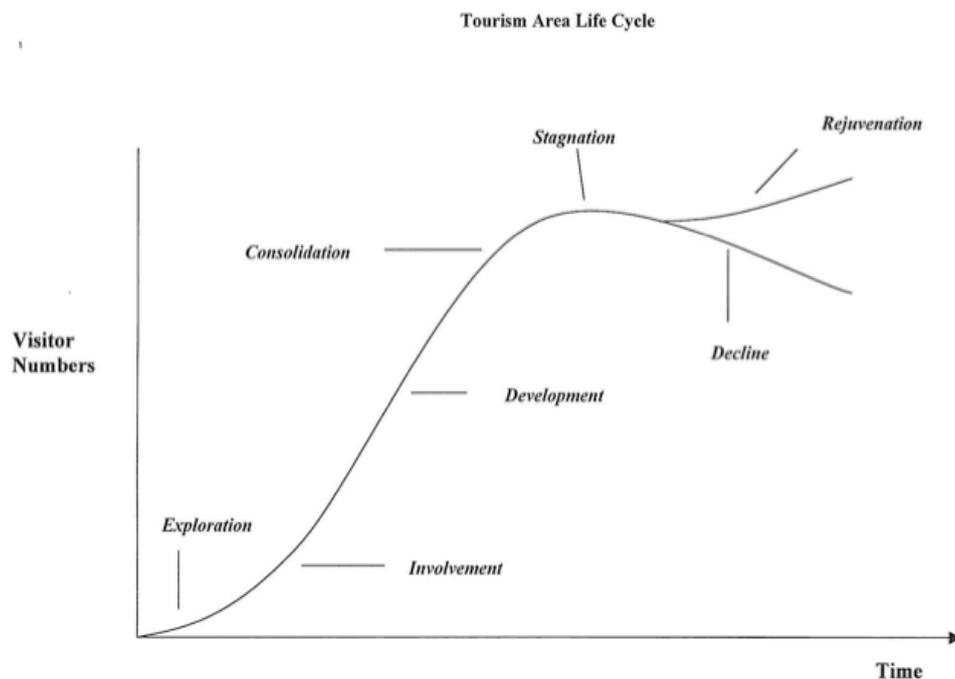
A short analysis of the models or theories used to describe community responses to tourism development is required to better understand changes in tourism-community relationships at the destination level.

Doxey (1975) developed an irritation index (irridex) to assess host-guest interactions and relationships. The index or scale has four levels:

- euphoria – delight in contact;
- apathy – increasing indifference with larger numbers;
- irritation – concern and annoyance over price rises, crime, rudeness, cultural rules being broken, etc; and
- antagonism – covert and overt aggression to visitors.

Since these equate with chronological stages, they may also relate to some of the steps of Butler’s (1980) tourism area life cycle model, which deals with the evolution of tourism destinations. See Figure 3.1.

Figure 3.1 - Tourism Area Life Cycle



Source: Butler, 1980

Butler describes six stages of the destination life cycle: -

1. **exploration** - small numbers of visitors making individual travel arrangements
2. **involvement** – visitor intake begins to increase, local communities begin to respond by providing visitor facilities and services
3. **development** - a rapid growth in product, well defined tourist market due to marketing and advertising. Outside involvement occurs and local involvement and control declines.
4. **consolidation** - growth rate slows while numbers continue to increase. Visitors may outnumber residents permanently or at seasonal peaks. Marketing and advertising is far reaching. Efforts made to widen shoulder periods.

5. **stagnation** - peak visitation is reached, capacity levels may have been reached or exceeded causing environmental, social and economic problems. Appeal falls.
- 6 **decline** – the final stage, which includes a number of scenarios including subsequent rejuvenation or permanent decline. The direction depends on management decisions and the unique qualities of the product (Weaver and Lawton, 2002).

Pearce *et al.*, (1996), note the limitations to stage based models such as the movement and demarcation between stages, the incapacity of the models to accommodate different sectors of a destination being at different stages at the same point in time, the invariant order of stages and the difficulties in measuring the stage that a destination is in. Nonetheless both the irridex and life cycle models serve useful purposes and are still relevant to contemporary circumstances. Butler's model is still the standard for describing the evolution of tourism destinations (Butler, 2006). They have stood the test of time and are useful tools in providing an insight into community responses to tourism.

(Pearce *et al.*, 1996) undertook a review of research on community attitudes to tourism. While there are significant differences between the research findings on certain issues, a number of key findings are evident and these are summarised below.

- positive perceptions of tourism are more likely to be related to the level of economic dependency or personal benefits (employment, business) gained from tourism;
- there is a strong relationship between support for tourism and the level of its development, but, as tourism development increases, so do the perceptions of both its positive and negative impacts;
- the level of tourism development is a good predictor of negative impacts (but not positive impacts);
- the level of contact between residents and tourists is not a good indicator of impacts of tourism;
- knowledge of tourism seems to be related to positive perceptions of tourism;

- demographic segmentation is not a good indicator of resident perceptions and attitudes to tourism, although older (aged) residents tend to be less positive about tourism;
- there appears to be no significant correlation between community attachment (length of residence, locally born) and residents' perceptions of tourism, and
- the perceived ability of the individual to influence decisions related to tourism development in the local community is significantly related to positive perceptions of tourism.

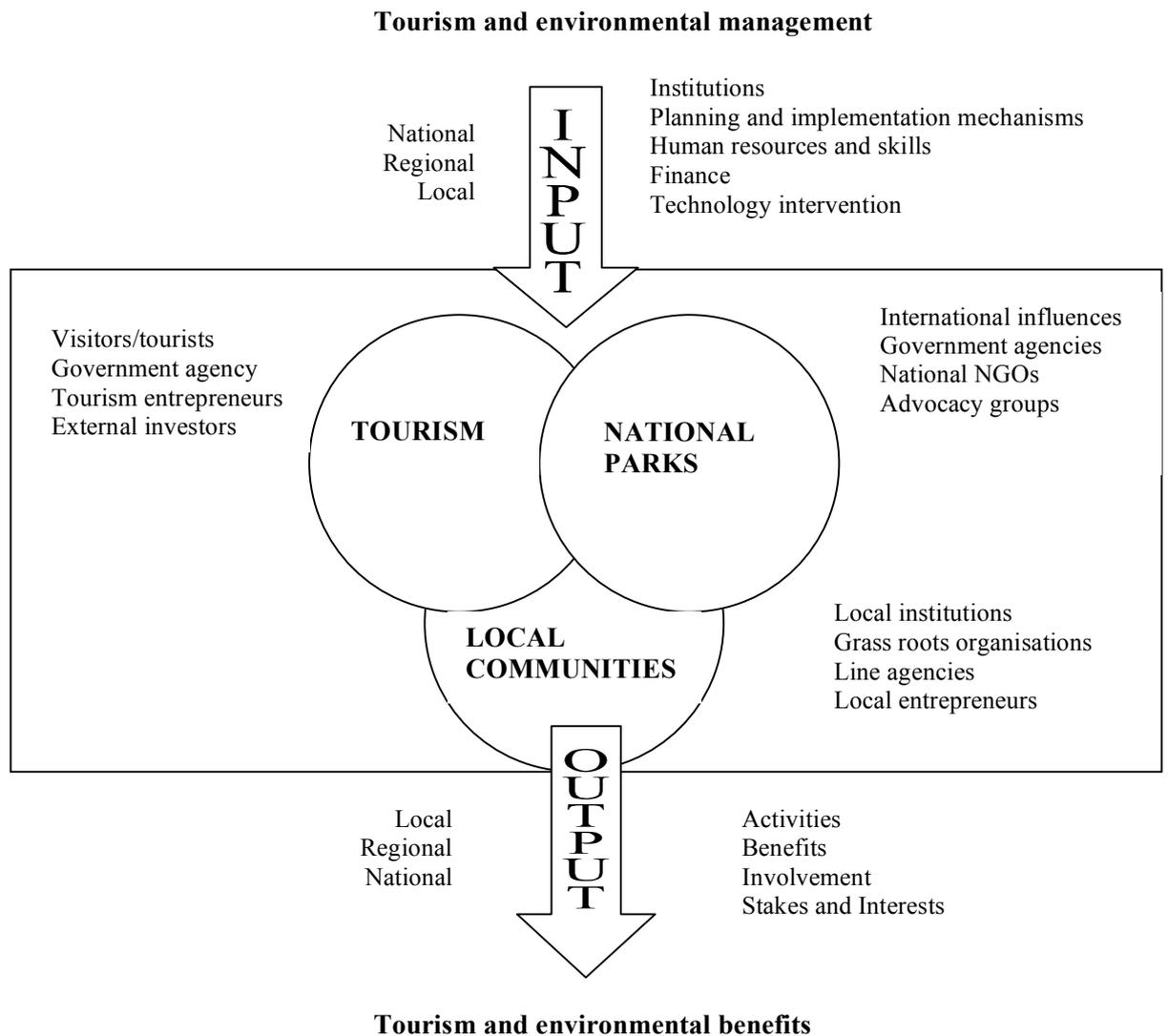
Pearce *et al.*, (1996) suggest that some of these findings involve elements of social exchange and equity. Social exchange theory is based on “the premise that human behavior or social interaction is an exchange of activity, tangible and intangible, particularly of rewards and costs” (Zafirovski, 2005). It suggests that human attitudes to and perceptions of relationships are formed on the basis of balancing personally obtained positive and negative benefits. Social exchange involves players attempting “to maximize the rewards and minimize the costs they experience” (Madrigal, 1995). Equity is achieved when the costs and benefits in the relationship are equal.

Another facet of thinking relevant to tourism-community interactions is social representation theory. Serge Moscovici developed social representation theory as a general theory to describe various aspects of social life in the 1980s and it can be described as the “concepts, statements and explanations originating in daily life in the course of inter-individual communications”(Moscovici, 1981 in Pearce *et al.*, 1996:38). Social representation focuses on social knowledge and understanding, and how it is created and shared. It is concerned with describing and understanding how and what people think in their ongoing everyday experiences and how wider social realities influence these thoughts (Pearce *et al.*, 1996). The authors have adopted Moscovici's theory of “social representation” in an attempt to progress the theoretical base for tourism-community relationships. The community's understanding of tourism, their expectations of it and their responses to it are all features of social representation of tourism. Social representations are particularly useful in explaining social conflict or reactions to major issues (Pearce *et al.*, 1996).

Social representation theory has an application in understanding local community attitudes to protected area tourism and tourism planning. A case study in the application of social representation to nature-based tourism was conducted in the wet tropics region of north Queensland. Considering the size and importance of the tourism industry in the area, a significant finding was the low level of tourism knowledge and the lack of local concern regarding its impacts amongst the local residents. The research indicated that local residents' knowledge of and attitudes to tourism was largely media rather than experientially based (Pearce *et al.*, 1996). Other social theories such as groupthink, communal reinforcement and social constructivism present similar views on how local communities share information, ideas that form their realities.

Nepal (2000) looked in detail at the issues and concepts of integrating tourism, protected areas and local community development. While Nepal draws heavily on examples from the developing world, the principles and concepts he presents have broad applicability. In Figure 2.1, Nepal's ideal state of park-based tourism involves a balanced relationship between tourism, parks and local communities and guarantees satisfactory benefits for all.

Figure 3.2 - The park, tourism and local community relationship



Source: Nepal (2000)

Nepal suggests that, even where conservation values and tourism values in protected areas coincide, long-term conservation objectives (i.e. sustainability) will only be achieved by creating a symbiosis between tourism, national park management and local communities. Symbiosis can be achieved through strong linkages, created by all and providing meaningful inputs to the relationship. These inputs include institutional frameworks, planning mechanisms, human and financial resources and technological intervention.

Nepal's concept involves seven different processes and interactions. It suggests that institutional frameworks (IF) are the most important factor because they define the rules and conditions within which the three players interact.

While Nepal's model fails to include the interest of the broader community this approach has merit in assessing the relationship between parks, destination communities and tourism. Four separate interactions are possible, and these may be positive, neutral or negative. Table 3.1 provides a summary.

Table 3.1 - The park, tourism and local community interactions

Interaction	Results
Tourism / national parks	Park resources are developed for tourism; human-influenced changes in landscape; creation of social and economic opportunities and benefits
Tourism / local community	Local involvement, economic benefits and multipliers
National parks / local community	Partnerships in conservation and influence in policy and decision making, actions resulting in modified landscapes
National parks / tourism / local community	Various forms and types of development are possible involving different stakes and interests and benefits

Based on (Nepal, 2000)

There are three basic scenarios that can be derived from the above interactions:

Win-win-win scenario; All players mutually benefit. Favourable conditions for tourism are created. Tourism enhances the management capability of the park. Local

communities benefit (socially and economically) and are encouraged to support conservation.

Win-win-lose or win-lose-lose scenarios: Only one or two players benefit at the expense of the third. Several alternative scenarios could eventuate. Tourism benefits local communities but the park suffers from tourism impacts. Tourism receives support from the park but this is not reciprocated. Similarly tourism may benefit conservation efforts but impact negatively on local communities.

Lose-lose-lose scenario: All players are affected negatively. Environmental conditions degrade, tourists are therefore discouraged from visiting the park and local communities do not receive any economic benefit. Based on (Nepal, 2000)

Within each of these three broad scenarios the potential exists for a myriad of personal social, and political dynamics to occur. There can be enormous complexities within the competing personal, group, local community and broader community interests. Understanding these complexities is not a simple exercise.

Social representation theory, social exchange theory and Nepal's model of tourism/park community interaction all have a place in illuminating the dimensions of these relationships. Social exchange theory assists in understanding how individual behaviour (characteristically) seeks to maximize personal advantage. Social representation theory explains how individual behaviour is influenced and modified by wider social knowledges such as values, beliefs and attitudes, through dialogue and conversation. Nepal's model is a conceptual framework that describes the forms of tourism interaction that can occur at the park/community level and thus has the potential for practical application. Social representation and social exchange theories could be useful in helping understand the dynamics of particular cases when they are considered within the context of Nepal's framework.

3.2 SUSTAINABILITY OF TOURISM IN NATURAL AREAS

A number of authors e.g. (Page and Dowling, 2002) (McKercher, 1998) (Boo, 1990) Butler (Butler and Boyd, 2000) (Hall, 2000b) provide historical evidence of the detrimental impacts of tourism which arise from the rapid growth and development of mass tourism in the post war period. A growing awareness of the potentially detrimental affects of tourism and the rise in environmental consciousness initiated through the work of authors such as Hardin (1968) and Carson (1962) in the 1960s and 1970s led to a reassessment of the role and value placed on tourism at destinations (Berry and Ladkin, 1997). Tourism growth cannot continue at its present rate without negative tourism impacts being addressed. The concept of ecologically sustainable development (ESD) offered an opportunity for tourism to initiate positive changes to the way the industry operated.

The concept of sustainability, while not new at that time, gained prominence in 1987 through the Brundtland Report, which defines sustainability as “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). The ESD philosophy has “an underlying commitment to operating within the social and biophysical limits of the natural environment” (McKercher, 1998:191).

The social and political pressure to develop positive measures to address environmental and sustainability issues at a global level led to the 1992 United Nations Conference on Environment and Development (The Earth Summit). The subsequent implementation strategy arising from the Conference (Agenda 21) led to a range of government and education initiatives in the tourism industry. In Australia these included the National Strategy for Ecologically Sustainable Development, 1992, the National Tourism Strategy, 1992, the National Ecotourism Strategy (DoT, 1994), and certification programs such as NEAP (Ecocertification) (EAA, 1996).

Sustainable development has traditionally encompassed three dimensions; ecological, social/cultural and economic sustainability. Emerging from this is the concept of maintenance of ‘environmental capital’ and ‘social capital’ (Hall, 2000b).

There is ample evidence in the world to suggest that maintaining of environmental values is difficult. Macbeth (2005) suggests that inter-generational equity and ethics are two additional components necessary to transform the SD concept from its value-laden (anthropocentric) standpoint, to one of integrity that serves all life forms.

While there appears to be broad agreement on the definitions of ESD and sustainable development (despite Macbeth's recent call to broaden them), difficulties exist with the interpretation and implementation of these concepts as they might apply to sustainable tourism (Weaver and Lawton, 2000, Berry and Ladkin, 1997). While the popularity of the ESD concept has caused important policy development to occur, this has not been matched by its translation into sustainable tourism practices. Indeed its application generally has been less than impressive. This can largely be attributed to a lack of agreement on the meaning of sustainability, the elements connected to it and on whether the ideals can indeed be translated in practice (Boyd, 2000).

Much of the lack of progress and implementation can be attributed to differences in the ideological positions held by neo-liberals (anthropocentric) at one end of the spectrum and deep ecologists (biocentric) at the other. The potential for compromise exists in the middle ground between those supporting resource conservation (i.e. support economic growth but not at the expense of the resource base) and resource preservation (i.e., being supportive of ecosystem protection but not of radical reduction in material lifestyles) (Weaver and Lawton, 2000).

This middle view is given weight in Berry (1997:435) who suggests that failures to adequately implement sustainable tourism are a result of 'conflicts between management agencies, tourism developers and the communities involved'. Other research supports the view that 'trust, cooperation and coordination between the public and private sectors are of prime importance' (Berry and Ladkin, 1997:440).

A short history of the evolution of sustainable tourism is necessary in order to contextualize the contemporary management experiences of tourism in protected areas. Weaver and Lawton (2000:14) describe the evolution of the sustainable tourism concept through four stages or 'platforms'. They are: Advocacy; Cautionary; Adaptancy and Knowledge-based.

The *advocacy* platform emerged in the post Second World War period as tourism was perceived as an economic panacea capable of generating significant wealth in a range of destinations, where other forms of economic development were not considered suitable or viable. It was closely associated with extreme laissez-faire views, contained strong anthropocentric perspectives, was pro growth and advocated large scale or “mass” tourism.

The *cautionary* platform, which prevailed from the late 1960s through to the early 1980s, argued that the costs of the laissez-faire approach outweighed the benefits. This platform recognised and described some of the early environmental, socio-cultural and economic effects and limitations of mass tourism. Over this period Plog (1974) Doxey (1975) and Butler (1980) all presented concepts relating to the dynamics of tourism destinations without specifically referring to the term sustainability.

The *adaptancy* platform was meant to develop alternative solutions to entrenched unsustainable practices. During the 1980s and 1990s the concept of sustainability crystallized and the term alternative tourism was coined to reflect an “alternative” (sustainable) solution to the problem caused by mass tourism. Boyd (2000) suggests that debate over the form and definition of alternative tourism somewhat hijacked the application of sustainable tourism. This era also gave birth to the ecotourism movement, which is now widely accepted as one form of alternative tourism. Boyd (2000) proposes that the appeal of ecotourism (which is often equated with sustainable tourism) has distracted attention from the debate over what tourism should be doing more generally to achieve responsible and sustainable outcomes.

The *knowledge based* platform, introduced by Jafari in the early 1990s advocates an objective and scientific approach to obtain knowledge about tourism, while rejecting “simplistic judgements about the nature of mass and alternative tourism” (Weaver and Lawton, 2000:16). This platform raises concerns that alternative forms of tourism have been naively viewed as being capable of addressing the problems of mass tourism, but they have created significant impacts themselves and have introduced tourism to areas not previously subjected to tourism development (Boyd, 2000). This platform also suggests that mass tourism has a place and may, in some

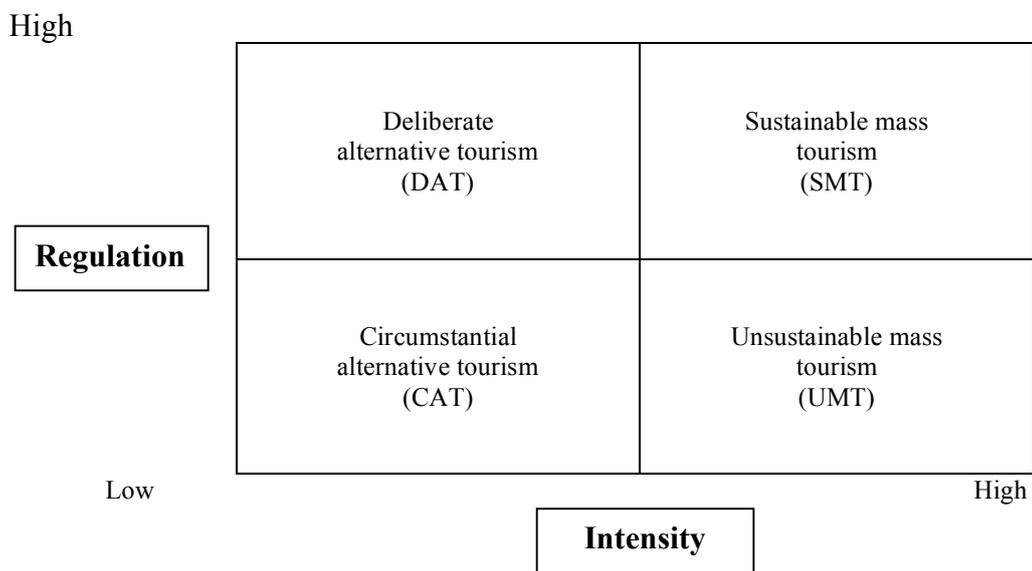
contexts, be more sustainable than other forms of tourism. Sustainable tourism emerged out of the sustainable development concept during this era.

Butler (in Weaver and Lawton, 2000:17) defines sustainable tourism as: -

“Tourism which is developed and maintained in an area in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well being of other activities and processes”.

Weaver and Lawton suggest that the most sustainable forms of tourism (deliberate alternative tourism) occur under conditions of high regulation and where the intensity or scale of development is low. They describe four ideal types of tourism scenarios, which account for all destination types. These types are depicted in a matrix in Figure 2.3 and are defined by the level of regulation on one axis and the intensity of development on the other.

Figure 3.3 - Tourism destination scenarios



Source: Weaver and Lawton (2000)

Circumstantial alternative tourism (low regulation, low intensity) gives the impression of sustainable tourism but is actually in the “incipient stages of a Butler-type sequence” (Weaver and Lawton, 2000:20). Unsustainable mass tourism destinations (low regulation, high intensity) are represented by the end point in decline in the classic Butler sequence. Sustainable mass tourism (high regulation, high intensity) occurs when urban resorts and other highly developed destinations, either through self-or imposed regulation and policies, have been able to achieve a high degree of sustainability (Weaver and Lawton, 2000).

While there are many factors that affect the sustainability of protected areas, tourism has the potential to have both positive and negative affects on the sustainability of such localities. Tourism can make a positive contribution to conservation through the economic resources it generates and through raising the environmental awareness of residents and visitors (Eagles *et al.*, 2002, Weaver and Lawton, 2000).

Boyd (2000) notes that sustainability as a concept has received little attention in national park planning. Instead, more interest has been directed to the notion of ecotourism as a means of achieving sustainable tourism in parks. Of course, achieving sustainable tourism in protected areas requires more than just the input of the tourism industry. It is also dependent on the active involvement of managers, park users and the community.

What constitutes sustainable tourism in parks is often a complex combination of actions that include planning, regulation, education, policies, community involvement and research. Common among descriptions by a number of authors are the requirements for planning, management and monitoring (Eagles *et al.*, 2002, Harris and Leiper, 1995, Weaver and Lawton, 2000, Worboys *et al.*, 2005). All three suggest some level of constraint. Some authors (Boyd, 2000, Driml and Common, 1995) infer that any form of sustainability in parks must first be based on ecosystem sustainability. They suggest that constraints on tourism must be such that the integrity of park ecosystems is maintained.

A primary (constraining) technique in planning for sustainable visitor use is that of zonation. This involves designating a continuum of zones from core areas where

human use and infrastructure development is limited or barred, (sanctuary, scientific or wilderness areas) to those restricted and highly developed areas appropriate for intense recreation and tourism. Within zones where recreation is permitted, concepts such as the Recreation Opportunity Spectrum (ROS) allow further designation of the types of recreation and tourism settings that may be locally appropriate (Worboys *et al.*, 2005) by defining the social and environmental objectives for specific sites. Management includes a range of actions and interventions, such as providing facilities and services, providing or limiting access, the licensing of tourism operations and the control of large-scale developments through environmental impact assessment measures. Monitoring is necessary to measure the effectiveness of such management and to ensure that management objectives are being met. Sustainability indicators that measure identifiable parameters over space and time are necessary to achieve effective monitoring.

A framework for considering the sustainability of protected areas is offered by Boyd (2000) and involves three components or stages. Stage 1 involves determining the context for park sustainability by setting objectives for the desired type of sustainability (social, economic, environmental or mixed) based on scale (park level, zone or location), political structure (top down, bottom up or mixed) and the need for societal change to occur (long term perspective and change in thinking) to ensure action is taken.

Stage 2 involves using the objectives established in stage 1 to create a definition for park sustainability and set of principles that have wide applicability.

Stage 3 incorporates community and stakeholder involvement and is a critical component to achieving sustainable management of parks and a prerequisite to addressing the social and economic aspirations of local communities that may be derived from or affected by adjacent protected areas.

Community and stakeholder engagement is an ongoing cyclical process but is best initiated through the planning process. A more detailed critique of this issue can be found in Section 3.4.4.

3.3 TOURISM PLANNING AND COMMUNITY PARTICIPATION

3.3.1 Planning

Planning in its broadest sense can be defined as “organising the future to achieve certain objectives” (Inskeep, 1991:25). Hall (2006:320) suggests that planning is “a process of human thought and action based on that thought”. Planning may take a number of forms and can be employed in a wide range of situations including national park and conservation planning, urban and regional planning, infrastructure planning, transportation planning and land use planning. These activities are undertaken largely by government agencies (Inskeep, 1991, Williams, 1998).

According to Inskeep (1991:26), planning has changed considerably in the past 30 – 40 years. The emphasis has moved away from rigid, prescriptive master plans to a more flexible and incremental approach involving “continuous monitoring and feedback on the effects of previous development and evaluation of new trends” and a “comprehensive and integrated approach” that recognises the interrelated and interdependent nature of the various industry sectors and the natural environment. This latter approach is well suited to the dynamic nature of tourism.

Other contemporary tourism planning techniques include a systems approach which involves the collection and analysis of all necessary information and data to understand the system in which the tourism activity occurs. Typically, computer software such as geographic information systems (GIS) is used to assist in the analysis and integration of economic, social and environmental data.

As alluded to earlier in this chapter, community involvement is now recognised as an integral part of the planning process. Tourism has obvious links to issues of sustainable development (Hall, 2000b) and, as such, consideration of its social and environmental impacts are recognised as fundamental to tourism planning. In fact Hall considers tourism planning as a process that provides an opportunity to address the ever-present impacts of tourism development.

Space precludes a detailed examination of tourism planning here. However, given the critical role that planning (and protected area management planning) can have on

the economic and social well being of local communities, a summary of tourism planning principles is provided, as well as a summary of tourism planning in protected areas.

Hall (2000b) while placing emphasis on the importance of maintaining environmental capital, recognises the difficulty of achieving this goal in a neo-liberal political and economic environment. Also noted are the strong links between planning and the concept of sustainability (Williams, 1998, Hall, 2000b). While Hall (2000b) exhorts the importance of the sustainability concept, Butler (1998:25) notes that “while the widespread acceptance of the term (sustainability) is satisfying, the implementation of the idea has been less successful”.

3.3.2 Tourism Planning

Tourism planning goes beyond planning for tourism development. Contemporary tourism planning recognises the interconnectedness of tourism with the wider economy, society and environment and therefore its need to be integrated into broader planning processes. These include regional and local planning, transport planning, infrastructure planning and economic planning. Hall and Page (2006:319) note the complexity of the task of tourism planning because of its diversity and associated conceptual challenges, the difficult task of developing appropriate policy, the difficulty in achieving tourism coordination and the demanding exercise of working within “extensive and pervasive” institutional frameworks.

Traditionally, tourism planners need to consider the levels, types, temporal and spatial scales and approaches to tourism planning. Tourism planning should occur at five interconnected and complementary geographic scales; international, national, regional, local and site specific (Williams, 1998, Inskip, 1991, Hall, 2000b, Timothy and Tosun, 2003) with increasing detail and specificity as the level decreases.

Getz (1987) defined four main traditions in tourism planning:

- ‘Boosterism’
- an economic, industry-oriented approach

- a physical spatial approach
- a community oriented approach

To this Hall and Page (2006) have added a fifth – sustainable tourism planning.

Boosterism is based on the attitude that tourism development is inherently good (Hall and Page, 2006, Hall, 2000b). It still has appeal for political and vested interest groups who contend that its pragmatic advantages outweigh any perceived costs. Typically in this tradition planning and decision-making does not involve residents of the tourist destinations (other than the local boosters themselves) and, as such, it gives little consideration to the social and economic impacts.

Under the economic approach the focus is on producing positive economic impacts from tourism through industry restructuring, generating enterprises and creating employment through regional economic development (Hall and Page, 2006). This approach often receives government support through financial incentives, marketing assistance and research.

The physical/spatial tradition recognises the limitations and failures of markets to sustain tourism destinations through a narrow economic approach. The spatial tradition is based on the inherent values, capacities and limitations of the natural resources of an area to sustain tourism infrastructure. It incorporates consideration of both social and environmental impact assessments. Protected area management planning and associated recreation planning has tended to be influenced largely by the physical/spatial approach.

The community-oriented approach recognises the importance of greater local involvement and control over the planning and development process, not just from an ethical stand point but to also achieve effective local ownership and adoption.

The sustainable tourism planning approach seeks to integrate features of the economic, spatial and community oriented approaches to achieve “long term security of livelihoods, while at the same time minimising resource depletion and

environmental degradation, social disruption and social instability” (Hall and Page, 2006:326).

Inskeep (1991) presents eight elements which contribute to achieving sustainable development through a basic tourism planning approach. See Table 3.2

Table 3.2 - Elements of a basic planning approach for sustainable development

Element	Description
Continuous, incremental and flexible	Tourism planning is a continuous and adaptive process that responds to monitoring and feedback, while maintaining the basic objectives and policies of tourism development.
Systems approach	Tourism operates within a multifaceted and interconnected system. Planning requires special tools and systems to integrate and understand these relationships.
Comprehensive	All information relating to the various components including environmental and socio-economic are analysed, understood and planned for.
Integrated	Builds on the systems and comprehensive approach whereby tourism is planned to consider all its elements, its relationship with other sectors and overall development patterns.
Environmental and sustainable development	Planning ensures that cultural and natural values are not depleted or impaired. The capacity of the resource to sustain certain activities is understood.
Community involvement	Local community involvement in the planning and decision making process is maximised. Socio-economic impacts are considered.
Implementable	The plan must be achievable, realistic and have the ownership of key players.
Systematic	Planning and implementation occur as a logical sequence of activities.

Source: Inskeep (1991)

3.3.3 Tourism planning in protected areas

The literature is almost devoid of discussion on the topic of sustainable tourism planning in protected areas, which is surprising given the extent of tourism activity occurring in such areas and of the desirability of achieving environmental sustainability within them.

Boyd (2000) provides a framework for sustainable tourism development in parks, which includes planning principles and planning considerations. His key principles include: -

- Ethics - provide for codes of behaviour, certification
- Equity - equitable access to services and commercial opportunities and benefits
- Keeping use levels relative to the physical capabilities of the resource (carrying capacity) - ultimately involves ways to avoid over use by imposing constraints (spatial, visitor volumes and certain activities)
- Promoting a conservation-based focus - priority should be given to maintenance of ecological systems and processes over other forms of use.

Planning for protected areas has tended not to adopt any particular planning approach (traditions). Boyd (2000) advocates planning in parks that is: -

- long term - in recognition of uncertain future environmental conditions and the likely increase in use and pressure in the future;
- proactive rather than reactive - identifying acceptable and appropriate activities and defining the level of use and extent of use both spatially and temporally;
- integrative rather than separate - planning needs to consider that tourism/recreation is just one land use within a park and integration of uses is necessary, and
- encouraging local involvement – local community (including indigenous peoples) and stakeholders should have an effective voice in planning.

Planning in protected areas has experienced considerable tensions between tourism planning and protected area planning. To quote Hall (1998:244) “tourism planning has tended to reflect the economic, social and environmental goals of government” and to focus on the economic/industry approach. Tourism agencies have institutional constraints that are market/industry oriented, and direct their priorities primarily to achieving economic outcomes. On the other hand protected area planning has tended toward a more tenure-based focus (spatial/physical approach). Park planners have institutional constraints relating to legislation and policy primarily designed to meet conservation objectives. Notwithstanding this there has been, over the past decade, mounting pressure on protected area planners and managers to address the economics of maintaining protected areas by introducing or enhancing income generating forms of use such as entrance fees, merchandising, concessions, wildlife trading, game hunting equipment hire (Eagles, 2002, Eagles, 2004) and to supplement these with sponsorship and grant programs.

Parks and protected areas are an expression of resource use allocations of which land is just one component. Normally, market based economies determine the value of commodities (Dearden, 2000). Thankfully, however, society has determined that the market cannot determine all values, and, as such, protected areas have been created largely for their non-market values. Recently through the growth of tourism based largely on wildlife in protected areas, a quantifiable economic value has been placed on parks and protected areas (see Section 2.5.2). These competing economic and non-economic interests create the potential for conflict in the landuse planning arena.

From a planner’s perspective, planning for recreation and tourism in protected areas is complex. It involves understanding both the nature of tourism and the nature and impact of a range of other activities, their compatibility with each other and their individual and collective impacts on the natural system both spatially and temporally. Singh (2003) (as noted earlier) and Gunn (in Wight, 1998), suggest that tourism itself cannot be blamed for environmental deterioration. Poor planning, lack of policies and inadequate action to prepare for tourism growth are commonly the factor that lead to unsustainable tourism outcomes.

A number of planning and management tools have been developed to assist planners to collect, analyse and consider information about tourism use and impacts (Vaske *et al.*, 2000, Wight, 1998). These include EIA (environmental impact assessment), LAC (limits of acceptable change), VIM (visitor impact management) and VERP (visitor experience and resource protection). While space precludes a detailed examination of these tools, protected area managers in general have fully embraced them as essential, scientifically based tools to achieve sustainable recreation planning. What they do not provide is a framework that integrates environmental/conservation aspects with the broader social and economic objectives of tourism planning.

In summary, tourism planning provides the opportunity to achieve certain outcomes, which include: -

- the opportunity and capacity to control development through the planning process;
- the integration and structuring of the fragmented activities that are required to realise tourism potentials;
- the opportunity to apply interventions that achieve sustainability outcomes;
- tools for achieving the distribution and re-distribution of economic investment;
- the integration of tourism into other planning systems, which creates a political dimension that advances the profile of the industry, and
- the anticipation of demand patterns, which brings into play the need to consider customer needs and satisfaction (based on Williams, 1998).

3.3.4 Community (local) participation in planning

In creasing awareness of the implications of unregulated tourism (perhaps resulting from boosterism) and mass tourism arising from the development of an understanding and application of ESD principles in the 1980s has led to a better understanding of the impacts of tourism on destination (local) communities and of the important role that destination residents play in delivering tourism product. The WCED (Brundtland, 1987) report raised the issue of equity in considering sustainable development, and this is directly relevant to tourism (Macbeth, 2005,

Boyd, 2000, Hall, 2000b), particularly at the destination level. Issues of equity, integration, cultural integrity, balance and efficiency are afforded greater relevance when community participation in planning occurs (Timothy and Tosun, 2003).

Pearce *et al* (1996:181) define community participation as: -

“ the involvement of individuals within a community in the decision making and implementation process with regard to major manifestations of political and socio-economic activities” .

While attractive in principle, as is the concept of sustainability, the process of implementing a community-based approach to tourism planning presents considerable problems in attaining implementation. The main challenges can be summarised as: -

- Scale - the scale at which community planning should focus is important given the increasing complexity of planning and the decreasing level of influence that communities will have at higher levels. Most community based planning will occur at the regional and local scale.
- Approach – “bottom up” planning or “cooperative” planning? Should the focus of planning be the community or the tourist? Some community-based approaches suggest the focus should be on the community and that all tourism planning should be based on the goals and priorities of the community (Cooke, 1982 in Hall, 2000b). Purely “top down” approaches to community involvement in planning have traditionally been considered as tokenism; that is, a request for comment on already prescribed actions and policies.
- The political nature of planning - given that planning is primarily a government activity, undertaken in order to meet the competing interests of the broader community, public interest goals, business interests and government agency objectives, a purely bottom up approach is difficult to achieve. Community control of planning processes can be interpreted as a loss of power for government (and their officials) and thus is rarely applied Hall (2000b, Buchy and Race, 2001). The core of community and stakeholder

involvement in natural resource management use is the struggle for power (Buchy and Race, 2001).

- The formal nature of the planning process - many planning processes involve formal legalistic processes including prescribed forms of public consultation. Government agencies often claim that time and resources often preclude more inclusive and interactive approaches.
- The structure of government – the inter-related nature of tourism and the size and complexity of government systems means that tourism cuts across different levels and aspects of government and is thus difficult to coordinate. The affect of this can be that the demands made by a community at a local level may be inconsistent with regional and state strategies (Hall, 2000b). This may just be a reflection of the collision between low level community engagement and high level top down decision making.

From a community perspective community based planning empowers local decision-making. Self-interest is a strong motivator. Wallner (2004:1) found that “if locals can identify their own interests in the goals of the protected area, support for the acceptance of the protected area is increased”. Similarly, Mehta and Kellert (in Walpole and Goodwin, 2000) found that attitudes to protected areas were more positive among those receiving economic benefits from the park tourism.

Scheyvens (1999) suggests that there are four dimensions or signs of empowerment for local communities involved in tourism planning; economic (sustained, incremental economic gains), psychological (self esteem through recognition), social (maintenance or enhancement of community cohesion) and political (channels for community representation).

There is considerable consensus on the core ingredients of public participation albeit with some variations; Pearce *et al* (1996) propose four principles; the legal right and opportunity to participate; access to information; adequate resources for people to participate, and broad representation of the public rather than selective representation. Buchy and Race (2001) suggest a further two principles: commitment and clarity (to avoid raising false expectations) and developing a shared understanding of the problem. More radical principles include local rights to

resources, and support and development for local organisations to facilitate power sharing (Pimbert and Pretty, 1997).

The technical nature of planning means that the public often has difficulty in comprehending complex issues (Hall, 2000b). Information and education is essential to inform communities of the technical or scientific aspects of the issues. Keogh (in Pearce *et al.*, 1996:183) found that “with limited information people are inclined to anchor their views” and to draw on inappropriate examples to make their case. The provision of information and involvement in community consultation helps “modify the social representations on which poorly informed residents are depending to guide their responses” (Pearce *et al.*, 1996:183). Community surveys can assist in unearthing dominant social representations and be used to target information needs and as a basis for discussions in community-based planning processes.

Most of the initiatives described above are standard components of modern techniques used in community involvement exercises such as Deliberative Inclusionary Processes (DIPs) (CSERGE, 1998) and Participatory Incremental Collaborative/Cooperative (PIC) Planning (Timothy and Tosun, 2003). Both processes highlight the need for collaboration within government, between the public and the private sectors and between private sector services.

Considerable differences exist between the approaches taken to community participation in protected areas management in the developed world and those in the developing world, where indigenous people have often been displaced from lands now part of reserve systems. Local indigenous people are often the group most disadvantaged by the designation of protected areas and may regularly suffer the social, environmental and cultural impacts of related tourism development (Christ *et al.*, 2003). Indigenous people thus have greater claims for benefits derived from protected areas, but seldom receive an equitable share.

3.4 CONCLUSION

Communities are dynamic and complex entities, each having unique characteristics and thus sections within them often differ over resource uses. The task of gaining consensus over natural resource management use in such contexts is never easy. Understanding community views and interests is an important component of planning. Social representation theory (as a complementary tool) can help explain community understandings of and responses to tourism. Knowledge and information about tourism (or the lack of it) is an important factor in how residents and communities form social representations regarding tourism issues, particularly on tourism's environmental and social impacts. Well-prepared education and information programs can therefore modify resident and community views.

In the late 1980s the concept of ecologically sustainable development (ESD) emerged in response to growing concerns over the environmental and social impacts of unbridled economic and industrial growth. Born from the ideals of ESD, the concept of sustainable tourism (ST) has been widely embraced. Community participation in tourism evolved out of ESD principles in the late 1980s and these procedures are now considered fundamental to the concept of sustainability.

The relationship between protected areas and their local communities is not well covered by the literature. ESD principles suggest that a symbiotic relationship between community, parks and tourism is a desirable objective (Nepal, 2000). Others suggest that any attempt to achieve equitable outcomes between these three groups must not be at the expense of meeting conservation objectives. While meeting community needs is important, sustainable tourism in protected areas must ultimately be based on ecosystem sustainability (Driml and Common, 1995) (Boyd, 2000). As such, there is likely to be an ever-present tension between achieving environmental and socio-economic objectives.

While some neo-liberalists may disagree, planning is an essential part of modern life. It is about organising and providing some certainty for the future. Given its dependence on the natural and human environments tourism planning as a subset of

planning should be based on ESD principles. It provides a powerful tool for addressing tourism development and sustainability. The definitional problems associated with the term sustainability pose challenges to planners in trying to define what it is that the planning exercise is attempting to achieve. This is particularly so if ESD principles are applied because park agencies, individuals and various stakeholders within a community are likely to hold different sets of values. A more flexible, continuous and integrated approach assists in meeting community expectations.

Tourism planning has developed a number of traditions, all having either a political, economic, environmental or social emphasis and evolved to adopt modern tourism planning approaches to achieve 'sustainable tourism planning'.

Planning in protected areas is characteristically conducted through the top-down process of preparing area management plans, which gives priority to the conservation based approach and thus may not have kept pace with modern and more participatory planning approaches.

Community participation in conservation and tourism management is now recognised as an essential part of achieving ESD and thus as a key component of planning. Considerable problems and challenges exist in implementing a community-based approach to tourism and conservation planning. These issues include practical and theoretical issues such as trust, power and control, the legal and political nature of the planning process, time and resource constraints and the structure of government (Hall, 2000b, Wells *et al.*, 1992). The community also needs to have confidence in the process. Planners need to manage community expectations at the commencement of the process of how the decision-making process will work and of how outcomes will be used. Nonetheless community based planning approaches empower local people to engage and own the outcomes of the plan. Without them, planning processes are likely to be compromised in the community's eyes.

There is ample evidence that top down approaches to protected area management demonstrate that if local people are excluded from the process they can undermine the planning process, the resulting regulations and ultimately, even local biodiversity

(Christ *et al.*, 2003). According to David Lloyd of the Great Barrier Reef Marine Park Authority effective community and stakeholder engagement involves three things; communication, community education and participation. Lloyd suggests that without this “people feel suspicious, uncertain and threatened when they don’t understand what is happening and suspect that government authorities are making decisions that threaten their interests. They fear for their livelihoods, their futures and their children’s futures. They can become very vocal, negative and extreme” (in Worboys *et al.*, 2005:480).

This chapter raises questions about the capacity of park agency leadership and management to adopt more consultative and inclusive approaches to protected area planning without fear of compromising conservation and biodiversity objectives. It also focuses specific attention on those cultural and institutional factors of protected area management that impede community stewardship. It, and indeed the entire thesis seeks to place greater attention on issues relating to protected area planning processes, including community engagement processes and communication.

CHAPTER 4 PHYSICAL, SOCIAL AND ECONOMIC CHARACTER OF THE NORTH WEST CAPE

The purpose of this chapter is to describe the setting for the ensuing case study by providing a brief description of the physical and biophysical environment and the prevailing economic and social conditions (including historical values) in the Ningaloo coast region of Western Australia.

4.1 LANDSCAPE AND ENVIRONMENT

4.1.1 Background

For the purposes of this study, the term ‘Ningaloo coast’ is used to describe the study area (See Figure 4.1 on the following page). The Ningaloo coast of Western Australia lies 1200 km north of the State capital city of Perth,. The region has a fragile coastal environment of international significance related to the landscapes and biology of the Ningaloo reef and the Cape Range. The attraction of the area lies in its wilderness, beauty and at least until recently, its relative isolation. The Ningaloo coast has two population centres, the town of Exmouth and the settlement of Coral Bay and extends from the North West Cape in the north, south to the limits of Ningaloo Marine Park at Red Bluff Camp, inland to the Minilya-Exmouth Road and at sea to the boundary of Commonwealth waters some 12 kilometres offshore (Figure 4.1).

The area contains several reserves dedicated for the purposes of conservation, biodiversity protection and recreation. The two most significant reserves are Cape Range National Park and Ningaloo Marine Park. Cape Range National Park was gazetted as an A Class reserve with the purpose of a national park in 1971, with the addition of part of Yardie Creek pastoral station, which more than trebled the area of the park to 47,655 ha, having first been gazetted as a 13,424 ha. reserve in 1964. The National Park is vested in the Conservation Commission of Western Australia (CCWA). The Commonwealth and State waters of the Ningaloo Marine Park were declared a marine park in 1987, and in November 2004 the park boundary was extended south to include the whole of the Ningaloo reef in the Marine Park (CALM

and MPRA, 2005). The State waters of Ningaloo Marine Park are vested in the Marine Parks and Reserves Authority (MPRA).

Figure 4.1 - The study area



The Department of Environment and Conservation (DEC) manages the Commonwealth waters of Ningaloo Marine Park under an agreement with the Commonwealth government. Both State reserves are also managed by DEC.

Jurabbi Coastal Park and Bundegi Coastal Park are two coastal reserves on the North West Cape managed jointly by the local government authority (the Shire of Exmouth) and DEC (CALM *et al.*, 1998). The Government is also currently negotiating with pastoral lessees for the excision a 2 km coastal strip from Ningaloo, Gnaraloo, Cardabia and Warroora Stations and a 1km coastal strip from parts of Gnaraloo and Quobba Stations adjoining the Ningaloo Marine Park (WAPC, 2004) to be added to the State's reserve system.

4.1.2 Climate

The climate of the Ningaloo coast is hot and arid with summer maximum temperatures up to 45°C. The average annual maximum temperature is 27°C and the average annual minimum temperature 17°C. A hot summer seasons extends from October to April and a mild winter from May to September (DPI, 2004). The area is characterised by low but highly variable rainfall, high evaporation rates, high temperatures and seasonal tropical cyclones (CALM and CCWA, 2005). The average annual rainfall is 226 mm, which is exceeded significantly by the average annual evaporation of 2591 mm.

4.1.3 Geology, Hydrology and Landform

The Ningaloo coast lies within the Carnarvon Basin geological region, extending from south of Kalbarri northwards to the mouth of the Fortescue River and is underlain by a sequence of 10km of sedimentary rocks. The Cape Range Geological Province lies within the Carnarvon Basin and largely overlaps with the Ningaloo coast region, extending south to Gnaraloo Station. The most significant features of the province are the Cape Range peninsula and its associated fringing coral reef system, the Ningaloo reef, both of which are regarded as nationally and internationally significant in conservation terms (CALM and CCWA, 2005).

The Cape Range geological province includes important mineral resources including limestone, oil and gas. Large areas of the coast are characterised by unstable dune systems, most notably the Cape Range ridge dune and coastal dune systems. These two systems are the dominant landforms in the study area. The most significant geological structure of the Ningaloo coast is the Cape Range with its anticline structure, dissected plateau, gorges extensive cave system and marine deposit characteristics (DPI, 2004). The anticline extends over 100 kilometres through the centre of and parallel to the peninsula and reaches a maximum height of 750m (Geological Survey of Western Australia, cited in Russell, 2004). A particular feature of the range is the network of deep canyons that dissect the range.

The rock forming the range is predominantly composed of carbonate sediments and is about 500m thick (EPA, 1999). The province contains extensive karst formations with over 580 caves being recorded by local cavers (CALM and CCWA, 2005). The karst system contains a diverse assemblage of subterranean fauna (see section 4.1.4).

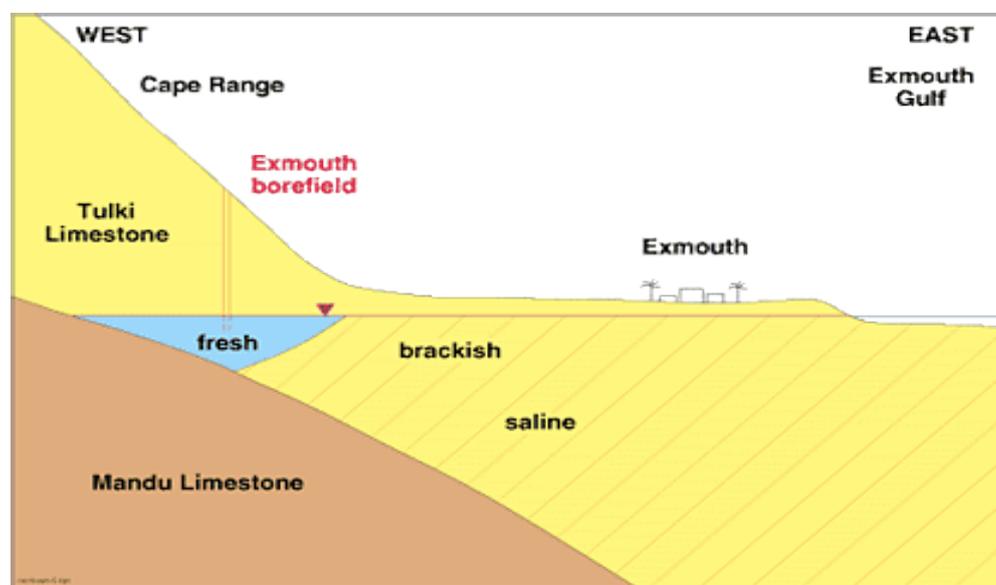
Yardie Creek is the only permanent surface watercourse in the park. Creeks and streams drain east and west across the ridgelines of the Range. Except during heavy and cyclonic rainfall events, most of the annual rainfall rapidly infiltrates through the ground into the karst.

