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## A changing cultural landscape: Yanchep National Park, Western Australia

Darren P. Venn  
*Edith Cowan University*

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# **A Changing Cultural Landscape: Yanchep National Park, Western Australia**

**DARREN PETER VENN**

**A Thesis submitted in fulfilment of the requirements for the award of  
Master of Arts (Geography) for the Faculty of Education and Arts  
School of Communications and Arts, Edith Cowan University,  
Mt Lawley, Western Australia**

## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

## **ABSTRACT**

This study depicts the changing landscape of Western Australia's Yanchep National Park as it has evolved in response to natural processes and human activities. The study also serves to evaluate the level of input Indigenous people have in the management of Australian natural and cultural heritage. The Park was examined by utilising a methodology that combined a cultural geography approach with Structuration Theory. Yanchep National Park is highly suited to this type of investigation because of its close proximity to a major urban centre (Perth) and because of the importance of the area to Indigenous people, resulting in a highly visible cultural heritage within the Park.

The aim of this research was to distinguish, describe and classify the complexity of environmental features at the Park. It also served to depict specific systems, patterns and processes in which human manipulations of the Park are involved, together with their implications for the welfare of the surrounding community. Furthermore, the results from this study are used to identify management strategies that could benefit the future of the Park.

The potential benefits from the preservation of cultural landscapes are enormous. Such landscapes provide scenic, economic, ecological, social, spiritual, recreational and educational opportunities that help us understand ourselves as individuals, communities and as a nation. Their ongoing preservation can yield an improved quality of life for all and, above all, a sense of identity or place for future generations.

## ***DECLARATION***

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Darren Venn

## ACKNOWLEDGEMENTS

This thesis is dedicated to my Grandfather Peter Venn (MBE) who I have great admiration and respect for. He has taught me by example to be humble, kind and to enjoy life. Many thanks and much love is released to him and all within my family from past, present and future.

This study has also benefited greatly from the co-operation and goodwill of a large number of individuals and organisations. I wish to mention in particular the contributions and support I received from the staff at Yanchep National Park and the Battye Library. I also acknowledge Edith Cowan University for granting me a HECS exempt scholarship to complete this thesis.

The substantial contribution of Dr Noel Nannup (Nyoongar elder) to my spiritual and personal development also merits special recognition. I feel privileged to have benefited from his wisdom and inspiration.

I am especially grateful to the many friends and family members who offered help and support at various stages throughout the study. I could not have completed it if it were not for them. I wish to mention in particular my fiancé Melissa, my brother Sean, Nana and Bob (Lynette & Robert Dearle) and give a special thanks to my mother and father, Annette and Michael Venn, for their unconditional support and encouragement throughout not only this study, but throughout my life.

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## Table of Contents

	<b>Page</b>
Use of this Thesis	ii
Abstract	iii
Declaration	iv
Acknowledgments	v
Table of Contents	vi
List of Figures	ix
List of Tables	ix
List of Plates	ix
List of Maps	x
List of Footnotes	x
 <b>CHAPTER 1 INTRODUCTION</b>	 <b>1</b>
1.1 Philosophy of National Parks	1
1.2 Background to the Study	7
1.3 Significance of the Study	11
1.4 Purpose of the Study	11
1.5 Research Problem and Questions	11
1.6 Definitions of Terms Used	12
 <b>CHAPTER 2 LITERATURE REVIEW</b>	 <b>14</b>
2.1 Introduction	14
2.2 Philosophy of National Parks	14
2.3 Methodology	15
2.4 Indigenous Documentation	18
2.5 Colonial Exploration	19
2.6 Settlements and Development	20
2.7 Conservation at Yanchep National Park	21
2.8 Indigenous Management Literature	22
2.9 Oral Histories	23
2.10 Aerial Photography and Maps	24
2.11 Summary	24
 <b>CHAPTER 3 METHODOLOGY AND MATERIALS</b>	 <b>25</b>
3.1 Introduction	25
3.2 Geographical Approaches: A Brief History	25
3.3 Research Design	26
3.4 Data Collection	29
3.5 Limitations	30
3.6 Summary	32
 <b>CHAPTER 4 PHYSICAL LANDSCAPE</b>	 <b>33</b>
4.1 Introduction	33
4.2 Landforms	33

	<b>Page</b>
4.2.1 Spearwood Dune System	35
4.2.2 Quindalup Dune System	35
4.2.3 Caves	35
4.3 Water and Wetlands	37
4.3.1 Groundwater Component	37
4.4 Vegetation Communities	38
4.4.1 Vegetation Associations	40
4.4.2 Tuart Association	42
4.4.3 Jarrah Association	42
4.4.4 Banksia Woodlands	42
4.4.5 Heathlands	43
4.5 Wildlife	43
4.5.1 Mammals	43
4.5.2 Birds	44
4.5.3 Reptiles and Amphibians	45
4.5.4 Fish	45
4.6 Summary	45
<b>CHAPTER 5 THE INDIGENOUS CULTURAL LANDSCAPE</b>	<b>47</b>
5.1 Introduction	47
5.2 Interpretation of the Indigenous Cultural Landscape	47
5.3 Summary	58
<b>CHAPTER 6 THE EUROPEAN CULTURAL LANDSCAPE</b>	<b>61</b>
6.1 Introduction	61
6.2 Period of Early Exploration 1829 – 1900	63
6.3 First Establishment of the Built Environment 1901 – 1931	65
6.4 Rapid Development 1932 – 1939	72
6.5 Outbreak of War 1939 – 1946	77
6.6 Post-War Years 1947 – 1956	78
6.7 Summary of Cultural Impact Upon the Landscape	81
<b>CHAPTER 7 MANAGEMENT OF YANCHEP NATIONAL PARK</b>	<b>75</b>
7.1 Introduction	83
7.2 National Parks Board 1956 – 1980's	83
7.3 CALM and the Department of Environment and Conservation 1985 – 2008	85
7.4 Indigenous Input to Natural and Cultural Heritage Management	92
7.5 Framework for Evaluating Various Management Models of Indigenous Input to Natural and Cultural Heritage Management	95
7.6 Evaluation of Management Models of Input to Natural and Cultural Heritage Management	97
7.6.1 Uluru – Kata Tjuta	98
7.6.2 Minyirr Park	100
7.6.3 Western Australian Historical Model	102
7.6.4 Western Australian Contemporary Model	102
7.6.5 Nunavut Land	104

	<b>Page</b>
7.7 Summary of Evaluation	108
7.8 Recommendations for Indigenous Input to Yanchep National Park	109
7.9 Issues	110
7.9.1 Endangered Species	110
7.9.2 Gnangara Mound Groundwater	111
7.9.3 Environmental Impacts Upon the Landscape