The main aquifer in the basin is the Birdrong Sandstone, which is tapped by artesian and sub artesian bores, mainly for stock watering. There are no artesian flows from the Birdrong Sandstone aquifer along the Cape Range peninsula because the Birdrong Sandstone may reach as much as 600 metres below the surface. Other aquifers are locally important, including the limestone aquifers at Cape Range. These aquifers are principally for Exmouth town water supply, however, abstraction is contained and closely monitored to avoid drawing salt water from lower strata. The total annual water allocation for public and private water supply abstraction in Exmouth is 1853 ML/annum with 6200 ML/annum of sustainable supply available, (after preserving 40% of annual recharge for environmental (cave fauna) purposes) indicating that the aquifer is currently around 30% allocated (WRC, 1998).

The Tertiary Tulki Limestone is restricted to outcrops on the Cape Range peninsula,

and on the coast between Cape Cuvier and Warroora Station, where it forms an unconfined aquifer. On Cape Range, the aquifer is trapped behind the core of the range (anticline) where impermeable Mandu Limestone reaches above the water table. The limestone is highly permeable. Because the water table gradient is very flat and close to sea level on the coastal plain, fresh groundwater is restricted to the foothills of the range and to a thin layer overlying brackish water infiltrating from the Exmouth gulf (DFWA, 2001) (see Figure 4.2).

Figure 4.2 - Diagrammatic west–east geological section near Exmouth



Source: (DFWA, 2001)

Recharge of the aquifer is dependent on major rainfall events and the main discharge activity is by abstraction for human use (CALM and CCWA, 2005). Water is the limiting factor in the further development of the local and tourist population of Exmouth and of the region more generally. The Water and Rivers Commission (WAPC, 1998) estimates that with the active adoption of water use efficiency measures, there is sufficient water supply to meet current and projected needs in Exmouth for the next 10-20 years only. Furthermore the Western Australian Planning Commission (WAPC) has indicated that the availability of groundwater on a sustainable basis is questionable (WAPC, 1998).

Activities within and adjacent to the National Park have the potential to significantly alter the quality and quantity of ground and surface water (CALM and CCWA,

2005). There is a high risk of contamination of the groundwater from waste and accidental means because of the karstic nature of the substrate (WRC, 2000). Subterranean fauna, particularly stygofauna may be also affected by such changes in the groundwater (WAPC, 2004, EPA, 1999).

4.1.4 Flora and Fauna

The extensive cave system contains a diversity of cave (subterranean) fauna both aquatic (stygofauna) and terrestrial (troglobites) endemic to the Cape Range peninsula. The geological evolution of the karst system over several climatic phases was an important driver of the biological evolution now evident as demonstrated through the significant speciation and adaptation of the subterranean cave fauna of the area (Russell, 2004). Although only limited survey work has occurred and the number of species identified is small, the subterranean fauna of Cape Range is considered to be amongst the most biologically diverse in the world (CALM and CCWA, 2005, Humphreys, 1993, EPA, 1999). So far 67 subterranean species have been recorded, of which 41 are terrestrial and 26 are aquatic (Hamilton Smith *et al.* cited in CALM and CCWA, 2005). In addition 30 species of arachnid and myriapod (centipedes and millipedes) exhibit a marked adaptation to underground life (CALM and CCWA, 2005). Much of the aquatic fauna lies in a zone where the sea water and freshwater meets and diffuses (Hamilton-Smith *et al.*, 1998).

The Ningaloo coast lies within the Eremaean Botanical Province, the largest botanical province in Western Australia. The province overlaps two climatic regions (winter rainfall region and summer rainfall region) and therefore supports flora from temperate, arid and tropical provinces at the limit of their distributions. As a result the area is floristically rich for an arid limestone environment with over 630 taxa recorded including 12 endemic taxa (CALM and CCWA, 2005).

The Cape Range area has a rich and diverse fauna, which can be attributed to the range of habitats available such as mangrove, sandy ridges, subterranean wetlands, alluvial plains, rocky ranges and caves. Consequently habitat conservation is a key management objective for the national park and is critical to maintaining faunal diversity. Surveys conducted for the Cape Range area have recorded over 21 species

of native mammals, over 200 species of birds and 90 species of terrestrial reptiles (CALM and CCWA, 2005).

Cape Range is also rich in fossil and sub-fossil fauna, and is important in providing an understanding the composition and distribution of mammalian fauna prior to European settlement (DEH, 2006b).

The Ningaloo coral reef is the largest fringing reef in Australia (CALM and MPRA, 2005) and extends for 270km from Red Bluff (Quobba Station) north to North West Cape and around into the Exmouth gulf to Bundegi Reef. The biophysical conditions that encompass the Ningaloo reef are unique. The aridity and low runoff of the adjacent hinterland has created low nutrient clear water lagoons conducive to coral growth. The outer reef is on average only 2.5 km off shore and in places as close as 200 metres (May *et al.*, 1983).

This diversity of marine habitats present in the area provides for an extensive range of species including over 200 species of coral, 600 species of molluscs and 500 species of fish in the marine park alone (DPI, 2004). The marine park is an important area for marine mammals particularly for dugongs and cetaceans, including migrating whales, and dolphins. The area is also an important breeding area for the green turtle and the coral spawning events each year attracts an annual aggregation of whale shark. Five of the seven whale species and five of the six species of marine turtle that frequent the area are endangered.

4.1.5 Managing Ningaloo and the North West Cape

Since the creation of Cape Range National Park in 1971 and Ningaloo Marine Park in 1987 the then Department of Conservation and Land Management (CALM) has undertaken or been involved in a number of significant planning and management activities in this area. These include the development of the Cape Range National Park Management Plan released in 1987 (CALM, 1987) and the initial Ningaloo Marine Park Management Plan released in 1989 (CALM, 1989). The Department for Planning and Infrastructure (DPI) prepared a draft coastal planning strategy for the coastal strip from Exmouth to Carnarvon in May 2004 (DPI, 2004) and released the

final strategy in August 2004 (WAPC, 2004). CALM played an important role in the process of preparing this plan. A review of the Cape Range National Park Management Plan commenced in 2003 and a draft Management Plan was released in June 2006.

In 2001 CALM commenced a review of the Ningaloo Marine Park Management Plan. This review included a proposal to extend the area of the marine park south from Amherst Point to Red Bluff and to create a Marine Management Area (MMA) around the nearby Murion Islands. (See Figure 4.1) In accordance with the *Conservation and Land Management Act 1984*, (1984) any proposal to create or increase the size of a marine reserve requires the preparation of an indicative management plan. This planning process includes a statutory requirement for CALM to consult with key affected agencies, gain the concurrence of the Minister for Fisheries and the Minister for Mines and, importantly in relation to this thesis, consult with the community. In summary, the objectives of the Ningaloo Marine Park Management Plan are to maintain marine biodiversity and ecological processes, promote education and nature appreciation, promote community participation in management, facilitate and manage appropriate recreation, and facilitate and manage appropriate commercial activities. An extensive community engagement process was initiated that included the release of an Indicative (Draft) Management Plan in July 2004 for public comment (CALM and MPRA, 2004b). The Indicative Management Plan included a proposal to increase the number of sanctuary zones from 9 to 18 as a measure to protect the range of marine habitats and fish stocks. This increased the area covered by sanctuary zones from 10% to 28% of the marine park. This proposal had significant implications for recreational fishing access and it was claimed by some that the economy of Exmouth would be severely impacted through a downturn in recreational fishing tourism. The release of the plan provoked local community demonstrations outside the DEC office in Exmouth.

In January 2005, the (Western Australian) Minister for the Environment, approved the final Management Plan for Ningaloo Marine Park and Murion Islands Marine Management Area (CALM and MPRA, 2005) following the consideration and approval of State Cabinet. In doing so Cabinet decided to further increase the size of the proposed sanctuary zones from 28% to 34% without consultation with the

community. The additions to the marine park and the creation of the Murion Islands MMA were gazetted in November 2005. The plan to increase the size of the sanctuary zones (and the way in which the final size of the zones was determined) became a major political issue in the lead up to the State elections in February 2005. In response to community pressure the Government deferred a proposal to submit a World Heritage Area nomination for the Ningaloo coast. The local Member of Parliament (a Government member) distanced himself from the Government's position on sanctuary zones.

In addition CALM, as the primary land management agency for the Ningaloo coast, has been involved in managing or responding to a range of tourism activities or development proposals on the Ningaloo Coast including the Mauds Landing Marina proposal, the Coral Bay Boating Strategy and Boat Launching Facility, the redevelopment of Turquoise Bay day use area, and the management of the whale shark industry, all of which have generated considerable community interest and comment.

4.2 HISTORY AND PEOPLE

4.2.1 History

4.2.1.1 Aboriginal History

Archaeological evidence points to Aboriginal occupation of the North West Cape and Ningaloo coast for at least 30,000 years (Commonwealth of Australia, 2002). Two and probably three tribal groups occupied the Ningaloo coast and adjacent inland areas. The Jinigudira people inhabited large areas along and adjacent to the northern end of the Cape. The Baiyungu people inhabited coastal and inland areas south of the Cape (WAPC, 2004, CALM and MPRA, 2005, Morse and Wright, 1989) from Quobba to Point Cloates and included the coastal parts of Quobba, Warroora, Ningaloo and Cardabia Stations. The Thalandji people are also believed to have occupied parts of the central Ningaloo coastal area and adjoining land further to the east. The area is important in that it is the earliest recorded area of marine resource exploitation by humans in Australia (LeProvost Dames and Moore, 2000, CALM and MPRA, 2005). The journal of two Croatian sailors who survived a shipwreck off the Ningaloo coast near Point Cloates in 1875 with the assistance of

the two local tribes provides valuable evidence of aboriginal culture at the time of early European occupation of the North West Cape (Rathe, 1990).

The Jinigudira were reported to have died out through disease introduced by pearlers and other workers around the time of early European settlement. The Baiyungu, although presumably also affected by disease, remained in the area and took up roles on nearby pastoral stations and in the pearling industry (Morse and Wright, 1989, Turner 1995, in LeProvost Dames and Moore, 2000).

Evidence of aboriginal historical occupation is found in numerous aboriginal sites such as burial sites, areas of geological significance, midden sites and fish traps (LeProvost Dames and Moore, 2000, CALM and MPRA, 2005). Over 110 sites have been identified in the Cape Range area alone (BHP Billiton, 2005). Aboriginal people would have exploited the area's rich food resources and used the shelter offered by the rock overhangs, cave and gorges of the cape. Unfortunately the indigenous cultural history and culture of the area has not been well documented and much remains to be learned about the area's first inhabitants.

Despite major disruptions to traditional life aboriginal people seek to retain social, traditional and ceremonial bonds with the land. The Baiyungu still have a strong presence in the area and purchased the Cardabia Station lease near Coral Bay in 2004 with the assistance of the Indigenous Land Corporation. The entire Ningaloo coast area and adjoining lands including Ningaloo Marine Park and Cape Range National Park is subject to a Native Title Claim known as the Gnulli Claim (WC97/28, WAD6161/98) (ONT, 2006) made under the auspices of the Yamatji Land and Sea Council (Commonwealth of Australia, 2002).

4.2.1.2 European History

Seventeenth century Dutch sailors developed a good knowledge of the Western Australian coastline including the area around Exmouth. The first Dutch ships arrived in Batavia in 1596. Using the prevailing westerly winds ships travelled east from the Cape of Good Hope until sighting the Western Australian coast then tracked north to Indonesia (Clark, 1982). In 1606 Willem Janz, in the ship *Duyfken*, sailed

east from Banda, across the Torres Strait and reached the west coast of Cape York. The first Europeans recorded to have sighted North West Cape were Haevik Claeszoon von Hillegom and Pieter Dirkszoon who sailed through the area in the *Zeewolf* on 24 June 1618. A month later Jansz and Jacobsz landed on the Cape from their ship *Mauritius* (Commonwealth of Australia, 2002). In the ship's log for 31 July 1618 it is recorded “*On the 31st of July we discovered an island and went ashore, found human footsteps, on the west side the land extended NNE and SSW; it was the length of fifteen mijlen; northern extremity is in twenty-two degrees S*”. What they had landed on was not an island but North West Cape (SMH, 2004).

There is evidence that most of the well known Dutch sailors including Dirk Hartog, Willem Vlamingh, Abel Tasman and Francisco Pelsaert all passed through the area. Pelsaert, whose ship the *Batavia* was wrecked on the Houtman Abrolhos on 4 June 1629, rowed from the present site of Geraldton to Batavia. He stopped near Point Cloates to take on water. In 1801 the French explorer, Nicholas Baudin, sailed up the coast and named Cape Murat (SMH, 2004) and the Muiron Islands (Shire of Exmouth, 2005).

Boat-based American whalers operated in the area from the 1790's targeting sperm and humpback whales (Commonwealth of Australia, 2002). While no shore facilities were known to have been developed by them it is probable that land expeditions to collect food and water did occur. Later in the early to middle part of the 20th century, shore-based whaling occurred at Point Cloates and Norwegian Bay.

Prominent marine navigator Phillip Parker King entered the gulf in the ship *Mermaid* on 11 February 1818 exploring the region for several days. King noted the amazing abundance of fish, dolphins and turtles. He named the gulf Exmouth, after British naval hero Edward Pellew, RN., the Viscount Exmouth. King reported that the whole area was “*arid and sterile*’ and therefore unsuitable for settlement (Asscher, 2004). Phillip King's assessment of the region was so damning that it was not until well known ornithologist, Thomas Carter, purchased portions of leases on Ningaloo, Exmouth and Yardie Stations from John Brockman in 1888 (SMH, 2004) that the area was first settled (Shire of Exmouth, 2005).

Between 1818 and 1899 the Cape was regularly visited by pearl fishers from Port Hedland searching for good pearl beds (Shire of Exmouth, 2005). Aboriginal men were often “contracted” to work on the luggers as divers and deck hands. In 1886, between 600 and 700 aborigines were employed as divers on pearling luggers (Green, 1981). A cyclone entered the gulf in 1876 destroying the pearling fleet and killing 59 men (BOM, 2006). Whaling, pearling and regular shipping along the northwest coast led to the construction of lighthouses at Point Cloates in 1911 and Vlaming Head in 1912.

Despite extensive northern exploration between 1854 and 1879 by explorers such as Gregory, Warburton, John and Alexander Forrest and Giles none ventured into the North West Cape (O'Grady, 2004). While pastoral leases were being taken up in the Murchison as early as the 1860s and spread slowly north in the 1870s, little interest was shown in the Gascoyne. Charles Samuel and John Brockman were the first pastoralists to enter the Gascoyne, driving 3600 sheep through the Murchison and on to the Gascoyne River mouth in 1876. Brockman established Boolathanna Station in 1878 and acquired large pastoral holdings including the entire North West Cape (O'Grady, 2004).

As well as the harsh climatic conditions endured by the encroaching pastoralists, they encountered considerable resistance from the indigenous people. Many of the pioneer pastoralists who pushed north and occupied grazing land had either come to Western Australia as boys or were born there. They had a contempt for Aborigines whom they had come to regard as a resource to be exploited or as wild animals to be broken and tamed (Green, 1981).

The attitude of the Swan River colonists toward Aborigines was moulded by early explorers' opinions of aboriginal people as primitive and as making no apparent use of the land (Green, 1981). These prejudices were adopted and reinforced as pastoralists moved north opening up the Murchison, Gascoyne, Pilbara and the Kimberley. The clash of cultures and the competition for resources, particularly for water, created ongoing and often violent conflicts between the pastoralists and local tribes (O'Grady, 2004). This was no more apparent than in the Gascoyne. The period between 1846 and 1890 was one of the most shameful periods in the State's history of black and white relations. The desire to explore and open up the country to meet

economic and political objectives led to the widespread maltreatment, abuse (shootings, floggings, neck chaining) and discrimination against native people, including incarceration, enslavement and contract assignments which were largely endorsed or condoned by the State Legislative Council (Green, 1981). This period was characterised by the expansion and consolidation of pastoral leases, the creation of homesteads and the development of station infrastructure (tracks, wells, windmills, fences, troughs). Aboriginal culture radically changed as many were incorporated into station life. Some resisted and fell foul of the law while many more died from disease (O'Grady, 2004). As Hall (2000c:62) notes, "Aboriginal people were rarely counted as people under early law ...it was not until 1966 that Aboriginals were granted full citizenship rights including the right to vote".

Exmouth has had a strong and ongoing military history due to its strategic location in navigational and global terms. The area's strategic importance was first recognised during World War II when Exmouth Gulf became an important US Navy Air Patrol base for flying boats and a submarine base for Australian and US submarines. The submarine base, nicknamed 'Potshot' by the Americans, operated between 1942-45 (Shire of Exmouth, 2005). In February 1945 most of the facilities were extensively damaged by a cyclone and troops were relocated (BOM, 2006).

During the 1960s oil exploration, fishing, prawning and pastoralism were the mainstay of the few local residents. The decision of the Australian and United States governments to establish a naval communications facility at North West Cape changed that situation (Hollett, 2001). The town of Exmouth was gazetted in May 1963 to support the development and servicing of the military base. In 1964 there were only four permanent houses in the town as most of the population lived in the Burtenshaw Caravan Park (SMH, 2004).

The establishment of Exmouth was the culmination of Federal Government plans which had begun in 1962, and which, by 1963 had already seen the Western Australian Town Planning Department choose three sites on the northerly tip of the peninsula (Vlamingh Head and areas to the north and south of the present town) where it was planned to use 121 hectares to build a town which could house 700 people.

The Naval Communication Station was commissioned on September 16, 1967 and officially opened by US Ambassador to Australia, Ed Clarke and the Hon. Harold Holt, the Prime Minister of Australia on September 20, 1968. Three months later the station was officially renamed the US Naval Communication Station Harold E. Holt in Holt's honour after he disappeared in the ocean near Portsea, Victoria (Doug Bathgate personal communications).

At the peak of its operation the base was home to about 400 US personnel and their families. The US presence created important flow-on employment for the local community through the provision of services to base personnel. At this time the local economy largely revolved around the activities of the Defence Forces and a growing prawn fishery in Exmouth Gulf (Hollett, 2001). The population of the town peaked at around 4300 in the late 1960s.

In July 2002 the Australian Navy handed over operation of the base to the Defence Materiel Organisation.

The withdrawal of the US Navy in 1992 had a major economic and social impact on the town of Exmouth (Doug Bathgate, pers comms). The US Navy was a major employer and, with the transition of the base to Royal Australian Navy (RAN) management, many of the facilities and services that operated for US personnel were no longer provided under the RAN. The workforce was cut from over 200 people to around 100 and salaries dropped considerably. Many of the former US Navy civilian employees left town after receiving substantial superannuation payouts. Overall the town became far less affluent. The community realised that the town could no longer depend on the Naval Communication base to support its economy (Doug Bathgate 2006, personal communications).

An issue that was to make a significant contribution to the future direction of the town was the sale of the US houses in Exmouth. The US Navy built around 130 houses in Exmouth on land leased from the State of Western Australia. Specific provision in the lease required the US Navy to return the land to its original condition if the houses were no longer required or if they withdrew. A deal was done to allow the houses to be sold. The US Navy received 25% of the proceeds and the remainder (AU\$13 million) was placed into a Trust Fund for the sole purpose of the

future long-term social and economic development of Exmouth (Doug Bathgate 2006, personal communications). The Trust fund allowed the Shire of Exmouth to fund social and recreational development projects to replace services previously provided by the Naval base and to begin to develop a new industry based on tourism and the natural environment.

The community turned to the endemic natural features of the area as the basis for a local tourism industry with the aim of connecting with a fast growing national and international nature-based and ecotourism industry. Work by Geoff Taylor and others in the late 1980s recognised that the whale shark migration that coincides with the annual coral spawning event provided an opportunity for tourists to swim with these massive creatures and thus to create a high demand tourism experience (Davis *et al.*, 1997).

Much of the initial tourism product was based on the whale shark interaction and fishing charters. Over time the product has diversified. While a small number of fishing charters still operate, the number of dive charters and coral viewing boats has increased.

In 1953 West Australian Petroleum Pty Ltd (WAPET) commenced extensive oil exploration throughout the region including the Cape Range. An initial discovery of oil at Rough Range in 1955 created excitement within the oil industry but later proved unviable. WAPET constructed a road network throughout the range, some of which is still in use including Charles Knife Road and a track through Shothole Canyon (Shire of Exmouth, 2005).

HG Kailis established a prawn trawling business in 1964 and Morgan and Sons from Broome established a pearl culture operation in 1965 (Shire of Exmouth, 2005). During the late 1960s and early 1970s green turtle area were hunted for meat and shell under licence from the Fisheries Department in an area from Coral Bay to Yardie Creek. Licences were withdrawn in 1972 as interest in establishing a marine park gathered momentum (Andy Cassidy in Weaver, 1998).

Until the mid 1970s Exmouth was extremely isolated. In 1962 the North West Coastal Highway was sealed from Geraldton to Carnarvon. The gravel section north

of Carnarvon was regularly impassable due to cyclonic flooding. Access to Exmouth remained unpredictable and difficult. The discovery of large deposits of iron ore in the Pilbara in the mid 1960s provided the impetus to improve road access to and within the north west of the State (Edmonds, 1997). The sealing of the Carnarvon and Port Headland section of the North West Coastal Highway between 1971 and 1974 greatly improved access to the north (Edmonds, 1997). The completion of sealing of the Minilya to Exmouth road in 1980 further lessened Exmouth's isolation and greatly increased the fishing pressure as a new wave of tourists arrived from the south. The access roads built by WAPET through the Cape Range and Ningaloo coast to undertake survey and exploration work only served to accelerate access to the coast, especially through Ningaloo Station.

Throughout the 60s and 70s the Ningaloo coast was subjected to significant recreational fishing pressure. Oral histories undertaken by Weaver (1998:14) record US Navy personnel as collecting and exporting large quantities of shells and engaging in extreme fishing events. As road access to the north west improved, locals recount hundreds of fishers arriving from Perth in trucks and four wheel drives, many towing boats to the coast along extremely rough tracks with "ice boxes full of food and grog" (Weaver, 1998:14). Some groups would fish around the clock, fill their once empty freezers full of fish and return to Perth.

During the late 1960s and early 1970s a new era in the history of the area was developing, namely that of conservation and tourism with the establishment of Cape Range National Park. The impetus to create the reserve was to preserve the scenic and landscape values of the reserve following the WAPET's mining exploration in the Cape Range (Doug Bathgate pers comms). The 1983 Report of the Marine Park Working Group (May *et al.*, 1983) identified that interest in the natural values of the Ningaloo coast had caused tourism to increase significantly over the previous decade.

In 1976 State Cabinet endorsed recommendations made by the Environmental Protection Authority (EPA) to protect the Ningaloo Reef as a marine park (May *et al.*, 1983). The majority of the Ningaloo reef was gazetted as Ningaloo Marine Park in 1987 with the remainder included in extensions to the Marine Park in 2005.

Coral Bay has a much briefer history. The nearby Mauds Landing was gazetted as a townsite in the late 1880s and still remains as Unallocated Crown land. The townsite was never established but it did function as a landing stage for 50 years. The Public Works Department of Western Australia tendered for the construction of a jetty, woolshed and well in 1886 which were completed in 1897. The facility served the local pastoral industry in accessing supplies and shipping out wool until 1947. Some of the jetty pylons still remain as a reminder of the area's history. About 3 kilometres to the south of Mauds Landing a large protected bay known as Bills Bay started gaining popularity in the late 1950s for its recreational and tourism values. In 1967 a small tourist settlement was established at the protected southern end of the bay, which is now known as Coral Bay (Bowman Bishaw Gorham, 1995).

Interest in establishing major resorts on the western side of the Cape emerged in the early 1990s following a report prepared by Jones Lang Wooton on the tourism potential of the Ningaloo coast. Persistent attempts by various developers to build a major tourism development on the western side of the Cape have been resisted, culminating in the Gallop Government's refusal to approve the construction of a 153 hectare tourism resort and marina at Mauds Landing near Coral Bay in 2003.

4.2.2 Population

The Ningaloo coast contains two population centres, Exmouth the only townsite in the study area (and the second largest settlement in the Gascoyne region) and Coral Bay a small tourist settlement approximately 150km south of Exmouth (See Figure 1.1).

In 2003 Exmouth had an estimated resident population of 2293 (ABS, 2005). The Shire of Exmouth estimated its resident population for 2005 to be 2400 (Shire of Exmouth, 2005). This can increase to between 4000 and 5000 when visitors are included during peak tourism periods from June to August (ABS, 2000, WAPC, 1998, DPI, 2004). The population of Exmouth reached 2437 in 1991 and then declined to 2083 in 1996 following the departure of the United States defence personnel from their naval communications station in 1992 (WAPC, 1998). The

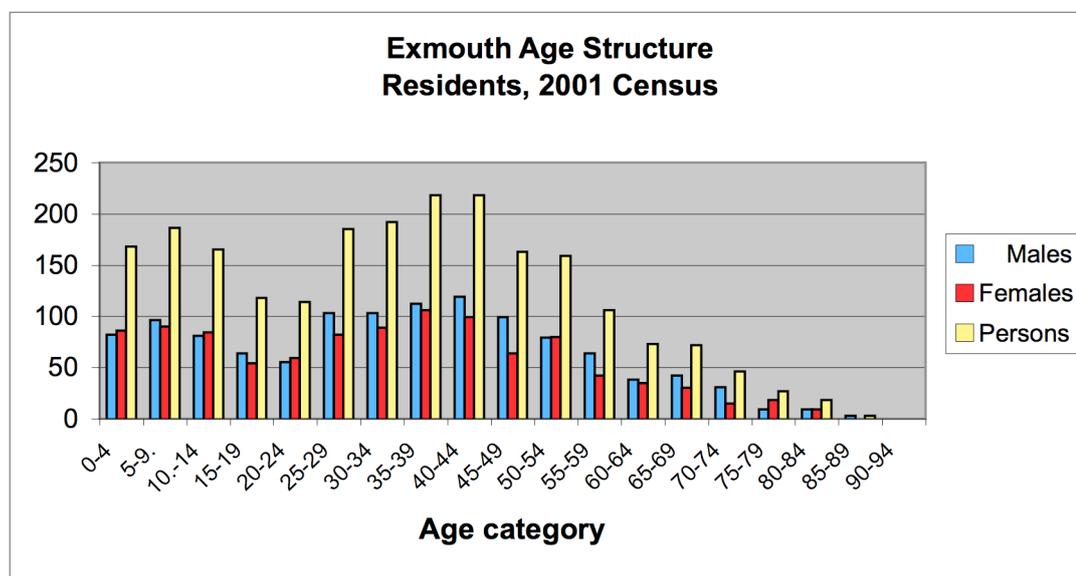
growth rate for visitors has been higher than that for permanent residents since 1981 and this trend is likely to continue (WAPC, 1998).

Coral Bay currently has a small population of around 150 residents and an approval to accommodate 1850 overnight visitors (WAPC, 2004). It is likely that both of these figures are exceeded in peak periods. The 2001 ABS Census for Coral Bay (ABS, 2002c) recorded a resident population of 242. The Ningaloo Coast regional strategy (WAPC, 2004) sets out guidelines to increase tourist accommodation to 3600 and the resident population to 400.

The 1998 Exmouth-Learmonth Structure Plan (WAPC, 1998) estimates that the Exmouth resident population will grow to 3800 by 2027. However on present trends this total is likely to be reached much earlier. A revised draft structure plan for Exmouth has allocated residential land for a minimum permanent population of 5200 (DPI, 2004).

The age structure of the Exmouth population in 2001 indicated a middle aged demographic with over 43% of the population in the 30-54 years age category (ABS, 2002b) (see Figure 4.3). There are two obvious age clusters, one around 0-19 years and a more significant cluster around the 30-54 age group. In 2001 the gender make up of Exmouth Shire was 53% male and 47% female (ABS, 2002b). The median age of Exmouth residents has risen by 8 years, from 38 to 46 since 1991 (ABS, 2002a, ABS, 2003a).

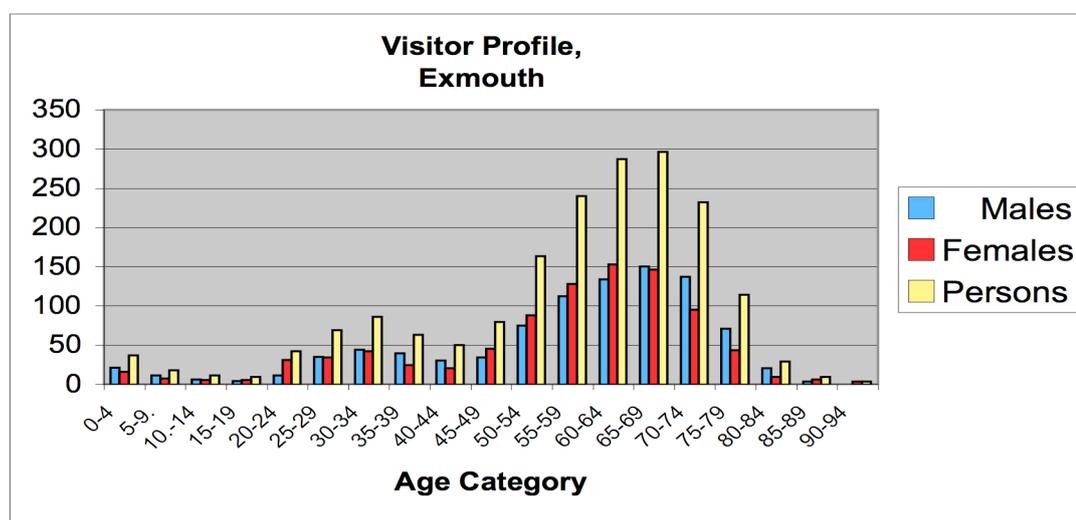
Figure 4.3 - Exmouth residents age structure, 2001 Census



Source: Adapted from ABS 2001 Census

Figure 4.4 shows the age distribution of visitors on Census night (14 August) in 2001. It shows a dominant age distribution in the older age categories (50-70 years). Only 15% of Exmouth residents are older than 54, compared to 65% of visitors.

Figure 4.4 - Visitor profile, Exmouth 2001 Census



Source: Adapted from ABS 2001 Census

Seventy seven percent of Exmouth residents were born in Australia. Sixty seven percent of naturalised Australians now living in Exmouth have been in Australia for

at least 20 years. Fifty five percent of the community identify as Christian while 40% have no religious affiliation (ABS, 2003b). Only forty two people (approx. 2%) identified as being of Aboriginal decent (ABS, 2003a). Seventy seven percent of the population identify as being part of a family group (ABS, 2002b). The highest level of education achieved by 70% of residents is year 12 or lower (ABS, 2003b). While similar ABS data is not readily available for Coral Bay a similar demographic profile is likely to be exhibited.

Residential turnover is high. Between 1996 and 2001 just over 50% of Exmouth's resident population had changed. In the year preceding the 2001 census 23% of the Exmouth resident population was living elsewhere (ABS, 2003b).

The generally low level of educational achievement within the community and the high levels of population mobility pose significant challenges for park management. The complexities of environmental management and tourism planning will require the delivery of specific community educational programs to be fully appreciate the issues involved in natural area management. The transient nature of the population will mean that strong personal relationships with the area are unlikely to be established and therefore unlikely to lead to high levels of participation in community involvement activities.

4.2.3 Workforce

In 2001, Exmouth had a workforce of 1721. This included 112 people looking for work (87 of whom were locals) and 552 non-residents (ABS, 2002b, ABS, 2003b). Three quarters of residents not in the workforce or unemployed are Australian born. In 1997, the main area of employment was in small business (31%) followed by direct tourism businesses (17.3%)(WAPC, 1998). The 2001 ABS Census indicate that the main areas of employment in the Exmouth Shire were retail, agriculture and fishing, accommodation, cafes and restaurants, property and business and government administration (ABS, 2002b). Eighty percent of the population are employed in the private sector and 19% in the public sector. Almost 30% of the adult population is not in the labour force (either retired or not seeking work) (ABS, 2003b).

The absence of any other form of industry in Coral Bay means that the vast majority of local residents in Coral Bay would be engaged in activities associated either directly or indirectly with tourism services. Less than 2% of the population are government employees engaged in conservation and recreation management.

4.3 BUSINESS AND ECONOMY

The Exmouth economy relies on a mix of industries. These include tourism, pastoral activity, fishing and mining. There is also potential for aquaculture, servicing of the oil and gas industry and extractive industries. The naval communications base employs around 100 people (Doug Bathgate, pers comms) and continues to make an important contribution to the Exmouth economy.

4.3.1 Tourism

Tourism is the single most important industry on the Ningaloo Coast and is based almost entirely on the natural values of Ningaloo reef and the Cape Range. Exmouth is a major service centre for the Gascoyne Region and for the tourism industry.

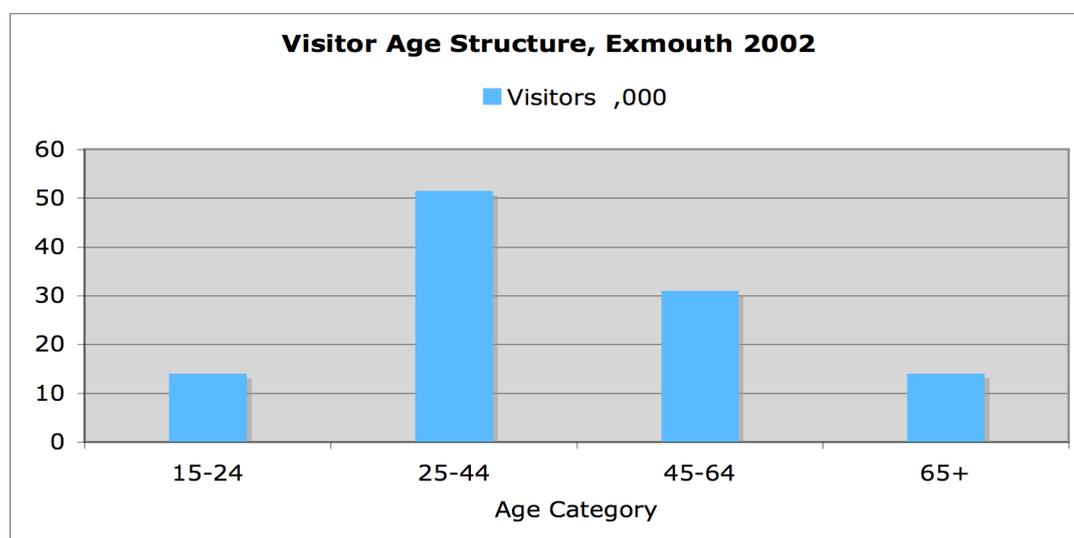
Tourism growth to the Gascoyne region has been rapid. The number of domestic visitors to the Gascoyne Region has grown from around 120,000³ in 1992 to 220,000 in 2002 (TWA, 2004a). For 2002 the estimated value of tourism to the entire Gascoyne Region was \$149m (GDC, 2003).

The tourism industry consists of accommodation providers, tour operators, charter operators, café and restaurant operators and other small businesses either directly or indirectly related to providing tourism products and services. A significant component of capital works expenditure by the Shire of Exmouth in 2004/2005 relates to the provision of recreation and tourism facilities or infrastructure that supports and assists the tourism industry (Shire of Exmouth, 2005).

³ This is an estimate, a reliable figures are not available for 1992

Eighty thousand domestic and 30,000 international visitors per annum stayed overnight in the Shire of Exmouth in 2002/03. Domestic visitation accounts for 73% of all visits to the Exmouth Shire with 55% of this being intrastate. The average length of stay of domestic and of international visitors is 6.3 days and 4.2 days respectively. Overnight visitation to Exmouth has grown by 68% since 1999/2000 (TWA, 2004c).

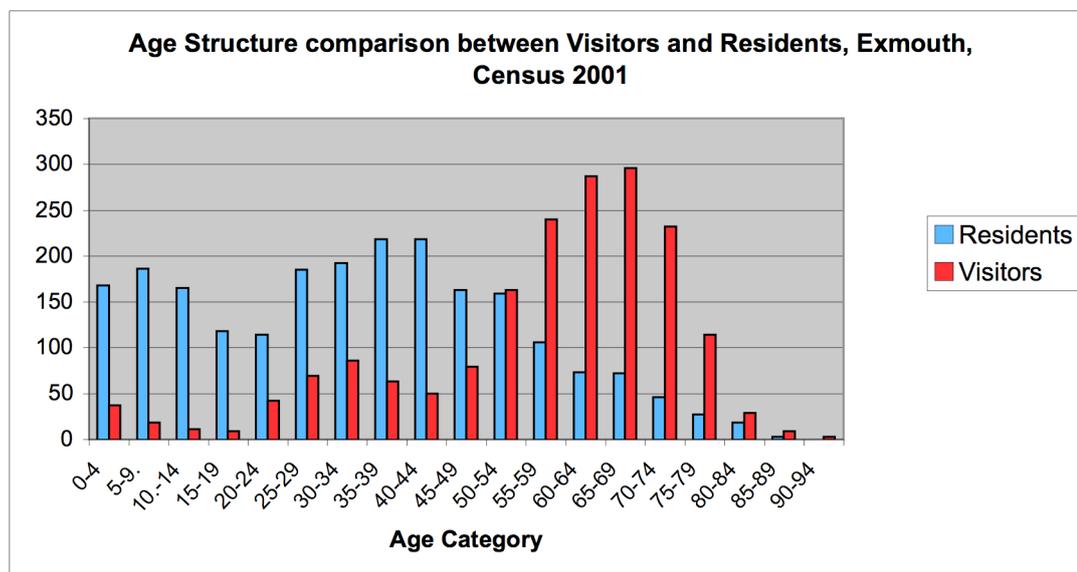
Figure 4.5 - Age distribution of visitors to Exmouth.



Source: Adapted from Shire of Exmouth Tourism Fact Sheet, (TWA 2004) derived from the National and International Visitor Surveys

There is an unexplained difference between the visitor age distribution data extracted from the ABS Census and the TWA age distribution data extracted from the National Visitor Survey and International Visitor Survey (See Figures 4.4 and 4.5). This could be accounted for in several ways. The ABS data is a single day (7 August 2001) census compared to the TWA data, which is by survey, and conducted throughout the year.

Figure 4.6 - Age comparison between Exmouth residents and visitors



Source: Adapted from ABS 2001 Census

Figure 4.6 compares the age distribution of local residents with that of visitors. The visitor demographic shows a strong bias to the older age groups. Visitation age profiles contrast strongly with the resident population age profiles. This is most pronounced in the age categories from 0-24 and 55-84 (ABS, 2003b), though significant contrasts exist in all age categories except the 50-54 age group.

For 66% of domestic visitors and 99% of international visitors the main purpose for visiting the area was for holiday and leisure. 80% of international visitors stayed in either backpacker accommodation or a caravan park. 44% of domestic visitors stayed in a caravan park or camped (TWA, 2004c).

International visitors are more attracted to outdoors and nature activities (81% of all international visitors compared to 51% of domestic visitors). Domestic visitors are more likely to travel in private vehicles (61%) while international visitors arrive by coach (36%) or hire care (27%) Male visitors outnumber female visitors by a ratio of 54:46 (TWA, 2004c).

The economic benefits generated through protected area tourism, while not well recognised, can be significant. In one of the first attempts to measure the direct

economic value of tourism to a protected area Carlsen and Wood (2004) estimated the visitor expenditure on Ningaloo coast at A\$127m. This study revealed that visitors attributed 92% of their expenditure to the natural environment. This figure is based on direct visitor expenditure and does not include, multiplier and induced economic effects.

Today Exmouth and Ningaloo reef have an international reputation as an exceptional ecotourism destination, created largely on the back of whale shark interaction and diving and snorkelling. Almost 26,000 international visitors visited Exmouth Shire in 2005 (TWA, 2004c), with the majority arriving between April and June with the intention of seeing a whale shark. Fifty one percent of whale shark visitors are international with an average age of 34 years (Catlin *et al.*, 2006). The whale shark interaction industry in Ningaloo Marine Park involves 15 vessels regulated by DEC and generates around \$6.4 m to the local economy (Catlin *et al.*, 2006).

Recently the local economy has been driven by the development of land for residential and tourism expansion. The release of the Ningaloo Coast Regional Strategy (WAPC) in 2004 created business certainty by restricting major tourism development in the Gascoyne Region to Exmouth and Carnarvon. This trend is now evident in the acceleration of the Exmouth Marina development. Exmouth Village Marina is based around an outer harbour built in 1996/97 consisting of a 28 hectare residential area containing 120 lots and developed around four canals, a 5.5 hectare resort site and a 13 hectare mixed residential and commercial precinct. An area of 7 ha is planned for marine industries. Promotion of the development is based around the reef and other natural assets and focuses on “building the town’s profile as a world class destination both around Australia and overseas” (Landcorp, 2006). The State Government has committed over \$11m to the project.

4.3.1.1 Ningaloo communities and the Tourism Area Life Cycle

The status of Exmouth and Coral Bay as a tourism destination is best described by reference to the Butler Tourism Area Life Cycle (TALC) (Butler, 1980) (see Section 3.1). Berry (2006) uses the TALC concept to predict the stage and health of a tourism destination and thereby to avoid the ‘decline’ phase of the tourism cycle. Berry suggests that any time series of data that reflects tourism growth can be used to

reflect the TALC cubic curve. This includes visitor numbers, visitor arrivals and departures, visitor spend and visitor nights.

An analysis of such quantitative economic indicators provides an insight into the status of Exmouth as a tourism destination. Using Butler's criteria for each of the stages and applying some of the qualitative data against Berry's suggested indicators (see Table 6.2) it is possible to determine Exmouth's TALC stage. It is clear that Exmouth has moved beyond the exploration and involvement stages. Butler's 1980 criteria for the 'development' stage are set out in Table 6.2 and are assessed for compliance against the Exmouth data.

Table 4.1 - Butler's 'development' stage of the TALC

	Butler's 1980 Criteria	Compliance (yes/no)	Example
1	Well defined tourist market area and heavy advertising	Yes	Heavy national and international marketing and attendance at trade shows
2	Local involvement and control of tourism declines	Yes	Regional land use and park planning processes and control of tourism development being removed from local authorities.
3	Old facilities superseded by larger, more elaborate, more up to date facilities provided by external organisations	Yes	Exmouth marina development
4	Natural and cultural attractions marketed specifically, supplemented by man made facilities	Yes	Marketing of products based on natural attractions dominates
5	Changes in physical appearance	Yes	Exmouth marina development
6	Regional and national involvement in planning	Yes	Creation of the NSDO, World Heritage listing process, Carnarvon -Ningaloo Strategy
7	Number of visitors will exceed locals in peak periods	Yes	Occurs on annual basis
8	Imported labour will be used	Yes	Backpackers
9	Auxiliary industries such as commercial laundries, start to appear.	Yes	Laundries
10	Type of visitor will change towards Plog's 'mid centric'	Yes	Visitors and semi residents are older

Adapted from Berry, 2006

Some elements of the proceeding ‘consolidation’ stage are also evident which may mean that the Exmouth is entering the advanced stages of ‘development’. These elements include a decline in the rate of increase in tourism numbers, and tourism becoming the major part of the economy. However, many other elements of the ‘consolidation’ phase are not evident.

4.3.2 Commercial Fishing

The Exmouth Gulf supports a significant commercial fishery in the Exmouth Gulf Prawn Fishery. The catch consists of western king, brown tiger, endeavour and banana prawns. Fishing is undertaken using otter trawlers. In 2004 the commercial production was 1347 tonnes with an estimated annual commercial value (to fishers) of \$24.4m. The industry employs 41 skippers and associated crew as well as processing and support staff in Exmouth (DoF, 2005). According to a survey by the Shire of Exmouth in 1997, 132 people were employed in “fishing and aquaculture” (WAPC, 1998), while the 2001 Census recorded 102 people employed in “Agriculture, forestry and fishing” for the Exmouth statistical area (ABS, 2003b).

4.3.3 Pastoral industry

The pastoral industry incorporates 86 pastoral properties in the Gascoyne Region (of which only 2 are in the Shire of Exmouth) and is the oldest industry. Sheep and cattle production form the mainstay of the industry. The Regional production is valued at \$20.1m annually (GDC, 2003). The Exmouth Shire is likely to contribute up to a third of this production.

4.3.4 Government

The state and Commonwealth governments also make significant contributions to the regional economy. The provision of education, health, police, telecommunications, environmental, conservation and other services through direct expenditure, locally based employment and their flow-on effects add to the economic base of the town.

Local, state and Commonwealth governments all play important roles in the Ningaloo coast region. The Commonwealth Government operates the Harold E Holt Naval Communications Station. The Station provides very low frequency (VLF)

radio transmissions to US and Australian navy ships and submarines in the Western Pacific Ocean and eastern Indian Ocean. The Department of Defence operates a bombing range (Learmonth Weapons Range) south of the National Park on behalf of the Royal Australian Air Force. Commonwealth waters adjacent to the Ningaloo Marine Park were declared a marine park in 1987 under Commonwealth legislation. The State manages these waters under agreement with the Commonwealth Department of Environment and Heritage (CALM and MPRA, 2005).

The Commonwealth Register of National Estate administered by the Department of Environment and Heritage, has listed six sites of environmental and scientific interest, including Cape Range Geological Site, Cape Range National Park and surrounds, Ningaloo Marine Park and the Murion Islands and adjacent marine areas (WAPC, 1998).

The most significant Western Australian State Government presence on the Ningaloo coast relates to the management of the Ningaloo Marine Park and Cape Range National Park. DEC is responsible for day-to-day management of both reserves and manages the area in accordance with the Management Plan for Ningaloo Marine Park and Murion Islands Marine Management Area. DEC employs a total of 25 staff in Exmouth and Coral Bay to manage the Ningaloo coast and surrounding reserves. The Department of Fisheries (DoF) is responsible for the management and regulation of recreational and commercial fishing, aquaculture and pearling including within the Marine Park and the Marine Management Area.

The Ningaloo Sustainable Development Committee (NSDO) was established in 2004 to oversee the implementation of the Ningaloo Coast Regional Strategy. The Western Australian Planning Commission (WAPC) has delegated powers to the committee to determine development applications in accordance with the Ningaloo Coast Regional Interim Development Order (RIDO) (WAPC, 2006). These powers supersede the powers of the two local government authorities to determine or approve developments on the Ningaloo coast for the life of the RIDO, which is current until August 2010.

The Gascoyne Development Commission (GDC) has a major role in promoting and fostering the economic and social development of the Gascoyne region. The GDC has offices in Carnarvon and Exmouth.

The Ningaloo coast spans two local government areas. The southern end of the Ningaloo coast falls within Shire of Carnarvon and includes the settlement of Coral Bay. The majority of privately held land on the Ningaloo coast falls under the control of the Shire of Exmouth and includes the town of Exmouth.

4.5 CONCLUSION

The Ningaloo coast region of Western Australia is a geographically isolated area with a harsh and unpredictable environment, characterised by poor soils and a hot dry climate prone to extreme weather events such as drought, flood and cyclone events. Early hopes for a powerful and sustainable pastoral industry were not realised and it is now in decline. While the area has a long and rich Aboriginal history, exploitation of indigenous people by the pastoral industry has caused severe dislocation to these people and their culture and to a large extent this has been destroyed by European settlement. Ironically the pastoral industry has been one of the strongest opponents of land rights (native title) (Hall, 2000c). Attempts to rebuild cultural identity and establish traditional rights are now beginning to emerge.

The strategic location of the North West Cape for naval surveillance has led to a military presence in Exmouth from the Second World War to the present day. Fishing, pastoralism and military operations were the mainstays of the economy until tourism took up the slack of the economic downturn created by the departure of the US Navy in 1992. The recent reservation and protection of nationally and internationally significant natural areas now underpins a significant and developing tourism industry.

The geographic isolation, harsh environment, the attempts of the pastoralists to tame the land and its original inhabitants and its strong military history have all combined to create an underlying local culture of resilience, self-determination and independence. The area's harsh climate coupled with its remoteness, provided

protection from excessive exploitation until the 1960s when access for military purposes and later general progress improved road access and reduced its relative isolation.

The area has a long history of government involvement or interest through pastoralism, indigenous relations, the military, fishing, conservation and now tourism. While in the past many areas of government responsibility now appear to have been inadequate or misguided, today, government control and management of the Ningaloo coast dominates. Following an era of over-exploitation of the areas resources throughout the 1900s, and in recognition of its unique and extensive biodiversity, almost the entire Ningaloo coast and adjacent waters are now protected in State or Commonwealth reserves for conservation and recreation purposes.

Difficult economic and environmental conditions have constrained many of the industries that operate on the Ningaloo coast. However, the development of a thriving tourism industry over the past 15 years based on Cape Range, the Ningaloo reef and their wildlife has led to sustained population growth and renewed economic activity, highlighted by seasonal influxes of local and international tourists that can double the population and place extreme pressure on services and infrastructure.

Growing environmental and tourism interest and improved road and air access are changing the demographics of the area. New residential and tourism developments in Exmouth and Coral Bay will bring economic opportunities and, with it, social and environmental challenges. These challenges are also the focus of this research. With tourism now the dominant industry and much of it dependent on the land and water reserved primarily for conservation, tension is already growing between those bent on maximising economic prosperity and those trying to protect the natural values of the North West Cape and Ningaloo coast. In addition, the growth in holiday and lifestyle developments in Exmouth, based on tourism, will place significant pressure on natural resources, particularly groundwater. The management of the reef and its fish stocks, groundwater, waste and sewerage and increased levels of dispersed recreation will raise questions about the long-term level of habitation and use that the Ningaloo coast can sustain and will undoubtedly lead to competition for scarce resources (fish stocks and water) between the local community and visitors.

As the State's population increases at around 2.2% per annum (ABS, 2007) in response to the resources boom, and the growing prosperity of many Western Australians especially those living in the adjoining resource rich Pilbara region, the Ningaloo coast will continue to attract an increasing number of visitors and semi-residents and place the areas natural environment and water resources under extreme pressure.

Many livelihoods depend on the tourist trade and the tourism industry, which in turn depends on the areas two protected areas and given the important role that DEC plays in the management of these resources and the actions taken to protect marine biodiversity, this research seeks to consider the impacts of those decisions on the local community. Does the management of the two parks have a positive or negative social and economic impact on the community? How does the community perceive these impacts and to what extent does park management consider local community interests in the planning process? After all, from the community's perspective it must be able to sustain its social and economic needs in the face of environmental and conservation initiatives.

CHAPTER 5 RESEARCH METHODOLOGY

The purpose of this chapter is to describe the methodological approach taken in the conduct of this project. The research methods used in this research have been selected in order to collect data that will answer the research questions and meet the objectives of the study. That is, to understand the community's perceptions of the social and economic impacts of protected area management on the Ningaloo coast community and the impact of those perceptions on eliciting community support for the management of local protected areas. The question is relevant because it is likely that national and international interest in the Ningaloo coast, the growing visitation and the areas isolation (thus the cost of management) will force government to draw on the resources of local people to supplement its management.

5.1 STUDY DESIGN

This research draws on two different approaches to collect and interpret data from a particular case study, used as a vehicle to understand the dynamics of a particular social and political context. The research questions are suited more to an inductive approach as they are largely “what” questions, although elements of a deductive approach are also used because the research also poses “why” questions. Together the approaches and the questions are used to collect data and statistics in an attempt to explain patterns associated with social interpretations of the relationships between a local community and the management of adjacent national parks.

To develop a clearer understanding of the component parts of the topic a number of techniques were used to scope the four main research questions, that sought to examine: -

- the social and economic impacts of protected areas practices and policies on local and regional economies;
- local community perceptions of the social and economic impacts of protected areas practices and policies on the Ningaloo coast communities;

- the perceptions of the extent to which park management agencies consider the socio-economic concerns of local communities, and
- the main factors that contribute to positive and negative attitudes of park management.

Initially, the technique of mind mapping was used for this purpose. A mind map is an expression of radiant thinking (Buzan, 1993). It is a diagram used to represent words, tasks or other items linked and arranged around a central key word or question. It is an image-centred diagram that represents semantic and other connections between portions of information and helps to make sense of complex relationships and ideas. It is used as an aid to generate, visualize, structure and classify ideas and thoughts and is an aid to study, problem solving and decision-making (Wikipedia, 2006a). Mind mapping is a brainstorming approach to any given organisational task that encourages convergent thinking and assists in establishing a relevant conceptual framework to work within. Figures 5.1 and 5.2 are two examples of mind maps.

Figure 5.1 - Mind Map Example 1

Figure 5.2 - Mind Map Example 2



The initial mind map prepared for this research is listed as Appendix 3.

5.1.2 Design

The mind map assisted in translating the range of issues and topics identified into a more linear description that could form the basis of the research outline. A more linear or structured approach to developing such a framework for research is described by Kane (1985). This approach dissects the key question or topic into

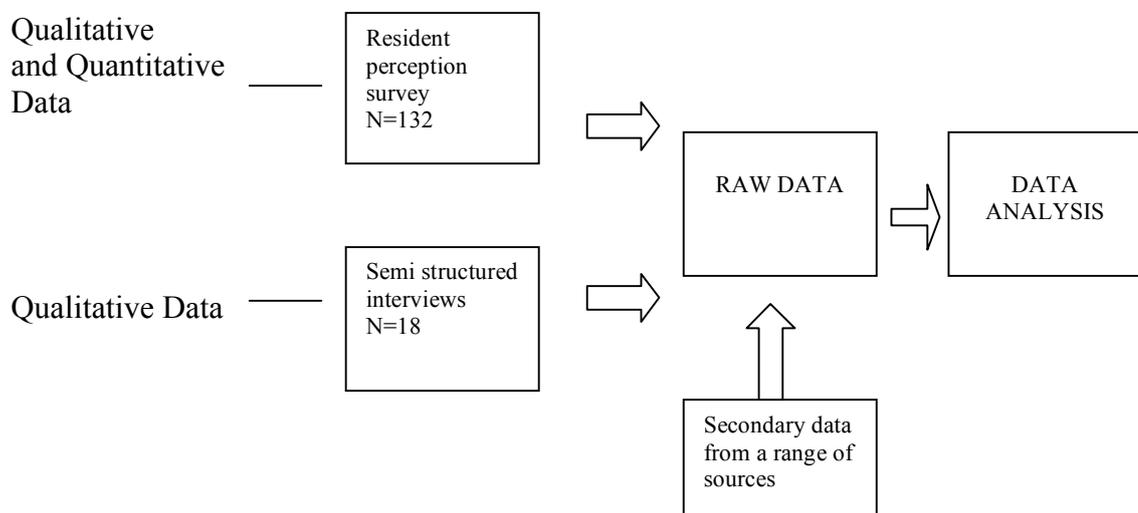
component parts or variables to create an outline of the research. A project outline was prepared based on the mind map and the structured approach of Kane. See Appendix 4 – Research Outline. Each variable was then expanded (sub points) to cover the range of issues and ideas that may be relevant to that part of the topic, a research technique was assigned to each area of enquiry and the possible sources of data and information were identified. The research design therefore provided direction for the areas of literature to be reviewed and an indication of the types of approaches that would be required to collect the data. See Appendix 5 - Research Design.

These approaches led to the selection of the following data collection methods.

- a review of literature relevant to the topic;
- interviews with key local stakeholder representatives;
- a survey of residents of Exmouth and Coral Bay; and
- an analysis of data and comparison of results with published material.

Figure 5.3 illustrates the sources of data collected.

Figure 5.3 - Sources of data collected



The typical and traditional approach to measuring the social impacts from tourism on local communities is through the use of resident perception surveys (RPS)

(Northcote and Macbeth, 2005). An RPS was determined to be a suitable method to generate quantitative data on the attitudes and perceptions (subjective) of local residents of the Ningaloo coast. A survey instrument was developed (and tested) to collect data directly related to the research questions. However the limitations evident in the use of resident perception surveys (discussed below in section 5.2.2) led to the selection of a number of objective measures to enable comparison with the subjective data collected through the resident perception survey. This data was collected largely from secondary sources.

Rather than relying on one research technique I used a combination of techniques in the data collection process. The importance of triangulation is widely accepted in social science research (Northcote and Macbeth, 2005, Kane, 1985, Blaikie, 2000, Ely, 1991). In particular perception surveys need to be supplemented by other forms of data gathering to improve objectivity and to view the results from a variety of perspectives (Babbie, 1998). The triangulation of quantitative and qualitative approaches helped to verify or validate the data collected through the resident survey. Further qualitative data was collected through interviews with selected residents who represented different segments or stakeholdings within the community.

5.2 DATA COLLECTION

5.2.1 Literature Review

A comprehensive literature review was undertaken of material relevant to the topic and identified through the application of the above-mentioned approaches. This included journals, books, reports, ABS data and reports and published theses using internet search tools and library databases. A search of grey literature, management plans, annual reports, published documents and files from the Department of Environment and Conservation (DEC) was also conducted.

5.2.2 Survey questionnaire

A survey questionnaire was developed to collect both quantitative and qualitative data (See Appendix 6) to determine resident perceptions of the effects of various aspects of park management on local communities. It should be made clear that the

data collected does not measure the actual effects of park management initiatives but merely the resident's perceptions of these effects, since it is their perceptions which shape the community's attitudes to park managers and park management. While the survey questionnaire is largely quantitative in design it collected both qualitative and quantitative data. Much of the subjective material derived from the survey has been translated into quantifiable measures through mathematical techniques.

Quantitative indicators are those variables that can be independently measured (Northcote and Macbeth, 2005) such as the gender mix of a community or the level of sport participation in schools. In contrast qualitative measures are evaluative and use measures such as levels of satisfaction and dissatisfaction, attitude, aspiration, consumer intentions.

Northcote and Macbeth (2005) in their detailed examination of resident perception surveys, note the limitations of using RPS as a method of measuring social impacts. They argue that the subjective nature of PRS and the presence (or absence) of a range of influences affecting resident responses can lead to exaggeration, misinterpretation or mis-identification of causes. Furthermore, they contend that supplementary techniques (usually objective measures), when combined with RPS, can assist in validating whether the causes underlying the perceived impacts are actual impacts in an objective sense. This allows for greater discrimination between objective and subjective affects. This raises the question of what is "real" or objective and what is subjective or "imaginary". Hall and Page (2006) distinguish between two types of impacts: those that are objectively verifiable and those that are subjectively felt. Unless verifiable objective indicators can be used to quantify and triangulate the actual social impacts of tourism (or protected area decisions on tourism communities), then their 'reality' will be what they perceive. This is no better highlighted than in the New South Wales Tourism Commissions Tourism Development Strategy 1990 (in Hall, 2003:269) which states that "if residents believe that they are experiencing negative social impacts, then this belief, rather than any objective reality, will be the basis for their hostility....."

While the focus of this research is on determining local residents' perceptions of the socio-economic impacts (both positive and negative) of park management on local

communities and it therefore does not necessarily provide any objective measure of these impacts, some quantitative indicators have been measured and these provide a comparison with the qualitative indicators. Babbie (1998) cites the importance of determining causal factors. While the causal factors of these real or imaginary impacts are not the key focus of this research, understanding the causal factors can provide some direction for addressing the issues arising from park, tourism and community interaction. As such, some conclusions about causal factors have been drawn.

The perceived social and economic impacts of park management on communities were clearly the focus of this survey. A list of both positive and negative social and economic issues was selected to test the local community's perception of protected area management on these values/issues following an initial review of relevant literature. A range of questions relating to certain environmental values was also included to test community perceptions of park management's impact on these values to allow comparison with the results of the social and economic responses. This was done to assist in validating the results of the social and economic questions. Standard demographic questions were also incorporated. The importance of a range of pre-selected social and economic values was tested in order to compare these results with the local community's perceptions of the impact that park management has on these values.

During the preparation of the survey instrument a separate research project was also being undertaken relating to the social and economic impacts of sanctuary zone expansion in Ningaloo Marine Park on the local community of Exmouth. The questionnaire for this research was used to avoid survey fatigue on the local community (See Appendix 6). Several questions relating to this topic were included in the survey instrument. These questions relate to a specific example of potential park management impact.

A range of questions on the effectiveness of communication and community consultation techniques in park planning were included to test community satisfaction with current community participation initiatives in the local park management processes.

Questions relating to the level of resources applied to park management and planning were included to test if perceptions relating to this are a factor that contributes to negative opinions of park management processes. Finally questions relating to the nature, style and behaviour of the protected area manager were included to develop an understanding of the types of social representations that exist in the community in relation to that organisation.

Most questions were posed so as to quantify the degree to which residents felt about a particular topic. A five point Likert scale was used. The Likert scale was selected because of its ability to determine the relative intensity of opinion on the different items and its ease of use. The size of the questionnaire (52 questions, many with up to twelve parts) meant that a quick and easy method of obtaining responses was desirable.

The RPS was sent to a random sample of adult residents of the Ningaloo coast from Coral Bay to Exmouth. The unit of analysis was the individual. The two settlements were surveyed as a single population.

The State Electoral Roll for the North West Coastal Electorate was used to identify the target population. The currency of the electoral roll was considered adequate given that a State election had been conducted only 8 months prior to this survey being distributed. Only those residents with a street address for Exmouth, Learmonth, Coral Bay and pastoral stations within the study area were selected. A total of 1347 residents (of voting age) were identified. An objective was set to achieve a precision of $\pm 5\%$ standard error. Based on an approximate total adult population size of 1347 a final sample size (returned and useable) of 290 surveys was required. On the basis of an initial target response rate of 40%, an original sample size of 725 was necessary ($290 \times 100/40$) (OAG, 1998). Seven hundred and twenty five residents were selected randomly from the 1347 identified residents, using a random number generator.

A draft survey instrument was prepared and a pilot survey conducted with 10 residents adjoining Shoalwater Marine Park to test the acceptability of the

instrument. The survey was substantially shortened, and simplified as a result of the pilot survey.

The actual survey took the form a self administered postal survey, with reply paid envelope enclosed. No follow up letters or reminder letters were sent. However both local newspapers carried articles about the research some 3-4 weeks following the initial mail out urging residents who had received a survey to complete and return the survey form. The 725 residents selected from the Shire of Exmouth and Coral Bay were posted surveys on 16 September 2005. The last completed survey was returned on 22 December 2005.

A total of 132 (n=132) surveys were returned, representing a response rate of 18%. Australia Post advised on 29 September that around 65 surveys were returned to the Perth Mail Centre as “address unknown”. These surveys were never recovered. This number was deducted from the sample size in accordance with general practice (Babbie, 1973). This provided a final response rate of 20%. This equates to a sampling error (standard error of a proportion) of $\pm 9\%$. While a high response rate helps to lower sampling errors there is no absolute response rate that is considered the standard. The most important consideration, overall, is for the sample to be representative of the whole population (OAG, 1998).

Only 6 responses were received from Coral Bay (4% of surveys or 25% of Coral Bay residents in the sample), the remainder being from the Shire of Exmouth. An additional 8 surveys were received that were not part of the random sample. These surveys were photocopies of the survey distributed by individuals independent of the research and have not been included in the main survey analysis.

Some qualification of the results is required, even though a 20% response rate is considered valid and the results indicate that a representative sample has been achieved (see section 6.1.1). Some caution is required in interpreting these results as this study was undertaken immediately following a significant increase in the size of the sanctuary zones in Ningaloo Marine Park. This attracted strong community resistance at the time, particularly from the recreational fishing sector (Blum, 2004, King, 2004, Roberts, 2004) and given this background, the survey may have attracted more critical responses than might generally have been the case.

In addition to the collection of survey data, a number of quantitative indicators were selected to provide some objective assessment of the social and economic changes that are occurring within Ningaloo communities. The widest range of available data was sourced to provide the broadest possible perspective of the social and economic condition of this area. Overall 13 different social, economic and environmental indicators were selected. Three environmental (conservation) indicators were included because of the positive (hidden) links between social and economic aspects and investment in environmental planning, research and management. They also serve as indicators to inform the predictive capability of Butler's Tourism Area Life Cycle (TALC) model.

Gathering the data proved a difficult task given the diversity of secondary data employed. The indicators and the measures used to obtain them are outlined in Table 5.1.

Table 5.1 - Additional quantitative social, economic and environmental indicators

INDICATORS	TIMEFRAME	MEASURES
Social		
Work Opportunities	• 1994/95 - 2005/06	• Unemployment rates
Recreational use	• 2000-2006	• Park passes sold to locals
Community support for parks	• 2003/04 - 2005/06	• Volunteer levels
Indigenous relations		• Presence of joint management
Economic		
Property values	• 1996-2006 • 1996-2006 • 1996-2006	• Residential property sales • Value of sales, • % change in property values
Tourism business growth		• Business starts • Business closures (shire business licences)
Visitor saturation levels	• 1996-2006 • 1997/98- 2004/05 • 1999-2005 • 1999-2005	• Park visitation • Commercial Airport passengers, Learmonth • Domestic Visitor Nights Exmouth • International Visitor Nights, Exmouth
Tourism development	• 2003/04 - 2006/07 • 2000- 2006	• Capital works expenditure in park • Value of new developments on Ningaloo coast
Regional economic development	• 1999/00 - 2003/04	• Tourism contribution to GRP
Environmental		
Park Management	• 2001/02 - 2005/06	• \$ expended, (DEC District recurrent Budget)
DEC Staff	• 1999/00 - 2005/06	• Staff levels

5.2.3 Interviews

Qualitative research was conducted in order to develop a deeper or broader perspective on some of the issues relating to the park/community relationship and to allow for a comparison with qualitative and quantitative data collected in the resident survey. A range of stakeholders with intimate knowledge of or involvement in the management of the local protected areas were selected for semi-structured

interviews. Interviewees included local residents, pastoralists, local tourism operators and other business proprietors, local park managers, local government officers and non-government agency representatives (conservation groups). The interviews were used to determine attitudes and perceptions in relation to protected area management and related planning decisions and their effect on local communities.

Individual in-depth (semi structured) interviews were conducted with at least one member of each of the locally based stakeholder groups and at least two of the tourism and non-tourism businesses within Exmouth Shire and the town of Coral Bay. The interviewees were selected on the basis of their perceived capability to represent the views of that organisation or group. For some groups this was a self-selection exercise. The CEO, chair or president of the organisation was contacted and asked to nominate a person who could best represent the views of the group. Businesses were selected on the basis of their representativeness as a local business.

The following stakeholder groups were identified:

- Tourism operators operating predominantly in Ningaloo Marine Park and Cape Range National Park
- Tourism operators operating predominantly outside Ningaloo Marine Park and Cape Range National Park
- General businesses not directly tourism related
- Local Conservation Group
- Local Indigenous Community
- Pastoralists
- Exmouth Recreation Fishing Advisory Committee
- Coral Coast Advisory Committee
- Exmouth Chamber of Commerce
- Shire of Exmouth
- Harold E Holt Naval Base
- Local Park Management
- Coral Bay Progress Association.

The interview questions (six in all) were designed to elicit the views of stakeholders on the relationship between park managers and the community and the impacts of

park management on the social and economic climate of the local communities. The six survey questions were designed to supplement and test the veracity of the questionnaire. The questions were not tested prior to the first interviews. The interview questions are attached as Appendix 7.

Interviews were conducted in a mutually agreeable location. All interviews were taped and the interviewer took additional notes. All interviewees were asked the same questions. Supplementary questions were asked to elicit meaning and greater detail for a particular question or if the interviewer felt that a particular point or issue raised by the interviewee was relevant and warranted further exploration. Interviews lasted between 45 minutes and one and a half hours. Interviews were conducted in Perth and Exmouth between 26 August 2005 and 13 February 2006.

5.3 DATA PROCESSING

5.3.1 Surveys

Each variable of the survey questionnaire was allocated a code. The codes were then entered along the Y-axis of an Excel spreadsheet. Each respondent's data was entered onto a separate line of the spreadsheet. When all the surveys had been received the data was imported into SPSS Software (Version 11.0). The data was subjected to a number of analyses, specifically the frequencies of each variable and cross-tabulation for a number of selected variables. The frequency of each variable was subjected to a number of tests including the mean, standard error of mean, standard deviation, skewness and kurtosis. Frequency distribution tables were generated from the data and frequency distribution graphs created. A series of correlations between different variables was conducted on the data.

Much of the data generated from the research is presented in the form of graphs in Chapter 6. The graphs are characteristically tripartite summaries of the data whereby the two positive responses at one end of the five point Likert scale have been combined and the two negative responses at the other also combined. The response in between has been treated as neutral.

5.3.2 Interviews

Interviews were transcribed from tape into Word documents and analysed using standard coding principles Blaikie (2000), Foss and Waters, (2003). This involved reading a passage of text and paraphrasing and allocating a label or heading that described what is apparent. A new label was created for every new observation or insight. Care was taken to use labels relevant to the data and not to import information based on knowledge, theories and ideas already known. The coded data was sorted into piles according to topic (the same and closely related labels) and given a theme or phrase that captures the nature of the issue or finding. Any relationships and connections were then identified between different themes. A conceptual schema was created to better understand the patterns of information and the processes that may be happening. A full description of each of the key themes and issues was prepared. This information was compared and later integrated with the secondary data and the quantitative data from the survey into the results chapter.

CHAPTER 6 CASE STUDY RESULTS – THE NINGALOO COAST COMMUNITY

The purpose of this chapter is to describe the results obtained from the data collected during this research. Three sources of data were collected in order to compare and contrast (triangulate) the different types of information to gain a broader view of the issues relating to the park/community relationships. Quantitative and qualitative data were collected from a ‘resident perception’ survey of Exmouth and Coral Bay residents. Qualitative data was collected by conducting face-to-face interviews with individuals from seven broad stakeholder categories; namely pastoralists, tour operators, local community group members, conservation group members, local government, conservation employees and the business sector. Additional quantitative data was collected from secondary sources to provide a broader context in which to assess the survey and stakeholder data.

The research results are arranged under three broad headings.

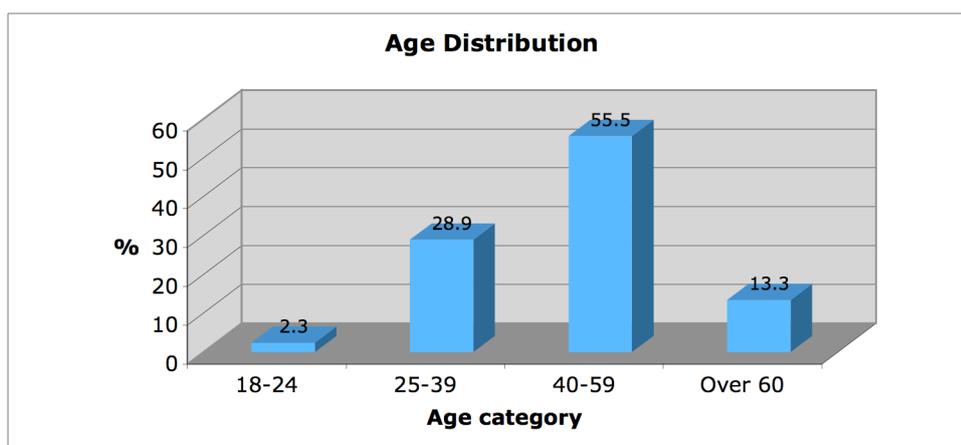
- **the community** - a community profile of the demographics, interests and values of the Ningaloo coast community including an analysis and description of community views on issues such as change management, tourism, community involvement and sustainability;
- **broad aspects of park management** including community perceptions and views on the direct and indirect environmental, social and economic impacts of management on the local Ningaloo coast community; and
- issues of **park management effectiveness** including community perceptions and views on issues such as planning, community involvement, communication, community education and the culture of park management.

6.1 COMMUNITY ATTITUDINAL PROFILE

6.1.1 Demographics

Fifty four percent of 132 survey respondents were male and 46% female. This gender ratio is consistent with the 2001 ABS census figures for Exmouth. The male to female ratio for Exmouth Shire in 2001 was 53:47 (ABS, 2003b). By comparison, the Western Australian population ratio in 2001 was 49.8:50.2 (ABS, 2003d). Over half of the survey respondents (55.5%) were in the 40-59 years age category. (Figure 6.1)

Figure 6.1 - Age distribution of survey respondents



While, overall, the age profile of the survey is not inconsistent with the 2001 ABS Census profile there are some notable differences. Two differences can be observed between the survey data and the ABS census data (see Table 6.1). The 2.3% response in the 18-20 years age category is well below the 2001 ABS figure of 12%. The survey is under-represented in the 18-24 age category and over-represented in the 40-59 years age category. Hollett (2001), in her 2001 survey of Exmouth residents, also found a much lower response rate in the youngest age category (18-24 yrs). This could be explained by possible demographic changes occurring in this community between 2001 and 2004. In the 18-24 years age group, the lack of interest in the subject material by younger residents may be a factor and, in the 40-59 years age category, the higher response may be related to the particular vested interests of the members of this age category. As discussed later in this chapter, this is not

unexpected given the volatile and the highly emotional environment in which the survey was conducted, and the perception that those in the 40-59 years age category have the most to lose in relation to changes to recreational fishing access in Ningaloo Marine Park.

Table 6.1 - Age distribution - comparison of survey data with ABS data and Hollet survey

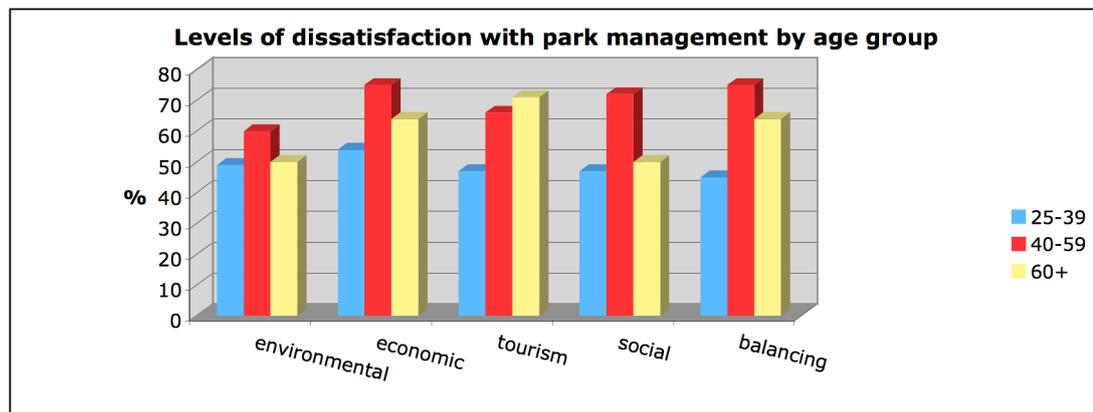
	18-24 yrs	25-39 yrs	40-59 yrs	>60 yrs
ABS 2001Nos.	211	595	646	249
ABS 2001 (% of usual residents)	12	35	38	15
Survey 2005 %	2.3	28.9	55.5	13.3
Hollet 2001 %	18-24 yrs	25-44 yrs	45-64 yrs	>65 yrs
	6.9	51.1	28.5	3.5

The analysis of the age demographic was conducted to determine if there were any significant relationships between variables. The analysis has tended to focus on the 40-59 age category because this is the largest age category (n=72) making up 54% of the local population) and the strong views that this demographic appear to hold. Males make up 64% of this demographic, which equates to 33% of the entire population. This ratio (almost 2:1) is well above the State average for this demographic, which has a ratio of 1:1 (i.e., 50% male) (ABS, 2003d).

This age group has the highest percentage of residents in the greater than 10 and less than 20 years of residence category (n=24) and the greater than 20 years of residence category (n=13), making up 28% of the overall population. Over half of the people in this age category have lived on the Ningaloo coast for over ten years. Only the over 60 years age category has a higher percentage (76%), for this duration of residence, although their numbers are much lower (n=17). The greatest proportion of new residents (less than 3 years) is in the 25-39 years age category (n=14) or about 10% of the population.

The 40-59 years age category has the highest level of dissatisfaction with the park managements' approach to social, economic, environmental issues. (See Figure 6.2)

Figure 6.2 - Levels of dissatisfaction with park management by age group



The size of this group, particularly the dominance of males and the status many of these people would hold in the community has the potential to influence attitudes broadly throughout the community. A significant number (62%) (n=10) of tour operators are in this age category.

The main interest of the 40-59 years age category is recreation and tourism (53%) followed by park management (21%) and conservation and biodiversity (17%). The two older age categories show the highest level of interest in park management.

Sixty percent of respondents in the 40-59 age category said that fishing is either important or very important, compared to 86% in the 25-39 category and 82% in the 60 years and over age category. The activities of most importance to this group (40-59 years) are snorkelling (80%), swimming (78%), camping (75%), picnicking (75%), boating (65%) and fishing (60%).

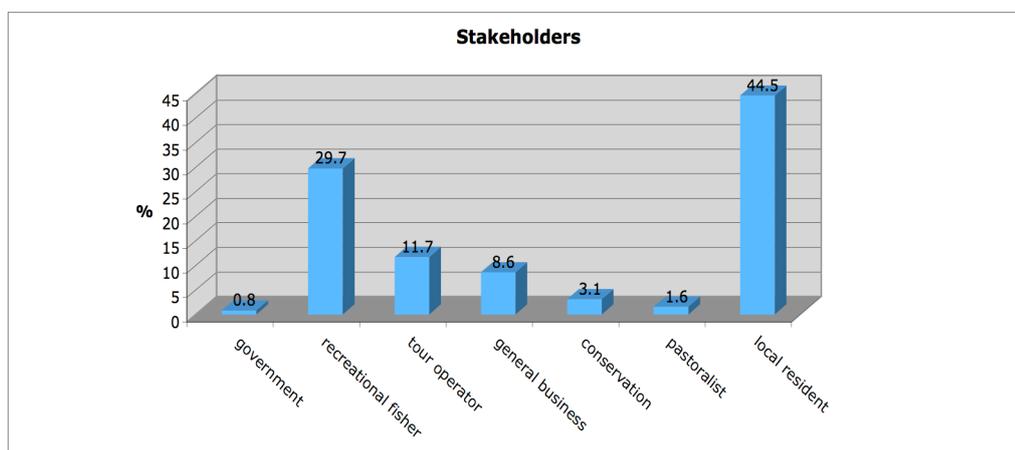
While men dominate recreational fishing on a ratio of 2:1 in its importance as an activity, female respondents are more attracted to other activities (eg, walking, sightseeing, swimming, wildlife viewing). Females have a greater interest in conservation and biodiversity than males by a factor of almost 2:1, but males have a greater interest in park management practices again by a ratio of almost 2:1.

Factors such as length of residence and levels of education appear not to be important factors in determining the views of locals towards park management. Age and family status are more likely to be key factors in determining the levels of satisfaction or dissatisfaction with park management.

6.1.2 Community interests

Residents were asked to describe what particular stakeholder group (see Figure 6.3) they would identify with in terms of their interest in the management of the marine park and national park. Almost half (44.5%) of the respondents identified in the category ‘local residents’, which, given the choices available in the survey, tends to indicate an alignment with no particular interest group. Besides those identifying as local residents recreational fishers were the largest stakeholder group (30%), followed by tour operators (12%).

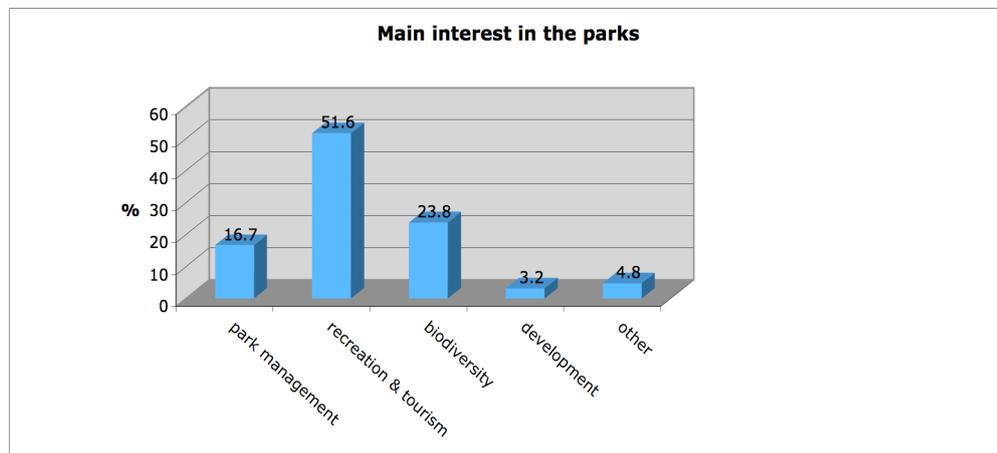
Figure 6.3 - Identification of respondents with particular stakeholder groups



Further to the previous question, residents were asked to identify their main interest in Cape Range National Park and Ningaloo Marine Park (See Figure 6.4). Over half (52%) indicated recreation and tourism as their main interest. Only 24% indicated an interest in the conservation and biodiversity of the parks and 16% had an interest in park management. Only 3% cited development within the parks as their main interest.

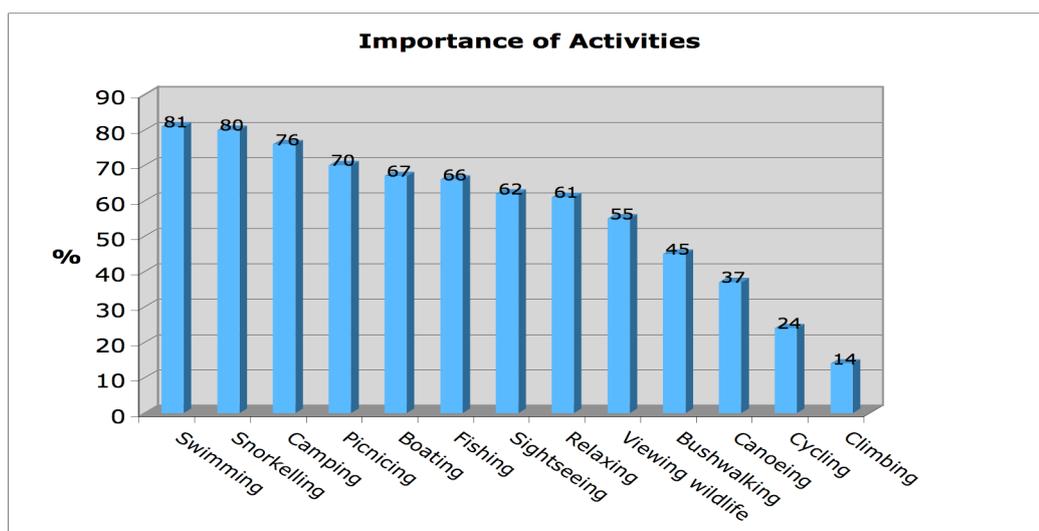
Figures 6.3 and 6.4 indicate a community with a strong interest in recreation.

Figure 6.4 - Main interests of respondents in the Cape Range National Park and Ningaloo Marine Park



Residents were asked to rank the importance to them of a range of recreational activities available in the national park and marine park (See Figure 6.5). The most important recreational activities to local residents were swimming (81% of respondents) and snorkelling (80%) followed closely by camping (76%) and picnicking (70%). It is likely that two or more of these activities are often done in conjunction with others, such as fishing (66%) and boating (67%), which also rated highly.

Figure 6.5 - Local community rating of the importance of activities

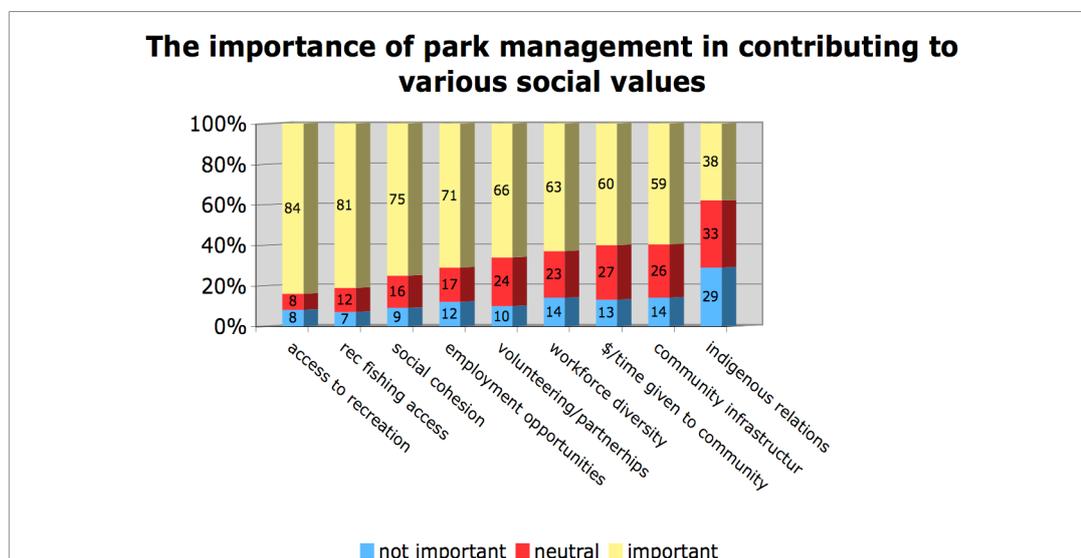


6.1.3 Values of importance to the local community

6.1.3.1 Recreation, access to fishing and social cohesion

Residents were asked to rate the importance of park management in contributing to a range of social values apparent within the local community (see Figure 6.6). All social values rated as important to the local community (range 38%-84%) with the exception of indigenous relations. The most important social values are access to recreational opportunities, access to recreational fishing opportunities, social cohesion and employment opportunities. Even though social cohesion rates highly with residents they rated indigenous relations of lowest importance. Only 29% of respondents believe that indigenous relations is an important value to which park management should contribute. Overall the local community perceives it is important that park management contribute to social values within the community, mainly and predictably to those social values of most importance to them. Local residents believe that park management's contribution to social values is important (see Figure 6.6) yet the results presented in Figure 6.30 (p178) indicate a high level of dissatisfaction with park management in relation to social values. There is therefore a significant gap between the perceived performance of the park agency and the community's expectations of it. Although not fully tested by this research, some or all of this may be attributable to an information gap between the park managers and the community, including poor dissemination of information, and low levels of understanding of the park agency's role and management initiatives. It is also possible that residents believe park management is focused on the wrong social values, although this question was not examined specifically in this survey.

Figure 6.6 - The importance of park management in contributing to various social values



6.1.3.2 Changing community values about protected areas and the contribution of the parks to the local community

Ningaloo coast residents place a very high value on the contribution that the two parks make to the social and economic well-being of Exmouth or Coral Bay. Over eighty percent of respondents perceive that the two parks made significant or very significant contributions to the economy and lifestyle respectively of the community (See section 6.2.4 (p184) for further detail).

However, this has not always been the case. The community's understanding and perception of the value of the Cape Range has changed over time. Initially this area was perceived as a piece of vacant 'useless land' (in terms of primary production), (see text box below) then as an area of high biodiversity and only now as an asset of high economic and social value. The formation of local values associated with the park can be traced back to the initial gazettal of the Cape Range National Park. This is consistent with the wasteland concepts of protected areas in the early to mid 20th century as described by Hall and Butler in Section 2.5.3.

“All this land that was just sitting there and it just occurred to the Commissioner that hey, all this vacant crown land and no one wants it anyway, and it's got beautiful canyons so why don't we make it into a national park”. Long-term resident involved with the creation of Cape Range National Park in 1967

One long-term local resident involved in the creation of Cape Range National Park indicated that as the park was extended and the values of the park became better known and understood, local appreciation for the natural values of the park increased.

“It changed (local attitudes) after the 1990s. I think (that) the extension to the Cape Range (National Park) was bought about with some conservation things in mind” Resident involved with the establishment of Cape Range National Park.

The presence of the park, the establishment of a CALM office, the preparation of the first management plans for the two parks and the subsequent program and activities that CALM undertook influenced the thinking and attitudes of the local community toward the natural values of the park.

Today Exmouth has almost a singular reliance on tourism (see Figure 6.29 (p176)). Several stakeholders believe that Exmouth and Coral Bay only exist today because of the parks. Significant change has occurred on the Ningaloo coast in the past 15-20 years from its beginnings as a service centre for a naval base to a major tourism destination.

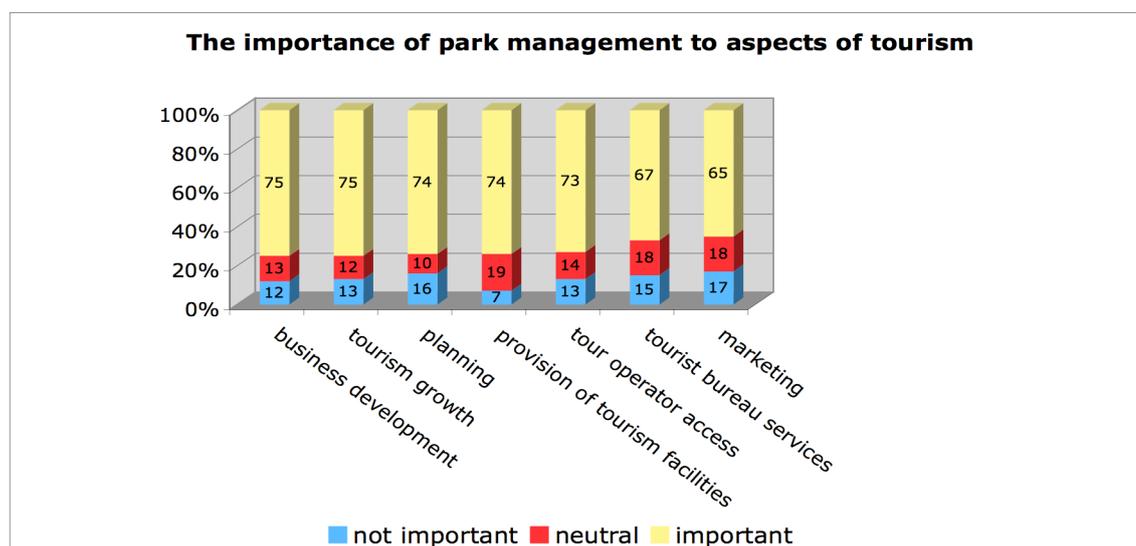
“These days they have (the parks) an enormous amount of benefit, because tourism is the major industry in the town”. Shire representative

6.1.4 As a tourism centre

6.1.4.1 Tourism, planning, development and growth

Residents were asked to rate the importance of park management in contributing to a range of tourism values apparent within the local community (see Figure 6.7). All tourism values rated as important (range 65%-75%) with tourism development, tourism growth, tourism planning and the provision of tourism facilities being the most important. Overall the local community perceives that it is important that park management contributes to the key areas of local tourism management and development.

Figure 6.7 - The importance of park management to aspects of tourism



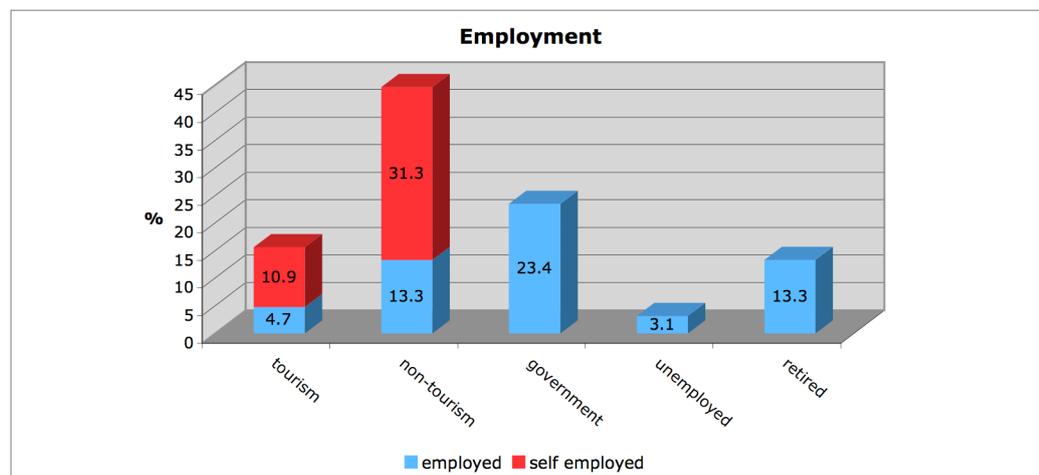
6.1.4.2 Identification with tourism

Although Exmouth is a tourism-based economy the majority of residents do not identify with the tourism industry or appreciate their reliance on it. Fifteen percent of respondents are employed in the tourism sector. This is consistent with Hollett's results (17%) (2001). The largest group of respondents (44.6%) identified themselves as employed in the non-tourism sector (although many of their businesses would indirectly be dependent on the tourism industry) with almost a third self-employed. Government employees make up almost a quarter of the respondents (see Figure 6.8).

While local residents probably understand and appreciate that their economy and lifestyle is largely supported by tourism it is notable they do not identify as being a part of the industry.

“Cyclone Vance, the Ansett crisis and September 11 and the severe impact that they had on the local economy really surprised people. Yet despite that a lot of people still don't consider themselves working in tourism” Tour Operator, Exmouth

Figure 6.8 - Employment status of respondents

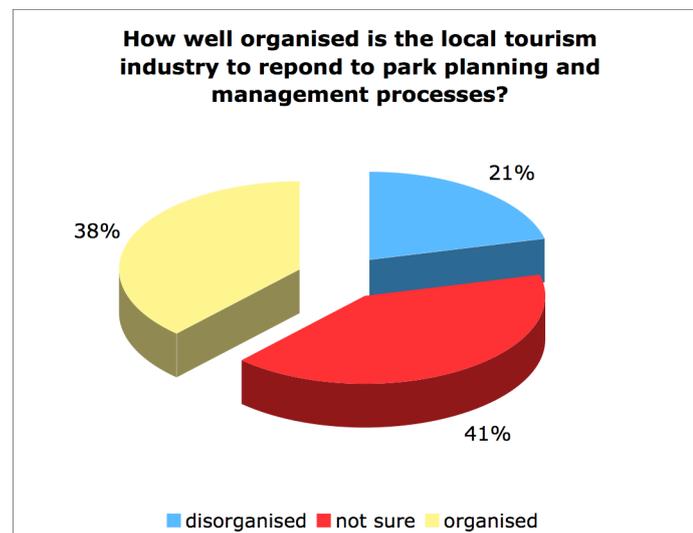


Some respondents commented on the attitudes of local people to tourism, the lack of tourism expertise and understanding of the tourism industry and the lack of leadership and cooperation within the industry.

“The organisation of tourism in Exmouth is very fragmented...the community still doesn’t understand it (tourism)... the people running the Shire... they say they understand the value of tourism, but they don’t really.....”. Tour operator

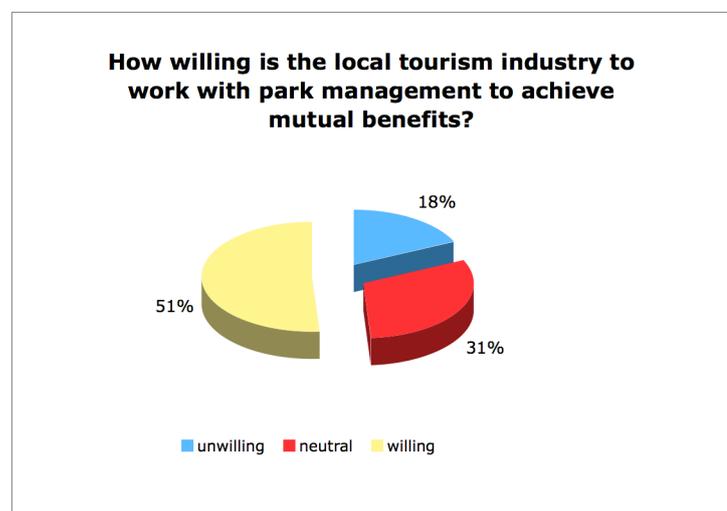
The quantitative data supports these views. Despite the fact that over half the respondents (51%) believe that the tourism industry is willing to work with park management to achieve mutual benefits, only 38% of respondents believe that the tourism industry is organised enough to respond effectively to park management planning processes. See Figures 6.9 and 6.10. Over 40% of respondents provided a neutral response indicating either a lack of knowledge or uncertainty on the issue. The results were similar to those relating to the level of organisation of the community as a whole (refer to Figure 6.15 on p160). However, respondents do believe that the tourism industry is marginally more organised than the community as a whole to respond effectively to park management planning processes. This has implications for park management. A poorly organised community and tourism industry will increase the difficulty in achieving effective communication with park management and planning outcomes to foster sustainable tourism development.

Figure 6.9 - Level of organisation of the local tourism industry



The community perceives that the tourism industry is willing to work with the park agency to achieve mutual benefits (see Figure 6.10). This is a positive position for the park agency to be in and provides a solid foundation on which to build its relationship with the local tourism industry. While thirty one percent were uncertain that the industry would work with the park agency, only 18% perceived the industry to be unwilling to do so.

Figure 6.10 - Willingness of local tourism industry to work with park management



The community does not embrace all aspects of tourism. They perceive some negative aspects to tourism development. An indirect economic impact of park

tourism is that of the subsidy that local ratepayers provide to service town infrastructure for visitors (the ‘free rider’ problem). Parks attract large numbers of tourists who require infrastructure in dormitory communities outside of the park boundaries. Park agencies are not required to pay rates and so the ratepayer largely meets these costs. While most major tourism destinations face this issue, the corollary of this is that tourism generates economic benefits and supports many businesses that generate wealth and create rates revenue that would not otherwise occur. The latter view is not universally held as illustrated by a comment from a local business operator, which highlights the lack of appreciation for tourism and its economic benefits.

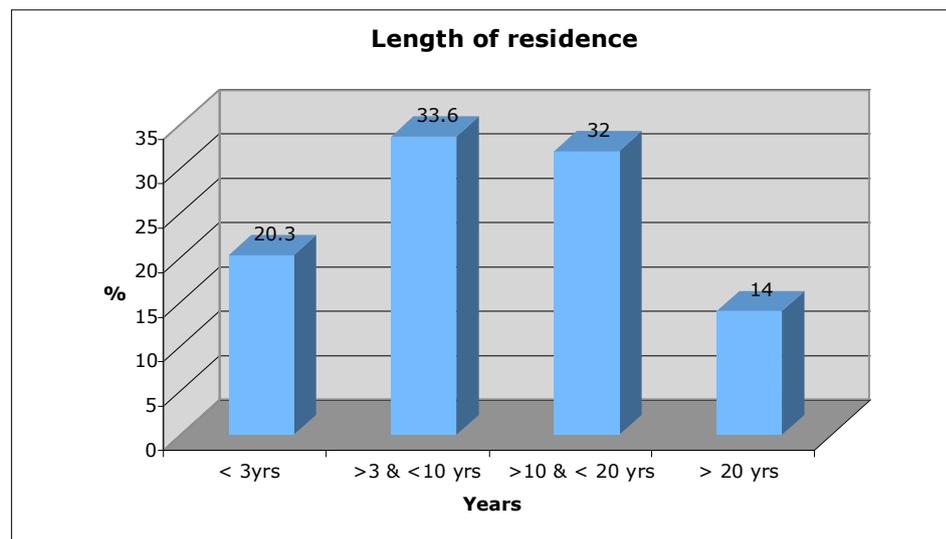
“You have some locals that say that they are sick and tired of these tourists. All they do is take up space”. Exmouth business proprietor

It is inevitable that some people will only see the negative aspects of tourism while ignoring or being unaware of the many positive benefits.

6.1.5 Living with change

One of the challenges for park management and the community is dealing with change. Around a third of residents (33.6%) have resided in the area for between 3 and 10 years (see Figure 6.11). Over 20% have spent less than three years in the survey area. This is consistent with 2001 ABS figures that indicate a high population turnover. Only a small number (14%) are long-term residents. Hollett’s (2001) survey found a similar pattern with the greatest number of residents (47%) in the 3-10 year residency category.

Figure 6.11 - Length of residence of respondents



This dynamic pattern is likely to continue as largely city based retirees purchase property in the new marina for lifestyle reasons. This is consistent with Holmes's (2006) view on rural transition and the process of landscape and amenity consumption. While tourism is the basis for this activity (building holiday houses) the nature of tourism consumption is changing from one dominated by short-term stays to one that will soon include semi-permanent residents.

"It's not for economic reasons. It's all recreational lifestyle, it's fishing, swimming, diving, snorkelling, surfing, it's all marine park based lifestyle. It's not shopping and it's not for economic growth and it's not investment, it's lifestyle".
Local real estate agent commenting on why people are buying into the Exmouth marina.

Exmouth has experienced and managed significant change before, particularly with the departure of the US Navy. However the current challenge for the Exmouth community is adapting to a major influx of semi-permanent residents taking up residence in the new marina.

“So potentially a second township will be built down on the marina and it should take probably 7-10 years for it to be at it’s maximum capacity. By around 2010 you’ll see a significant growth in the population in Exmouth. There’ll be a real us and them attitude (created) in the township because most of that will be wealthy people who can afford to be south & north, here for the winter, lock it up for the summer” Local businessman commenting on the marina development.

Change often brings resistance from those who wish to retain the status quo or protect the values that first attracted them to the area. A conflict could thus be looming between those who desire development and those who want to protect their lifestyle or the environment.

“It (the new marina) will bring a lot of economy to the town, but it will also bring a lot more impact on the parks because they will all be coming here for that purpose”. Local business proprietor discussing the creation of the Exmouth marina.

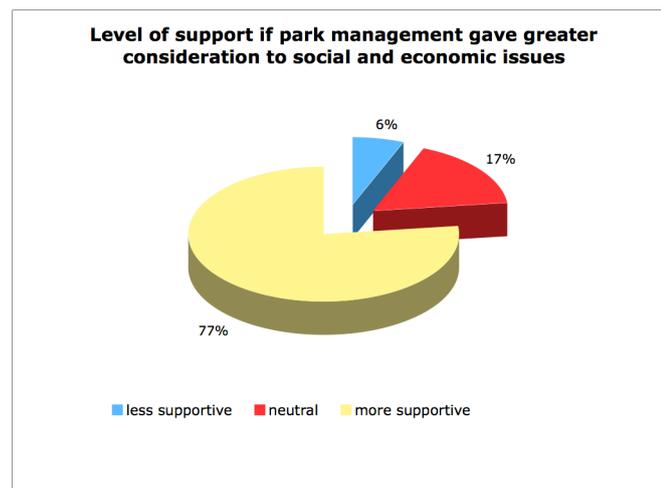
The changing demographics and the changes to the way the park is being managed (greater controls) have changed the make up of the tourism sector. The change from fishing tourism to nature-based tourism over the past decade is evident to many locals.

“When I first went up there in 1995 there would have been about 5 or 6 fishing charters a week and now you would probably be lucky to get 1 fishing charter a week going out”. Local businessman

Another aspect of change involves the willingness of residents to change their attitudes to park management given certain conditions. Residents were asked to rate the extent to which their support for the management of Ningaloo and Cape Range would change if park managers gave greater consideration to social and economic issues (see Figure 6.12). Seventy seven percent of respondents said that they would be more supportive. This support appears to be without the expectation of receiving any beneficial personal or community outcomes. This presumably represents a view

that any consideration of social and economic issues by park management would lead to improved outcomes for the community and, with it, improved park/community relations.

Figure 6.12 - Level of support for park management given greater consideration of social and economic issues.



The Ningaloo coast is experiencing a rapid change associated with economic growth, an aging society and a rural landscape in transition. The economic opportunities associated with this are evident yet there will be those already living in the area that want to protect their lifestyle from this change.

“I think there are a lot of people who don’t want it to be any different than it was 30 years ago. Then there’s a group of tourism business/developer people like myself that are wanting it to change” Tour operator discussing the new marina

6.1.6 Sustainability: Recognising connections between environmental, social and economic benefits

Interviewees were asked to provide their views on whether they felt that the community fully understands the connection between their lifestyle and economic futures and the condition of the natural environment. A number of issues emerged from the interviews with stakeholders. These included:

- a recognition of the need for long term management of the Ningaloo coast,
- opposing perceptions of the extent to which local community members understand the connection between protection of the two parks and the social and economic future of the local community, and
- a widely held perception that the park agency is not effective in considering social and economic issues in the context of environmental management.

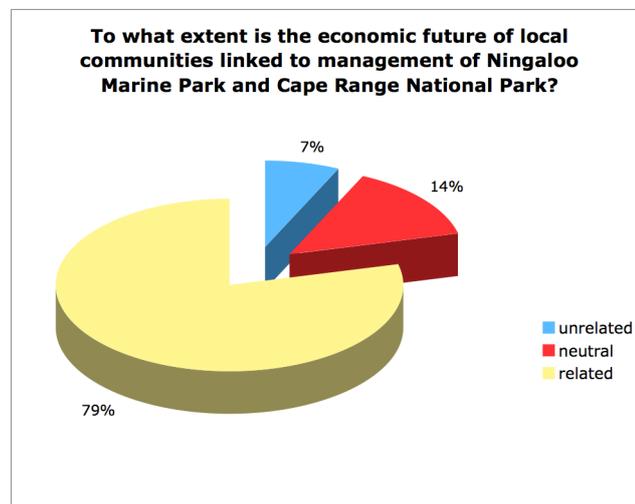
Most of the stakeholders commented on the need for long term management of the two parks and therefore made a connection between management, protection and the maintenance of social and economic values into the future.

“Clearly the key to Exmouth’s future is tourism. With tourism the main attraction is Ningaloo and the area surrounding Ningaloo, whether its diving, fishing, beach walking that the sort of tourism we are chasing. So it’s in our interests as business people to protect it for as long as we can...”. Business proprietor, Exmouth

While both survey groups were presented with almost identical questions about the contribution that the two parks make to the local economy and individual lifestyles (see Figure 6.35 on p185). The two data sets revealed a divergence of views on whether local residents understand the connections between the protection of the parks’ natural values, the local economy and their lifestyle. At least a quarter of stakeholders interviewed perceive that in general, the community has a poor understanding of these connections, though the quantitative data suggests that the community understands the connection quite clearly.

In addition residents were asked to rate the extent to which the economic future of the Ningaloo coast communities is linked to the management and planning for Ningaloo Marine Park and Cape Range National Park (see Figure 6.13). Seventy nine percent of respondents believe that these issues are related, while only 7% of respondents believed the issues were unrelated. It appears that the local community has a good appreciation of the social and economic importance of the two parks to its own future.

Figure 6.13 - Extent to which economic future of the local community is linked to the management of Cape Range National Park and Ningaloo Marine Park



This apparent contradiction may be because stakeholders (a minority view emanating from community leaders) perceive that the community's position on this question is yet to result in actual positive behaviour and attitudes toward the management and protection of Ningaloo coast's natural environment.

This view of a 'lagging' wider community is most strongly held in the business and conservation communities. Stakeholders perceive that business people and those most directly involved in tourism can make the link between good conservation management of the parks and their own lifestyles and prosperity while others less directly involved either do not understand the connection or fail to behave in a way that suggests they do.

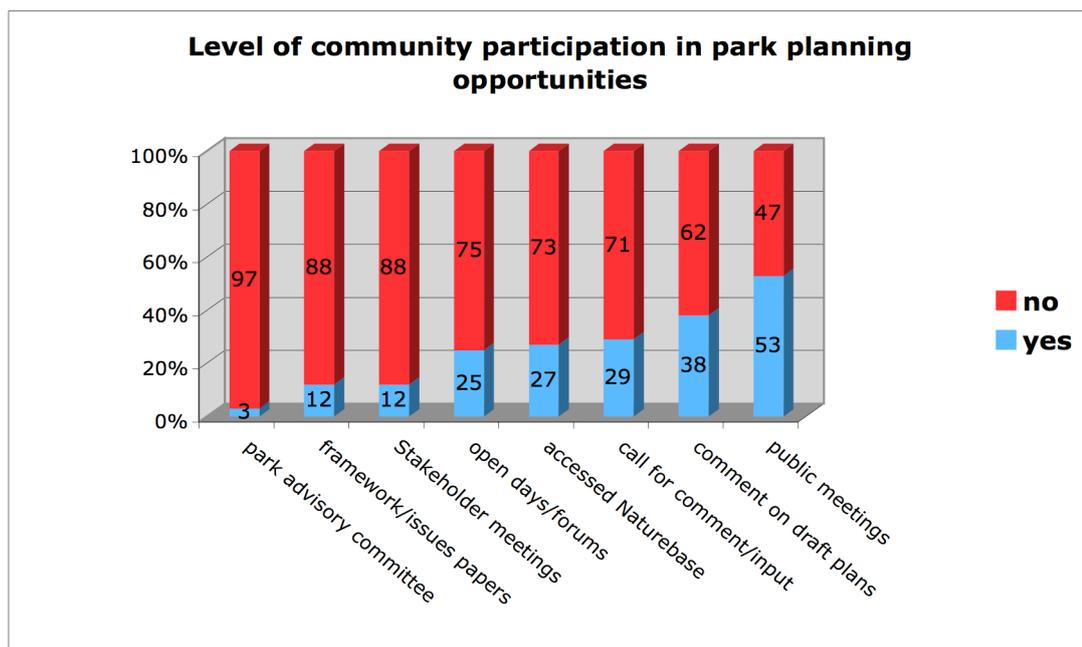
"They (locals) don't see the whole picture, they don't try to see the big picture. I think that if you said to people that Cape Range (National Park) and Ningaloo Marine Park are very important to the economy to this town I think they would laugh". Conservation minded local resident

Clearly there are varying levels of interest and awareness of the areas' stakes in tourism and the importance of protecting its tourism assets.

6.1.7 Community participation in park management

The qualitative and quantitative data reveal a community not sufficiently organised to respond to park management initiatives and participating at low levels in the public consultation opportunities made available by park management. The qualitative data derived from stakeholders suggests a reactive rather than proactive community, initially apathetic, and lacking in leadership and coordination in response to the park planning processes. Only when proposals have emerged which caused vocal minority elements in the community to feel threatened has the community become more involved.

Figure 6.14 - Levels of community participation in park planning opportunities



The survey data presented in Figure 6.14 depicts a classic and general pattern of human behaviour. Communities have an expectation that they will be kept fully informed about proposals that may effect their lifestyles and livelihoods, yet the level of their involvement is often low (many people cannot be bothered, while others cannot see the possible implications) at the important early stages when the context, background and intent of the proposal are explained, e.g. in issues papers or in initial calls for comment. Later, as individuals, groups and the community begin to realise the implications of a proposal, they become more involved.

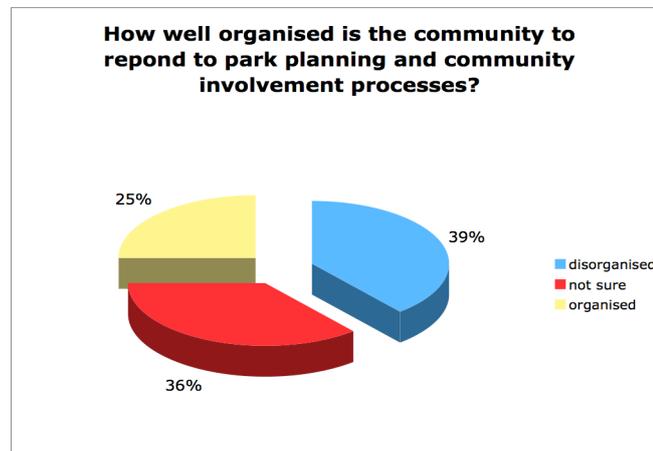
“We actually tried to do the educational and community involvement (work) before we put out the first draft of the management plan and we couldn’t get anyone to come along. We only got involvement from the community when we put out the first framework paper for the marine park which introduced the sanctuary zones and that’s when the community got up in arms”. DEC employee

The survey respondents identified this behaviour patterns in the Ningaloo coast communities (see Figure 6.15). More than a third of the community acknowledged that the community is not well organised to respond to park planning and community involvement processes. Another third are uncertain about the issue while only a quarter believe that the community is well organised in this regard.

Residents were asked to rate how well organised the community is to respond effectively to park planning and community involvement processes (see Figure 6.15). Communities are not unanimous in their views of tourism and park management and these views vary with the varying stakes and interests. There is a range of communities in the area. Exmouth is not one community but an amalgam of overlapping communities with individuals generally holding membership of one or more of these communities. The largest proportion of respondents believed the wider community to be disorganised. Thirty six percent of respondents indicated that they were unsure. Only 25% believe the community is organised. While the overall impression of the community is one of disorganisation, the heterogeneous nature of all locally based communities means that some groups within a community will be more organised than others to respond to the things occurring around them. These results therefore should not be interpreted as meaning that all groups are disorganised in respect to park management processes or as necessarily distinguishing Exmouth/Coral Bay from local communities elsewhere.

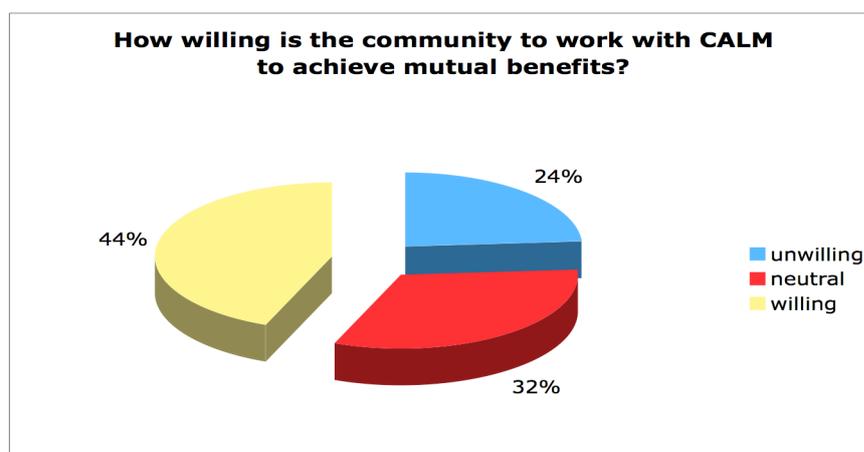
In these circumstances local government could play a greater role in coordinating and responding to planning processes. It could also be that, if park agencies want genuine and meaningful input to planning processes, they may need to assist the community to build their capacity perhaps by actively instigating more inclusive and representative community participation than hitherto.

Figure 6.15 - Level of organisation of community to respond to park planning and community involvement processes



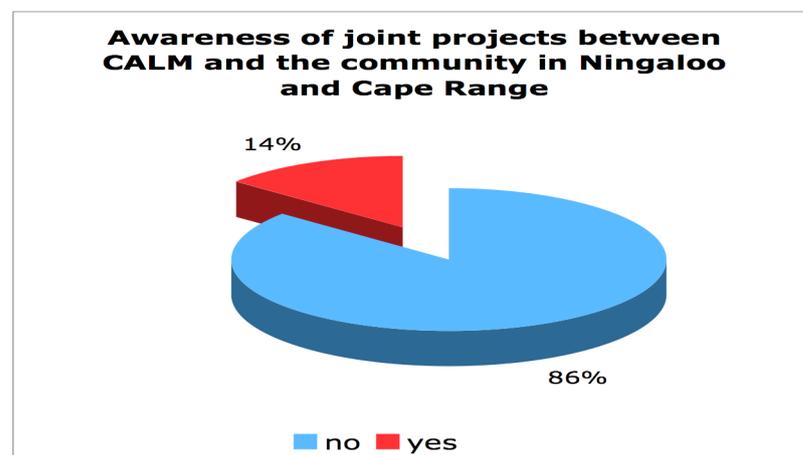
Residents were asked to rate how willing the community is to work with the park managers to achieve mutual benefits (see Figure 6.16). Almost half the respondents believe that the community is willing to work with the park management to achieve mutual benefits. Almost a third are neutral indicating either apathy, a lack of knowledge or uncertainty on the issue. If these perceptions are correct the park agency faces a challenge in building an effective working relationship with more than half of the community that may be unwilling or uncertain about working with it to achieve mutually beneficial outcomes. An alternative view might be that, if only a quarter of the community is actively against it, the park agency has a large proportion of the community with which to work.

Figure 6.16 - Willingness of community to work with the park management for mutual benefits



Residents were asked if they were aware of any joint projects between the community and the park management agency. Several projects including the development of a marine turtle information centre and a rock wallaby research program have been undertaken. Respondents were asked to name the project in order to validate the question (see Figure 6.17). Only 14% of the respondents said they were aware of a (valid) joint project. This adds weight to the view that the park agency has failed to develop an appropriate process of engaging with the community.

Figure 6.17 - Level of community awareness of joint community and park agency projects



For some individuals the perceived negative emotional, social and economic impacts of the Ningaloo management planning process which led to the expansion of the marine sanctuary zones may take some time to heal before it changes people's attitude toward working with DEC.

“If you get locals involved (in projects and reporting incidents) they have an ownership of it, and they self-regulate to a degree, even if it's not formal, but I don't think you're going to get that level of volunteering at a local level”. Shire representative

6.2 BROAD ASPECTS OF PARK MANAGEMENT

A number of primary and secondary issues emerged from the research results. Some related directly to the questions that were asked while others emerged independently from the responses. These responses revealed both direct and indirect impacts on communities resulting from park management practices and policies.

Direct impacts are those that are felt immediately as a result of planning and management decisions, which can be perceived as having both positive and negative economic, social and environmental consequences. For example, the closure of access to an area or the construction of a new ablution block has direct impacts.

Indirect impacts are consequential impacts arising from park management actions or inaction and can have both positive and negative results. For example, poor management presence can lead to vandalism; inadequate public communication can lead to suspicion and lack of trust; the provision of facilities can stimulate recreation and physical activity that leads to improved mental and physical health.

A number of perceived positive direct and indirect impacts of the two parks and their management emerged from the research results. These were:

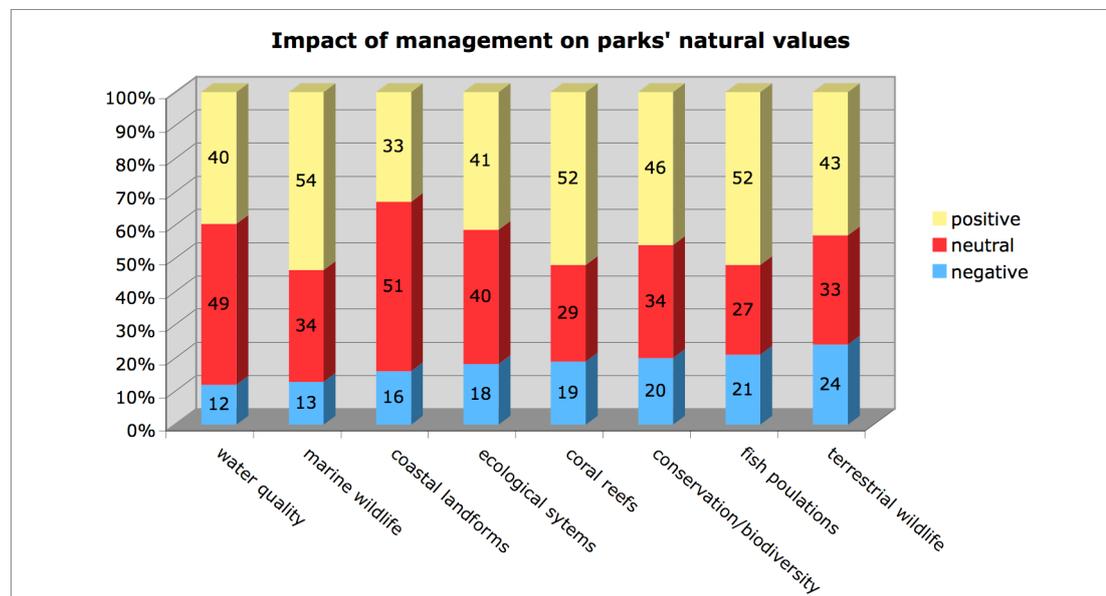
- (a) park management:
 - provides appropriate environmental management of the natural resources;
 - has led to improved access to recreational opportunities;
 - provides a wide range of recreational facilities and services; and
 - facilitates appropriate tourism access and use;
- (b) the presence of parks and park management has:
 - led to increased awareness of environmental values, issues and processes on the Ningaloo coast;
 - contributed to changing (more caring) local community attitudes to the environment and conservation of the local environment; and
 - created a focus and incentive for research which underpins the protection of this resource;

- (c) Ningaloo Marine Park and Cape Range National Park are the drivers of economic activity for the Ningaloo coast area; and
- (d) the quality of the natural values of the Ningaloo coast is the primary factor influencing the increasing value of land and property on the Ningaloo coast.

6.2.1 Environmental management

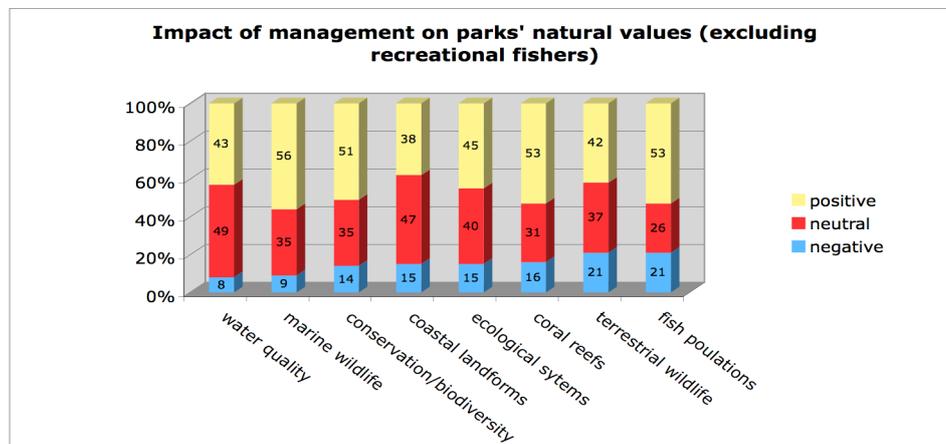
Residents were asked to rate the impact (positive or negative) that they perceived park management as having on a range of natural values found in Ningaloo Marine Park and Cape Range National Park (see Figure 6.18). For most of the natural values, just under half of the residents (range 33%-54%) rated park management as being positive while a significantly smaller percentage (range 12%-24%) rated management as having a negative impact. Depending on the particular issue, between a third and half of residents provided a neutral response, possibly indicating a lack of knowledge on these issues. Park management of fish populations rated as having the most positive impact and second least negative impact. This was due to the low neutral stance for this variable probably arising from the information available through the media and other channels on the impacts of recreational fishing, during the debate on sanctuary (no take) zones. The lowest perceived positive impact was on the management of coastal landforms, such as dune systems and beachfront areas. The high neutral stance may suggest a lack of knowledge on this subject rather than an actual perception of negative management impact. The most positive impacts of management were in fish populations, marine wildlife and coral reefs. Resident perceived the most positive areas of management to be in the marine environment, despite (or because of) the recent sanctuary zone controversy.

Figure 6.18 - The impact of park management on the parks' natural values



Recreational fishers (a not insignificant proportion of the local population) were angry at the decision to expand sanctuary zones and therefore had the potential to skew the survey results. A further analysis of this question was undertaken excluding the 34 self defined recreational fishers from the sample (n=90), although other respondents may also have fished from time to time (see Figure 6.19). No significant difference in the results was identified. Management of coral reefs, marine wildlife and fish populations still rated as having the highest positive impact (range 53%-56%). This is consistent with the total sample. Overall the perception of park management of natural values is positive. However a significant number of people remain unconvinced or poorly informed about the impacts of management on the natural values of the national park and marine park.

Figure 6.19 - The impact of park management on the parks' natural values (excluding recreational fishers)



The survey respondents' positive view of the park agency's management of environmental values is largely corroborated by the qualitative data. The views of stakeholders provide further insight into these issues.

Most stakeholders felt that park management had a strong sense of custodianship. This strong custodial role is typical of most park management agencies and is part of their cultural makeup.

"They (DEC) do a good job generally. Most of the staff are very passionate about looking after the park and the natural environment. Some are a bit over protective". Local resident

The majority (the minority view is described in 6.1.6) of stakeholders interviewed believe the community is becoming more aware of the fragile nature of the local environment, and interested in and protective of this natural resource. This could be a result of the growing understanding of the values of the park and the need to protect the tourism resource for economic reasons alone. It could also have been influenced by the presence of the parks and ongoing exposure to the management philosophy and to a changing local demographic.

“You’ve got a community now that is definitely a lot more sensitive to the role that conservation activity is going to play in the future, because I think there is a better understanding of the likely impacts (of) changes (and) how sensitive the whole ecology is to significant interference by humans ” Long term resident

A number of interviewees commented on the value and importance of park management and how the management of the natural values of the parks has contributed to the changing attitudes, values and perceptions of protected areas.

“All the issues that surround how many licences should be issued (by DEC) for each activity and why should you have one and why you shouldn’t have (one); well these things filter back into the community and change their mindset”. Long term resident

Stakeholders felt that the wide range of park management activities and planning processes has an educational value for the local community, which is probably not well recognised because it has a subtle influence on individuals over time. This includes the role of science in validating planning processes and management decisions, which in turn forces people to think about the environment.

The creation of the parks and their management also provided a focus for conservation groups, which in turn contributed to increasing awareness of environmental values.

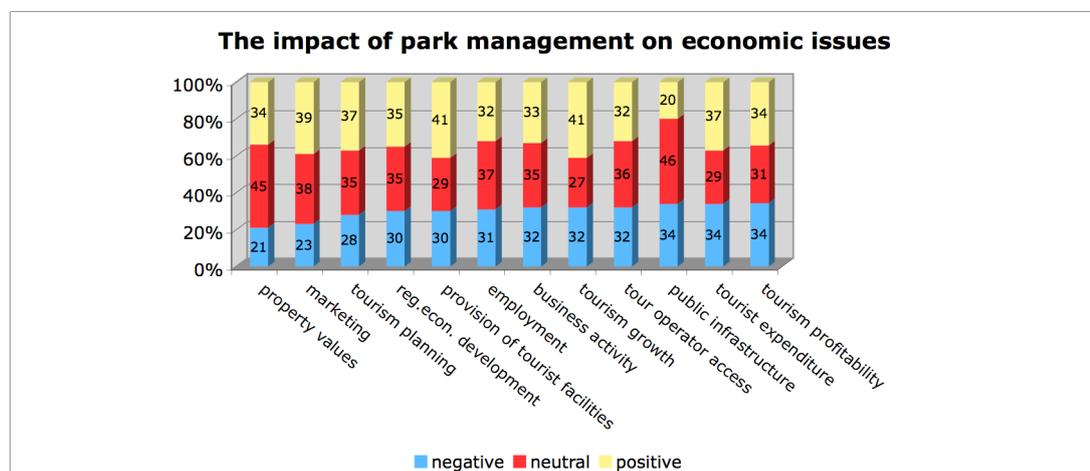
“The \$5 million (Ningaloo Research Fund) only came about because of this persistent hammering that we went on about saying, look your biggest problem is that you’ve got all these proposals but you haven’t got the research to back it up”. Ex Shire Councillor

6.2.2 Economic issues and indicators of management on tourism

Overall the community perception survey elicited a largely negative response with reference to economic matters, with the expansion of sanctuary zones the most significant issue contributing to this negative view.

Residents were asked to rate the impact (positive or negative) of park management on a range of economic values derived from Ningaloo Marine Park and Cape Range National Park (see Figure 6.20). Residents perceived more negative impacts in the economic category than in the environmental category. Approximately one third (varying between 27% and 46%) of responses to all questions relating to economic issues elicited neutral response indicating either a lack of knowledge or a neutral perceived impact, at least on themselves.

Figure 6.20 - The perceived impact of park management on economic issues



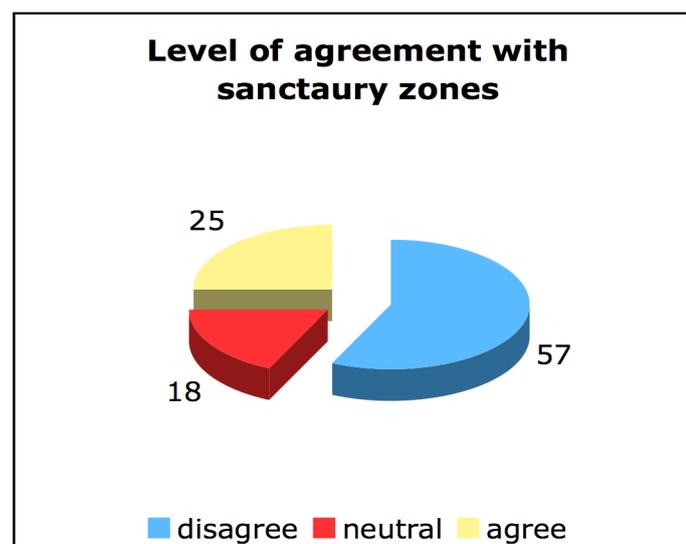
Some interviewees also commented on the connection between an operators' business and the lifestyle advantages that the area and the two parks provide. This may explain the extent of negative responses from business operators, as any impact that park management has on lifestyle is also likely to have an impact on business.

“I would suggest that all of the people that come and work and operate businesses within Coral Bay are here because of their love for the environment and the surrounding areas of Coral Bay. Directly, they are all here because they love interacting with the Ningaloo Marine Park”. Tour operator

6.2.2.1 Sanctuary zones

Residents were asked to state their level of agreement or disagreement with the current zoning and boundary arrangement for the sanctuary zones within Ningaloo Marine Park (see Figure 6.21). All but one resident were aware of the sanctuary zone changes. In a more detailed study (using data from this survey) of the social and economic impacts of sanctuary zone expansion on the local communities of the Ningaloo coast, Northcote and Ingram (2006) found that 56% of residents and two-thirds of fishers (66%) disagreed with the sanctuary zone expansion.

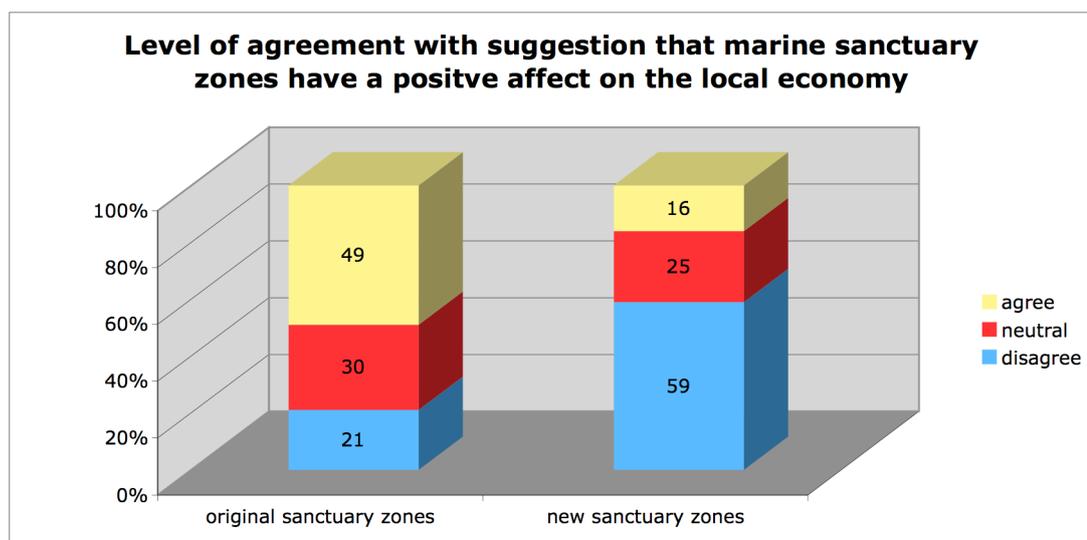
Figure 6.21 - Level of respondents' agreement with the increase in sanctuary zones in Ningaloo Marine Park



Residents were asked to state their level of agreement or disagreement with the proposition that the marine sanctuary zones created in 1987 and expanded in 2004 had a positive impact on the local economy (see Figure 6.22).

Almost half of the respondents believe that the original sanctuary zones had a positive impact on the economy. Only 21% disagreed. The reverse was the case for the new sanctuary zones. Only 16% believed these zones had a positive impact on the economy, while 59% disagreed. Residents appear to be confirming that a specific park management strategy (the original creation of sanctuary zones) has had a positive economic impact and yet appear not to attribute the same benefits to the current strategy. Confounding this, residents are able to attribute the negative impacts to the management agency's subsequent initiative (the new sanctuary zones).

Figure 6.22 - Respondents perception of the economic benefits of sanctuary zones



However the key stakeholders did not corroborate this view. Interviewees were asked to provide their views on whether they felt park management decisions have a direct or indirect economic affect on the local community. Only one of the interviewees could point to any direct negative impacts of management on the economic conditions of the local community. The perception among stakeholder representatives was that even the changes to sanctuary zones would not, either now or in the future, have a negative economic impact.

6.2.2.2 Property values

Almost half (45%) of the respondents had a neutral view of the impact of the parks on property values. While other economic factors may be at work, there is a perception that the attractions of the two parks have caused land and property values to increase. This could be perceived as both a negative (for buyers) and a positive (for sellers) impact. The following quotes highlight the strong connections:

“I don’t think that protection (sanctuary zones) has had a negative impact and potentially it’s possibly had a positive impact other than the recreational fishing sector. But I still don’t think, even on a personal level not see that that’s been affected too badly”. Local business proprietor

Secondary quantitative data were collected to compare with the primary data collected in this research. Figures 6.23 and 6.24 show the change to residential property values in Exmouth between 1998 and 2006. These figures show extraordinary growth in residential property values in 2005/06 even in the booming Western Australian context. The number and value of residential sales as shown in has grown from 67 sales in 1996/97 with a value of \$8m to 123 sales with a value of \$41m in 2005/06. The average sale price of a residential property in Exmouth rose by 75% during 2005/06 (see Figure 6.23).

Not all of this growth can be attributed to the impact of park tourism. While this extraordinary growth has occurred at a time of a booming State economy and rapidly increasing residential property values throughout Western Australia it is nonetheless higher than the Perth average of 45% for 2005/06 and around 40% for towns in the south west such as Bunbury, Busselton, Margaret River and Dunsborough prices for 2005/06 (ABS, 2006b).

Figure 6.23 - Average value of residential property in Exmouth, 1996/97-2005/06

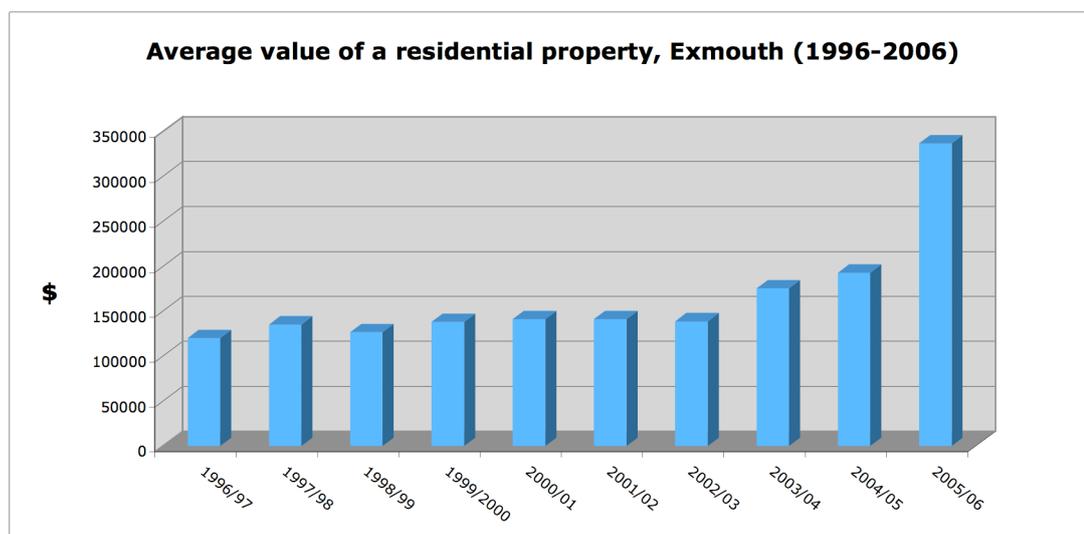
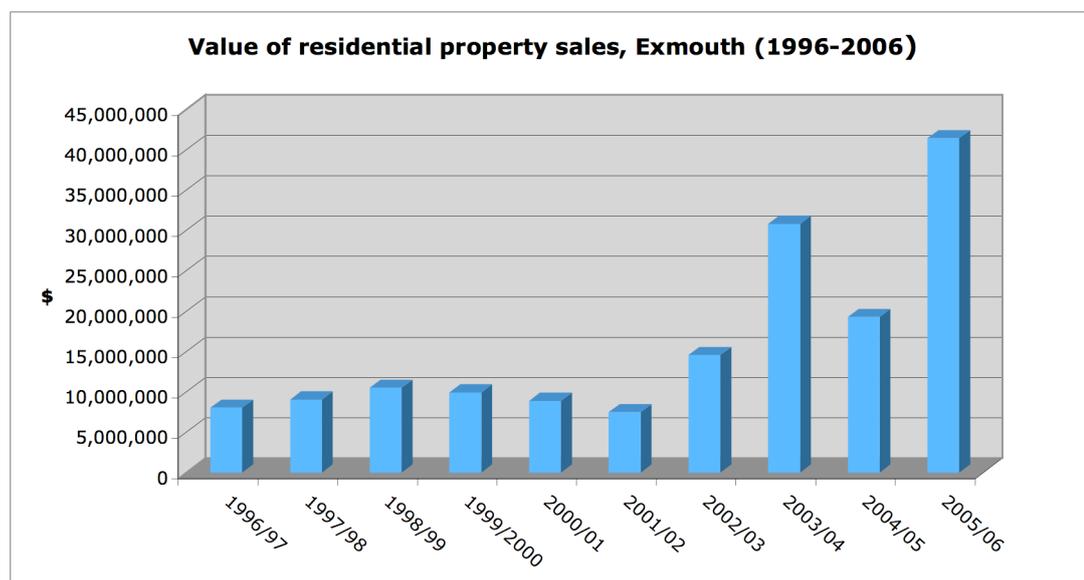


Figure 6.24 - Total value of residential property sales, Exmouth 1996/97 - 2005/06



Source: Department of Land Information. Accessed September 2006

6.2.2.3 Park Visitation

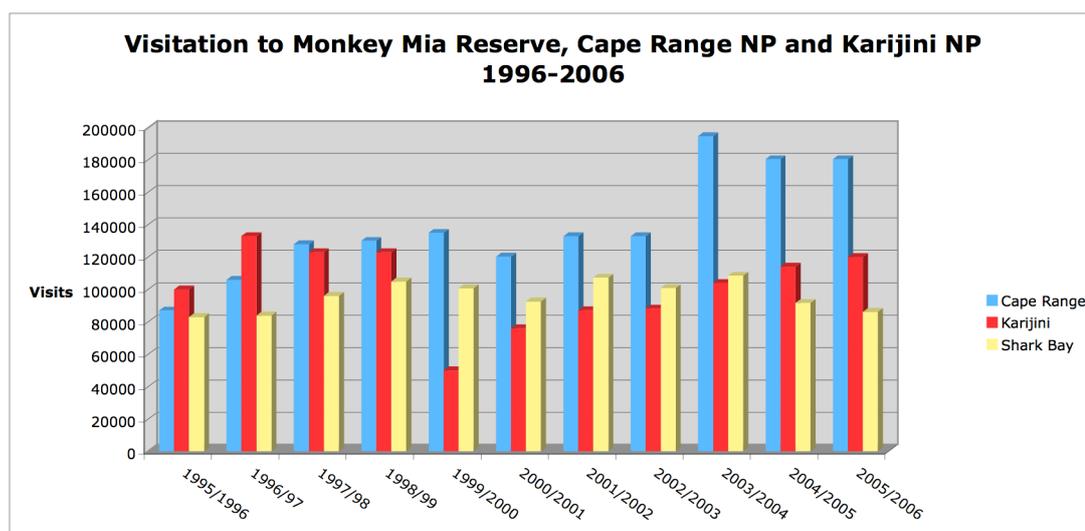
Other secondary data included visitor use levels for Cape Range National Park, airport arrivals for Learmonth Airport and visitor accommodation levels for Exmouth and regional economic growth statistics.

Figure 6.25 shows total visitation to Cape Range National Park against comparisons for Karijini National Park and Monkey Mia Reserve between 1996 and 2006. Monkey Mia Reserve and Karijini National Park are two DEC managed reserves with exceptional tourism attractions located in the Gascoyne region and adjoining

Pilbara region respectively.

Visitation to Cape Range National Park has grown by over 100% during this time while visitation to other two locations has remained static or declined. From 1995/96 to 1999/2000 visitation to Karijini National Park either exceeded or equalled the visitation to Cape Range. In 1999/2000 visits to Karijini National Park plummeted due to the closure of a major camping ground. Since then visitation to this park has grown steadily and only recently returned to pre-1999 levels. During this time Cape Range National Park visitation has increased by almost 40% with the most prominent growth in the past three years.

Figure 6.25 - Comparison of visitation between Monkey Mia, Karijini National Park and Cape Range National Park, 1996-2006



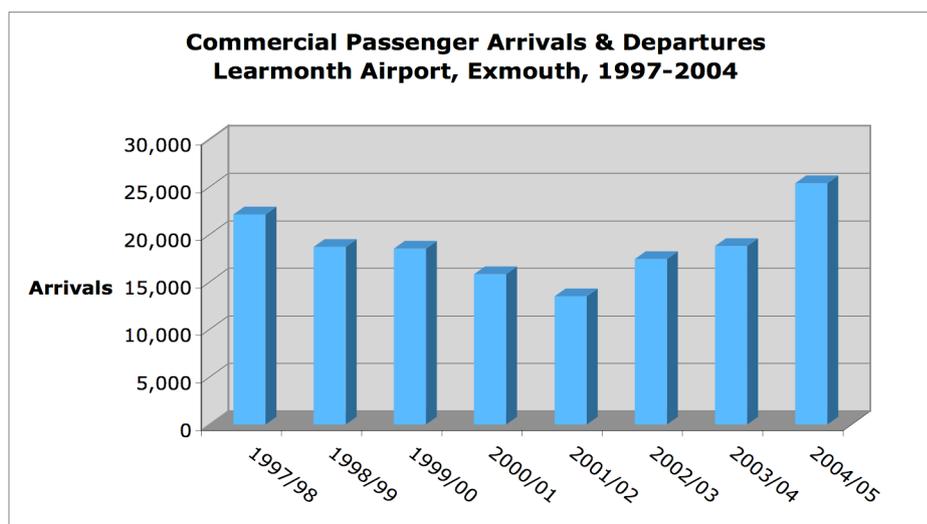
Source: DEC RATIS Database, VISTAT Annual Report. Accessed September 2006

6.2.2.4 Airport arrivals

Air access to Exmouth and Coral Bay is serviced by Learmonth Airport and passenger arrivals provide one indication of tourism visitation to the Ningaloo coast. According to the Shire of Exmouth Tourism Fact Sheet for 2005 between 5% and 10% of visitors arrive by air in any single year and, as such, this is not a strong indicator of overall tourism visitation. Figure 6.26 shows the total number of passengers entering and leaving through Learmonth Airport. Total movements declined over a four-year period from a high of 22,000 in 1996/97 to 13,500 in 2001/02. This decline coincided with and may have been a result of several factors including the Asian economic crisis, the collapse of Ansett Airlines, September 11

and the Sydney Olympics. Since that time passenger movements have grown steadily over three consecutive years to 25,000 in 2004/05.

Figure 6.26 - Commercial passenger arrivals and departures, Exmouth, 1997/98 - 2004/05

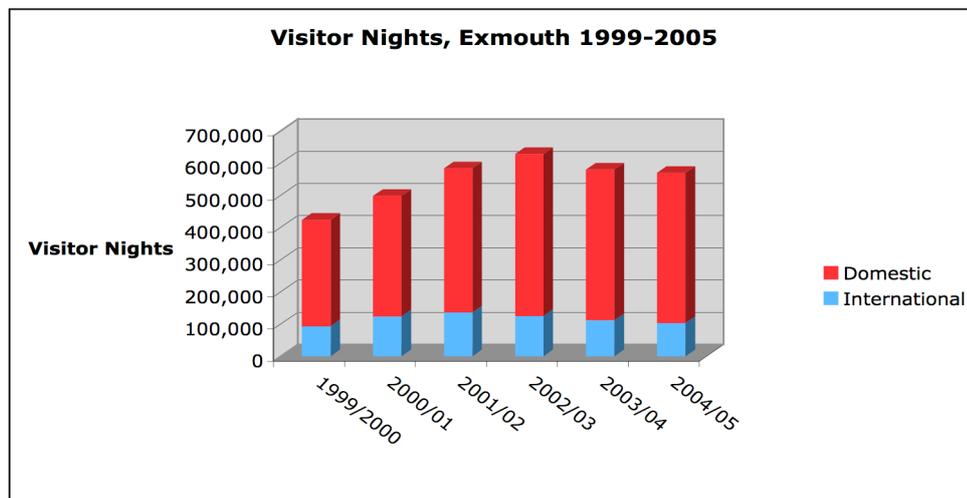


Source: Department of Transport and Regional Services, Aviation Statistics, Airport Traffic Data 1994/95- 2004/05

6.2.2.5 Visitor accommodation levels

The number of visitors and their length of stay provide a good indication of tourism activity. This is usually expressed through the number of visitor nights spent in tourist accommodation. Figure 6.27 shows the international, domestic and total visitor night spent by tourists in Exmouth between 1999 and 2005. Visitor nights grew between 1999 and 2002 peaked in 2002/03 and then declined to just below 2001/02 levels. The demand for visitor accommodation is at odds with the demand patterns relating to air transport to Exmouth. This may simply be a factor of the changes in demand for non-tourism related air travel.

Figure 6.27 - Visitor night accommodation, Exmouth, 1995-2005



6.2.2.6 Tourism development

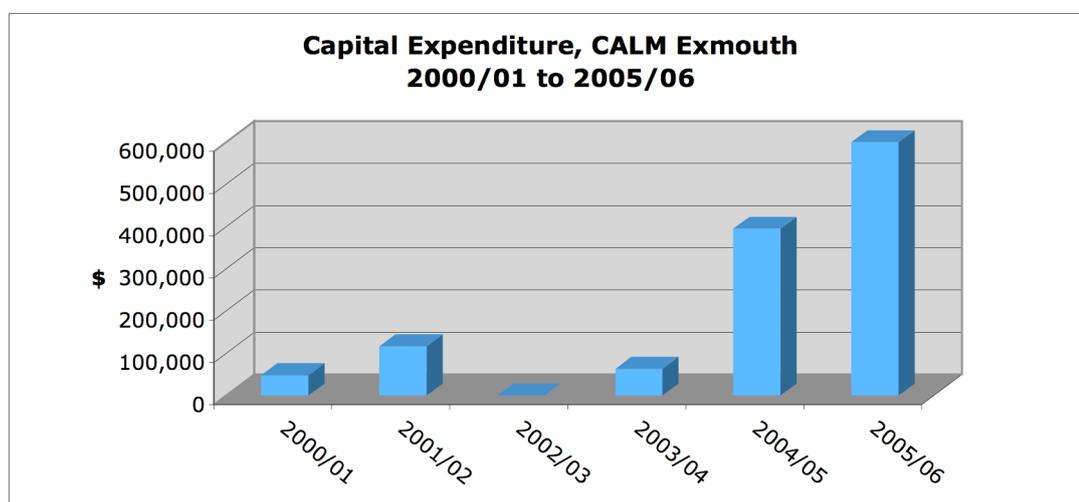
According to local residents the most positive impacts of park management on economic issues were its contribution to tourist facilities and tourism growth.

Overall the perception of park management's impacts on economic values is evenly balanced, that is, neither negative nor positive. Only 20% of residents felt that park tourism had a positive impact on public infrastructure such as schools, roads, and hospitals and perhaps this is a reflection of the indirect link between them.

The level of investment in tourism development and tourism infrastructure is a good indicator of the status of tourism activity. Investment in major tourism development has been spasmodic and may be a result of a number of factors; the uncertainty created by the lack of tourism planning up until 2004, the time lags involved in gaining development approvals and the timeframes involved in completing developments.

Figure 6.28 represents the level of capital development in Cape Range National Park and Ningaloo Marine Park since 2000/01 and shows significant growth since 2004/05 coinciding with the increases in state-wide capital expenditure provided to DEC by government in that year and the commitment by government to funding the implementation of the Ningaloo Marine Park Management Plan.

Figure 6.28 - Level of DEC's capital expenditure in Cape Range National Park and Ningaloo Marine Park



Source: Department of Environment and Conservation, Oracle Financials Database, Accessed 6 October 2006.

While DEC's capital expenditure on tourism facilities appears to be modest but growing the community is satisfied with the contribution this makes to tourism development.

6.2.2.7 Tourism expenditure and profitability

About a third of residents perceive that park management has a negative affect on tourist expenditure and tourism profitability. No data were found or collected that either supported or refuted this perception.

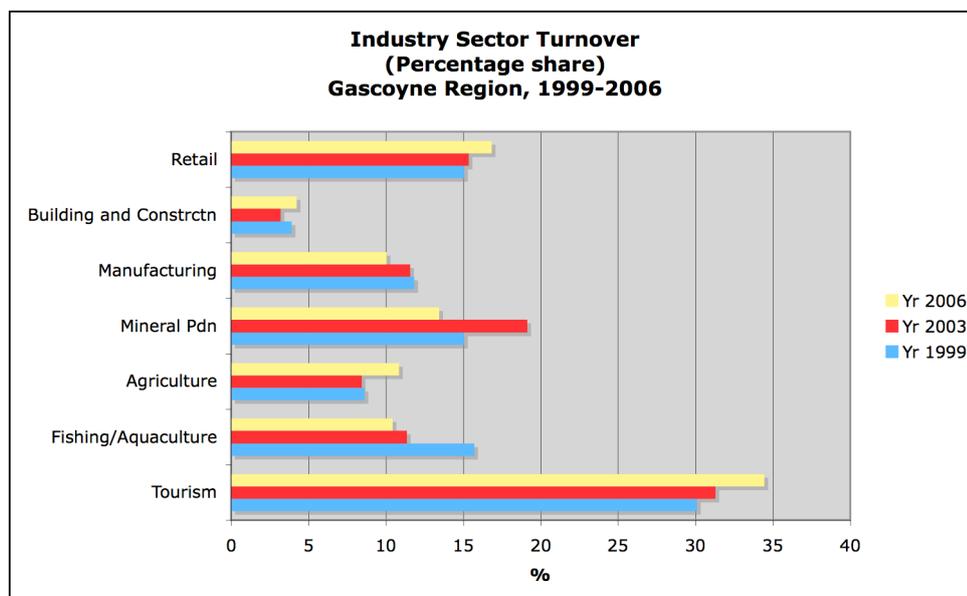
6.2.2.8 Regional economic development

Survey respondents were evenly divided in whether the parks had a positive, negative or neutral affect on regional economic development (see Figure 6.20).

The contribution of an industry to gross regional production (GRP) is an indication of the industry's economic importance. Figure 6.29 shows the relative importance of the major industries operating in the Gascoyne Region between 1999 and 2006. Tourism contributes almost 35% of the Region's economic activity (around \$172m in 2006) and, as shown in Figure 6.29, tourism is increasing its contribution to GRP in relative terms and is the fastest growing sector of the Gascoyne economy. The

majority of the Region's tourism wealth is generated on the Ningaloo coast. This is confirmed by the economic study undertaken by Carlsen and Wood (2004).

Figure 6.29 - Turnover by industry sector for the Gascoyne Region, 1999 - 2006



Source: Regional Economic Perspective Gascoyne Development Commission, 2003, 2006; Gascoyne Development Commission, Annual Reports

This data indicates that the two local parks provide a significant economic benefit to the local and regional communities in the Gascoyne Region. These include direct benefits such as visitor expenditure and investment in (tourism) park infrastructure and indirect benefits such as the value of property. These factors appear to contribute to tourism growth.

6.2.3 Social issues and their management

Residents were asked to rate the impact (positive or negative) of park management on a range of social values derived from Ningaloo Marine Park and Cape Range National Park (see Figure 6.30). The greatest negative impacts of park management on local communities were perceived as being in relation to social values.

Recreational fishing provided a “stand out” response, with 65% of respondents responding negatively and 15% giving a neutral response. This is not surprising given that recreational fishing is the major social activity for a significant proportion

of the local community and a reason why many people reside on the Ningaloo coast. One respondent summed up the importance of recreational fishing as a social value.

“That fact is that fishing is more than just going out and catching a fish. It was why a lot of people came up here (to live)”. Shire representative

Fifty two percent of all respondents (n=64) stated that recreational fishing is either important or very important to them. The area available to recreational fishing in the marine park was reduced by 23% as a result of an increase in the size of sanctuary zones in late 2004. It appears that, in the minds of many recreational fishers, the reduction in area available for recreational fishing equates to a reduction in the value (experience) of recreational fishing and is therefore a threat to their lifestyle.

The qualitative data provides a stark contrast to the quantitative data. Only two stakeholders raised the issue of the perceived loss of recreational fishing space to the local community as a having a major social impact. None of the tour operators interviewed raised this as a significant issue. One stakeholder’s comments on the impact of park management on recreational fishing were typical of those interviewed.

“Socially it’s probably had an impact on maybe only 10 or 15% of the community that are passionate about what they’ve had in the past (fishing) and they want to keep it, and you’ve got to question whether that’s a selfish attitude or whether they actually just want to share the nature or whether they just want to have it all to themselves”. Local business proprietor

Other social criteria considered to have been negatively affected by park management include the social cohesion of the community and access to recreation. The perceived negative impact on access to recreation may also be echoing the negative impacts of the sanctuary zones on recreational fishing and could merely replicate the previous finding. The only relatively positive impact related to park management’s involvement with volunteering (36%). Despite this, 34% of respondents felt that park management had a negative impact on this criterion. Three

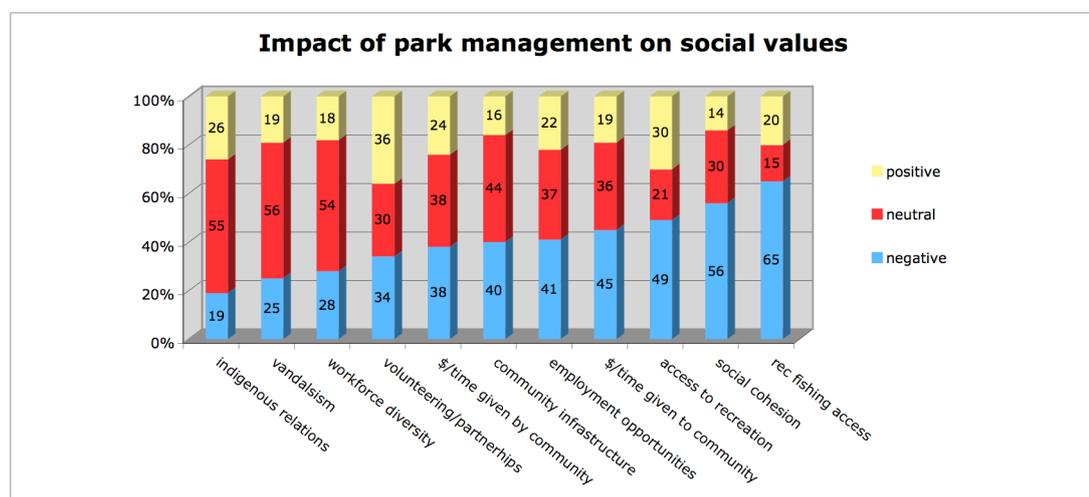
of those stakeholders commented on the challenges facing park managers in building local voluntary involvement in park management.

“I really don’t think you’re going to get a lot of local ownership, or involvement in volunteering, or that sort of stuff with the Ningaloo Marine Park because you’ve got this enormous hurdle, of mistrust and sort of attitude of bugger ‘em, if they want to do it, then we’re not going to help, because we don’t support it”. Shire representative

Volunteering is likely to be an important indicator of the level of support for park management. See section 6.3.7 for further discussion on this topic.

In a separate exercise to evaluate the negative skew that recreational fishers may have caused to the results, those respondents who identified as recreational fishers were excluded and the remaining data were recast. Although a lesser negative impact is recorded there was no significant change in the results. Overall the local community perceives the impact of park management on the social values of local communities as highly negative.

Figure 6.30 - The perceived impact of park management on social values



However the nature of tourism in the NW Cape is changing. More passive and less extractive forms of recreation are slowly replacing the previously dominant form of recreation/tourism, that of fishing (Wood and Dowling, 2002, Wood, 2003).

Recreational fishing is under pressure from other forms of recreation (snorkelling and scuba diving) which seek a want a share of the marine resource and local recreational fishers are also feeling threatened by this change.

“There’s more to Exmouth than fishing. The beaches, and there’s the parks, Turquoise Bay and all that sort of stuff. There’s a lot more people around, because not everybody’s fishing, some of them are snorkelling and we just love to go across to the Murion Islands”. Local business proprietor, Exmouth

Most stakeholders also recognised the contribution that park management has made to enhance the social and recreational opportunities through the provision of greater vehicular and pedestrian access improved infrastructure and extending the diversity of recreation opportunities.

6.2.3.1 Management Impacts

In addition to the key issue of sanctuary zone expansion, a number of issues emerged from discussions with stakeholders about park management practices that were perceived to diminish social values.

Almost all of the stakeholders interviewed believed that running multiple overlapping community consultation processes created confusion and suspicion and added to the perception of lack of trust. At the time of the interviews, the following planning processes were either in train or had just concluded: the World Heritage area nomination process; the coastal land excision program associated with 2015 pastoral lease renewals; the Gascoyne Murchison (pastoral land acquisition) Program; the review of the Ningaloo Marine Park Management Plan; and, the review of the Cape Range National Park Management Plan.

“I think a lot of people were getting the World Heritage issues mixed up with the sanctuary zone issues and getting the wrong idea. I think both of the programs are going to benefit the community but the information has probably overloaded the community”. Long term resident

The lack of resources applied to enforcement by park management means that tour operators (informally) do some of the ‘surveillance’ work on illegal campers and fishers, etc. In their eyes the perceived lack of resources (at that time) applied to on water/on-ground enforcement, erodes the respect for and credibility of park management and reduces the effectiveness of management interventions.

“So I guess the importance, or the value of those sanctuary zones gets watered down because there’s no-one there really to police it”. Tour operator, Coral Bay

There are also perceptions of over regulation and over management by the park managers leading to loss of experience and enjoyment. This included restrictions on access such as the sanctuary zones and proposals for greater management and higher status, such as the World Heritage area planning proposals.

“Because there’s so many more limitations and restrictions it’s always in the back of people’s minds as to where they can go and whether they can still catch fish up here and whether someone is going to be watching over their shoulder. It takes away from the enjoyment of it and that’s where I think it has lost being so special about this place”. Shire representative

And in the context of impact of DEC’s impact on broader planning.

“It’s this underlying concern about restrictions and effect on the lifestyle of this area that really makes people buck up and react against it. The area was becoming over managed to the detriment of the community....”. Shire representative

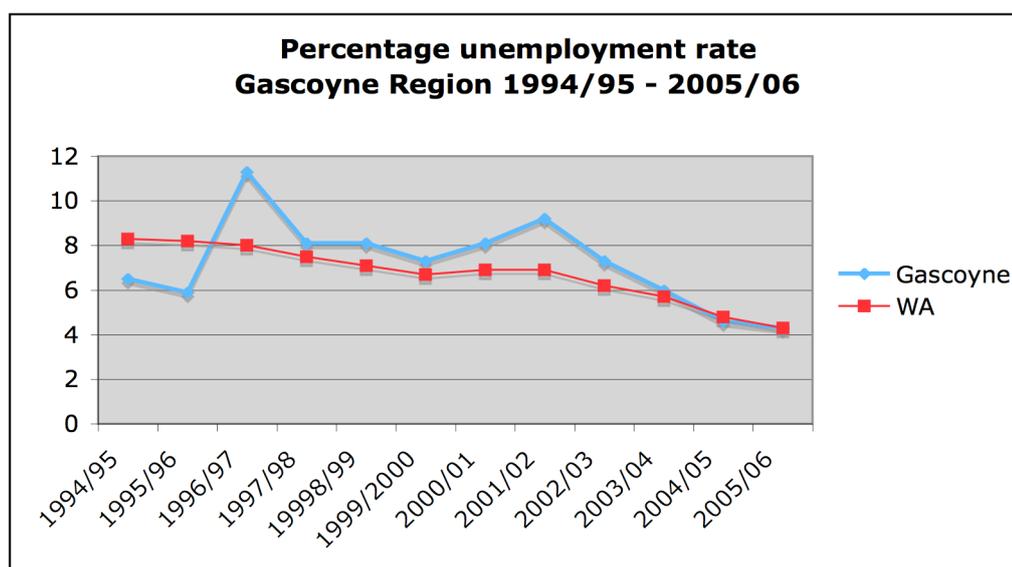
However the impact of park regulation and management control can be perceived as both a positive and a negative. Negative, in that it impacts on perceptions of autonomy, freedom, isolation and wilderness for locals and visitors. Positive,

because some visitors seek an obvious management presence for security reasons for the provision of information and for the control of others. This could be summed up in the paradox that locals want to have freedom for themselves but want park management to control visitors.

6.2.3.2 Employment opportunities

Unemployment levels provide an indication of the strength of the job market (see Figure 6.31). Unemployment rates have been on the decline in the Gascoyne Region since 2001/02, which is consistent with the general downwards trend in unemployment across Western Australia. This trend is largely attributed to the stimulus provided to the Western Australian economy by the growth in the mining sector (Hoy, 2006). The Labour force (total persons employed and unemployed aged 15 and above) in the Gascoyne Region for the quarter ended March 2006 amounted to 6,051 people. Since September 2003, the Region's labour force has increased by 2.3 per cent (DLGRD, 2006). Despite this 31% of local residents perceive that park management has a negative effect on employment. See Figure 6.20 on p167.

Figure 6.31 - Unemployment rate for the Gascoyne Region, 1994/95- 2005/06



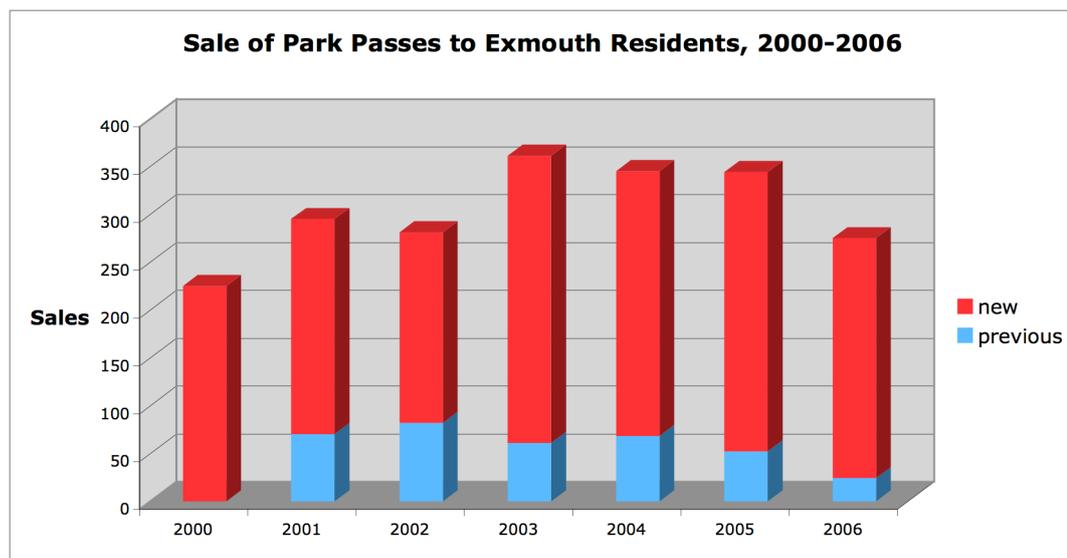
Source: Gascoyne labour Force Report 2006, Department of Local Government and Regional Development, www.dlgrd.wa.gov.au, Accessed 6.10.2006
 Gascoyne Economic Perspective, 2003 Gascoyne Development Commission, www.gdc.wa.gov.au Accessed 6.10.2006
 Gascoyne Economic Perspective, 2006 Gascoyne Development Commission, www.gdc.wa.gov.au Accessed 6.10.2006

While the unemployment level in the Gascoyne is declining and some of this effect may be due to tourism growth on the Ningaloo coast, it is not possible to draw a specific conclusion in that regard from the regional data.

6.2.3.3 Recreational use

Cape Range National Park is one of 29 national parks throughout Western Australia that require the payment of an entrance fee. DEC makes annual park passes available to people wishing a cost-effective means of frequent park entry. The sale of park passes is recorded in DEC's RATIS Park Pass database. Figure 6.32 shows that the sale of park passes to Exmouth residents have declined over the past three years.

Figure 6.32 - Number of park passes sold to Exmouth residents, 2000-2006



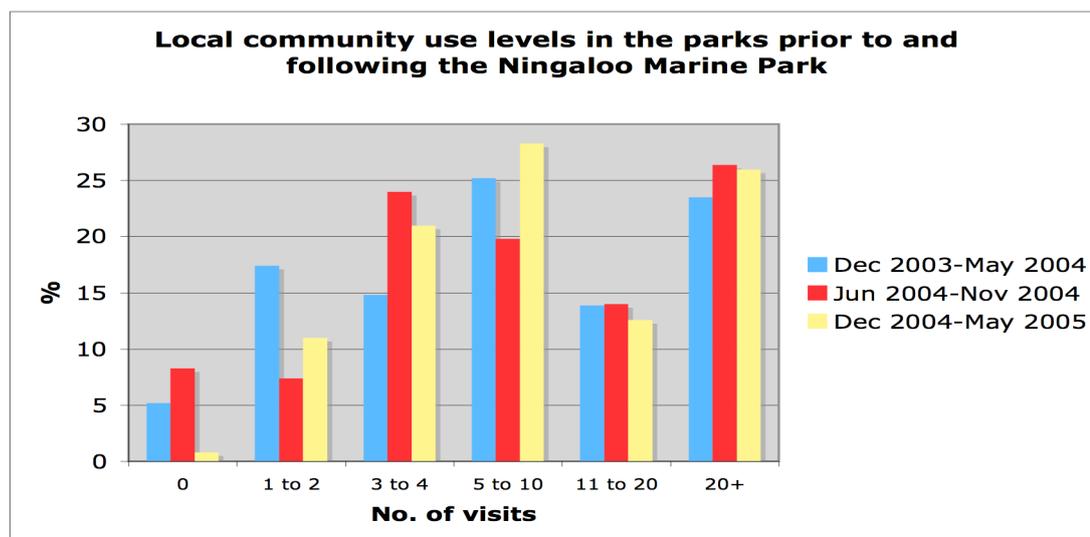
Source: DEC RATIS Park Pass Database. Accessed September 2006

The number of locals renewing passes has also declined. The level of local use of the parks may be declining in protest over the recent park management processes or it may be that park pass sales to locals have declined for the same reason (or other reasons such as low levels of park fee compliance monitoring by Park Rangers).

Survey respondents were asked to indicate their level of use of the two parks immediately prior to, during and following the management planning process, which concluded in late 2004 (see Figure 6.33). The level of use has suffered no significant decline during this period and it appears that the introduction of sanctuary zones has

had no immediate effect on visitation levels.

Figure 6.33 - Use levels of Ningaloo Marine Park by the local community prior to and following the changes to sanctuary zones



6.2.3.4 Indigenous involvement in park management

The local residents placed little importance on an indigenous community contribution to park management. (see Figure 6.6 on p147). Respondents consider this to be the least important of social criteria.

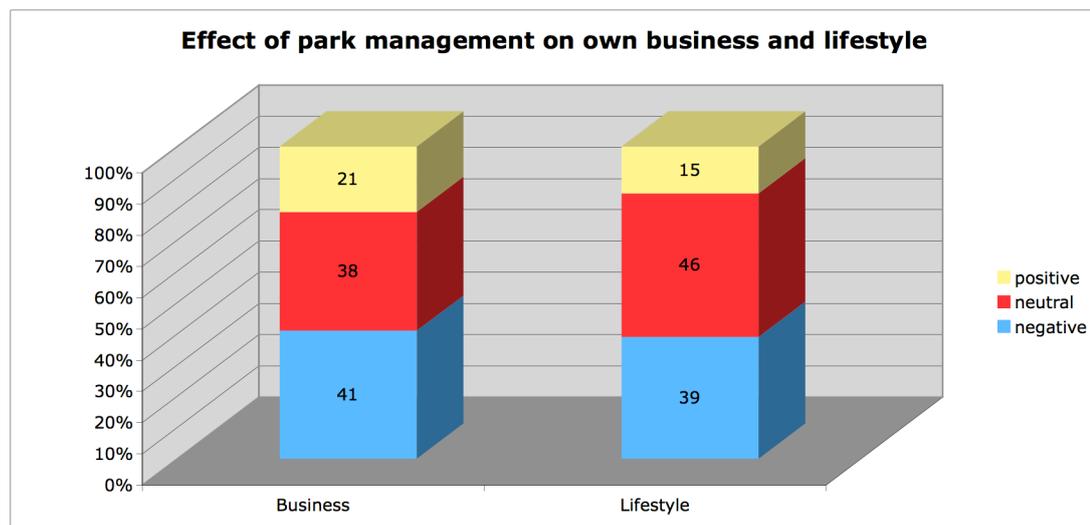
In recent years DEC has placed substantial resources into developing better relationships and partnerships with local indigenous people with traditional ties to country now being managed as protected areas. One aspect has been the progression of proposals for joint management and ownership of protected areas through the establishment of (aboriginal) park councils (Government of Western Australia, 2003).

A local aboriginal park council was established for Cape Range National Park in 2004 and meets on a regular basis.

6.2.4 Overall impact of park management

Residents were asked to rate the overall impact that park management has had on their personal business (n=39) and lifestyle (n=135). See Figure 6.34. The impact of park management on businesses and lifestyle is perceived as more negative than positive (41% and 39% respectively). Between one third and almost a half of respondents are neutral. Only a small percentage of respondents perceived park management as having a positive impact on their business (21%) and lifestyle (15%) notwithstanding their high levels of park use and their region's dependence on tourism.

Figure 6.34 - The effect of park management on business and lifestyle on local residents



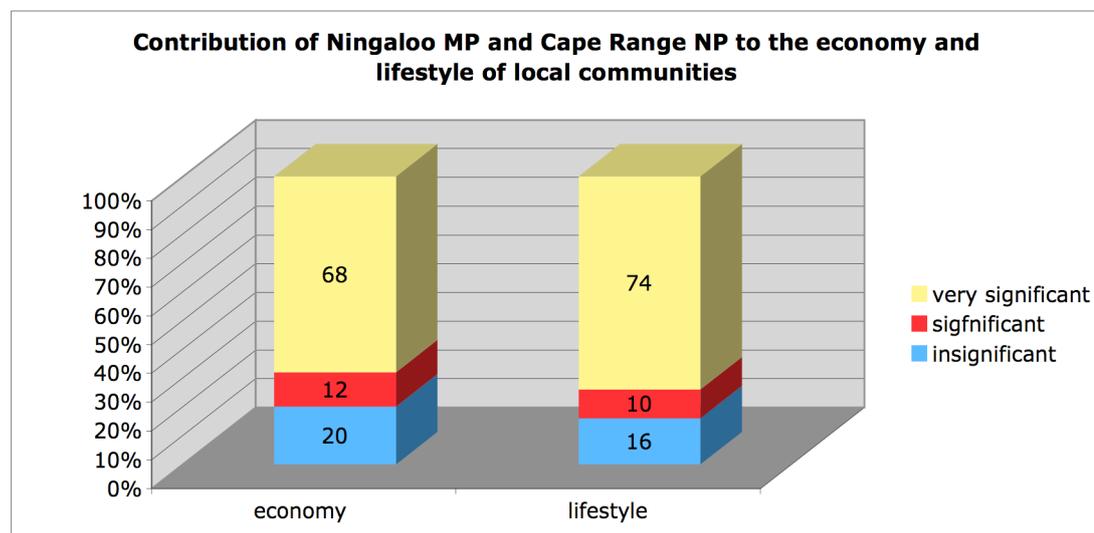
Stakeholder respondents were less negative. While some of the respondents believe that while park management may have a negative social impact on the community it is unlikely to have a negative economic impact.

“I think the management, the control management side of it probably hasn't really had an effect or (caused) any negativity, it certainly wouldn't stop the numbers from coming here”. Local business proprietor

Residents were asked to rate the overall contribution that Ningaloo Marine Park and Cape Range National Park make to the economy and lifestyle of local communities

(see Figure 6.35). Interestingly, at this scale, an overwhelming majority of residents believe that the marine park and national park made a significant contribution to the economy and lifestyle of the local community. Eighty and 84 percent of respondent perceived that the two parks made significant or very significant contributions to the economy and lifestyle respectively. This appears to be inconsistent with results described above where residents perceived park management to have an overall negative impact on economic and social values. This could be explained in that local residents perceive or believe that the economic and social benefits that derive from the protected areas is not attributable in any way to the immediate management of the park and in fact occurs in spite of the perceived negative impacts and approach of the park agency.

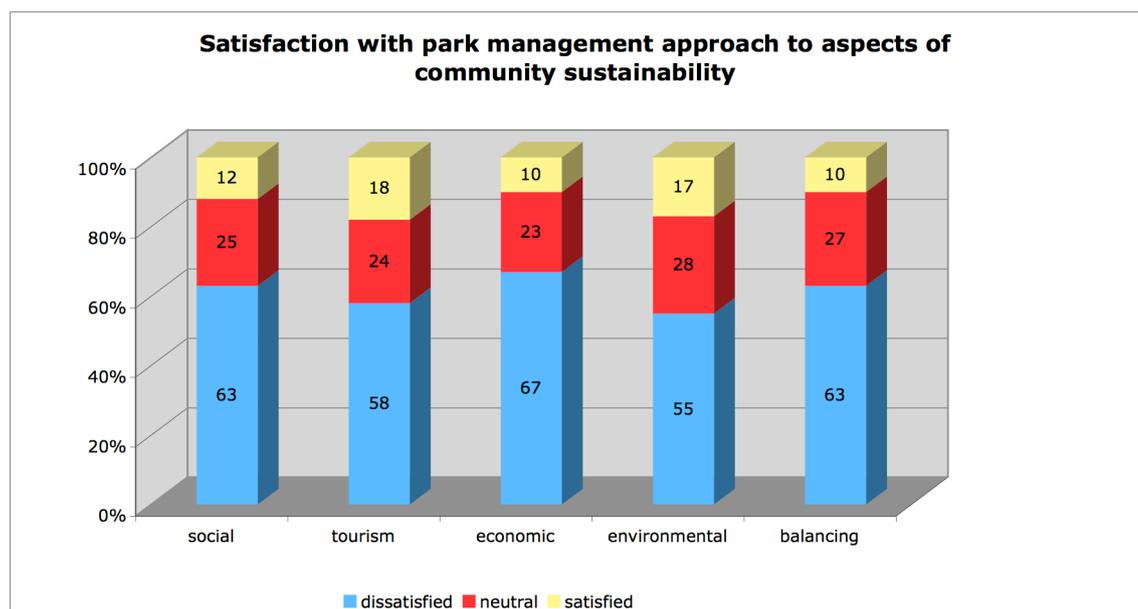
Figure 6.35 - The contribution of Ningaloo Marine Park and Cape Range National Park to the economy and lifestyle of local communities



Residents were asked to rate their overall satisfaction with the park agency's approach to social, economic, tourism and environmental issues, including their approach to balancing social, economic and environmental issues (see Figure 6.36). All sectors rated high levels of dissatisfaction (range 55-63%). Greatest dissatisfaction occurred with the agency's approach to economic issues, though satisfaction levels were low in all areas (range 10-18). This data seems to contradict results relating to the impacts of park management on environmental and economic values. That data showed the environmental impacts of park management as most

positive and park management's impact on economic values as neither positive nor negative (See Figures 6.18 and 6.20). It appears that when the question is broadened to "satisfaction with the park agency" (DEC) and focuses on 'approach' rather than 'impact', the positive values evaporate. This could be associated with a perception that, while local park management has a positive environmental impact and a neutral economic impact, the local community is not satisfied with the overall approach taken by the park agency, locally and/or centrally. Likewise the local perception of the negative social impacts of park management is corroborated by a negative view of the park agency's approach to managing social values.

Figure 6.36 - Level of community satisfaction with aspects of park management relating to sustainability



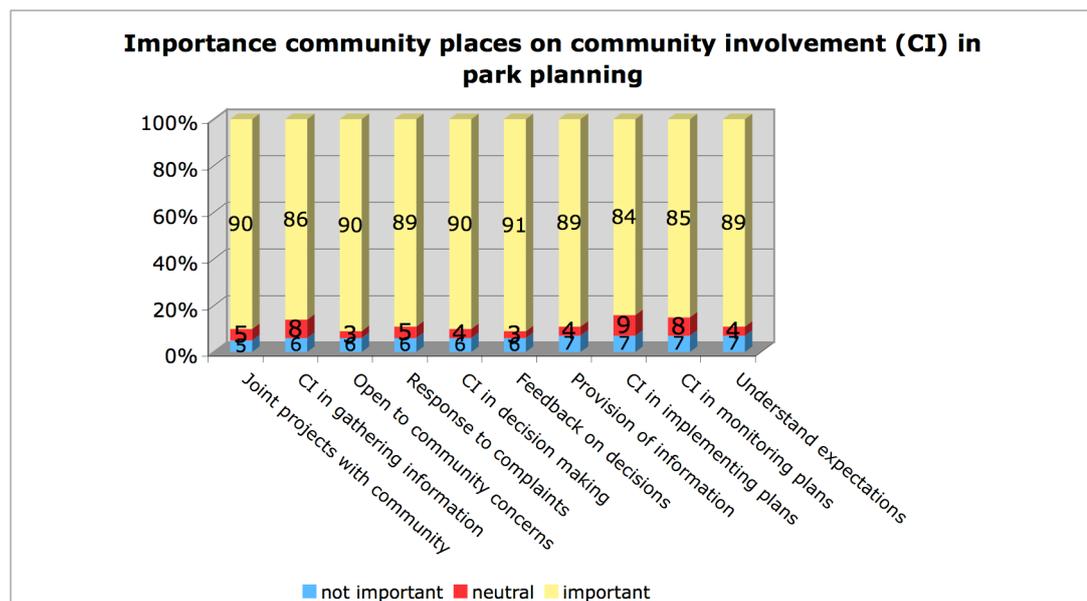
The Ningaloo community appears to be dissatisfied with the contribution that park management makes to the sustainability of the community. The local community is most critical of park management for its effect on social matters and of its inadequate performance in balancing environmental, social and economic values. This is despite the indirect impact the park management has on facilitating employment through tourism and its contribution to the regional economy.

6.3 ISSUES OF MANAGEMENT EFFECTIVENESS

6.3.1 Community involvement and park planning and management

Residents were asked to rate the importance of involving the community in park planning and management in various ways (see Figure 6.37). The overwhelming majority of the community believe that it is important to involve the community in all aspects of park planning from the initial step of meeting with the community (acknowledging and understanding expectations) (89%), to the information gathering stage (86%), through to decision making (90%), monitoring (85%), and implementation (84%) including joint park/community projects (90%). The community appear to have an unequivocal view on this issue. On average, less than 5% of respondents provided a neutral response on each of the aspects of community involvement and an average of around 6% of respondents thought that these issues were not important.

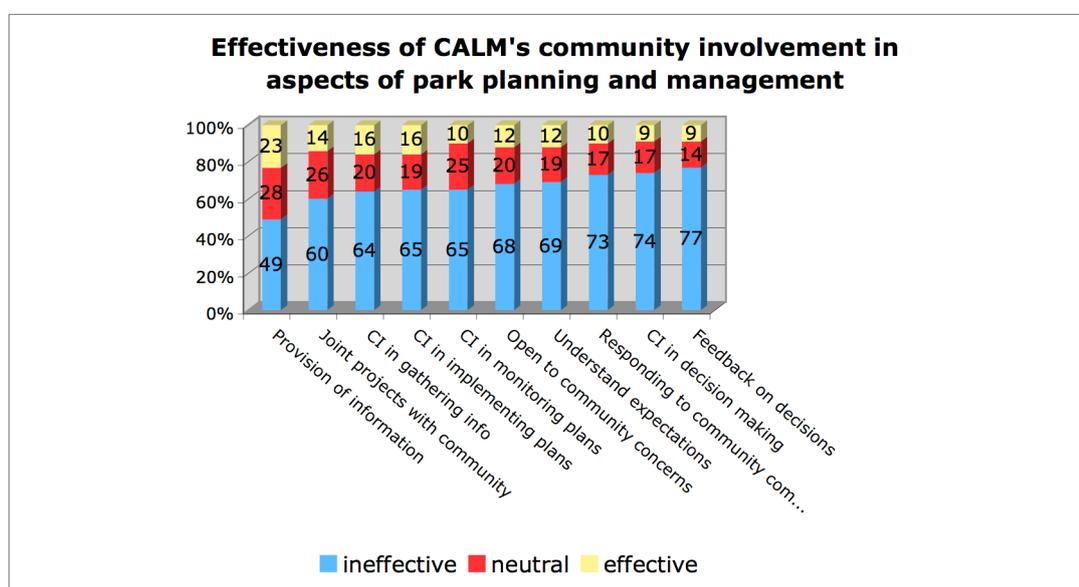
Figure 6.37 - The importance the community places on community involvement in park planning



Residents were then asked to rate the effectiveness of a range of park agency approaches relevant to community and stakeholder involvement in park planning (see Figure 6.38). Respondents rated the agency/park management approach to community involvement as mostly ineffective. The least ineffective being the

provision of information (49%) and the most ineffective being community involvement in decision-making (77%) and community feedback on the reasons for agency decisions (74%). Most respondents also perceived that the park agency was ineffective in responding to community concerns (73%) and acknowledging and understanding community expectations (69%).

Figure 6.38 - Perceived effectiveness of park agency management of various aspects of planning and management



In contrast to the survey data, almost three quarters of stakeholders felt that the community consultation process for the Ningaloo Marine Park Management Plan was well developed and that the opportunities available for input were more than adequate only. Three of the stakeholders felt that the park agency was not well prepared and unable to communicate its arguments for certain proposals.

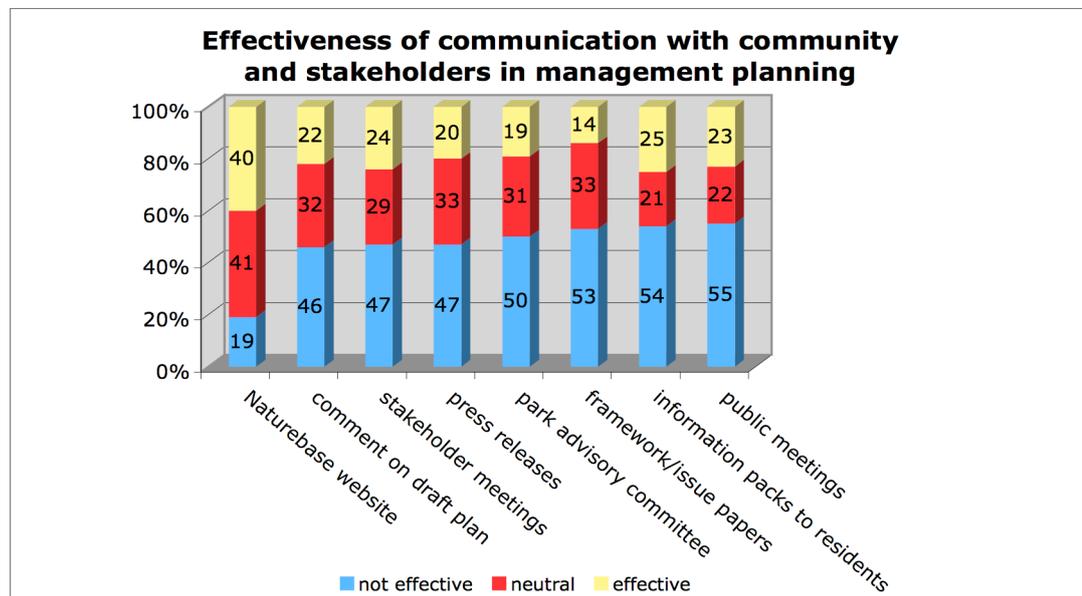
“I think the consultation that occurred regarding the sanctuary zones when it was public was satisfactory. I think there's (been) enough opportunity for me to fill in forms and go to meetings and getting my opinion voiced. I felt there was enough, there was consultation regularly in the mall”. Local business proprietor

There are at least two possible interpretations of this difference. Stakeholders are people more likely to have engaged in the process compared to the respondents who represent a much broader group. Another explanation is that community members

were unhappy with the decision to expand sanctuary zones and since they were unable to dispute or influence the final decision on this they have lost any faith they might have had in the process. A third possible interpretation is that park management did not engage the community's interest in the process. Stakeholders appear to have had a better understanding of the reasons for sanctuary zone expansion.

Residents were asked to rate the effectiveness of the communication channels used to communicate with the community during the park planning processes. (see Figure 6.39). Overall the community rated the communication channels used as mostly ineffective. In all instances except one, between 46% and 55% percent of respondents rated the techniques as ineffective. Between one fifth and one third of respondents provided a neutral response. The only communication technique more frequently rated as more effective (40%) than less effective (19%) was information accessed from DEC's Naturebase website, although this source also received the highest neutral response (41%). It is possible that many people do not have ready access to the internet, but that those who did found the information available on the Naturebase website very useful. Given rising levels of internet access this could mean that even more emphasis should be placed getting all relevant planning information onto a space on the website dedicated to specific projects or planning processes so that community members can download information at will.

Figure 6.39 - Perceived effectiveness of park agency communication with community and stakeholders during management planning



While most stakeholders felt that the range and opportunity for public consultation was adequate, residents felt that the communication was not effective.

“(DEC) did do a lot of community consultation. There were people in the shopping centres and there were mail outs to the local community, public meetings, by both the proponents of the marine park and the people unhappy with the proposals. There was a lot of opportunity for public consultation”. Tour Operator

Residents were asked to state the types of community involvement opportunities they participated in during the Ningaloo Marine Park management planning process. See Figure 6.14 on p158.

The level of participation in the range of opportunities that allowed for community input to the planning process was generally very low. Only public meetings rated higher than 50% participation. Participation was lowest at the earliest opportunities for comment and increased as the consultation process progressed, only rising above one third after the draft plan had already been made available. This could be interpreted as the community becoming more involved and interested as more

concrete proposals became known or as more information becomes available or as the community members became aware of the implications of the plan on them personally or on the local community. It could also mean that a more concerted effort (and perhaps different methods) are required by the park agency to garner public participation in the very early stages of the planning process.

Overall the results suggest that although local residents believe that effective community consultation is very important to the community in planning for the management of local parks, they rate many of the community consultation techniques used by the park agency as ineffective. This view is placed in context by a basic fact of human nature, as noted by one respondent.

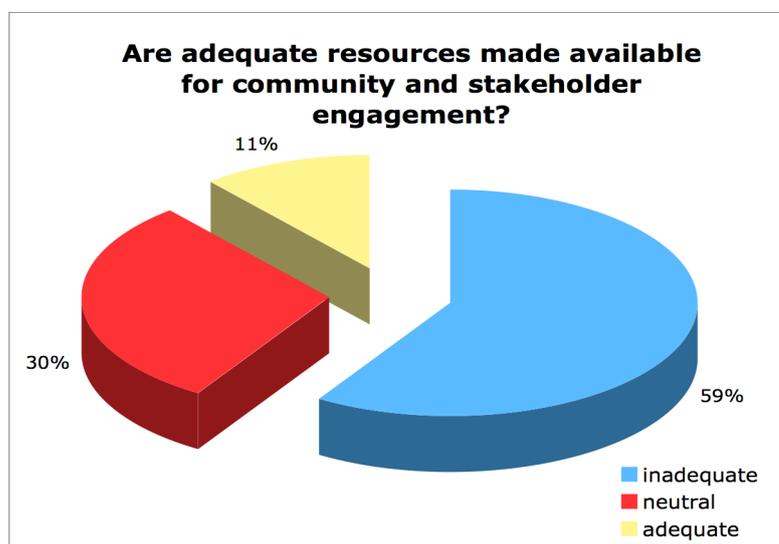
“People only feel like they have been consulted if they are listened to and get what they want”. Tour Operator

The qualitative results indicate that the opportunities for participation in the planning process and other management activities were adequate (but possibly not appropriate) while the quantitative results show that the level of community participation was very low.

6.3.2 Resources for management

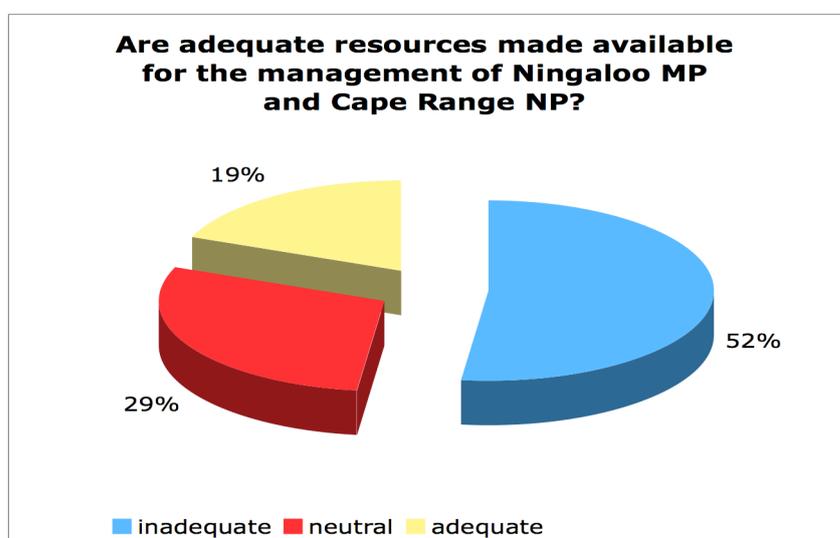
Residents were asked to rate the extent to which they believe resources are available for local community and stakeholder engagement (see Figure 6.40). Only 11% of respondents believe that the resources available for community engagement are adequate, while 59 % believe them to be inadequate, indicating that at least some community sympathy for the tasks faced by park management.

Figure 6.40 - Perceptions of the adequacy of resources available for community and stakeholder engagement



Residents were asked to rate the extent to which they believe resources are available for the management of Ningaloo Marine Park and Cape Range National Park more broadly (see Figure 6.41). Only 19% of respondents believe that the resources available for park management are adequate, while 52% believe them to be inadequate.

Figure 6.41 - Perceptions of the adequacy of resources available for park management



The results shown in Figures 6.40 and 6.41 are predictable in that most groups think they are ‘not getting enough’ (share of resources) in almost any context. In retrospect this was probably a poor question, though it does provide corroboration for the low evaluations of park management, both in terms of community involvement and more generally particularly in the event that portions of the community are not satisfied with the results of the process. A more focused question could have explored specific indicators that related to the community’s perceptions of inadequate resources for planning and management.

Many of the stakeholders also felt that policy making and planning was being conducted without adequate resources to meet the management commitments attached to those policies. It seems that locals feel cheated if certain restrictions are imposed in order to protect particular values (such as access to fishing areas through the expansion of sanctuary zones) and then these are not properly implemented. These results are consistent with the quantitative survey results.

“It’s a waste of time having this whole thing (national parks, sanctuary zones), unless it’s adequately resourced and that’s what we’ve been saying to CALM all the time”. Long term resident

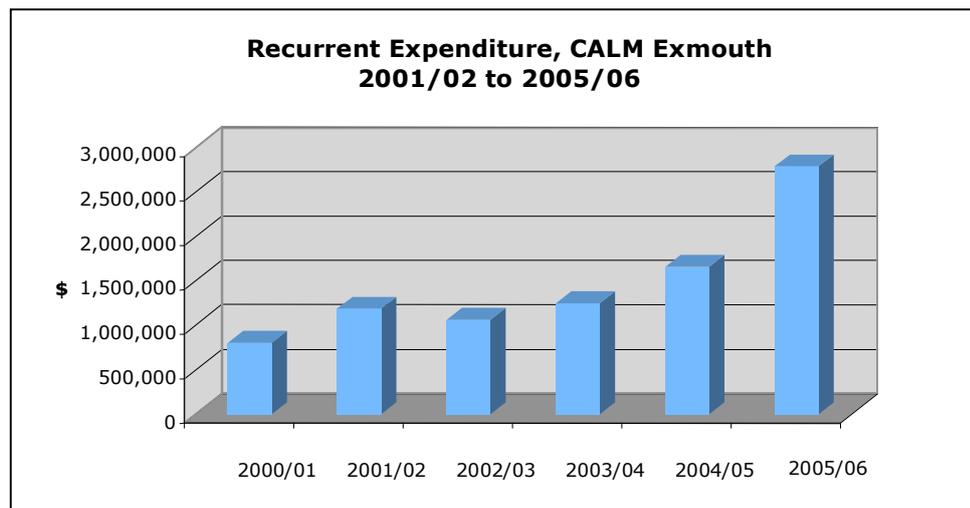
There is considerable community scepticism about government making decisions that require additional resources for management when it is perceived by the community that adequate resources are not currently available to manage the parks effectively. Future planning processes would gain greater support and involvement if there was prior government commitment to fund the outcomes of the processes that they put in train.

A view is held by several of the stakeholders, that if government makes decisions to achieve important conservation objectives (e.g. sanctuary zones) at the (perceived) expense of social or economic benefits which normally flow to the community, then these need to be fully implemented (policed), otherwise the process loses all credibility.

The community could provide important resource in policing because many users know the area intimately and can advise non-locals if they are in the wrong place or doing the wrong thing. But, if they feel they are being short-changed, then voluntary support will evaporate. An answer would appear to lie in building greater community ownership of the park management decisions. If a management plan is seen as a ‘community’ plan and not a park agency plan then the focus point of any negativity is shifted from DEC and absorbed more broadly within the community. After all, management plans serve the management of a public asset and should reflect broader community aspirations than just those of government.

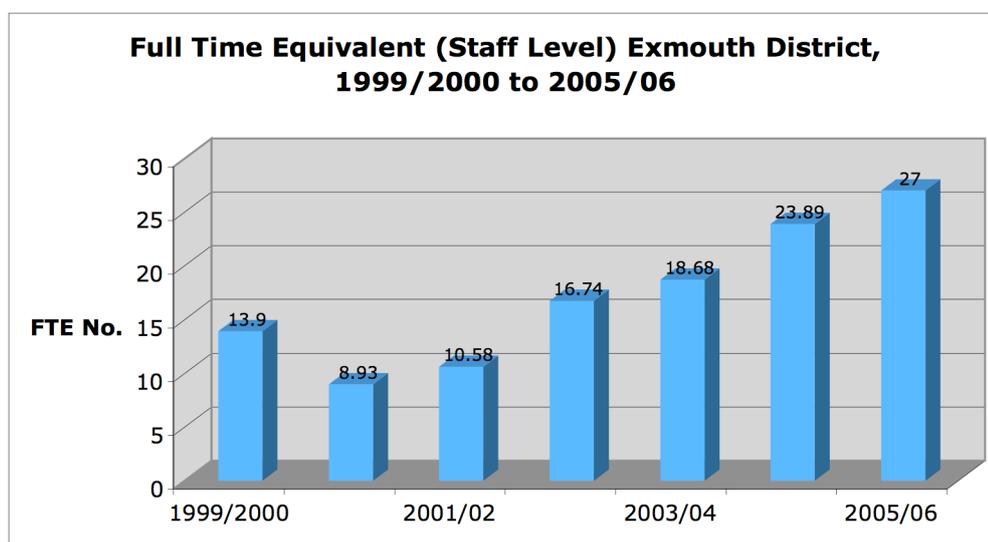
Figure 6.42 shows a consistent trend of increased levels of recurrent expenditure available for management of the Ningaloo coast. The level of resources available to manage the parks is a direct indication of the level of commitment by government to environmental management and to the implementation of management plan. The recurrent resources available for park management in the Exmouth District have increased by 250 % since 2001 and by 124% since 2003/04.

Figure 6.42 - Level of recurrent expenditure by local park management, 2001/02-2005/06



The increasing levels of recurrent funding is reflected in an increasing number of staff available for management of protected areas in the North West Cape area (see Figure 6.43). Staff numbers have grown by 155% since 2000/01.

Figure 6.43 - Level of staffing by local park management, 1999/2000-2005/06



Source: Department of Environment and Conservation,

There is consistency between the qualitative and quantitative data in respect to the application of resources to park management. Survey respondents and stakeholders alike believe that inadequate resources are currently available to manage the policies and programs put in place within the parks (particularly the enforcement of sanctuary zones within the marine park) and that additional resources are required to implement recent policy initiatives that are perceived to have had a negative social and economic impact on the local community (expanded sanctuary zones). Without these resources the community's cynicism of park management will grow, trust in park planning processes will further diminish and the effort required to restore community support for park management to an effective level will be immense. Figures 6.42 and 6.43 suggest that government and the park agency are actively addressing this issue since the completion of recent park planning processes.

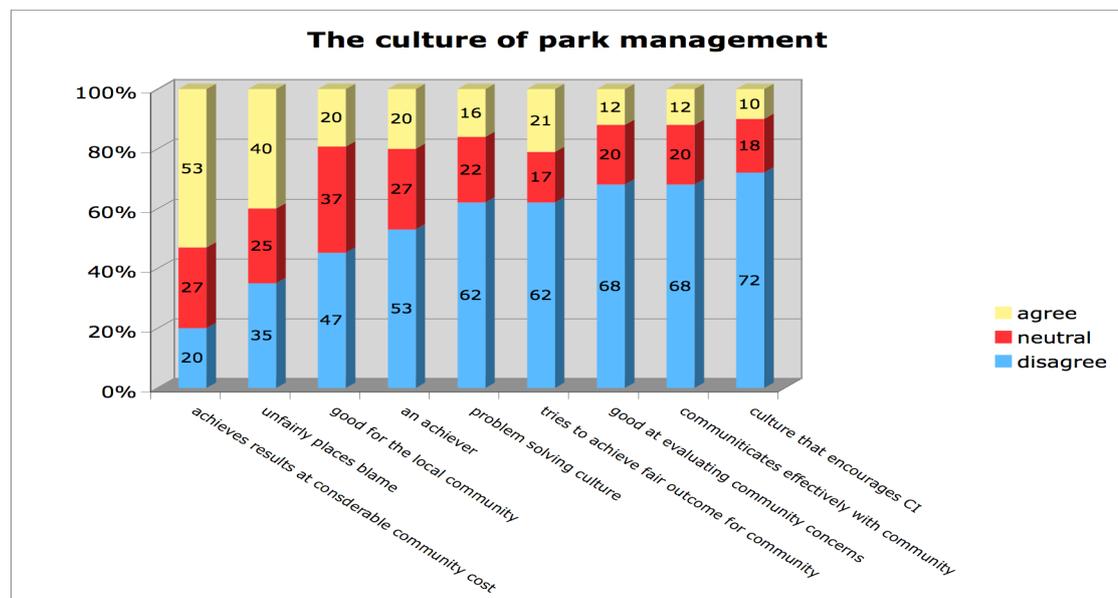
6.3.3 The culture of park management

Residents were asked to register their level of agreement or disagreement with a range of statements about the park management agency (see Figure 6.44). This question was designed to develop an understanding of the types of 'social representations' that the community has of the culture of the park management agency. Overall the perception that the community has of the park management agency is poor. The social representation that is painted by the respondents is of an

agency that: interacts and communicates poorly with the community; fails to interpret and understand community concerns; achieves outcomes for itself at some considerable cost to the community; and, is not good at solving problems (it is assumed this means problems arising for the community as a result of park management) or achieving fair results. Only a small number of respondents felt that the park agency was good for the community (20%). This is consistent with the earlier results described above that indicate that the community perceives that park management has a negative social impact on the community. These results are generally consistent with the qualitative results.

This dissatisfaction could arise from the range of perceived inadequacies described in this Chapter including, poor planning and community engagement processes, the role and actions of the park agency and the lack of resources necessary to deal with aspects of park management.

Figure 6.44 - Perceptions of the culture of park management



Many of these issues are taken up in the proceeding sections of 6.3.

Associated with the issue of park management culture is the perception that the community has of park management's willingness to consider and place importance on social and economic issues.

Residents were asked to assess the level of importance they perceive that the park agency places on social and economic issues. Figures 6.45 and 6.46 show a significant gap between the importance the community expects the park agency to place on social and economic issues and what it perceives that the agency does in this regard.

Figure 6.45 - The community's perception of the importance park management places on social issues

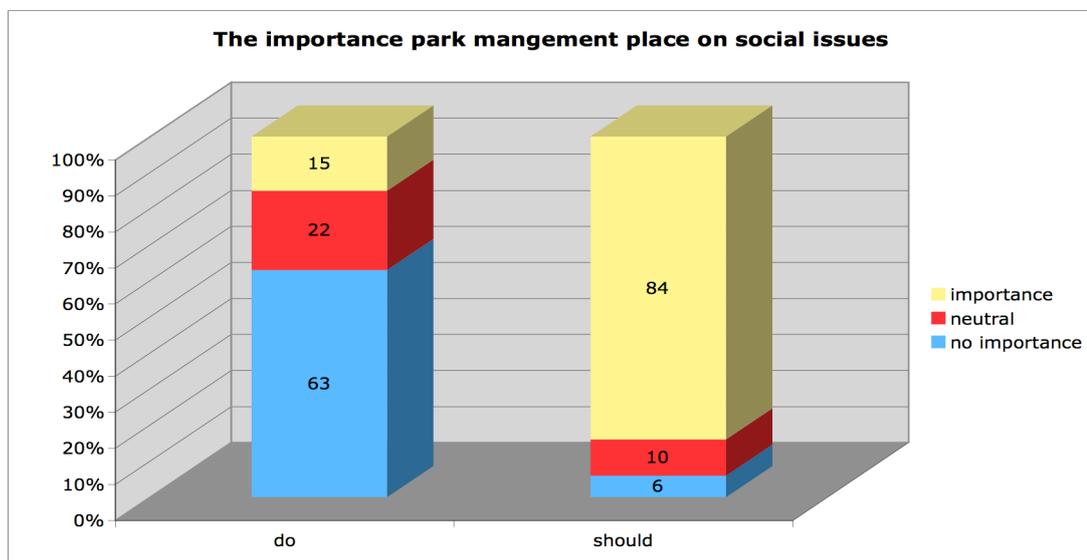
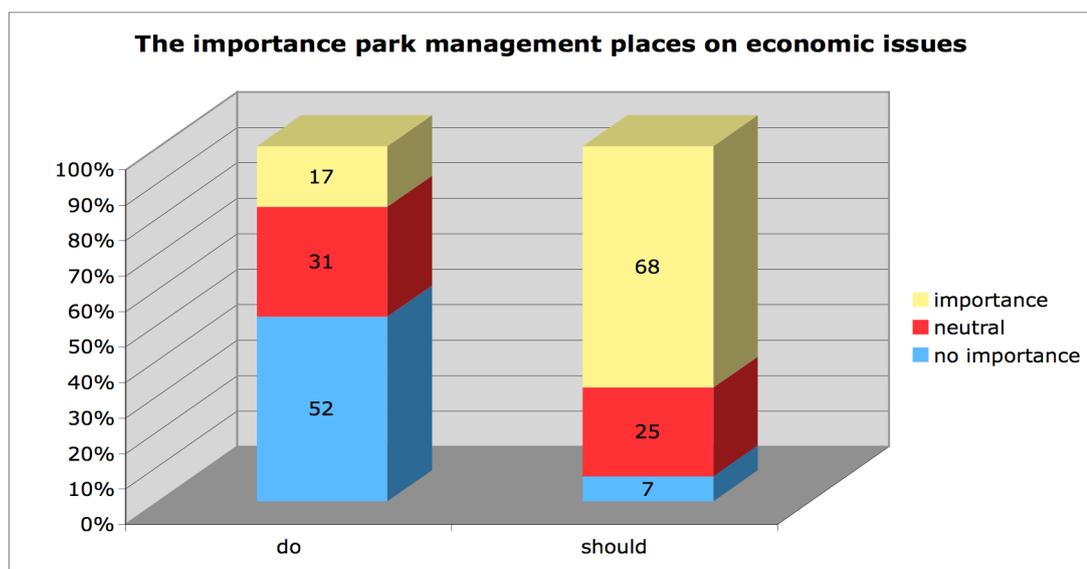


Figure 6.46 - The community's perception of the importance park management places on economic issues



6.3.4 Communication

One of the strongest themes to emerge from the quantitative research was the issue of communication. Only 12% of the community believe that the agency communicates effectively with it (see Figure 6.44).

“If there is a weakness in their operation (DEC) then it’s their ability to communicate with local communities”. Local business proprietor

The qualitative and quantitative data confirmed that the quality of park agency communication is a significant issue for the community. Both the qualitative and quantitative data alike suggests that almost all areas of park agency communication are deficient including: individual and organisational skills and processes for communication, strategic communication; planning and public relations; the lack of community and visitor education; and the level of resources applied to community consultation and communication.

Local people remember and recognise the former modus operandi of DEC and its predecessors and while it clear that communication rhetoric has changed over the years, the suggestion is that the underlying approach to communication has not. One local suggested that the perceived inadequacies are entrenched practices that have strong historical and cultural (organisational) connections.

“By 1984 the planning, and the concept of the Ningaloo Marine Park and its boundaries and the planning was well and truly advanced, but it was all done undercover” Ex Shire Councillor

Almost every stakeholder interviewed commented on the wide range of inadequacies in park management communication. These comments included: poor or absent (strategic) communication planning; the style of communication; the impact of poor communication on the community; the poor skills and lack of professional expertise associated with park agency communication; the lack of resources applied to agency communication; and the lack of agency response to media comments and letters to the editor.

There is a perception that things are done without explanation and at times in secret. This may be inadvertent or it may be a result of inadequate resources and skills. Whatever the reasons this perception diminishes goodwill and trust between park management and the community.

“They’re going to have to look at some way of being able to relate to the community better. They’ve got to start communicating what they’re doing and why they’re doing it more effectively”. Long term resident

One respondent suggested that much of the secret to managing the community is through good communication and having a good communication strategy. In his view the strategy should include allowing the community to believe they are in charge of their own destiny and are seen to be so.

An interpretation of the data suggests that it is how potential changes are introduced and communicated that has the greatest impact, (both positive and negative), not so much the change itself.

“From the perspective of the community the lack of information being put out there about what they are doing, people will always think the worst...”
Government employee

6.3.5 Community education

Associated with the perception of poor communication is a perception of lack of visitor education, information and awareness building. Locals perceive that the local community is largely conservation minded and environmentally responsible but that tourists aren't.

“That’s where I see CALM spending some money into the local community; on education, certainly educating the tourists, because a lot of the locals are pretty right”. Local business proprietor

There is a strong view among key stakeholders that a greater emphasis should be placed on education and “training” of visitors. The Chamber of Commerce believes that greater priority and resources is required on face-to-face “education” and liaison with community and visitors to explain appropriate behaviour, publicise conservation programs and achievements and explain why certain decisions are made.

“(CALM) probably require a full time public relations officer placed in Exmouth dealing with the coast, forgetting about Ranger duties, liasing between Carnarvon and Exmouth along that coast just educating people”. Local business proprietor

6.3.6 The planning process

The resident survey did not include a specific question about the effectiveness of the management planning process for Ningaloo Marine Park, However Figure 6.37 (p187) shows the residents’ response to the effectiveness of community consultation processes that form the basis of the planning process. While the planning process encompasses more than community involvement and consultation, the community reaction to the process does provide an indication of the community’s perception of the effectiveness of the planning process. Overall, several points can be interpreted about the planning process. First, large sections of the Ningaloo community feel the planning process has been unfair and poorly managed including the decision in regard to increasing the size of sanctuary zones.

“I have been treated like an uneducated and uncaring person in regard to the marine environment, which is the opposite of how I feel about ‘my own back yard’. I have invested here and I have been ignored” Local business person.

“That was an extremely badly managed process where the community still have a lot of hurt and resentment to that process”. A Shire representative commenting on the Ningaloo Marine Park planning process.

This demonstrates the significant power gap that exists between the government (and its land management agencies) and the Ningaloo coast community. Second, that the community is resistant to the formal authority of the planning process.

“I know a lot of locals that are saying they will just ignore the sanctuary zones. That’s how angry they are” Local respondent

Third, the concept of “access rights” or “property rights” is evident within the community. Several respondents commented on the attitude of “ownership” that exists within the community. There appears to be two different concepts of ownership. One is a healthy (protective or custodial) ownership and one of unhealthy (personal) ownership or possession. This personal ownership was exposed during the planning process when proposals were aired (sanctuary zones) to achieve environmentally sustainable objectives that would constrain personal freedoms.

What you have are locals that have been here forever, or think they have and say “I used to be able to do whatever I wanted to do and now I can’t and its you bastards (CALM) that are stopping me”. Local Tour Operator

Over 20 respondents to survey (mostly those identifying as fishers) made comments to the affect that they would keep on fishing within the new sanctuary zones. It is evident that there is a struggle for possession and control between local personal use and the perceived common good. It also demonstrates resistant power within some sectors of the community.

Stakeholders were asked to comment on whether they thought that anything else could be done to better engage and involve community and stakeholders in planning and management for the park. A number of issues were raised, including: the extent to which the park agency was organised and prepared for the management planning process including public consultation, the use of advisory committees and the attitude and approach taken to community consultation.

The comment below raises issues about the level of control and trust extended to the community by the park agency. It raises the issue of advisory committees, the level of representation on them, the level of decision-making and trust afforded to them.

“I really believe it’s fundamentally essential that the community has some form of participation and ownership and that you have to structure that community group, you’ve got to be able to somehow to the best of your ability select the right players, so you need to profile your community” Park Advisory Committee member

A number of stakeholders commented on the poor level of involvement of tourism operators in planning processes and inadequate organisation of the tourism industry when responding to park management and planning processes. This view is consistent with survey data.

“A lot of the commercial operators in Coral Bay they don’t get involved much in that consultation process. Either too busy, don’t have the time to put the effort into making submissions to those kinds of reports”. Tour operator, Coral Bay

While stakeholders believe that the community consultation processes are adequate, the way in which the processes are conducted and communicated is poor (see Section 6.3.4). This may indicate that the park management naively believe that the logic of science will speak for itself and therefore there is less effort applied by park management to strategic communication. The issue is therefore not what, but how, change is managed and communicated. Some areas of the planning process need to be intensively communicated.

6.3.7 Communities and community involvement

This section considered the community views on their involvement with park agency and their actual level of involvement. Respondents were asked to comment on what the park management agency could do to better engage the local community.

The strongest issues or themes to emerge include:

- the level of community support for park management is linked to the community’s relationship with (and image of) the park agency;
- the need for park management to develop a “genuine relationship” with the community, one that involves more than superficial communication;

- local park agency staff's relationship with community is compromised by having to meet central agency policy decisions and actions while often agreeing or sympathizing with local views; and
- The need for improved public relations and communication. As outlined in 6.3.4 on communication.

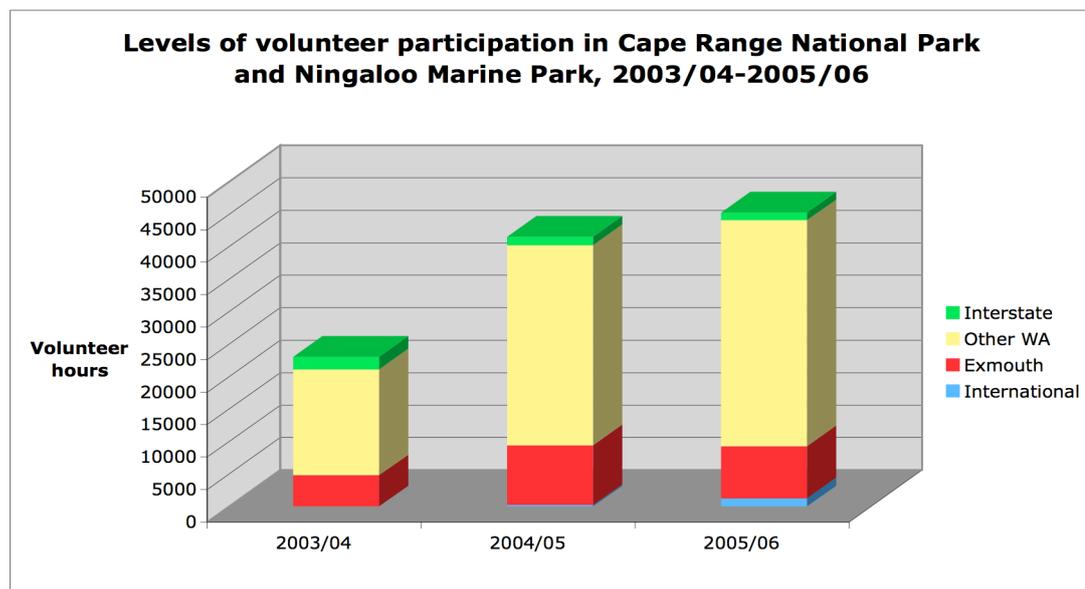
The overall sentiment was that DEC needed to work on building relationships with those who were disposed to improving park/community relations.

“DEC needs to engage with people who are not anti-DEC and build on that. You don't necessarily go and try to win over the disenfranchised and angry.” Local conservationist

Secondary data was collected to measure the level of community participation in park management.

DEC operates a volunteer program in the parks and reserves it manages across the state. In 2005/06 DEC recorded 500,000 hours of voluntary effort state-wide. Figure 6.47 shows the levels of volunteer effort for Cape Range National Park and Ningaloo Marine Park from 2003/04 - 2005/06. The level of voluntary effort provided to park management has grown significantly over the past few years. Non-local Western Australians contribute the greatest number of voluntary hours (76% in 2005/06) and is increasing its proportion, while local Exmouth residents' contribution has declined from 22% of the total in 2004/05 to 18% in 2005/06.

Figure 6.47 - Levels of volunteer involvement in local park management



Source: DEC RATIS Volunteer Database. Accessed September 2006

6.3.8 Government and political processes

There is a perception that, irrespective of the understanding of the facts surrounding a particular controversial event, political interference from outside ultimately determines the actions of the park agency. This has a long after-life and has the effect of eroding park agency/community trust.

There is a widely held perception that some of the big issues on the North West Cape have been highly politicised. Examples cited by local residents include Yardie Creek commercial tour boat access, the Ningaloo Marine park sanctuary zones and the World Heritage nomination process. While the World Heritage nomination process is a political process initiated and managed entirely from outside the perception is that political intervention from 'outside' impacts negatively on local park management. The high stakes associated with such highly valued areas (joint Commonwealth marine park, proposed World Heritage listing, etc) means that political intervention may be necessary and unavoidable; however a belief remains, rightly or wrongly that park agencies have the opportunity to deal with controversial issues in a way that may avoid or minimise political interference, and that parks agencies are often reluctant, unwilling or incapable of taking this path.

“(Local) people don’t understand due process, they don’t understand government decision making, they don’t understand that it was a Cabinet decision that it wasn’t a decision by DEC....it was a political decision” Local conservationist commenting on the decision to extend the number and size of sanctuary zones in Ningaloo Marine Park,

In contrast to this view is the view that local government needs to play a greater intermediary or leadership role in in facilitating the negotiations between park managers and the community, particularly in major planning processes. There is a perception that the local Shire representatives protect their political interest ahead of their responsibilities to the community.

“This is where you need to have the people that are involved in local government, and the people that understand the true value of conservation, out there standing up as community leaders supporting the final position. I think there aren’t those community leaders that understand those issues or if they do understand them they fear the impact on their leadership position”. Local operator

One issue to emerge independently from interviews with stakeholders was the perceived lack of integration between government agencies, poor coordination and communication and low levels of cooperation between agencies. These perceived inefficiencies frustrate local communities and contribute to a poor image of government overall. There is a perception that senior bureaucrats in government agencies don’t always act in the best interests of the state but just their own individual agency interests.

“Serving on this committee I was amazed to find that you have got all these different departments with all their own little power plays. I was surprised that there is not a whole lot of working together”. Local business proprietor

Stakeholders were asked to comment on how well park management processes balance those social and economic issues with their primary concern of managing the environment. There was a widespread feeling that the agency was not good at considering social and economic issues, particularly those social issues aside from

recreation. Drawing on the results of section 6.2.4 relating to the overall impact of park management there is strong view that park management focuses on environmental sustainability to the exclusion of issues relevant to social and economic sustainability. The two following comment appears to support view made in the previous comment.

“The community view is that it’s very narrow-minded of DEC as the environmental arm of the government to only deal with environmental issues when everyone else has to deal with environmental, social and economic issues.” Tour operator, Coral Bay

Tour operators reflect this in comments where park management actions can have a direct and immediate impact on the viability of tour operations. This does not imply that such actions should not occur but that the process of consulting and dealing with economic and social effects needs greater deliberation.

“We go to stakeholder meetings and are told that DEC can’t make (licensing) decisions based upon economic or social impacts, it deals largely with environmental impacts”. Tour operator.

6.3.10 Rebounding Impacts

6.3.10.1 The image of park management

An interesting aspect of the qualitative data was that it revealed a range of ‘consequential impacts’ arising from the poor relationship between park management and the community. These are impacts that rebound on the park agency as a result of the perceived or actual impacts of their policies on the community. These included the image that the community has of the park agency and the marginalisation of the agency and its staff that can occur as a result of poorly communicated or implemented park management policy and programs. The primary qualitative and quantitative data concur that the park agency has a poor image in the local community. The elements that contribute to this perception are multifaceted and include the agency’s attitude to achieving its goals, the way it communicates its activities and goals, the way it engages with the community and the way it develops

and nurtures its relationship with the community and community groups. These rebounding impacts are linked directly to the level of community support for park management, its contribution to park programs and its compliance with park policies.

The following quotes highlight the rebounding impact on management.

“I still believe CALM is an unfriendly organisation”. Local businessman

“CALM has such a negative image in town”. Tour Operator

6.3.10.2 Marginalisation

One aspect of these rebounding impacts, which emerged independently from the surveys, is the process of marginalisation of DEC staff within a small tourism community. Marginalisation is a deliberate but subversive process of relegating a person or a body to an unimportant or powerless position within a society or group (Merriam-Webster, 1986). Marginalisation has the affect of contracting the social interaction of targeted individuals and groups to safe and comfortable surroundings. This reinforces the us-and-them perception.

“I must admit I’d never experienced anything like this before. I mean I’ve been living in Exmouth now for four and a half years. Probably during that whole time there’s been controversy. All the changes, the Ningaloo Marine Park Management Plan, what was happening with exclusion areas on the coast, on the pastoral stations. I haven’t been a very liked person in town”. DEC Manager, Exmouth (Masters, 2006)

6.4 CONCLUSION

The research process collected three broad sets of data. These were; survey data that provides both qualitative and quantitative information; stakeholder interviews that provide qualitative data; and, secondary quantitative data sources. The three sources provided different perspectives into the perceived and actual social, economic and even political relationships between park management and the local community. The

following discussion provides a summary of the conclusions reached and highlights areas of congruence and divergence between the three data sources.

The survey data indicate that the local community perceives that the park management does an acceptable job at managing the environmental values of the two parks, although they perceive that there is room for improvement. A small but significant number of people also appear to be concerned about the impacts of management on the natural environment of the national park and marine park. Improved communication, public relations and information might bring about a positive change in these views about the impact of management on the parks' natural environment.

The results show the environmental and economic impacts of park management on the community as positive and neutral respectively. But it appears that when the question is changed to "satisfaction with the park agency" (DEC) and the focus to 'approach' rather than 'impact, the positive values evaporate. This tends to confirm the general view of the community that DEC's approach to the community has traditionally been 'top down'.

The community perceives that the parks make a significant (positive) contribution to the social and economic well being of the community and that this is often achieved in spite of what they see as some negative impacts of park management on the social and economic aspects of community life. Indeed, the secondary data overall indicates a very positive economic outlook for the coral coast economy so long as the parks are well managed. Almost 80% of the local community believe their economic future is directly related to the management of the parks. This issue is dealt with in greater detail in Chapter 7.

The quantitative data collected through stakeholder interviews suggests that this narrow stratum of stakeholders has a less negative view of park management's contribution to environmental and community values.

One significant difference between the survey data and the stakeholder interview data was over the issue of social impacts. While the survey data provided an

indication of the extent of local discontent with park management in respect to social issues, stakeholders were less concerned about or convinced of the negative social impacts of park management on e.g. recreational fishing than were the broader community (survey data). While this may suggest that vocal minorities can sway broader community views, the stakeholders had a greater understanding of the issues and were able to provide a richer and more informed view. The secondary quantitative data seeks to provide 'independent' statistical corroboration of the 'performance' of park management in showing concern for social and economic aspects of the community while maintaining its environmental responsibilities. Much of this data could be interpreted as demonstrating the consequences of effective or ineffective management of the social aspects of park management. Two main indicators (voluntary effort and local park pass purchases) show declining community interest and involvement and tend to confirm the negative attitudes of the community towards park management revealed in both the qualitative and quantitative data.

The qualitative and quantitative data confirmed that the quality of park agency communication is a significant issue for the community. Both sets of data confirm the view that almost all areas of park agency communication are seen as being deficient. There are no secondary data available to either confirm or reject this conclusion.

A difference between the data sets was found for community involvement in the park management planning processes, notably the planning for the Ningaloo Marine Park Management Plan. The quantitative data shows a low level of community satisfaction with the community consultation process and the opportunities for public input. This view is qualified by other qualitative (survey) data that reveals a perception of a disorganised community and low levels of participation in the various opportunities made available for public consultation. The qualitative data derived from stakeholders suggests a disorganised and (initially) apathetic community that lacked leadership and coordination in contributing to the park planning process, until proposals emerged that caused vocal minority elements in the community to feel threatened. This view is supported by the survey data.

An interesting aspect of the qualitative data was that it revealed a range of 'consequential impacts' arising from the poor relationship between park management and the community. These are impacts that rebound on the park agency as a result of the perceived or actual impacts of their policies on the community. These included the poor image that the community has of the park agency and the marginalisation of the agency and its staff that can occur as a result of poorly communicated or implemented park management policy and programs. The primary qualitative and quantitative data concur that the park agency has a poor image in the community. The elements that contribute to this perception are multifaceted and include the agency's attitude to achieving its goals, the way it communicates its activities and goals, the way it engages with the community and the way it develops and nurtures its relationship with the community and community groups. These rebounding impacts are linked directly to the level of community support for park management, its contribution to park programs and its compliance with park policies.

Some of the impacts of park management have a cumulative impact on the community psyche, many of which are unintended. These include a persistent lack of resources, inability to meet policy commitments, poor communication, poor explanation of reasons for decisions, lack of integration into communities, exemption from paying rates, an outsiders versus locals mindset and politically driven decisions. While these individual issues are perceived to cause an impact in their own right and most would be manageable if they were the only issues to deal with, the cumulative impact of several issues creates a significant negative image of park management.

A detailed examination of the quantitative data (cross tabulation) revealed that one particular group might have a disproportionate degree of influence in the community. The 40-59 age group is largest age group in the community, is very male dominated, has strong negative views on park management and consists mostly of longer term residents with relatively strong connections to recreational fishing and may have stronger connections in the future as this group enters retirement. It could be hypothesised that this group is attempting to secure its recreational future free from environmental controls that they perceive to be diminishing community social values. The issue of personal freedom is an issue for local community members, as they perceive park management as applying environmental and management

constraints that reduce or remove personal choice in the natural environment. Masters (2006) and Jones *et al.* (2007) also identified personal freedom as an issue for coastal campers on the Ningaloo coast.

There is consistency between the qualitative and quantitative data in respect to the application of resources to park management. The community and stakeholders alike believe that inadequate resources are currently available to manage the policy and programs put in place within the parks (particularly the enforcement of sanctuary zones within the marine park) and that additional resources are required to implement recent policy initiatives that are perceived to have had a negative social and economic impact on the local community (expanded sanctuary zones). Without these resources park management will have difficulty in attracting community support as trust in the park planning process which promises to deliver appropriate environmental actions, and are perceived by the community to be at the expense of some social values (recreational fishing) further diminishes.

A selection of the secondary quantitative data has been used to predict the region's current stage of Butler's tourism area life cycle. The data suggests that Exmouth is in an advanced stage of 'development' fuelled by recent land releases in Exmouth marina, a crucial stage in the cycle where good community relations are vital.

The overall impact of the prevailing park/community relationship is the involuntary production of a community psychology that fails to embrace community stewardship of an enormously valuable natural asset and thus the imprimatur to "manage" and develop the asset in a way that creates a sustainable tourism destination. Very few communities around the world can boast a world-class tourism asset in pristine condition, purchased by, managed and maintained by the taxpayer for its benefit. But this is a competitive advantage that is yet to be fully realised in this case.

CHAPTER 7 CONCLUSIONS, MANAGEMENT IMPLICATIONS AND RECOMMENDATIONS

This study contributes to the fields of conservation planning, sustainable tourism planning, natural area management and community participation. The results of this research provides valuable information about the community-park relationship in Australia and in particular an insight into the institutional approaches of a park agency to the planning and management of protected areas and the socio-economic effects of that management on adjoining local communities. This research is the first attempt in Australia to understand community perceptions of the impacts of protected area management on an adjoining park community.

This chapter has three main purposes. Firstly, to bring this thesis to a close by relating the results obtained from this study of the park/community relationship to the original research questions and to do so in the context of other research findings, secondly, to consider the implications of these results for the management of the protected area on the Ningaloo coast and thirdly, to make recommendations in respect of future management actions and research directions.

7.1 ADDRESSING THE RESEARCH QUESTIONS

This thesis investigated local community perceptions of the social and economic impact of protected area management on the Ningaloo coast. Five aspects were examined; the social and economic benefits and dis-benefits of protected areas; local community perceptions of social and economic benefits and dis-benefits of protected area management practices; local community perceptions of the extent to which park agencies consider social and economic issues in their management; the factors that contribute to the local community's perceptions of park management; and lastly the conditions under which park managers might obtain greater community support if greater consideration were given to socio-economic issues.

7.1.1 Research Question 1 and Research Question 2

What are the social and economic benefits of protected areas? What are the Ningaloo coast community's perceptions of the social and economic impacts (benefits and dis-benefits) on their community arising from protected areas and their management?

This research has shown that, at the international and national level, protected areas have direct positive economic impacts on local communities particularly in developed countries, primarily through the income generated by tourism activity. The degree to which this occurs at the individual park level depends on the location of the park, the specific nature of its attractions and the ability of the local community to capture and retain tourist expenditure within the local economy.

From a social perspective, protected areas provide a diverse and highly significant set of values and benefits. Parks and protected areas are social resources that provide opportunities and benefits for society, which include recreational, health, and emotional and spiritual values.

The protected areas of the Ningaloo coast are essential to the overall wellbeing of that local community. The majority of the community members who participated in the study place a high value on the parks meeting their personal and collective social needs, particularly through recreational fishing and other forms of outdoor recreation. While the local community understands the importance of maintaining environmental quality, it appears resistant to relinquishing personal benefits in favour of maintaining environmental quality.

The strong social preferences of the Ningaloo coast community mean that it judges the effectiveness of park management on the way the park agency meets their personal needs, notably the ways in which they communicate and interact with the community about the provision of and access to social (recreational) and economic opportunities.

There are clearly many ways of creating and managing the social and economic values derived from protected areas. Park management can change the social and economic costs and benefits (welfare distribution) derived from parks and the

distribution and redistribution of benefits is a major challenge for park management. The expansion of sanctuary zones in Ningaloo Marine Park (essentially a conservation measure) had the affect of redistributing the marine recreational values from extractive to experiential forms. Zoning is a most widely accepted management strategy to achieve conservation and environmental outcomes. Fortin and Gagnon in Canada (Fortin and Gagnon, 1999) also record the impacts of zoning. They also recorded many of the same positive and adverse impacts as identified in this research, including access restrictions, government investment in infrastructure, changes to infrastructure and direct and indirect employment.

The results from this research provide several insights into the perceptions of the Ningaloo coast community regarding the impacts of park management on their local community. These perceptions are summarised below.

Perceived impairment of social and economic benefits

The research indicates that the majority of local community members hold negative perceptions of park management because of the perceived impairment by park management of the social and economic values and benefits that exist in or are derived from the protected areas. These impacts and perceived impacts include loss of recreational fishing sites and access, loss of community cohesion, loss of tourism expenditure derived from fishing tourism, loss of lifestyle, over regulation and the “loss of freedom”.

Figures 7.1 and 7.2 illustrate local community perceptions of the impact of parks and park management respectively, on the Ningaloo coast community. The local community believes that the parks have a positive influence on their lifestyles and businesses but park management is seen as having a largely negative or neutral influence upon them. Thus their perception is that the local community would survive and prosper without input from park management. Put another way, the local community perceives that park management impedes the social and economic benefits that can be derived from these parks.

Figure 7.1 - Perceptions of the impact of the park management agency on local communities

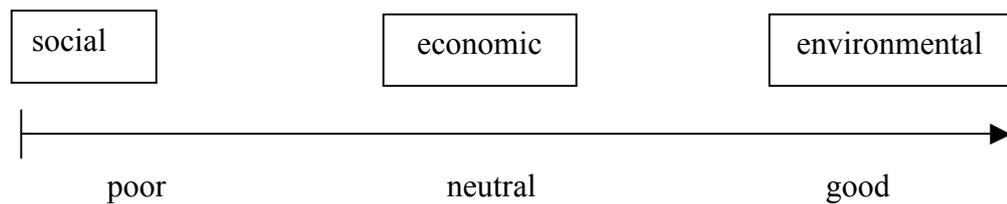
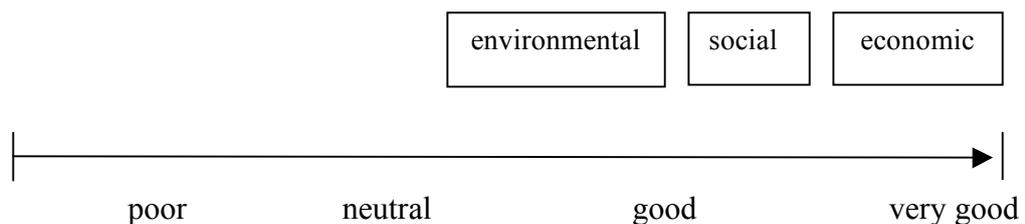


Figure 7.2 - Perceptions of the impact of the existence of parks on local communities



The Ningaloo coast community perceive the parks as a common pool resource. This is consistent with Hardin's principle of the "commons" and with related research by Ostrom (1999) and Dietz *et al.* (2003). The opportunities and assets generated by park management on the Ningaloo coast are taken for granted or are expected by the community to endure regardless of park management. Any benefits derived from the park are seen as either inherent or attributed to the work of individuals, businesses and the local community with little or no benefits attributed to the efforts of park management.

The impact of governance on perceptions

This research has shown that the application of an appropriate governance model (institutional approach) is critical to achieving appropriate levels of support for resource (park) planning exercises. While the local community recognises the positive impact of park management on environmental values, it is not satisfied with the approach taken to achieve these results. While park planning is designed to protect and enhance environmental and biodiversity values, it must also ensure that

social and economic costs are minimised and that benefits are maximised, while not impairing the natural and cultural values. While not articulated directly by the community, the inference is that an appropriate and effective governance model (one where the balance of power is more even) is essential to achieving ecologically sustainable development in protected areas. Many of these consequential adverse social and economic impacts are symptoms of an approach to governance that produces benefits that are perceived to be unbalanced.

A more balanced decision-making process involving community and stakeholders in planning and management is required and this may introduce alternative forms of governance. Research by Brown (2002), Adger *et al.* (2002), Raco and Flint (2001) and Brown *et al.* (2000) supports the need for alternative decision-making processes and more effective governance models for protected areas and involving local communities. It is recommended that further research be undertaken to explore more deeply the models, concepts and options for governance in the park-community context.

Perceptions of loss of power

Central to the issue of governance is the use of power. The State has enormous power over the Ningaloo coast community. Planning controls available to the State either under various statutes or through public policy process provide it with the capacity to control the outcomes of most planning and approval processes. Furthermore, the resources that the Ningaloo coast community depend on to meet their social and economic requirements are almost entirely controlled by the State, (and particularly by park management) either directly or indirectly.

Government and its agencies therefore have the potential to cause major changes within local communities through changes to public policy, and these can be perceived as having both positive and negative consequences. The formal powers and the institutional behaviours imbued within the park agency culture drive the management planning process, as do other major national and international initiatives such as world heritage proposals. How these changes are managed (the involvement of and communication and consultation with the community) and the

outcomes they produce have important implications for the way the park management agency is perceived and judged by the community.

For example, the management planning process for Ningaloo Marine Park attempted to rectify the perceived inadequacies of protection for biodiversity by extending the size of sanctuary zones. The processes adopted scientific, physical/spatial approaches to the relative exclusion of other approaches, inputs, views and alternative forms of evidence. A community-oriented approach may have achieved a greater level of local acceptance of the planning outcomes. The perceived lack of resources for implementation of the new zoning policy and the loss of local support has meant that the process cannot achieve ESD objectives.

The Ningaloo coast community appears fearful of what they perceive as park management's possible negative effects on the economic and social benefits that they derive from the parks. The Ningaloo community may have reason to be concerned, Dietz *et al.* (2003) suggests that traditional government approaches to the governance of common resources has been based on "command and control" and are not universally successful. While changes in public policy can bring about negative economic and social impacts, the community seems to have an expectation that all park managements' public policy impacts on their personal interests should be neutral or beneficial. While this may be an idealistic expectation it may reflect a desire by the local community for a governance model that provides greater local involvement and say in the management of local resources.

The local community places a great deal of importance on the economic values generated by the parks and thus believes that the community's future is strongly linked to park management. However, the issue of the expansion of the sanctuary zones appears to have damaged relations between the local community and park management. The community points to the establishment of the new sanctuary zones as an illustration of the threat that park management (planning) poses to its economic and lifestyle values. As such, any constraint imposed by management on their access to and use of these values is likely to elicit a negative response.

The positive influence of informed stakeholders

Most stakeholders hold a less negative view of park management and its contribution to local social and economic values and displayed a good understanding of park management issues. Stakeholders believe that the adverse social impacts of park management may not be as severe as some residents believe, including those on recreational fishing. Stakeholders often express greater support for park management as a result of their greater appreciation and understanding of the challenges faced by park management and its associated roles and responsibilities. This fact alone suggests that greater park-community interaction (as occurs between park managers and stakeholders) creates improved appreciation and support for mutual goals.

Local stakeholders provided both historic and contemporary views of the parks' values and of how these have been managed and of the changing community attitudes to conservation and the environment. Virtually all the stakeholders largely attribute these (as they perceive them, positive) attitudinal changes towards the value of parks, to the presence of the parks and the actions of park management. It therefore follows that greater interaction between the leadership of stakeholder groups and the community would assist in providing a more informed and balanced view of community attitudes to park management. It may also suggest that vocal minorities can sway broader community views but have less influence on community leaders.

The need for improved park agency communication and community involvement in planning

The local community claims to place a high degree of importance on community involvement in park planning. However, the level of community awareness of and participation in park activities including involvement in management planning on the Ningaloo coast has been low. In respect to the latter point this is particularly so in the early stages of the planning process.

Low levels of participation may be related to the community's perceptions of bias in the planning process. The research suggests that the community perceives that park

planning is about planning exclusively for the environment and that its outcomes are largely predetermined. It also suggests that the community perceives that the park agency is largely unaware of or uninterested in social and economic issues and the impacts that can arise from management constraints applied to mitigate the environmental impacts of human use. This is borne out by Wallner's (2004) comparative study of the perceptions of local communities towards protected areas in Switzerland and the Ukraine, which found that local acceptance of protected areas depends largely on whether people recognise their own interests in the goals of the reserve.

The community perceives park management as largely to blame for ineffective communication of the various components of the park planning process. The apparent absence of a comprehensive and inclusive approach to community involvement in planning (e.g. information gathering, broad representative involvement) points to a lost opportunity for park management to sell the biodiversity and conservation message at Ningaloo. Information and education programs that develop a greater appreciation and understanding of conservation and biodiversity values and of the links between conservation and biodiversity and local economic and social development are needed.

Managing change

While the imposition of appropriate constraints to use is necessary the most important issue for communities is not change itself but the way that change is managed and communicated by those proposing change. This view is also shared by Hamu *et.al* (2004). This research indicates that change proposals have a greater chance of success if a long-standing park-community relationship can be established and nurtured through the cultivation of genuine, ongoing communication and community programs. This places an important responsibility on local park management staff to develop and maintain a strong park-community relationship irrespective of the timing of specific planning and policy processes. Such a relationship is likely to generate spin-offs in the form of more sustainable tourism benefits. In that regard, this research is consistent with research and publications by Hall (2000b), Nepal (2000) and Murphy (1985). However Lam (2004) suggests that

‘improved’ or ‘positive’ park-community relationships are not easily translated into long-term conservation benefits. The research suggests that the community believes that a strong park-community relationship does not exist and that neither the tourism industry nor the community are well organised to adequately contribute to park management.

Most residents do not consider themselves part of the tourism industry despite the fact that there are no major industries in the area other than tourism and a relatively small commercial fishing industry. Many local businesses provide goods or services to tourism businesses and are therefore indirectly dependent on the tourism industry. It is likely that most residents have an inadequate understanding of the local ramifications of the tourism industry; of how it operates at the local, regional, national and international levels and of the relationship between tourism and more general sustainability for the region. These findings are similar to Berry and Ladkin (1997) in the United Kingdom who found local tourism businesses likewise had a poor understanding of sustainable tourism.

Park agency culture stifles community interaction

Institutional frameworks, values and constraints form the culture within which most park management agencies, including DEC operate. To a large degree, this culture pre-determines the form of governance applied to management of the parks and dictates the approach taken to implement many of the actions and practices that DEC undertakes including conservation, communication, community engagement and the (generally low) priority it gives to social and economic issues.

A product of the culture of protected area agencies is a belief that rationales from conservation science underlie all decision-making. While there is a fundamental need to understand the biological and biophysical environment of parks, the tendency to embrace science to the exclusion of other perspectives relegates social and cultural understandings to a secondary position. This approach generally has the affect of alienating communities.

The community perceives the park agency (DEC) as an unfriendly organisation. Some park agency behaviour appears to be inadvertent, caused by the inability of park managers and park planners to communicate effectively with the community thereby creating the impression that it is unfriendly. Associated with this image is the perception that the community is over-regulated by park management. This is not surprising since DEC is the dominant landowner on the Ningaloo coast and the government is a major force in managing landuse (fishing, pastoral leases, planning, military areas) in some form or other.

Despite this, the local community perceives that DEC employs outmoded top-down approaches to communicate and engage with the community. A more systematic strategic and planned approach to the communication of major planning and policy proposals and a more inclusionary approach to management is required if DEC wishes to grow community support and maintain a political constituency amongst communities adjacent to protected areas.

7.1.2 Research Question 3

What are the Ningaloo coast community's perceptions of the extent to which park management considers the socio-economic concerns of their community during planning and management of adjacent protected areas?

A number of results point to the community having little faith in the park agency considering their views on social and economic issues of concern to them. The community perceives that park agency communication (Figure 6.38) and public involvement components (Figure 6.39) of the planning process are largely ineffective and that its ability to evaluate and address community concerns is limited (Figure 6.44). It may be that the combination of these issues, as perceived by the community has led it to conclude that the park agency places little importance on social and economic issues (See Figures 6.45 and 6.46)

The research suggests that social, economic, cultural and historical issues that may contribute to a contrary or moderating influence on the planning outcomes are given lower status by park management in the formal planning process.

There is no evidence in its processes that DEC undertook a comprehensive assessment of the social and economic effects of proposed changes to park policy at Ningaloo. There is some evidence that DEC has begun to adopt some elements of new approaches to community engagement that would allow greater consideration of socio-economic issues, though its procedures are dominated by the traditional top-down approach to planning.

7.1.3 Research Question 4

What are the factors that contribute to the Ningaloo coast community's perceptions of park management in managing Ningaloo Marine Park and Cape Range National Park?

The elements that contribute to DEC's poor image in the community are multifaceted and include DEC being the 'face of government' in the area, the perceptions of the agency's singular focus on achieving its conservation goals; the way it communicates its activities and goals; the way it engages with the community; and its failure to fully develop effective governance and communication networks with the community and other stakeholders.

The survey and interview data highlighted six inter-related factors that contribute to local community's perceptions of park management on the Ningaloo coast:

- **Culture**
- **Understanding communities**
- **Communication**
- **Effectiveness of consultation processes**
- **Insular attitude**
- **Political involvement and power.**

Culture

The culture of the park agency pervades all other perceptions of management. Protected area management is perceived by the local community and, to a certain extent by the park management group, to be centrally driven, (top-down approach) one dimensional and pre-determined and the park agency is seen to have difficulty in escaping from the 'classic' form of government, which Eagles (2008:42) refers to as the 'Golden Era' model of park management, where the ownership, funding and management entity is all controlled by the state. The reluctance of the agency to share power limits its ability to achieve a range of other outcomes, particularly good

communication with the community and collaborative/networked forms of governance.

If protected areas are viewed as social constructs, and their continued management and use is valued by society, then no government is capable of determining their development without community input. This is supported by Newman *et al.* (2004) who suggest that the role of state needs to shift from 'governing' to 'governance' where its role moves from direct forms of control to more collaborative forms of involvement.

Understanding communities

The park agency is perceived to be relatively reluctant to expend effort in understanding the demographic and attitudinal profile of the communities with which they interact. This may reflect the agency's inadequacies in engaging in dialogue with local communities and the absence of social inclusion programs and policy. As such the perception can result that the park agency either does not consider these issues as a priority for the allocation of resources, or operate on the basis that those community views, which differ from their own, are not important. The agency's approach to community interaction is seen as a factor of its current culture.

Communication

The agency's approach to communication is likewise seen as a factor of its culture. The park agency is perceived by the community to exhibit poor communication in all its facets, including individual and organisational skills, processes for communication, strategic communication planning and public relations, the lack of community and visitor education and the level of resources applied to community consultation and communication. The park management/agency often failed to explain to community members why it was undertaking certain activities. As suggested by Hamu *et al.* (2004:277) conflict will arise when park management fails to adequately communicate with their stakeholders and to involve stakeholders in protected area policy and management. There are strong arguments for protected area agencies to adopt for strategic communication strategies in protected area management that incorporate most areas of the agency's operation. As suggested by Alcorn *et al.* (2005) it is inevitable that networked hybrid organisations will become

the de-facto managers of many protected areas in the future and thus strategic communication will become an essential part of government's role as a coordinator.

Ineffectiveness of community consultation processes

Park management planning is the most important process that a park agency enters into with a community. Planning is a relational process; a process of engagement that forces individuals and groups to communicate and negotiate. The community perception is that, to date, the planning processes have not been inclusive.

DEC's inadequate community engagement processes (as perceived by the local community) and resultant lack of understanding of community attitudes and aspirations causes a lack of balance in the way that it considers the broader implications of park management. This in turn largely determines the issues on which DEC engages the community.

Achieving successful outcomes from park planning processes requires an investment in strategic communication, and in building community relationships through genuine dialogue and action through appropriate forms of governance. To be effective this will require a concerted and continuous effort that occurs irrespective of planning and political timeframes and processes.

Insular attitude

Park staff have been criticised for not developing personal relationships within the community and getting to know and understand local people by participating in community events and becoming "one of us". Local park management staff are wedged between the expectations of two different cultures and this poses significant difficulties for local park staff in breaching the cultural divide. This situation is symptomatic of the prevailing governance model and of the formal and informal institutions of the bureaucracy that constrain local park staff from being captured by the formal and informal institutions of this small local community.

Political involvement and power

Protected area management and the protection of nature in general are highly politicized activities (Francis, 2008). The high social and economic values of the

Ningaloo coast and the national and international processes related to their management heighten its political significance. The power applied to alter decisions through political means (like the decision by government to increase the sanctuary zones beyond the levels recommended by the planning process) may be perceived as being an illegitimate or dominant use of power and thus the community's perception of the value of park management is diminished. Lack of trust in processes translates to a lack of trust in the park management.

7.1.4 Research Question 5

Would a greater consideration of socio-economic issues by park managers lead to greater support for conservation objectives within the Ningaloo coast community?

In retrospect, this research question could have been better worded to ask “in what ways or under what conditions would park managers obtain greater community support if greater consideration were given to socio-economic issues”? This would have avoided a yes or no answer. Fortunately the data obtained does permit this question to be answered as it should have been phrased.

The consequence of a poor relationship between park management and the local community is a low level of physical involvement by the community in park management (stewardship) initiatives. Resources for park management are generally perceived by the local community to be inadequate to maintain the natural, cultural and physical values of the parks. While the local community expects far greater resources to be applied to communication, especially to community and visitor education and the communication of management proposals and actions, a weak relationship with the park agency compromises the agency's ability to attract local political support for improved management resources.

Ironically, improved park agency communication and governance arrangements is likely to lead to greater support for park management (see Section 6.1.5). While the present potential to develop broad community park stewardship, led and organised by the local community appears limited, the long term potential for broad stewardship, as expressed through the community's willingness to work with park

management, and incorporating non-local and tourist support, appears to be an achievable goal.

This research indicates that the community is open to working more closely with the park agency in order to achieve more balanced outcomes, both for the park and for community interests (see Section 6.1.7). The avenue for building community support appears to be related to communities seeing their own interests reflected in park management. Whether this view can be converted into greater support for conservation and protection is yet to be determined.

The short answer to the original question is, therefore yes. However a simple and easy solution is not at hand. A commitment to improving the park community relationship, hard work and a mutual respect for respective and mutual goals will be necessary.

7.2 IMPLICATIONS FOR MANAGEMENT

The Ningaloo coast is becoming an increasingly complex destination. In less than 20 years the area has moved from being a simple local service centre to a place of international prominence. A combination of factors has increased the complexities of management of the Ningaloo coast. Improved road and air infrastructure has increased access to the area. Greater awareness of the natural values of the area has increased visitation. Arising from these values, international and national policy (World Heritage site proposal, national reserve system) settings have strongly influenced the development of a series of state policy positions (marine reserve extension, increased marine park protection, pastoral land excision, rejection of major resort developments, nature based tourism marketing) on the Ningaloo coast. A once isolated and insular community is experiencing a range of influences including the effects of globalisation, climate change, changes to civil society and governance. At another level an affluent and aging Australian population (baby boomers) is contributing to rapid tourism development in the area within a regional landscape that is in transition from primary industry to multiple use. Whether these changes place greater stress on the environment or act as a catalyst for further

protection (or both) depends largely on the presence and ability of park agency and of community leadership to communicate and interact with a growing and diversifying local population.

The research has identified the following three main areas that have implications for management.

7.2.1 Balancing competing values

Park management involves making policy decisions about values. Hancock's (1972:189) reference to the relationship between policy and values is entirely relevant to the Ningaloo coast. As Hancock explained; "explicitly or implicitly, every debate on policy is a debate about values. In a democracy, the debate is continuous. It involves everybody". Park management planning and decision making needs to ensure that it elicits, understands, considers and where appropriate, protects and accommodates the full range of values that exist in a particular protected area.

Changes in public policy can have drastic, simultaneous, positive and negative effects on local communities. Park managers should understand the potential effects of policy change on communities by undertaking appropriate research and community consultation.

It is critically important for the future effectiveness of protected areas that protected area managers appreciate the divergent objectives of local stakeholders for the management of protected areas. For example, as some local communities become more reliant on protected areas (as is the case in Exmouth), park managers need to recognise the dynamics of tourism related economies. Protected area managers need to better integrate their planning and activities into the community and to give weight to other values.

Achieving a balance between competing values that is acceptable to all players will never be possible. However it is possible to achieve greater support for park planning decisions through more inclusive processes and regular communication.

Park management needs to invest more resources in educating staff about the role of parks in meeting the social and economic aspirations of communities and skilling staff in the processes of community interaction including innovative techniques for engaging and communicating with the community.

Park management has a responsibility to invest more resources in assisting the community to develop a better appreciation of non-utilitarian values. This includes facilitating community understanding of the connection between achieving their recreational or business interests and achieving long-term conservation goals.

7.2.2 Governance

The development of strong community stewardship of parks and DEC's disposition to maintain a 'governing' role over parks are at odds and this creates a tension that needs to be overcome if this goal is to be achieved. A discourse at the government and park agency levels about community engagement, public participation, stakeholder processes, trust building and the development of social capital in park affected communities needs to occur. All these aspects and more are recognised by Francis as necessary to "put protection for protected areas on a sounder basis" (Francis, 2008:17). This will require DEC to clearly articulate its preferred "governance" model(s) to its community partners and stakeholders and to adopt principles for governance (see Graham *et al.*, (2003)) that reflect contemporary thinking.

Protected areas are social constructs and their survival depends largely on the political and community support that protected area agencies receive as a result of their management. Small constituencies in regional locations can undermine attempts by park agencies to build broad community support for park management and the extension of the protected area system. The national and international focus on the Ningaloo coast means that DEC cannot afford to have a weak relationship with the local community. The smaller and more isolated the community the more significant political and operational implications for not attending to improved park/community relationship and processes become.

The Ningaloo coast has the potential to provide an exceptionally bright future for its local communities, based largely on the inherent natural and cultural values of Ningaloo Marine Park, Cape Range National Park and other associated reserves. Whether this potential is fully met depends largely on the ability of park management, local government and the community to come together to agree on a suitable governance arrangement and plan for a sustainable future.

DEC needs to initiate several actions to achieve improved management outcomes with the Ningaloo coast community. Most importantly it needs to demonstrate to the community that it does manage for outcomes beyond its ecological focus and that it is able to adopt a more holistic view of management by articulating its commitment to environmental, social and economic sustainability.

7.2.3 Managing tourism growth

The rapid residential growth apparent in Exmouth will bring with it significant social and environmental challenges and will raise questions about the long-term sustainability of the Ningaloo coast. Park management has a responsibility to protect the ecological values and processes evident in the two parks by continuing to inform and educate government, stakeholders and the local and broader communities of the limits to environmental change that these systems are able to tolerate. Ongoing ecological and social research and monitoring of the natural systems and processes and the impacts of human use is essential.

Tourism in Exmouth has moved beyond the exploration and involvement stages and is now well advanced in the development stage. The implication of this is that, unless the tourism industry is organised and well prepared to manage the rapid growth currently being witnessed, the economic opportunities that present themselves may be lost and the typical boom/bust cycle will prevail (i.e. it will enter Butler's (1980) phases of stagnation and decline).

There is significant potential for future tourism growth to impact on the environmental values of the park if the competing of values of economic growth and environmental protection are not managed effectively. The application of a

sustainability model that considers social, economic, environmental and governance components is essential if sustainable development is to be achieved.

Managing change requires a cooperative effort to establish appropriate models for planning, communication and cooperation between government organisations and between government and the community.

7.2.4 Transferability of the research

Most of the issues of concern to the Ningaloo coast community are about park management culture, the practices of protected area agencies and their prevailing institutional arrangements and governance systems. These concerns are largely universal and well described by the published material (Eagles, 2008). Likewise, while each community possesses cultural and demographic differences and has its own particular circumstances, individual and community needs in respect to protected areas are likely to be similar. Therefore it can be expected that the findings of this research will be similar to those for local communities in many locations particularly for those with a dependence on tourism. Research into community consultation processes conducted into the management of the Great Barrier Reef Marine Park (Futureye Pty Ltd, 2004) made similar findings, particularly in relation to park agency communication, management structure and approaches to sustainability.

7.3 RECOMMENDATIONS

Based on the results of this research it is recommended that DEC undertake the following actions: -

A new paradigm of engagement

- foster the development of a new management paradigm that involves park management willingly sharing its authoritative power with the community.

This will require significant shifts in thinking and power at the individual, group and organisational level;

- explore appropriate models of park governance with the local community that create the potential to build a relationship based on local stewardship, trust and cooperation that fosters a deliberate alternative trajectory for the tourism industry;

Integration

- ensure that ESD principles are embedded in all areas of planning and management including annual works programs. A new paradigm (a cultural shift) that is able to integrate social and economic thinking into decision-making processes is essential to achieving community stewardship;
- ensure that research into social and economic issues for major park planning and projects is undertaken prior to commencement to ensure that major issues are identified and considered;

Building community capacity

- improve the coordination and input from the community to planning processes (particularly early on) to ensure improved participation in and ownership of community consultation outcomes;
- conduct regular workshops, open days and information nights that highlight the environmental, social and economic values of the protected areas of the Ningaloo coast;

Coordination of community engagement

- review and revise agency wide community consultation and involvement processes and programs with a view to building greater community involvement and stewardship of protected areas;
- dedicate senior staff and resources to better oversee, coordinate and integrate community engagement processes and monitor community issues across all areas of DEC business;

Park agency communication

- develop a communication and public relations strategy that encourages two-way communication and provides regular information on current and ongoing park initiatives that includes procedures for eliciting, receiving and responding to community concerns; and
- build staff capacity in the areas of communication, community interaction/connection, sustainable development models, issue identification and management and knowledge of social and economic issues in local and regional communities;

The findings of this research suggest (among other things) that an effective governance model and effective communication of the social, environmental and economic values of parks and protected areas are essential to building constituency and community support for their management and protection. This is supported by Phillips (2000), who believes that protected areas are vital to all neighbouring human communities as recognised in the main theme for the 2003 Durban IUCN World Parks Congress on Protected Areas - 'Benefits Beyond Boundaries' (IUCN, 2005). He also notes (Conner and Gilligan, 2003:1) "there is a growing need for conservation agencies to communicate to decision makers, and the general public and other influential interest groups that natural and cultural heritage conservation plays a crucial and irreplaceable role in maintaining human welfare, and needs government and community support to continue to play this role".

GLOSSARY

Anthropocentrism is any action or influence that regards humans as superior to other forms of life (human centred). Anthropocentrism perceives things only in human terms or benefits.

Biocentrism (or ecocentrism) puts the ecosphere first and stresses the value of non human species over an above instrumental values (Aplin, 1998)

Biodiversity is the variety of all life forms - the different plants, animals, fungi and micro-organisms, the genes they contain, and the ecosystems of which they form part. Biological diversity is considered at three levels; genetic, species and ecological (CALM, 2004)

Biome: In ecology, a biome is a major regional group of distinctive plant, and animal communities best adapted to the region's physical natural environment, latitude, altitude and terrain factors. A biome is composed of communities at stable steady state and all associated transitional, disturbed, or degraded, vegetation, fauna and soils, but can often be identified by the climax vegetation type.

Common pool resources consist of “natural and human made facilities or stocks that generate flows of usable resource units over time”. Examples include fisheries, forests and ground water aquifers. (Ostrom and Schlager, 1996:129)

Ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature that promotes conservation, has low visitor impact and provides for beneficially active socio-economic involvement of local populations. (Ceballos-Lescurain, 1996:20)

Protected Area: An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources and managed through legal and effective means. (IUCN, 1994)

Positivism: A philosophy that contends that all authentic knowledge is scientific.

Private goods: Those goods that can be divided up (divisible) and parcelled out for consumption, eg. butter, toys, clothes. Anything sold on the open market (Lowry, 1998).

Public good: Public goods (pure) that are indivisible in that consumption by one does not diminish the quality and quantity available to other consumers, Examples include air, and national defence. (Lowry, 1998).

Reductionism: Related to positivism. Reductionism involves breaking down components of a complex world into discrete parts, analysing them and forming predictions, generalisations and laws.

Sanctuary zone: A defined area within a marine protected area that is afforded the a high (or highest) level of protection for environmental values by prohibiting all extractive activities including exploration, mining, commercial, traditional and recreational fishing, aquaculture and pearling but allows passive recreation to occur, consistent with the protection of these values.

World Heritage Area are areas or sites of outstanding universal value recognised under the Convention for the Protection of the World's Cultural and Natural Heritage (the World Convention (WHC)), adopted by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) conference of 16 November 1972 (Hall, 2003:315).

REFERENCES

- (1984) *Conservation and Land Management Act*.
- ABS (2000) *1996 Census of Population and Housing: Basic Community Profile, Statistical Local Area, Exmouth*, Canberra, Australian Bureau of Statistics.
- ABS (2002a) *2001 Census Basic Community Profile and Snapshot 535053360 Exmouth (S)*, Australian Bureau of Statistics, <http://abs.gov.au/Ausstats/ABS@Census.nsf>, 25 October 2005.
- ABS (2002b) *Basic Community Profile, 2001 Census, Exmouth (S) (SLA 535053360)*, Catalogue No. 2001.0, Canberra, Commonwealth of Australia.
- ABS (2002c) *Basic Community Profile: 2001 Census, Coral Bay (UCL 505150)*, Catalogue No. 2001.0, Canberra, Commonwealth of Australia.
- ABS (2003a) *2001 Census, Community Profile Series: Time Series Profile Exmouth (LGA 53360)*, Cat 2003.0, Canberra, Australian Bureau of Statistics.
- ABS (2003b) *2001 Census, Community Profile Series: Usual Residents Profile Exmouth (LGA 53360)*, Cat No. 2004.0, Canberra, Australian Bureau of Statistics.
- ABS (2003c) *Census of Population and Housing: Population Growth and Distribution*.
- ABS (2003d) *Usual Residents Profile, Western Australia*, Canberra, Australian Bureau of Statistics.
- ABS (2005) *National Regional Profile, Exmouth (Selected Characteristics)*, ABS cat no. 1379.0.55.001. Canberra, Australian Bureau of Statistics.
- ABS (2006a) *Australian National Accounts: Tourism Satellite Account, 5249.0, 2003-2004*, Canberra, Australian Bureau of Statistics.
- ABS (2006b) *House Price Indexes: Eight Capital Cities, September 2006, 6416.0*, Canberra, Australian Bureau of Statistics.
- ABS (2006c) *Overseas Arrivals and Departures, 3401.0*, Canberra, Australian Bureau of Statistics.
- ABS (2007) *Australian Demographic Statistics, March 2007*, Australian Bureau of Statistics, <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts>, 10 October 2007.
- ACF (1980) *The Value of National Parks to the Community: Values and ways of improving the contribution of Australian national parks to the community., Proceedings of the Second National Wilderness Conference, 23-25 November 1979*. University of Sydney, Australia, Australian Conservation Foundation.
- ADGER, W. N., BROWN, K., FAIRBRASS, J., JORDAN, A., PAAVOLA, J., ROSENDO, S. & SEYFANG, G. (2002) *Governance for Sustainability: Towards a 'thick' understanding of environmental decision making.*, Centre for Social and Economic Research.
- ALCORN, J. B., LUQUE, A. & VALENZUELA, S. (2005) Global governance and institutional trends affecting protected area management: challenges and opportunities arising from democratization and globalization, in PANSKY, D. (Ed.) *Governance Stream of the Vth World Parks Congress*. Ottawa, Parks Canada and IUCN/WCPA.
- APLIN, G. (1998) *Australians and their Environment: An Introduction to Environmental Studies*, Melbourne, Oxford University Press.

- ASHLEY, C. & ROE, D. (1998) *Enhancing Community Involvement in Wildlife Tourism: Issues and challenges*, London, International Institute for Environment and Development.
- ASSCHER, S. (2004) *Narrative of a Survey of the Intertropical and Western Coasts of Australia performed between the years of 1818 and 1882*, <http://gutenberg.net.au/explorers-journals.html>.
- AUSTRALIAN GOVERNMENT (2003) *Tourism White Paper: A Medium to Long Term Strategy for Tourism*, Department of Communications, Information Technology and the Arts.
- BABBIE, E. (1973) *Survey Research Methods*, Belmont, California, Wadsworth Publishing, 1st Edition.
- BABBIE, E. (1998) *The Practice of Social Research*, Belmont California, Wadsworth Publishing Co.
- BARRASS, T. (2004) *Green tide engulfs Ningaloo*, Date, Perth, Issue.
- BARRY, T. & ROBINS, P. (2001) *Tourism trends and opportunities: What do they mean for regional Australia? Outlook 2001*, ABARE's National Outlook Conference. Canberra, Bureau of Tourism Research.
- BDA GROUP & GILLESPIE ECONOMICS (2007) *The Economic and Social Impacts of Protected Areas in Australia*, Canberra, Department of Environment and Water Resources.
- BERRY, S. & LADKIN, A. (1997) Sustainable tourism: a regional perspective. *Tourism Management*, 18, 433-440.
- BERRY, T. (2006) The Predictive Potential of the TALC Model, in BUTLER, R. W. (Ed.) *The Tourism Area Life Cycle Volume 2: Conceptual and Theoretical issues*. Clevedon, Channel View Publications.
- BHPBILLITON (2005) *Pyrenees Draft Environmental Impact Statement*.
- BLAIKIE, N. (2000) *Designing Social Research*, Cambridge, Polity Press.
- BLAIKIE, P. & JEANRENAUD, S. (1997) Biodiversity and Human Welfare, in GHIMIRE, K. B. & PIMBERT, M. P. (Eds.) *Social Change and Conservation*. London, Earthscan Publications.
- BLUM, G. (2004) *300 attend sanctuary zones public meeting*, Northern Guardian Issue, Date, Carnarvon, Issue.
- BOM (2006) *Tropical Cyclones Affecting Exmouth*, Bureau of Meteorology, <http://www.bom.gov.au/weather/wa/cyclone/about/exmouth/index.shtml>, 24 February 2006.
- BOO, E. (1990) *Ecotourism: Potentials and Pitfalls*, Washington D.C., WWF.
- BOWMAN BISHAW GORHAM (1995) *Public Environmental Review: Coral Coast Resort - Mauds Landing*.
- BOYD, S. W. (2000) Tourism, national parks and sustainability, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks*. Chichester, John Wiley & Sons.
- BROWN, J. (2004) Political History of Tourism and Conservation in Australia, in BUCKLEY, R. (Ed.) *Tourism in Parks; Australian Initiatives*. International Centre for Ecotourism Research, Griffith University, Queensland Australia.
- BROWN, K. (2002) Innovations for conservation and development. *The Geographical Journal*, 168, 6-17.
- BROWN, K., ADGER, W. N., TOMPKINS, E., BACON, P., SHIM, D. & YOUNG, K. (2000) *Trade-off Analysis for Marine Protected Area Management*, Centre for Social and Economic Research.

- BRUNDTLAND, G. (Ed.) (1987) *Our Common Future: The World Commission on Environment and Development*, Oxford, Oxford University Press.
- BTR (2003) *Assessment of tourism activity in the Great Barrier Reef Marine Park Region - Final Report.*, Canberra, Bureau of Tourism Research.
- BUCHY, M. & RACE, D. (2001) The Twists and Turns of Community Participation in Natural Resource Management in Australia: What is Missing? *Journal of Environmental Planning and Management*, 44, 293-308.
- BUSCHER, B. E. (2008) Conservation, Neoliberalism and Social Science: a Critical Reflection on the SCB 2007 Annual Meeting in South Africa. *Conservation Biology*, 22, 229-231.
- BUTLER, R. W. (1980) The concept of tourism area cycle of evolution: implications for management of resources. *Canadian Geographer*, 24, 5-12.
- BUTLER, R. W. (1998) Sustainable tourism - looking backwards in order to progress? in HALL, C. M. & LEW, A. A. (Eds.) *Sustainable Tourism: A Geographical Perspective*. Longman.
- BUTLER, R. W. (Ed.) (2006) *The Tourism Area Life Cycle, Vol. 2: Conceptual and Theoretical issues*, Clevedon, UK, Channel View Publications.
- BUTLER, R. W. & BOYD, S. W. (Eds.) (2000) *Tourism and National Parks*, Chichester, John Wiley & Sons Ltd.
- BUZAN, T. (1993) *The Mind Map Book*, London, BBC Books.
- CALM (1987) *Cape Range National Park Management Plan 1987-1997*, Perth, Department of Conservation and Land Management.
- CALM (1989) *Ningaloo Marine Park (State Waters) Management Plan 1989-1999*, Perth, Department of Conservation and Land Management.
- CALM (1996) *People in CALM Places - Recreation and Tourism Strategy*, Perth, Department of Conservation and Land Management.
- CALM (2002) *Corporate Plan 2002-2005: Department of Conservation and Land Management*, Perth, Department of Conservation and Land Management.
- CALM (2004) *Towards a Biodiversity Conservation Strategy for Western Australia: Discussion Paper*, Perth, Department of Conservation and Land Management, Government of Western Australia.
- CALM (2005a) *Annual Report 2004/2005*, Perth, Department of Conservation and Land Management.
- CALM (2005b) *Healthy Parks, Healthy People: Strategic Plan 2005 - 2007*, Perth, Department of Conservation and Land Management.
- CALM (2006a) *Annual Report 2005/2006*, Department of Conservation and Land Management.
- CALM (2006b) *Submission to the Senate inquiry into Australia's national parks, conservation reserves and marine protected areas*, Perth, Department of Conservation and Land Management.
- CALM & Conservation Commission of Western Australia (CCWA) (2005) *Cape Range National Park: Draft Management Plan, 2005*, Perth, Department of Conservation and Land Management.
- CALM & Marine Parks and Reserves Authority (MPRA) (2004a) *Ningaloo Marine Park - Have your say*, Perth, Department of Conservation and Land Management.
- CALM & Marine Parks and Reserves Authority (MPRA) (2004b) *Ningaloo Marine Park Draft Management Plan and Indicative Management Plans for the Extension to the existing Park and Muiron Islands Marine Management Area*, Perth, Department of Conservation and Land Management.

- CALM & Marine Parks and Reserves Authority (MPRA) (2005) *Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area, 2005-2015. Management Plan No 52*, Perth, Department of Conservation and Land Management.
- CALM, SHIRE OF EXMOUTH & National Parks and Nature Conservation Authority (NPNCA) (1998) *Jurabi and Bundegi Coastal Parks, and Muiron Islands*, Perth, Department of Conservation and Land Management.
- CARLSEN, J. & WOOD, D. S. (2004) *Assessment of the economic value of recreation and tourism in Western Australia's national parks, marine parks and forests*, Sustainable Tourism Cooperative Research Centre, STCRC.
- CARSON, R. L. (1962) *Silent spring*, Boston, Houghton Mifflin Company.
- CATLIN, J., JONES, T., NORMAN, B. M. & WOOD, D. (2006) *Consolidation in a wildlife tourism industry: the changing impact of whale shark expenditure in the Ningaloo coast region*, unpublished.
- CEBALLOS-LESCURAIN, H. (1996) *Tourism, ecotourism and protected areas*, Gland Switzerland, IUCN.
- CHRIST, C., HILLEL, O., MATUS, S. & SWEETING, J. (2003) *Tourism and Biodiversity: Mapping Tourism's Global Footprint.*, Washington, Conservation International, UNEP.
- CLARK, M. (1982) *A Short History of Australia*, Melbourne, Macmillan Company of Australia.
- COMMONWEALTH OF AUSTRALIA (1992a) *Intergovernmental Agreement on the Environment*, Canberra, Department of Environment and Water Resources.
- COMMONWEALTH OF AUSTRALIA (1992b) *National Strategy for Ecologically Sustainable Development*, in ECOLOGICALLY SUSTAINABLE DEVELOPMENT STEERING COMMITTEE (Ed.) Canberra.
- COMMONWEALTH OF AUSTRALIA (1996) *The National Strategy for the Conservation of Australia's Biological Diversity*, Canberra, Department of the Environment, Sport and Territories.
- COMMONWEALTH OF AUSTRALIA (2002) *Ningaloo Marine Park (Commonwealth Waters) Management Plan*, Canberra, Environment Australia.
- CONNER, N. & GILLIGAN, B. (2003) *Socio-economic Benefits of Protected Areas: Concepts and Assessment Techniques as Applied in NSW, Australia, Vth World Parks Congress: Sustainable Finance Stream*. Durban, South Africa, NSW National Parks and Wildlife Service.
- CRESPO, E. & FLORES, C. (2003) Aesthetic Values and Protected Areas: A story of symbol preservation, in HARMON, D. & PUTNEY, A. D. (Eds.) *The Full Value of Parks: From Economics to the Intangible*. Lanham, Maryland, Rowman and Littlefield.
- CSERGE (1998) *Deliberative and Inclusionary Processes; A Report from two Seminars*, in O'RIORDAN, T., BURGESS, J. & SZERSZYNSKI, B. (Eds.) *Practices underlying Deliberative and Inclusionary processes in environmental decision making*. London, Centre for Social and Economic Research on Global Environment (CSERGE).
- DAVIS, D., BANKS, S., BIRTLES, A., VALENTINE, P. & CUTHILL, M. (1997) Whale sharks in Ningaloo Marine Park: managing tourism in an Australian marine protected area. *Tourism Management*, 18, 259-271.

- DEARDEN, P. (2000) Tourism, national parks and resource conflicts, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks: Issues and Implications*. Chichester, John Wiley and Sons.
- DEARDEN, P., BENNETT, M. & JOHNSTON, J. (2005) Trends in global protected area governance, 1992-2002. *Environmental Management*.
- DEC (2007) *A Draft 100 year Biodiversity Conservation Strategy for Western Australia*, Perth, Western Australia, Department of Environment and Conservation.
- DEH (2000) *Interim Biogeographic Regionalisation for Australia, Version 5.1*, Canberra, Department of Environment and Heritage.
- DEH (2006a) *National Reserve System Programme: 2006 Evaluation by Brian Gilligan*, Canberra, Department of Environment and Heritage.
- DEH (2006b) *Place Details: Cape Range National Park and Surrounds, Exmouth, WA*, in AUSTRALIAN HERITAGE COMMISSION (Ed.), Department of Environment and Heritage.
- DFWA (2001) *Aquaculture Groundwater Resource Atlas*, Department of Fisheries WA, www.fish.wa.gov.au, 27 November 2006.
- DIETZ, T., OSTROM, E. & STERN, P. (2003) The Struggle to Govern the Commons. *Science Magazine*, 302, 1907-1912.
- DITR (2003) *Pursuing Common Goals - Opportunities for Tourism and Conservation*, Canberra, Department of Industry, Tourism and Resources.
- DIXON, J. A. & SHERMAN, P. B. (1990) *Economics of Protected Areas: A New Look at Benefits and Costs*, London, East-West Centre, Earthscan Publications.
- DLGRD (2006) *Gascoyne Labour Force Report*, Perth, Department of Local Government and Regional Development.
- DOF (2005) *State of the Fisheries Report*, Perth, Department of Fisheries.
- DOT (1994) *National Ecotourism Strategy*, Canberra, Commonwealth Department of Tourism.
- DOXEY, G. V. (1975) *A causation theory of visitor- resident irritants: Methodology and research inferences, Proceedings of the 6th Annual Travel and Tourism Research Association*. San Diego, California, TTRA.
- DPC (2000) *Policy Handbook*, Department of Premier and Cabinet, Queensland, www.premiers.qld.gov.au, 16 May 2007.
- DPI (2004) *Carnarvon-Ningaloo Coast: Planning for Sustainable Tourism and Land Use*, Perth, Department for Planning and Infrastructure, Western Australian Planning Commission.
- DRIML, S. (1997) *Towards sustainable tourism in the Wet Tropics World Heritage Area and other protected areas: Report to the Wet Tropics Management Authority*.
- DRIML, S. & COMMON, M. (1995) Economic and financial benefits in major protected areas. *Australian Journal of Environmental Management*, 19-29.
- EAA (1996) *National Ecotourism Accreditation Program*, Brisbane, Ecotourism Association of Australia.
- EAGLES, P., F. J. & MCCOOL, S., F. (2004) *Tourism in National Parks and Protected Areas: Planning and Management*, Wallingford, CABI Publishing.
- EAGLES, P. F. J. (2002) *International Trends in Park Tourism, World Protected Areas Leadership Forum*. Sydney, Australia, IUCN (World Conservation Union).

- EAGLES, P. F. J. (2008) Governance models for parks, recreation, and tourism., in HANNA, K. S., CLARK, D. A. & SLOCOMBE, D. S. (Eds.) *Transforming Parks and Protected Areas: Policy and Governance in a Changing World*. New York, Routledge.
- EAGLES, P. F. J. (2004) *Trends Affecting Tourism in Protected Areas*.
- EAGLES, P. F. J., MCCOOL, S. F. & HAYNES, C. D. (2002) *Sustainable Tourism in Protected Areas: Guidelines for Planning and Management*, Gland, Switzerland, IUCN - The World Conservation Union.
- ECOSYSTEM VALUATION (2008) *Basic Concepts of Economic Value*, <http://www.ecosystemvaluation.org/uses.htm>, 5 May 2008.
- EDMONDS, L. (1997) *The vital link: a history of Main Roads Western Australia, 1926-1996*, Perth, UWA Press.
- ELY, M. (1991) *Doing Qualitative Research: Circles within Circles*, London, The Falmer Press.
- ENVIRONMENT AUSTRALIA (1998) *Interim Marine and Coastal Bioregionalisation for Australia*.
- EPA (1999) *Environmental Protection of the Cape Range Province*, in DEPARTMENT OF ENVIRONMENTAL PROTECTION (Ed.) Perth, Government of Western Australia.
- EPA (2006) *State of the Environment Report: Western Australia draft*, Perth, Environmental Protection Authority.
- ESP (2005) *What are ecosystem services?* Ecosystem Services Project, <http://www.ecosystemsproject.org/index.htm>, 7 May 2006.
- FENNA, A. (1998) *Introduction to Australian Public Policy*, Sydney, Longman.
- FIGGIS, P. J. F. (1999) *Australia's National Parks and Protected Areas: Future Directions*, Australian Committee for IUCN Inc (The World Conservation Union).
- FORTIN, M.-J. & GAGNON, C. (1999) An assessment of social impacts of national parks on communities in Quebec, Canada. *Environmental Conservation*, 26, 200-211.
- FOSS, S. K. & WATERS, W. (2003) *Coding Qualitative Data*, Mentor Coach LLC, <http://www.abdsurvivalguide.com/News/020603.htm>, 10 August 2006.
- FRANCIS, G. (2008) Evolution of contexts for protected areas governance, in HANNA, K. S., CLARK, D. A. & SLOCOMBE, D. S. (Eds.) *Transforming Parks and Protected Areas: Policy and Governance in a Changing World*. New York, Routledge.
- FUTUREYE PTY LTD (2004) *Enhanced Community Partnerships*, Melbourne.
- GBRMPA (2003) *Summary report of the social and economic impacts of the rezoning of the Great Barrier Reef Marine Park*, Unpublished.
- GDC (2003) *Gascoyne Economic Perspective*, Perth, Gascoyne Development Commission.
- GETZ, D. (1987) *Tourism Planning and Research: Traditions, models and futures*, Australian Travel Research Workshop. Bunbury, Western Australia, 5-6 November.
- GILBERT, A. H. & MANNING, R. E. (2002) *Economic and Social Values of Vermont State Parks*, Burlington, University of Vermont.
- GILMOUR, D. A. & FISHER, R. J. (1991) *Villagers, Forests and Foresters: The Philosophy, Process and Practice of Community Forestry in Nepal*, Kathmandu, Nepal, Sahayogi Press.

- GOSLING, J., J. (2004) *Understanding, Informing and Appraising Public Policy*, New York, Pearson Longman.
- GOVERNMENT OF WESTERN AUSTRALIA (1994) *New horizons in marine management*, Perth, Western Australia, Department of Conservation and Land Management.
- GOVERNMENT OF WESTERN AUSTRALIA (1998) *New Horizons: the Way ahead in Marine Conservation and Management*, Perth, Western Australia, Department of Conservation and Land Management.
- GOVERNMENT OF WESTERN AUSTRALIA (2003) *Indigenous ownership and joint management of conservation lands in Western Australia*, Perth, Department of Conservation and Land Management.
- GRAHAM, J., AMOS, B. & PLUMPTRE, T. (2003) *Governance principles for protected areas in the 21st century.*, Paper prepared for the Vth World Parks Congress. Durban, South Africa, Institute of Governance, Ottawa.
- GREEN, N. (1981) *Aborigines and White Settlers in the Nineteenth Century*, in STANNAGE, C. T. (Ed.) *A New History of Western Australia*. Perth, University of Western Australia Press.
- GRIFFIN, T., WEARING, S. & ARCHER, D. (2005) *Valuing our National Parks: Understanding the Perspectives of Infrequent Park Users from Different Socio-economic and Cultural Groups*, Sydney, University of Technology Sydney.
- HALL, C. M. (1998) *Introduction to Tourism: development dimensions and issues.*, Sydney, Brisbane, Perth, Longman, 3rd Edition.
- HALL, C. M. (2000a) *Tourism and the establishment of national parks in Australia*, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks*. Chichester, John Wiley & Sons.
- HALL, C. M. (2000b) *Tourism planning: Policies, processes and relationship*, Harlow: Prentice Hall.
- HALL, C. M. (2000c) *Tourism, National Parks and Aboriginal Peoples*, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks*. Chichester, John Wiley & Sons.
- HALL, C. M. (2003) *Introduction to Tourism: Dimensions and Issues*, Sydney, Hospitality Press, 4th Edition.
- HALL, C. M. (2007) *The Changing Geographies of Australian Wilderness Heritage*, in JONES, R. & SHAW, B. J. (Eds.) *Geographies of Australian Heritages: Loving a Sunburnt Country?* Aldershot and Burlington, Ashgate Publishing.
- HALL, C. M. & PAGE, S. J. (2006) *The Geography of Tourism and Recreation*, London & New York, Routledge, 3rd Edition.
- HAMILTON-SMITH, E., KIERNAN, K. & SPATE, A. (1998) *Karst Management Considerations for the Cape Range Karst Province Western Australia: A Report Prepared for the Department of Environmental Protection*.
- HAMU, D., AUCHINCLOSS, E. & GOLDSTEIN, W. (Eds.) (2004) *Communicating protected areas*, Gland, IUCN.
- HANCOCK, W. K. (1961) *Australia*, London, Jacaranda Press, 2nd Edition.
- HANCOCK, W. K. (1972) *Discovering Monaro: A Study of Man's Impact on his Environment*, Cambridge, Cambridge University Press.
- HARDIN, G. (1968) *The Tragedy of the Commons*. *Science*, 162, 1243-1248.
- HARDY, C. (1995) *Power and Politics in Organizations*, Aldershot, Dartmouth.

- HARMON, D. (2003) The Source and Significance of Values In Protected Areas. *The Full Value of Parks: From Economics to the Intangible*. Oxford, Lanham, Rowman and Littlefield.
- HARMON, D. & PUTNEY, A. D. (Eds.) (2003) *The Full Value of Parks: from economics to the intangible*, Oxford, Lanham, Rowman & Littlefield Publishers.
- HARRIS, L. (2007) *Is Mandurah's growth being properly managed?* ABC Television, <http://www.abc.net.au/stateline/wa/>, 16 March 2007.
- HARRIS, R. & LEIPER, N. (Eds.) (1995) *Sustainable Tourism: An Australian Perspective*, Chatswood, Australia, Butterworth-Heinemann.
- HASSALL AND ASSOCIATES (2002) *The Value of Public Open Space for Community Service Provision*, in SUPER GROUP (Ed.) Sydney, NSW National Parks and Wildlife Service, Bicentennial Park, Homebush Bay, Centennial Parklands, Olympic Coordinating Authority, Parramatta Park Trust, Royal Botanic Gardens, University of Technology Sydney.
- HIGGINBOTTOM, K., RANN, K., MOSCARDO, G., DAVIS, D. & MULOIN, S. (2001) *Status Assessment of Wildlife Tourism In Australia: An Overview, Part 1.*, Sustainable Tourism Cooperative Research Centre.
- HOLLETT, R. (2001) *Rural Tourism: Panacea or Predicament?* School of Architecture, Construction and Planning, Curtin University of Technology Graduate Diploma in Urban and Regional Planning
- HOLMES, J. (2006) Impulses towards a multifunctional transition in rural Australia: Gaps in the research agenda. *Journal of Rural Studies*, 22, 142-160.
- HOY, G. (2006) *Resources boom creates economic dilemma, 730 Report*. Australia, Australian Broadcasting Commission.
- HUMPHREYS, W. F. (1993) The biogeography of Cape Range, Western Australia. *Records of the Western Australian Museum*, 45.
- INSKEEP, E. (1991) *Tourism Planning: An Integrated and Sustainable Development Approach*, New York, International Thomson Publishing.
- INTERORGANIZATIONAL COMMITTEE ON GUIDELINES AND PRINCIPLES FOR SOCIAL IMPACT ASSESSMENT (1994) *Guidelines and Principles for Social Impact Assessment*, US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, <http://www.nmfs.noaa.gov>, 1 May 2006.
- IUCN (1994) *Guidelines for Protected Area Management Categories*, Gland, Switzerland, IUCN Commission on National Parks and Protected Areas with the assistance of the World Conservation Monitoring Centre.
- IUCN (2005) *Benefits Beyond Boundaries, Proceedings of the Vth IUCN World Parks Congress*. Durban, South Africa, IUCN, Gland Switzerland.
- IUCN (2006a) *What is the World Conservation Union?* World Conservation Union, <http://www.iucn.org/en/about/>, 5 March 2006.
- IUCN (2006b) *World Commission on Protected Areas (WCPA)*, World Conservation Union, www.iucn.org/themes/wcpa/, 5 March 2006.
- JAMES, S. P. (2001) An Institutional Approach to Protected Area Management Performance, in ANDERSON, T. L. & JAMES, A. N. (Eds.) *The Politics and Economics of Park Management*. Lanham, Rowman & Littlefield Publishers, Inc.

- JONES, R., INGRAM, C. & KINGHAM, A. (2007) Waltzing the Heritage Icons: 'Swagmen', 'Squatters' and 'Troopers' at North West Cape and Ningaloo Reef, in JONES, R. & SHAW, B. J. (Eds.) *Geographies of Australian Heritages: Loving a Sunburnt Country?* Aldershot and Burlington, Ashgate Publishing.
- KANE, E. (1985) *Doing your own Research*, London & New York, Marion Boyars Publishers Ltd.
- KING, D. (2004) *Anglers reeling over ban won't go down quickly*, Weekend Australian Issue, Date, Perth, Issue.
- KULSHRESHTHA, S. & JOHNSTON, M. (2000) *Economic value of stored carbon in protected areas: A case study of Canadian national parks*, University of Saskatchewan.
- LAM, L. M. (2004) *A Study of Stated Attitudes and Behaviour of Local People towards conservation in Koshi Tappu Wildlife Reserve, Nepal, 15th Biennial Conference of Asian Studies Association of Australia*. Canberra, Unpublished.
- LANDCORP (2006) *Exmouth Marina Village*, <http://www.landcorp.com.au>, 19 February 2006.
- LANSBURY, R., D. & SPILLANE, R. (1983) *Organisational Behaviour: the Australian Context*, Melbourne, Longman Cheshire.
- LARNER, W. (2000) Neo-liberalism: Policy, Ideology, Governmentality. *Studies in Political Economy*, 63, 5-25.
- LEPROVOST DAMES AND MOORE (2000) *Ningaloo Marine Park (Commonwealth Waters) - Literature Review*, Department of Environment and Heritage, <http://www.deh.gov.au/coasts/mpa/ningaloo/reviews/chapter13.html>, 19 February 2006.
- LINDBERG, K. & DENSTADLI, J. (2003) *The Impacts of National Park Visitation on Rural Economies and Government Revenue in Queensland*, Gold Coast, (Griffith University) Queensland, Sustainable Tourism Cooperative Research Centre.
- LOCKE, H. & DEARDEN, P. (2005) Rethinking protected area categories and the new paradigm. *Environmental Conservation*, 32, 1-10.
- LOCKWOOD, M., WORBOYS, G. & KOTHARI, A. (Eds.) (2006) *Managing Protected Areas: A Global Guide*, London, Earthscan.
- LOCKWOOD, M. & WINTER, C. (2004) The Natural Area Value Scale: A new instrument for measuring natural area values. *Australasian Journal of Environmental Management*, 11.
- LOWRY, W. R. (1998) *Preserving Public Lands for the Future: The Politics of Intergenerational Goods*, Washington D.C., Georgetown University Press.
- MACBETH, J. (2005) Towards an Ethics Platform for Tourism. *Annals of Tourism Research*, 32, 962-984.
- MADRIGAL, R. (1995) Residents' perceptions and the role of government. *Annals of Tourism Research*, 22, 86-102.
- MARINE PARKS AND RESERVES SELECTION WORKING GROUP (1994) *A representative marine reserve system for Western Australia*, Perth, Western Australia, Department of Conservation and Land Management.
- MASTERS, C. (2006) *Seachange*, ABC Television, <http://www.abc.net.au/4corners>, 21 August 2006.
- MAY, R. F., LENANTON, R. C. J. & BERRY, P. F. (1983) *Ningaloo Marine Park: Report and Recommendations by the Marine Park Working Group, Report 1*.

- MCKERCHER, R. D. (1998) *The Business of Nature-Based Tourism*, Melbourne, Hospitality Press.
- MERRIAM-WEBSTER (1986) *Webster's Third New International Dictionary*, Encyclopaedia Britannica Inc.
- MINTZBERG, H. (1983) *Power In and Around Organizations*, Englewood Cliffs, N.J., Prentice-Hall.
- MISSOULA COUNTY (1999) *Missoula Measures*, Missoula County, Montana, <http://www.co.missoula.mt.us/measures/>, 7 May 2006.
- MORSE, K. & WRIGHT, G. (1989) *An Archaeological and Ethnographic Survey of the Proposed Coral Coast Development Area, Point Maud, Western Australia, Report prepared for Coral Coast Marina Pty Ltd.*
- MULES, T., FAULKS, P., STOECKL, N. & CEGIELSKI, M. (2005) *Economic Values of Tourism in the Australian Alps*, Gold Coast, (Griffith University) Queensland, Sustainable Tourism Cooperative Research Centre.
- MURPHY, P. E. (1985) *Tourism: A community Approach*, New York, Methuen Inc.
- MURRAY, G., D. (2005) Multifaceted measures of success in two Mexican marine protected areas. *Society and Natural Resources*, 18.
- NEPAL, S. K. (2000) Tourism, national parks and local communities, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks*. Chichester, John Wiley & Sons Ltd.
- NEWMAN, J., BARNES, M., SULLIVAN, H. & KNOPS, A. (2004) Public Participation and Collaborative Governance. *Journal of Social Policy*, 33, 203-223.
- NORTH, D. (1990) *Institutions, Institutional Change, and Economic Performance*, Cambridge, Cambridge University Press.
- NORTHCOTE, J. & INGRAM, C. B. (2006) *Resident perceptions of the social and economic impact of sanctuary zones on the communities of the Ningaloo Coast, Western Australia*, Gold Coast, (Griffith University) Queensland, Sustainable Tourism Cooperative Research Centre, (Forthcoming).
- NORTHCOTE, J. & MACBETH, J. (2005) Limitations of Resident Perception Surveys for Understanding Tourism Social Impacts. *Tourism Recreation Research*, 30, 43-54.
- NRMMC (2005) *Directions for the National Reserve System: A partnership approach.*, Canberra, Australian Government, Department of Environment and Heritage, National Resource Management Ministerial Council.
- NSWNPWS (2002) *The Economic Value of Recreational Use in Protected Areas*, Sydney, NSW National Parks and Wildlife Service.
- O'GRADY, C. M. (2004) *The historical geography of six major river basins in the north west of Western Australia since pastoral occupation*, Unpublished PhD Thesis, Curtin University of Technology
- OAG (1998) *Listen and Learn: Using Customer surveys to report performance in the Western Australian public sector.*
- ONT (2006) *Gnulli Native Title Claim*, Department of Premier and Cabinet, Government of Western Australia, <http://www.nativetitle.dpc.wa.gov.au>, 23 February 2006.
- OSTROM, E., BURGER, J., FIELD, C. B., NORGDARD, R. B. & POLICANSKY, D. (1999) Revisiting the Commons: Local Lessons, Global Challenges. *Science Magazine*, 284, 278-282.

- OSTROM, E. & SCHLAGER, E. (1996) The Formation of Property Rights, in HANNA, S., FOLKE, C. & MALER, K. (Eds.) *Rights to Nature*. Washington D.C., Island Press.
- PAGE, S. L. & DOWLING, R. K. (2002) *Ecotourism*, Harlow, England, Prentice Hall.
- PARKER, G. & RAVENSCROFT, N. (2000) Tourism, 'national parks' and private lands, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks*. Chichester, John Wiley & Sons Ltd.
- PARKS VICTORIA (2005) *The Value of Parks: the economic value of three of Victoria's national parks, Port Campbell, Grampians and Wilsons Promontory*.
- PEARCE, P. L., MOSCARDO, G. & ROSS, G. F. (1996) *Tourism Community Relationships*, Oxford, UK, Tarrytown, USA, Pergamon.
- PIMBERT, M. P. & PRETTY, J. N. (1997) Parks, People and Professionals: Putting 'participation' into protected-area management, in PIMBERT, M. P. & GHIMIRE, K. B. (Eds.) *Social Change and Conservation*. London, Earthscan.
- PLOG, S. C. (1974) Why destination areas rise and fall in popularity? *Cornell Hotel and Restaurant Quarterly*, 14, 55-58.
- POULIQUEN-YOUNG, O. (1997) Evolution of the system of protected areas in Western Australia. *Environmental Conservation*, 24, 168-181.
- PRICE WATERHOUSE COOPERS (2003) *Economic Contributions of Victoria's Parks: Conceptual Framework and Approach*, Melbourne, Parks Victoria.
- RACO, M. & FLINT, J. (2001) Communities, places and institutional relations: assessing the role of area-based community representation in local governance. *Political Geography*, 20, 585-612.
- RATHE, G. (1990) *The Wreck of the Bark Stefano off the North West Cape of Western Australia in 1875*, Victoria Park, Perth, Hesperian Press.
- ROBERTS, S. (2004) *Fishers protest but greenies want even wider reef bans*, West Australian Issue, Date, Perth, Issue.
- RUSSELL, P. J. (2004) *Geological and Geomorphic Features and Evolution of the Lake McLeod-Ningaloo-Cape Range-Exmouth Gulf Area, Western Australia*, Report prepared for the Department of Conservation and Land Management, Perth Western Australia.
- SALT, B. (2003) *The Big Shift*, South Yarra, Victoria, Hardie Grant Books, 2nd Edition.
- SCHEIN, E. (1992) *Organizational Culture and Leadership*, San Francisco, Jossey-Bass Publishers, 2nd.
- SCHEYVENS, R. (1999) Ecotourism and the empowerment of local communities. *Tourism Management*, 20, 245-249.
- SCHULTZ, M. (1994) *On Studying Organizational Cultures: Diagnosis and Understanding*, Berlin; New York, De Gruyter.
- SHARP, J. R. (1992) *Ecotourists: Saving or Sinking Noah's Ark, Ecotourism Business in the Pacific: Promoting a Sustainable Experience*. Auckland, New Zealand, Department of Conservation and Land Management.
- SHAW, G. & WILLIAMS, A. M. (1994) *Critical Issues in Tourism*, Oxford, Blackwell.
- SHEA, S. R. & SHARP, J. R. (1993) *Western Australia's Natural Advantage - Capitalising on the Nature Based Tourism Potential of the North, Northern*

- Australia Development Council Over the Horizon Conference*. Exmouth, Western Australia, Department of Conservation and Land Management.
- SHIRE OF EXMOUTH (2005) *Shire of Exmouth Annual Report for the year ended June 30, 2005*.
- SINGH, S., TIMOTHY, D. J. & DOWLING, R. K. (Eds.) (2003) *Tourism in Destination Communities*, Wallingford, U.K., CABI Publishing.
- SMH (2004) *TRAVEL: Exmouth, Western Australia*, Sydney Morning Herald, <http://www.smh.com.au/news/Western-Australia/Exmouth>, 20 February 2006.
- SMITH, A., HUGHES, M., WOOD, D. S. & GLASSON, J. (2006) *Inventory of tourism assets on CALM rangelands properties in the Gascoyne and Murchison regions of Western Australia*, Sustainable Tourism Cooperative Research Centre (STCRC).
- STEFFEN, C. (2004) Parks and Tourism Perspectives: An Industry Perspective, in BUCKLEY, R. (Ed.) *Tourism in Parks; Australian Initiatives*. 55-78, International Centre for Ecotourism Research, Griffith University, Queensland, Australia.
- THOMAS, L. (1995) *Economic assessment of protected areas: guidelines for their assessment*, Gland, Switzerland, The World Conservation Union, (IUCN).
- TIMOTHY, D. J. & TOSUN, C. (2003) Appropriate Planning for Tourism in Destination Communities: Participation, Incremental Growth and Collaboration. IN SINGH, S., TIMOTHY, D. J. & DOWLING, R. K. (Eds.) *Tourism in Destination Communities*. Wallingford, U.K., CABI International.
- TISDELL, C. A. & WILSON, C. (2004) *Economics, Wildlife Tourism and Conservation: Three case studies*, Sustainable Tourism Cooperative Research Centre.
- TRAKOLIS, D. (2001) Local people's perceptions of planning and management issues in Prespes Lakes National Park, Greece. *Journal of Environmental Management*, 61, 227-241.
- TRANEL, M. J. & HALL, A. (2003) Parks as Battlegrounds: Managing conflicting values, in HARMON, D. & PUTNEY, A. D. (Eds.) *The Full Value of Parks: From Economics to the Intangible*. Lanham, Maryland, Rowman and Littlefield.
- TTF (2004) *A Natural Partnership: Making national parks a tourism priority: Executive Summary*, Sydney, Tourism and Transport Forum Australia Ltd (TTF).
- TWA (2004a) *Gascoyne Tourism Perspective 2003*, Perth, Tourism Western Australia.
- TWA (2004b) *Keeping it Real: A Nature-Based Tourism Strategy for Western Australia*, Perth, Tourism Western Australia Government of Western Australia.
- TWA (2004c) *Shire of Exmouth Tourism Fact Sheet 2003*, Tourism Western Australia, 4 May 2005.
- VASKE, J. J., DONNELLY, M. P. & WHITTAKER, D. (2000) Tourism, national parks and impact management, in BUTLER, R. W. & BOYD, S. W. (Eds.) *Tourism and National Parks: Issues and Implications*. Chichester, John Wiley & Sons.
- WALLNER, A. (2004) *Local People's Perceptions of Protected Areas: A Cross Cultural Study, Unpublished*. Birmensdorf, Switzerland, Swiss Federal Research Institute WSL.

- WALPOLE, M. J. & GOODWIN, H. J. (2000) Local attitudes towards conservation and tourism around Komodo National Park, Indonesia. *Environmental Conservation*, 28, 160-166.
- WAPC (1998) *Exmouth-Learmonth (Northwest Cape) Structure Plan*, in DEPARTMENT OF PLANNING (Ed.) Perth, Western Australian Planning Commission.
- WAPC (2004) *Ningaloo coast regional strategy: Carnarvon to Exmouth*, Perth, Department for Planning and Infrastructure
Western Australian Planning Commission.
- WAPC (2006) *Ningaloo Coast Carnarvon to Exmouth*, WA Planning Commission, <http://www.wapc.wa.gov.au>, 19 February 2006.
- WATC & CALM (1997) *Nature-based Tourism Strategy for Western Australia*, Department of Conservation and Land Management
Western Australian Tourism Commission.
- WEARING, S. & NEIL, J. (1999) *Ecotourism: Impacts, Potentials and Possibilities*, Oxford: Boston, Butterworth Heinemann, 1st Edition.
- WEAVER, D. B. & LAWTON, L. (2000) *Sustainable Tourism: A Critical Analysis*, Gold Coast, QLD, Sustainable Tourism Cooperative Research Centre.
- WEAVER, D. B. & LAWTON, L. (2002) *Tourism Management*, Milton, Queensland, John Wiley & Sons, 2nd Edition.
- WEAVER, P. R. (1998) *An oral history of Ningaloo Reef*, Perth, Western Australia, Edith Cowan University.
- WELLS, M., BRANDON, K. & HANNAH, L. J. (1992) *People and Parks: linking protected area management with local communities*, Washington, D.C., The International Bank for Reconstruction and Development.
- WEST, P. C. & BRECHIN, S. R. (1991) *Resident peoples and national parks; Social dilemmas and strategies in international conservation*, Tuscon, The University of Tuscon Press.
- WIGHT, P. (1998) Tools for sustainability analysis in planning and managing tourism and recreation in the destination, in HALL, C. M. & LEW, A. A. (Eds.) *Sustainable tourism: a geographic perspective*. Longman.
- WIKIPEDIA (2006a) *Mind maps*, Wikipedia: The Free Encyclopaedia, <http://en.wikipedia.org>, 23 July 2006.
- WIKIPEDIA (2006b) *Organizational culture*, Wikipedia: The Free Encyclopaedia, <http://en.wikipedia.org>, 13 March 2006.
- WILLIAMS, S. (1998) *Tourism Geography*, London, Routledge.
- WOOD, D. S. (2000) *National imperatives and local agendas: a case study of participatory tourism planning in the Gascoyne Region of Western Australia., Built Environment, Architecture and Design. Doctorate*, Perth, Unpublished PhD thesis.
- WOOD, D. S. (2003) *Tourism on the Carnarvon-Ningaloo coast between Quobba Station and Exmouth and its implications for sustainability of the coast*, in Department for Planning and Infrastructure. (Ed.) Perth, Western Australian Planning Commission.
- WOOD, D. S. & DOWLING, R. K. (2002) *Tourism surveys in the North West Cape region 1989-2002, a summary research report prepared for the Department for Planning and Infrastructure*, Perth, Department for Planning and Infrastructure.

- WORBOYS, G., LOCKWOOD, M. & DE LACY, T. (2001) *Protected Area Management: Principles and Practice*, South Melbourne, Oxford University Press, 1st Edition.
- WORBOYS, G., LOCKWOOD, M. & DE LACY, T. (2005) *Protected Area Management: Principles and Practice*, South Melbourne, Oxford University Press, 2nd Edition.
- WORLD TOURISM ORGANISATION (1994) *Guidelines: Development of national parks and protected area tourism*, 2nd ed. Madrid, World Tourism Organisation and United Nations Environment Programme.
- WRC (1998) *Groundwater Allocation Plan: Exmouth Groundwater Subarea*, Perth, Water and Rivers Commission.
- WRC (2000) *Exmouth Water Reserve Water Source Protection Plan: Exmouth Town Water Supply, Report WRP 26*, Perth, Water and Rivers Commission.
- WRIGHT, R. G. (2008) The science and management interface in national parks, in HANNA, K. S., CLARK, D. A. & SLOCOMBE, D. S. (Eds.) *Transforming Parks and Protected Areas: Policy and Governance in a Changing World*. New York, Routledge.
- WTO (2005) *World Tourism Barometer*, World Tourism Organisation, www.world-tourism.org, Accessed 4 May 2005.
- WTTC (2005) *World: The 2005 Travel and Tourism Economic Research: Sowing the Seed of Growth*, London, World Travel and Tourism Council.
- ZAFIROVSKI, M. (2005) Social Exchange Theory under Scrutiny: A Positive Critique of its Economic-Behaviorist Formulations. *Electronic Journal of Sociology*.

Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

APPENDIX 1: PROTECTED AREA MANAGEMENT CATEGORIES

IUCN has defined a series of six protected area management categories, based on primary management objective. In summary, these are:

Definition of a protected area

“An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means”.

CATEGORY Ia:

Strict Nature Reserve: protected area managed mainly for science

Definition

Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.

CATEGORY Ib

Wilderness Area: protected area managed mainly for wilderness protection

Definition

Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

CATEGORY II

National Park: protected area managed mainly for ecosystem protection and recreation

Definition

Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

CATEGORY III

Natural Monument: protected area managed mainly for conservation of specific natural features

Definition

Area containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

CATEGORY IV

Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

Definition

Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

CATEGORY V

Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation

Definition

Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

CATEGORY VI

Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

Definition

Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

These categories are defined in detail in the *Guidelines for Protected Areas Management Categories* published by IUCN in 1994.

The information provided here is extracted from:

IUCN, 1994, *Guidelines for Protected Areas Management Categories*. IUCN, Cambridge, UK and Gland, Switzerland. 261pp.

APPENDIX 2: THE BENEFITS OF RECREATION TO PERSONAL HEALTH

- Improves life expectancy
- Prolongs independent living for seniors
- Keeps seniors vital and involved in community life
- Significantly reduces the risk of coronary heart disease and stroke
- Combats osteoporosis
- Combats diabetes
- Helps in prevent site specific cancers – particularly in the colon, breast and lungs
- Helps prevent and rehabilitate back problems
- Contributes to mental health by reducing stress, reducing depression, and contributing to emotional/psychological well-being
- Enhances overall health and well-being, which is critical to personal quality of life
- Is a proven therapeutic tool, helping to restore physical, mental and social capacities and abilities
- Is important to balanced human development – helping people reach their potential
- Is essential to the development of children and youth, through the development of motor skills (physical) social skills through recreation, play and sports. We learn creativity and initiative and develop intellectual capacities and concepts through recreation and play – and many other life skills
- Provides the opportunity for adults to develop their full and holistic potential (physical, social, creative, intellectual and spiritual) – work only does so much
- Provides exceptional opportunities for life-long learning
- Parks and natural environments have great spiritual meaning for many – and arts/culture is a significant way of exploring our spirituality
- Builds self-esteem and positive self-image – foundations to personal quality of life and enhance life satisfaction levels
- Enhances perceived quality of life – for individuals, families and communities.
- Nurtures growth, acquisition of life skills, and independent living for those with a disability

- Reduces self-destructive behaviour and negative social activity in *youth* – an antidote to smoking, substance abuse, suicide and depression
- Can contribute to reducing racism by building understanding between diverse cultures
- Reduces isolation, loneliness and alienation

Recreation and parks build stronger families and healthier communities.

- *Families* that play together – stay together. Children and youth remain connected; couples that share leisure interests are more likely to stay together.
- Recreation provides safe, developmental opportunities *for the latch-key child*.
- Recreation, sports, and arts/culture *produce leaders* who serve their communities in many ways.
- Recreation, sports, and arts/culture *build social skills* and *stimulate participation* in community life.
- Recreation and parks are often the catalysts that build *strong, self-sufficient communities* (sports groups, arts guilds, adopt-a-park).
- Culture helps people *understand their neighbors, their history, and their environment*.
- Recreation, parks, sports, and arts/culture build *pride in a community*.

Source: List adapted from the Missoula Measures, (Missoula County, 1999)

APPENDIX 3: MIND MAP



APPENDIX 4: RESEARCH OUTLINE

Attitudes and Perceptions (III) of Local Community and Stakeholders (I) to the Socio-economic affects of Protected Area management (II) on tourism in local communities of the Ningaloo Coast

(I) Local Community and Stakeholders

(A) Physical characteristics

1. Location
2. Topography features
3. Size
 - a. Area

(B) Social characteristics

1. Population
 - a. Numbers
 - b. Composition
 - i. age structure
 - ii. gender
 - iii. cultural
 - iv. seasonal
2. Economy
 - a. Tourist economy
 - b. Business economy
 - c. Industrial economy
 - d. Agricultural economy
3. Government
 - a. Local
 - b. State
 - c. Commonwealth
4. History
 - a. Pastoral
 - b. Fishing/whaling
 - c. Military
 - d. Tourism
5. Stakeholders
 - a. Tourism industry
 - i. Park operators
 - ii. Adjacent operators
 - b. Business community
 - c. Conservation groups
 - d. Recreation groups
 - e. CALM
 - f. Local government
 - g. Regional Development Authority
 - h. Indigenous community

(II) Socio-economic Affects of Protected Area Management on Tourism

(A) Protected Areas

1. General
 - a. Definition
 - b. Purpose/role
 - c. Description –worldwide
 - d. Description – Australia
 - e. Size
 - i. Area
 - ii. Visitation
 - f. History
2. Ningaloo Marine Park
 - a. Description
 - i. Location
 - ii. Size
 - iii. Biophysical
 - iv. ecological
 - b. History
 - c. Purpose

(B) Protected Area Management

1. History and Culture of Protected Area Management
 - a. Worldwide
 - b. Australia
 - c. Western Australia
2. Management of Protected Areas in Western Australia
 - a. Administration
 - i. Legislation
 - ii. Agency functions
 - iii. Corporate objectives
 - iv. Agency structure
 - b. Management
 - i. Major programs/activities
 - c. Planning
 - i. Legislation
 - ii. Policy/Approach
 - iii. Ningaloo MP
 - Method
 - Public consultation
 - Outcomes
 - Other
 - iv. Cape Range NP
 - Method
 - Public consultation
 - Outcomes
 - Other

- (C) Socio Economic Affects of Tourism
1. Tourism
 2. Social benefits
 - a. Employment
 - b. Infrastructure and Services
 - i. Improved private investment and services
 - ii. Improved government infrastructure and services
 - c. Recreation opportunities
 - d. Other
 3. Social impacts
 - a. Workforce diversity
 - b. Itinerant workers
 - c. Seasonal population
 - d. Anti-social behaviour
 - e. Changes in population makeup
 - f. Other
 4. Economic benefits
 - a. Tourist expenditure
 - b. Business growth
 - c. Contribution to regional economic growth
 - d. Induced affects
 - e. Other
 5. Economic impacts
 - a. Business closures
 - b. Cost of living
 - c. Land values
 - d. Seasonality of the economy

(III) Attitudes and Perceptions to Protected Area Planning and Management on Tourism

- (A) Environmental
1. Conservation
 - a. Key issues
 2. Protected areas
 3. Protected area managers
 4. Protected area planning
- (B) Social
1. Tourism
 - a. Access
 - b. Zoning
 - c. Park Infrastructure
 - d. Accommodation
 - e. Facilities/services
 - f. Fees
 - g. Marketing/promotion
 - h. Other

2. Community dynamics
 3. Recreation
 - a. Fishing
 - b. Other
 4. Indigenous community
 5. Town infrastructure
- (C) Economic
1. Employment
 2. Regional economic development
 3. Tourism
 4. Business

APPENDIX 5: RESEARCH DESIGN

Attitudes and Perceptions (III) of Local Community and Stakeholders (I) to the Socio-economic affects of Protected Area Management (II) on tourism in local communities of the Ningaloo Coast

Outline	Technique	Source
(I) Local Community and Stakeholders		
(A) Physical characteristics	Documentary analysis	Draft Cape Range NP Management Plan
1. Location		Ningaloo Marine Park Management Plan
2. Topography features		Environmental Protection of Cape Range Province, KARST report??
3. Size		Carnarvon-Ningaloo Planning Strategy(s)
a. area		Exmouth-Learmonth Structure Plan
(B) Social characteristics		EPA Tourism Development guidelines
1. Population	Documentary analysis	ABS Census data
a. Numbers		Shire of Exmouth records
b. Composition		
i. age structure		
ii. gender		
iii. cultural		
iv. seasonal		
2. Economy		
a. Tourist economy	Documentary analysis	BTR data and reports, Tourism Research Australia data, Tourism WA Data, Access Economics Report, Tourism Monitor 1990s, Carlsen & Wood, David Wood PhD
b. business economy		Shire records
c. industrial economy		??
d. agricultural economy		Department of Agriculture, NRM reports??

Outline	Technique	Source
Local Community and Stakeholders (cont.)		
3. Government (presence)	Documentary analysis and	
a. Local	informal interviews/personal communications	Shire of Exmouth Annual Report, Website
b. State		Local Business Directory
c. Commonwealth		Naval base, firing range
4. History	Documentary analysis	Shire of Exmouth website, 1990-93 Community meetings re future of Exmouth, D O'Grady (PhD) Curtin and Crombie (PhD) Curtin, CT (Tom) Stannage
a. Pastoral		Exmouth Tourist Bureau
b. Fishing/whaling		Reference - ??
c. Military		Defence Dept.
d. Tourism		Misty Lawrie (Geography PhD)
5. Stakeholders	Documentary analysis and personal communications	Ningaloo MP Management Plan
a. Local community (incl. definitions)		
i. Tourism industry		Draft Cape Range NP Management Plan
a. Park operators		Exmouth Chamber of Commerce
b. Adjacent operators		CALM Tour Operator database (RATIS)
ii. Business community		Exmouth Chamber of Commerce
iii. Conservation groups		
iv. Recreation groups		NROCA, Shire
v. CALM		CALM District Manager
vi. Local government		Shire
vii. Regional Development Authority		Annual Report Gascoyne Region DA
viii. Indigenous community		Cardabia, Syd Dale,
ix. CC Advisory Committee		
b. Non-Local		
i. MPRA, CCWA		Websites, Annual Reports and agency documentation
ii. Dept Premier & Cabinet		

Outline	Technique	Source
Local Community and Stakeholders (cont.)		
iii. CALM		Agency submissions to the Draft Ningaloo MP Plan !!
iv. Fisheries Department		Newspaper articles citing FWA response to the plan
v. Recfishwest		
vi. WAFIC		
vii. Conservation Council		
viii. Dept Environment & Heritage		
ix. Tourism WA		
(II) Socio-economic Affects of Protected Area Management on Tourism		
A. Protected Areas	Documentary analysis	Worboys et al
1. General		IUCN, WCNP
a. Definition		Figgis
b. Purpose/role		Need a good reference on PA's
c. Description –worldwide		Sharp & Shea
d. Description – Australia		
e. Size		
i. Area		TTF report
ii. Visitation		
f. History		
2. Ningaloo Marine Park		Draft and Final Ningaloo MP Management Plan
a. Description		May (1983)
i. Location		Carnarvon-Ningaloo Strategy
ii. Size (area/visitation)		RATIS Annual Report, Tourist Bureau
iii. Biophysical		
iv. Ecological		EPA reports, CALM Plans
v. Recreational		

Outline	Technique	Source
Socio-economic Affects of Protected Area Management on Tourism (cont.)		
b. History		
c. Purpose		
3. Cape Range National Park		Cape Range National Park MP
a. Description		Draft Cape Range NP Management Plan
i. Location		May (1983)
ii. Size (area/visitation)		EPA report
iii. Biophysical		
iv. Ecological		
v. Recreational		
b. History		May (1983)
c. Purpose		
B. Protected Area Management		
1. History and Culture of Protected Area Management	Documentary analysis	Anderson and James
a. Worldwide		WCCP
i. Organisation/ideology		
b. Australia		Worboys et al
i. Organisation/ideology		
c. Western Australia		Pouliquen-Young
i. Organisation/ideology		
2. Management of Protected Areas in Western Australia	Documentary analysis	
a. Administration		CALM Act
i. Legislation		
ii. Agency functions		
iii. Corporate objectives		CALM Corporate Plan
iv. Agency structure		
v. Interagency synergy/contact		

Outline	Technique	Source
Socio-economic Affects of Protected Area Management on Tourism (cont.)		
b. Management		CALM Annual Reports, CALM publications
i. Major programs/activities		
c. Planning		CALM Management Plans
i. Legislation		
ii. Policy/Approach		
iii. Ningaloo MP	Documentary analysis, semi-formal interviews and survey	Management Plan – Analysis of public submissions
• Method		CALM Records/files
• Public consultation		
• Outcomes		
• Other		
iv. Cape Range NP	Documentary analysis, semi-formal interviews and focus groups	Management Plan – Analysis of public submissions
• Method		CALM Records/files
• Public consultation		
• Outcomes		
• Other		
C. Socio Economic Aspects of Tourism (General)		
1. Social benefits		Use and non use values – Smith et al Gascoyne Report
a. Employment		“Tourism in remote areas” (book published by Channel View) chase it
b. Infrastructure and Services		
i. Improved private investment and services		
ii. Improved government infrastructure and services		

Outline	Technique	Source
Socio-economic Affects of Protected Area Management on Tourism (cont.)		
c. Recreation opportunities		
d. Other		
2. Social impacts		Ghimire and Pimbert
a. Workforce diversity		West and Brechin
b. Itinerant workers		Wells
c. Seasonal population		
d. Anti-social behaviour		
e. Changes in population makeup		
f. Other		
3. Economic benefits		Drimyl, Thomas, IUCN, Carr, NSW NPWS
a. Tourist expenditure		WTMA, Lindberg
i. Direct expenditure		Tourism White Paper, Sharing Common Goals
ii. Induced expenditure		TTF report
b. Business growth		
c. Contribution to regional economic growth		
d. Other		
4. Economic impacts		Gagnon
a. Business closures/changes		
b. Cost of living		
c. Land values		
d. Seasonality of the economy		
D. Socio Economic Aspects of Tourism on NW Cape		
1. Social benefits	Documentary analysis	
a. Employment	Formal and informal interviews	?? Commonwealth?
b. Infrastructure and Services		
i. Improved private investment and services		Exmouth Shire business and development application approvals
ii. Improved government infrastructure/services		CALM park capital and recurrent expenditure

Outline	Technique	Source
Socio-economic Affects of Protected Area Management on Tourism (cont.)		
c. Recreation opportunities		Provision of recreation opportunities
d. Other		
2. Social impacts		Exmouth Shire records??
a. Workforce diversity		ABS census
b. Itinerant workers		Problem with transience in Coral Bay
c. Seasonal population		
d. Anti-social behaviour		
e. Changes in population makeup		
f. other		
3. Economic benefits		
a. Tourist expenditure		
i. Direct expenditure		Wood and Carlsen
ii. Induced expenditure		??
b. Business growth		Shire??
c. Contribution to regional economic growth		
d. Other		
4. Economic impacts		Shire Rate records
a. Business closures/changes		Local Real estate agents
b. Cost of living		REIWA
c. Land values		
d. Seasonality of the economy		
(III) Attitudes and Perceptions to PA Planning and Management on Tourism		
A. Environmental	Cross sectional survey	Residents,
1. Conservation	Informal/semi-structured interview	Local Stakeholders, CALM
a. Key Issues		
2. Protected Areas		
3. Protected Area managers		
4. Protected Area planning		

Outline	Technique	Source
Attitudes and Perceptions to PA Planning and Management on Tourism (cont.)		
B. Social		
1. Tourism	Cross sectional survey	Residents,
a. Access	Informal/semi-structured interview	Local Stakeholders, CALM staff
b. Zoning		
c. Park Infrastructure		
d. Accommodation		
e. Facilities/services		
f. Fees		
g. Marketing		
h. Other		
2. Community dynamics		
a. Degree of cohesion		
3. Recreation		
a. Fishing		
b. Other		
4. Indigenous Community		
5. Town Infrastructure		
C. Economic	Cross sectional survey	Residents,
1. Business growth	Informal/semi-structured interview	Local Stakeholders, CALM staff
2. Employment		
3. Regional economic development		
4. Tourism		
5. Development		
D. Expectations	Cross sectional survey	Residents
1. Environmental	Informal/semi-structured interview	Local Stakeholders,
2. Social		
3. Economic		

Questionnaire

This survey relates to the management of Ningaloo Marine Park and Cape Range National Park and the relationship between the Department of Conservation and Land Management (CALM), the local tourism industry and the local community.

About You

1. What is your gender?

- Male Female

2. What is your age category?

- 18-24 40-59
 25-39 60 and over

3. Which of the following best describes the highest level of education you have reached so far?

- Primary/some Secondary Completed Tertiary
 Completed Secondary

4. How long have you lived in the Exmouth area?

- less than 3 years more than 10 but less than 20 years
 more than 3 but less than 10 years more than 20 years

5. Which of the following is your main interest in Cape Range National Park and Ningaloo Marine Park? **Tick one only.**

- park management practices encouraging development
 conservation and biodiversity other, please specify.....
 recreation and tourism other, please specify.....

6. Which of the following activities do you undertake in Cape Range National Park and Ningaloo Marine Park and how important are they to you? **Please circle the number on the scale that best represents your view.**

	Not at all important					very important		
	1	2	3	4	5			
<input type="checkbox"/> fishing	1	2	3	4	5		Unsure	
<input type="checkbox"/> swimming	1	2	3	4	5		Unsure	
<input type="checkbox"/> snorkelling/diving	1	2	3	4	5		Unsure	
<input type="checkbox"/> boating/sailing	1	2	3	4	5		Unsure	
<input type="checkbox"/> canoeing/kayaking	1	2	3	4	5		Unsure	
<input type="checkbox"/> bushwalking/hiking	1	2	3	4	5		Unsure	
<input type="checkbox"/> wildlife viewing/bird watching	1	2	3	4	5		Unsure	
<input type="checkbox"/> sightseeing	1	2	3	4	5		Unsure	
<input type="checkbox"/> picnicing/BBQing	1	2	3	4	5		Unsure	
<input type="checkbox"/> relaxing/reading	1	2	3	4	5		Unsure	
<input type="checkbox"/> climbing/abseiling	1	2	3	4	5		Unsure	
<input type="checkbox"/> cycling	1	2	3	4	5		Unsure	
<input type="checkbox"/> camping	1	2	3	4	5		Unsure	
<input type="checkbox"/> Other, please specify.....	1	2	3	4	5		Unsure	

7. How often did you visit the Ningaloo Marine Park/Cape Range National Park in the following periods?

- | Dec 2003-May 2004 | June-Nov 2004 | Dec 2004-May 2005 |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Never |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1-2 times |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 3-4 times |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 5-10 times |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 11-20 times |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Over 20 times |

8. Which lifestyle category best describes you?

- | | |
|---|--|
| <input type="checkbox"/> Single | <input type="checkbox"/> Middle family (children 6-15 years) |
| <input type="checkbox"/> Young couple/no children | <input type="checkbox"/> Mature family (children 16years +) |
| <input type="checkbox"/> Young family (youngest child <6 years) | <input type="checkbox"/> Mature couple /no children at home |

9. As a stakeholder with an interest in the management of the park which stakeholder category best describes you?

- | | |
|--|---|
| <input type="checkbox"/> tourism operator | <input type="checkbox"/> recreational fisher |
| <input type="checkbox"/> general business operator | <input type="checkbox"/> traditional owner/indigenous community |
| <input type="checkbox"/> conservation group | <input type="checkbox"/> government |
| <input type="checkbox"/> pastoralist | <input type="checkbox"/> Other, please specify |
| <input type="checkbox"/> local resident | |

10. Which employment category best describes you?

- | | |
|---|--|
| <input type="checkbox"/> Self employed - own tourism business | <input type="checkbox"/> Government employee |
| <input type="checkbox"/> Self employed - own non-tourism business | <input type="checkbox"/> Unemployed |
| <input type="checkbox"/> Employed - tourism business | <input type="checkbox"/> Retired |
| <input type="checkbox"/> Employed - non tourism business | <input type="checkbox"/> Full or part time student |

Your impression of park management on environmental issues

Please **circle the number** on the scale that best represents your view. The number 3 represents a neutral view.

11. In your view does the management of Ningaloo Marine Park and Cape Range National Park have a positive or negative impact on the following aspects of the parks' environment?

	very negative			very positive		
Terrestrial (land) wildlife populations	1	2	3	4	5	Unsure
Fish populations	1	2	3	4	5	Unsure
Water quality	1	2	3	4	5	Unsure
Coastal landforms	1	2	3	4	5	Unsure
Marine wildlife populations	1	2	3	4	5	Unsure
Coral reefs	1	2	3	4	5	Unsure
Ecological systems and processes	1	2	3	4	5	Unsure
Conservation and biodiversity	1	2	3	4	5	Unsure
Other, please specify.....	1	2	3	4	5	Unsure

12. Are you aware of the recent expansion of sanctuary zones and boundaries of the Ningaloo Marine Park?

- yes no

13. Please indicate how much you agree or disagree with the current zoning and boundary arrangements for Ningaloo Marine Park?

- | | |
|-----------------------|----------------|
| strongly disagree | strongly agree |
| 1 2 3 4 5 | Unsure |

14. To what degree are you satisfied or dissatisfied with CALM's approach to conservation and environmental management locally?

- | | |
|-----------------------|----------------|
| very dissatisfied | very satisfied |
| 1 2 3 4 5 | Unsure |

Your impression of park management on economic issues

(Please go to Q18 if you do not operate or own a business)

15. What type of business do you own/manage?.....

	very negative			very positive		
16. To what degree have environmental or conservation management decisions related to Ningaloo Marine Park and Cape Range National Park had an effect on your business?	1	2	3	4	5	Unsure

17. In what ways have the sanctuary zones and boundaries in the Ningaloo Marine Park affected your business?
1. (prior to their expansion in 2004)
2. (since their expansion in 2004)

	very negative			very positive		
18. To what degree have environmental or conservation management decisions related to Ningaloo Marine Park and Cape Range National Park had an effect on your lifestyle?	1	2	3	4	5	Unsure

19. How important is it that the **management** of Ningaloo Marine Park and Cape Range National Park contribute to the following aspects of tourism?

	Not at all important			very important		
Tourism business development	1	2	3	4	5	Unsure
Tourism development and growth	1	2	3	4	5	Unsure
Tourism planning	1	2	3	4	5	Unsure
Tourism marketing and promotion	1	2	3	4	5	Unsure
Local Tourist Bureau services	1	2	3	4	5	Unsure
Provision of tourism facilities	1	2	3	4	5	Unsure
Tour operator access/use of parks	1	2	3	4	5	Unsure
Other, please specify.....	1	2	3	4	5	Unsure

20. To what degree does the management of Ningaloo Marine Park and Cape Range National Park impact on the following economic issues?

	very negative			very positive		
Local employment	1	2	3	4	5	Unsure
Regional economic development	1	2	3	4	5	Unsure
Local business activity	1	2	3	4	5	Unsure
Public infrastructure development (schools, banks etc)	1	2	3	4	5	Unsure
Tourism development and growth	1	2	3	4	5	Unsure
Tourist expenditure	1	2	3	4	5	Unsure
Tourism profitability	1	2	3	4	5	Unsure
Property values	1	2	3	4	5	Unsure
Tourism planning	1	2	3	4	5	Unsure
Tourism marketing and promotion	1	2	3	4	5	Unsure
Provision of tourism facilities	1	2	3	4	5	Unsure
Tour operator access	1	2	3	4	5	Unsure
Other, please specify.....	1	2	3	4	5	Unsure

21. To what extent do you agree or disagree that the sanctuary zones and boundaries of the Ningaloo Marine Park have had a positive effect on the local economy:						
a) since their creation in 1987?	strongly disagree			strongly agree		
	1	2	3	4	5	Unsure
b) since their expansion in 2004?	1	2	3	4	5	Unsure

	very dissatisfied			very satisfied		
22. To what degree are you satisfied or dissatisfied with CALM's approach to <u>economic</u> issues locally?	1	2	3	4	5	Unsure

	very minor			very major		
23. Overall what contribution do you think Ningaloo Marine Park and Cape Range National Park make to the <u>economy</u> of Exmouth/Coral Bay?	1	2	3	4	5	Unsure

	very insignificant			very significant		
24. Overall what contribution do you think Ningaloo Marine Park and Cape Range National Park make to the <u>lifestyle</u> of Exmouth/Coral Bay?	1	2	3	4	5	Unsure

	very dissatisfied			very satisfied		
25. To what degree are you satisfied or dissatisfied with CALM's approach to <u>tourism</u> issues locally?	1	2	3	4	5	Unsure

Your impression of park management on social issues

26. To what degree does the management of Ningaloo Marine Park and Cape Range National Park impact on the following social issues?

	very negative			very positive		
Workforce diversity	1	2	3	4	5	Unsure
Employment opportunities	1	2	3	4	5	Unsure
Social cohesion of town/area	1	2	3	4	5	Unsure
Community infrastructure, eg schools	1	2	3	4	5	Unsure
Park volunteering/park partnerships	1	2	3	4	5	Unsure
	very negative			very positive		
Access for recreation	1	2	3	4	5	Unsure
Money/time given by community groups	1	2	3	4	5	Unsure
Indigenous relations	1	2	3	4	5	Unsure
Money/time given to community organisations	1	2	3	4	5	Unsure
Vandalism	1	2	3	4	5	Unsure
Recreational fishing access	1	2	3	4	5	Unsure
Other, please specify.....	1	2	3	4	5	Unsure

27. How important is it that the management of Ningaloo Marine Park and Cape Range National Park contribute to the following social issues?

	Not at all important			very important		
Workforce diversity	1	2	3	4	5	Unsure
Employment opportunities	1	2	3	4	5	Unsure
Social cohesion of town/area	1	2	3	4	5	Unsure
Community infrastructure, eg schools	1	2	3	4	5	Unsure
Park volunteering/park partnerships	1	2	3	4	5	Unsure
Access to recreational activities	1	2	3	4	5	Unsure
Indigenous relations	1	2	3	4	5	Unsure
Money/time given to community organisations	1	2	3	4	5	Unsure
Recreational fishing access	1	2	3	4	5	Unsure
Other, please specify.....	1	2	3	4	5	Unsure

28. What activities do you or members of your household carry out in Ningaloo Marine Park?

.....

.....

.....

29. Have recent changes to sanctuary zones and boundaries of the Ningaloo Marine Park had an effect on your activities or those of members of your household?	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> not sure
If so, how?	
.....	

Your expectations of CALM

30. To what degree are you satisfied or dissatisfied with CALM's contribution to <u>social</u> issues locally?	very dissatisfied						very satisfied
	1	2	3	4	5	Unsure	

Given CALM's primary role is to conserve the natural values of these areas.....

31. what importance do you think CALM places on <u>social</u> issues?	no importance						utmost importance
	1	2	3	4	5	Unsure	

32. what importance do you think CALM should place on <u>social</u> issues?	no importance						utmost importance
	1	2	3	4	5	Unsure	

33. what importance do you think CALM places on <u>environmental</u> issues?	no importance						utmost importance
	1	2	3	4	5	Unsure	

34. what importance do you think CALM should place on <u>environmental</u> issues?	no importance						utmost importance
	1	2	3	4	5	Unsure	

35. what importance do you think CALM places on <u>economic</u> issues?	no importance						utmost importance
	1	2	3	4	5	Unsure	

36. what importance do you think CALM should place on <u>economic</u> issues?	no importance						utmost importance
	1	2	3	4	5	Unsure	

37. How important is it that park management balances social, economic and environmental issues?	very unimportant						very important
	1	2	3	4	5	Unsure	

38. Overall how would you rate CALM's performance in <u>balancing</u> the economic, social and environmental issues locally?	very dissatisfied						very satisfied
	1	2	3	4	5	Unsure	

39. To what extent would your support for CALM's management of Ningaloo and Cape Range National Park change if it gave greater consideration to social and economic issues?	far less supportive						far more supportive
	1	2	3	4	5	Unsure	

40. To what extent is the <u>economic</u> future of Ningaloo coast communities linked to the management and planning for Ningaloo and Cape Range National Park?	totally unrelated						totally related
	1	2	3	4	5	Unsure	

Your impressions about community involvement in park management

41. How effective is CALM in engaging with and involving the local community and stakeholders in the following aspects of planning and management of Ningaloo Marine Park and Cape Range National Park?

	not at all effective					very effective	
Acknowledges and understands your expectations	1	2	3	4	5	Unsure	
Provision of information (planning & other initiatives)	1	2	3	4	5	Unsure	
Community involvement in gathering information	1	2	3	4	5	Unsure	
Involvement in decision making	1	2	3	4	5	Unsure	
Community feedback as to why decisions were made	1	2	3	4	5	Unsure	
Open to considering community/stakeholder concerns	1	2	3	4	5	Unsure	
Involvement in implementation of plans or projects	1	2	3	4	5	Unsure	
Involvement in monitoring of plans or outcomes	1	2	3	4	5	Unsure	
Joint projects with community/stakeholders	1	2	3	4	5	Unsure	
Responding to community/stakeholder complaints/concerns	1	2	3	4	5	Unsure	

42. How important is it that CALM engages the local community and stakeholders in the following aspects of planning and management of Ningaloo Marine Park and Cape Range National Park?

	not at all important					very important	
Acknowledging and understanding community expectations	1	2	3	4	5	Unsure	
Providing information about planning & other initiatives	1	2	3	4	5	Unsure	
Involving community in gathering information	1	2	3	4	5	Unsure	
Involving community in decision making	1	2	3	4	5	Unsure	
Providing feedback on why decisions were made	1	2	3	4	5	Unsure	
Being open to considering community/stakeholder concerns	1	2	3	4	5	Unsure	
Involving community in implementation of plans or projects	1	2	3	4	5	Unsure	
Involving community in monitoring of plans or outcomes	1	2	3	4	5	Unsure	
Joint projects with community/stakeholders	1	2	3	4	5	Unsure	
Responding to community/stakeholder complaints/concerns	1	2	3	4	5	Unsure	

43. What aspects of CALM's community and stakeholder involvement process for Ningaloo Marine Park and Cape Range National Park do you consider to be effective?

	not at all effective					very effective	
Park advisory committee	1	2	3	4	5	Unsure	
Access to information on CALM's website	1	2	3	4	5	Unsure	
Draft plan released for comment	1	2	3	4	5	Unsure	
Public meetings	1	2	3	4	5	Unsure	
Stakeholder group meetings	1	2	3	4	5	Unsure	
Framework/Issue paper	1	2	3	4	5	Unsure	
Press releases	1	2	3	4	5	Unsure	
Letters/Information packs to residents	1	2	3	4	5	Unsure	
Other, please specify	1	2	3	4	5	Unsure	

44. Did you participate in any of the following community engagement and public consultation opportunities for the draft Ningaloo Marine Park Management Plan?

- | | |
|--|---|
| <input type="checkbox"/> Framework (issues) paper | <input type="checkbox"/> Accessed information from CALM's website |
| <input type="checkbox"/> Public meetings | <input type="checkbox"/> Stakeholder meetings |
| <input type="checkbox"/> Initial call for comments and input | <input type="checkbox"/> Open days/forums |
| <input type="checkbox"/> Park advisory committee | <input type="checkbox"/> Comment on the draft plan of management |

45. Are you aware of any recent joint projects between CALM, the local community and interest groups in Ningaloo Marine and Cape Range National Park or other local areas? If yes, please specify?

.....

46. How well organised do you feel the local community is to respond effectively to CALM's planning and community involvement processes?	very disorganised			very organised		
	1	2	3	4	5	Unsure

47. How willing do you feel the local community is to work with CALM to achieve mutual benefits?	very unwilling			very willing		
	1	2	3	4	5	Unsure

48. How well organised do you feel the local tourism industry is to respond to CALM planning and management processes?	very disorganised			very organised		
	1	2	3	4	5	Unsure

49. How willing do you feel the local tourism industry is to work with CALM to achieve mutual benefits?	very unwilling			very willing		
	1	2	3	4	5	Unsure

50. To what extent does CALM allocate funds (human and financial) to community and stakeholder engagement?	very inadequate			very adequate		
	1	2	3	4	5	Unsure

51. How adequate are the resources available to manage Ningaloo Marine Park and Cape Range National Park?	very inadequate			very adequate		
	1	2	3	4	5	Unsure

About CALM

52. Thinking about CALM's management of Ningaloo and Cape Range National Park, do you think that..

CALM's culture encourages community involvement	strongly disagree			strongly agree		
	1	2	3	4	5	Unsure
CALM has a problem-solving culture	1	2	3	4	5	Unsure
CALM is effective at evaluating community concerns	1	2	3	4	5	Unsure
CALM unfairly places blame	1	2	3	4	5	Unsure
CALM is an achiever	1	2	3	4	5	Unsure
CALM achieves results at considerable community cost	1	2	3	4	5	Unsure
CALM communicates effectively with community	1	2	3	4	5	Unsure
CALM is good for this local community	1	2	3	4	5	Unsure
CALM tries to achieve fair outcomes for the community	1	2	3	4	5	Unsure

Thank you for the time and effort you have taken to complete this survey. Your contribution is greatly appreciated. Could you please return the survey in the self addressed post paid envelope.

APPENDIX 7: INTERVIEW QUESTIONS

All Stakeholders

1. What is the particular interest of your group/organisation in Cape Range NP and Ningaloo Marine Park?
2. What contribution do you think the two parks make to the social and economic well being of Exmouth/Coral Bay? ie How dependent is Exmouth on the management initiatives of the two parks?
3. How successful have the community involvement processes been in achieving fair outcomes for communities/stakeholders?
4. How well do park planning initiatives balance the social and economic issues with environmental?
5. Are adequate resources available to manage community involvement in planning and management?
6. What is needed to better to engage and involve community and stakeholders in the planning and management of the park?

APPENDIX 8: STAKEHOLDER QUOTES (NOT INCLUDED IN THE TEXT)

Change

“I think the community of Exmouth’s very transient we probably have, around 2000 people a year (permanent residents) which is probably going to become 4 or 5000 over the next 5 or 10 years”. Real estate agent

It’s the youngest town in Australia, Exmouth, its only 37 years old or something. So there’s not a real big localism feeling in Exmouth pretty much if you stay here for 6 months you’re adopted as a local”. Real estate agent

“I don’t think we should underestimate the changes in the demographics of the community. I believe there are certain functions within the community that becomes relevant; its focus becomes relevant, so in the change from a stable affluent community, very comfortable steady income, lots of money. When we changed into a tourism marine based economy suddenly seasons became a lot more significant, we tried to double visitation, people’s outlooks were changed, purely because we moved from a very stable (economy) to uncertainty”. Long term resident.

Communication

“CALM was selling a message about sanctuary zones that was all about this a percentage number and it was about the percentage that CALM was protecting. Locally they didn’t need to hear that. I wouldn’t be talking about sanctuary zones. Start from the point of saying a marine park is a sanctuary but we are going to let you fish in a recreational fishing zone within the park”. Local tour operator

“Everyone wonders why they’ve bought out all those (pastoral) stations, I mean what’s the plan? Again communication I suppose, nobody really understands why they’ve done that”. Long term resident

“I think there is an element of lack of communication. I think communication has been a problem and I think it’s always going to be an issue in any sort of big government organisation, even at a local level”. Local resident

“Absolutely, ownership (of decisions) and that’s where a lot of the CALM knocking comes from, because right or wrong over the years this sort of power thing builds up, it’s so easy to blame somebody else (if the power and responsibility is not shared) but CALM hasn’t done a lot to get rid of that image, and I’ve repeatedly said it makes life such a misery for those guys up there (local CALM staff)” CCPAC member

Community

“You know because time will change things, (it) will improve I think, CALM’s (image) will get better as time goes on”. Tour Operator

Community Education

“If you want to preserve this thing you’ve got to educate people about the importance of it and you’ve got to let them know what’s it’s about”. Long-term resident

“You could start by having them (the community) understand the values of the parks. There are two values; the value as a conserved ecosystem and the other as an economic value for the town”. Tour Operator, Exmouth

“I think they’ve made the effort in the past but probably more at the school level than the community level”. Real estate agent

“I think education is so important and CALM does not do enough about it. Their role should extend beyond the (park visitor) centre, to attracting volunteers to get out there on the beaches and talk to visitors about the values of the park. They are like sponges, they love it”. Local conservationist

“I think it’s got to come down to public relations and I think people need to be informed a lot more of sort of what’s going on”. Pastoral tour operator

“It needs sort of people to go around and deal with operators and the public and go to the fishing pubs and not just the rangers or whatever.....you need someone that’s trained very professionally, knows the way CALM is structured, and which way it’s going”. Pastoral tour operator

Community involvement in management

“I guess other than employing locally which probably wouldn’t be a large number I don’t think that the community would get that involved ”. Real estate agent

“They’ve (CALM) just got to work their way into the community and not get on the wrong side of it. You’ve just got to work gradually with the community that have been here for a long time”. Long term resident

Economic

“It’s the backbone basically of the economy of this town because the economy of this town now rests on tourism and you destroy the thing that they come to see, so therefore you have to have management”. Local resident

“Exmouth is basically totally reliant on the two national parks and all the coastline. It’s why people want to go there”. Tour operator, pastoral property

“In Coral Bay’s instance, particularly the sanctuary zones, don’t have a great impact on the operators. They’re essentially all eco-friendly operators within the reef”. Tour operator

“So economically, all of the businesses rely in one way or another on the visitors that come to Coral Bay to interact and have a look at the Ningaloo Marine Park. The town only exists because of the Ningaloo Marine Park”. Tour operator

“We wouldn’t have (a business). Our business wouldn’t survive if it wasn’t for Cape Range and Ningaloo. There wouldn’t be anyone, people wouldn’t come here, there’s no (other) cause really”. Tourist operator, pastoral property

There is a perception that any management decision can have economic consequences for tour operators. This is undoubtedly true. This is highlighted by a legitimate decision by CALM to increase the number of coral viewing boats at Coral Bay in 1998 from two to three.

“The management of the park (can) affect the operators themselves, which affects the people that it employs, it affects the whole town the management decisions that are made in relation to the commercial operators”. Tour operator

“Like glass bottomed boat operators, if there is two operators and a third one comes in it affects them greatly in this area specifically”. Tour operator, Coral Bay

Environmental

One long-term resident was asked whether the withdrawal of the US Navy got local people thinking about the tourism and conservation values of the marine park and national park.

“Absolutely, and you then started to get a lot more local participation and the focus on the marine park and Cape Range was different because all of a sudden it was seen as whatever you do there was going to influence the sort of people that were coming here” Long term Exmouth resident

“Its very important they continue to be well managed”. Business Proprietor, Exmouth

“Our (Shire) acknowledgement of the (need for) economic impact and the social impact (research) was ignored right at the very beginning and it’s evolved over time and it’s become a lot more paramount”. Former Shire Councillor, Exmouth

“Well that (research) snowballed and over time, those groups came regularly, which grew into a number of many meaningful projects”. Former Shire Councillor, Exmouth

“From the late 80s and the early 90s on you really started to see the Cape Conservation Group being established, those groups were influenced externally by the Conservation Council and they took a much higher profile. They came to the town and started selling their message”. Long-term resident

Governance

“You find these people in elected positions of power and they rely on their constituents support to get re-elected. These constituents still want to fish in the sanctuaries. So the local government didn’t support the plan”. Tour Operator, Exmouth

“I don’t think those people (elected representatives) held up well to the pressure. Either they didn’t understand the issues themselves, which I think they did. They didn’t stand up to the public pressure and say guys this is the information that is out there, we know that it is going to have a positive impact but they couldn’t sell that message to the community. The community leaders didn’t want to say it”. Local resident commenting on the need for community leadership.

“I think the community is very cynical and that they don’t see any of the departments DPI, Fisheries or CALM working together on policing or management issues. They see them as three completely separate departments that rarely interact”. Tour operator

Image

“CALM aren’t very popular, it’s as simple as that”. Tour Operator

“There’s got to be a lot more put into community awareness of what CALM are doing and to change their image”. Pastoralist

“When it (the SZ) was expanded significantly then all trust was lost. And I don’t see that as coming back in a long time”. Shire representative

Park Management

“So since CALM has moved in, the roads, beach access to certain areas have been made and parking areas. So in way it has helped there especially with erosion”.
Long term resident

“I would hate to think what it would be like over there if you didn’t have Cape Range (National Park) or Ningaloo Marine Park”. Local conservationist commenting on the importance of creating and managing national parks.

Planning

“I think now the community views the whole conservation process and planning as having a lot more direct impact on their day to day life”. Long term resident

“I think you’ll get more out of these commercial operators if you can sit them down and have a conversation with them, get their point of view that way” Tour operator,
Coral Bay

Planning Process

“I think that one of the reasons why some of the (local) people are still so incensed (with the planning process) because they feel their ownership has been degraded”.
Tour Operator

“Yes I think there are too many government people on (CCPAC) the Committee rather than normal citizens” Local business operator

“They (DEC) were very unprepared when they went amongst all that crowd, those local people have been fishing here for twenty years and they just couldn’t, they couldn’t hit back”. Local resident

“The community involvement process hasn’t been all that successful for getting our point across”. Tour operator

“Everyone seems very busy and the operators are strongly independent and they tend not to want to attend meetings”. Local Business proprietor

Public consultation

“The process was that management plans would go out to the public and the public had a huge opportunity to respond” Local conservationist

“The information was so accessible in terms of the planning, the process and the draft and the community consultation group (CCPAC) contained local people, people (the community) trusted. Tour operator

“I think decisions are made at levels without the locals (Park staff) actually having as much input as what other people have perhaps, and I think that would’ve upset a lot of people too”. Local Business proprietor

Rebounds

“I know that CALM’s got a reputation in Exmouth that wouldn’t be welcomed by most. That it’s only a few people that would really have created that in a way as well, or a certain sector, a lot of people just jump on a bandwagon in this sort of community without really realising the issues. Local business proprietor

“I think CALM’s image in managing the marine park and the national park is very poor at the moment community wise. (In the eyes of the community) they seem to be always doing something wrong”. Local resident

“They stay in their group, yeah, it’s true. So, I think they could get involved and be liked just as a person”. Local Business proprietor

I think it's just a government body concept as well, anything to do with a government body then people want to have a go at don't they! Anyone in authority! Local business proprietor

Resources for management

"There is a negative view that's fostered by some of the commercial operators because essentially they're doing the management for CALM, because CALM's not out there regularly enough and often enough to manage the marine park". Tour operator

"We already had lots of sanctuary zones, it's been increased but we don't see how the increase is going to be able to be managed." Tour operator

"They're (CALM) not having a great presence in the Marine Park, in the waters themselves, whether that's through not having people on the ground or enough infrastructure (such) as boats and vessels to get out there and properly manage and control what's happening in the Marine Park..." Tour operator

They've gone ahead and made all these sanctuary zones, even (adding) the Murion Islands, but how are they going to police that or look after it when they've only got limited resources here". Commonwealth employee

Sanctuary zones

"I don't believe that the (park management) changes that have occurred thus far, have impacted in a negative way. I think the positives have been that the town has been growing and the tourist numbers have been growing regardless of some of the ideas and concepts that have been put out". Local business proprietor

Social

"Since I've been here (20 years) I think it's been positive in other words more people have had access with caravans and cars now..". Long term resident

One stakeholder raised as a negative impact, the displacement of locals from the park during peak tourist season.

“There are certainly periods of the year where the locals don’t go camping in the park because it’s too crowded”. Local business proprietor

Sustainability

“When we go to stakeholder meetings and told that CALM can’t make decisions based upon economic or social impacts, it deals largely with environmental impacts. Whereas the commercial operators, they’re all eco-friendly operators so they consider themselves to be addressing the environmental issues. They (CALM) need to focus primarily on the economic issues and social issues, but I don’t think in the past that CALM has been able (or willing) to address those issues for them”. Tour Operator

“I mean, yeah it’s got to be put under management because if we don’t have some sort of management, however it’s done, well it’s not going to be there. It’s as simple as that”. Tour operator pastoral property.

“I think it’s becoming more of an awareness, most definitely. People that operate a business (understand) the significance between the national park and the survival of Exmouth”. Tourist operator, pastoral property

“Businesses that would not recognise it, such as the plumber or the trades people that end up getting a fair proportion of their work from the tourism industry fixing things at peoples places like mine or fixing something at the resort, they don’t necessarily make that correlation”. Tour Operator, Exmouth

Tourism

“There are still people working within the tourism area who are front line sellers of tourism product that are still saying to people – why don’t you just do the drift snorkel at Turquoise Bay, its free?”. Tour operator

“What they understand to be visitor servicing is to point out what all the free things are because they think that way they will stay longer in town and that will be good for the community”. Tour operator

“What they don’t realise is that by sending them to us on a tour they are going to have a much better experience, but they are also going to spend money, not all of it is going to end up in my pocket, it ends up the pockets of the butcher, the baker, the fuel suppliers and the people that do our repairs and that then multiplies through the economy because they are all employing people”. Tour operator

“I think that contribution has changed over time. I think it’s fair to say that initially the contributions were not all that great and (it was) very hard for the community to understand (as) there wasn’t any immediate impact”. Long term resident

“Probably since 1995 I think businesses in town are starting to head that way in other words a change to accommodate tourism I think that’s definitely starting to happen, I think they’ve got a long way to go yet, They are not very customer focused a lot of them so yeah a little bit to learn in that area”. Long term resident

“I mean essentially that’s what they (CALM) do I mean, they are there to look after these facilities, the marine parks and national parks and the only reason they’re looking after them, in a sense, is for the tourists”. Newly arrived resident

“We repeatedly put arguments to the (Commonwealth) Grants Commission to get special dispensation for the fact that we were servicing a population of 3,000 for 6 months of the year, and a population of 10,000 for another 6 months of the year, (visitors) who don’t contribute anything back. The ‘tourism syndrome’ we used to call it because you’re simply (over) taxing your ratepayers to create the right infrastructure.” Former Shire councillor.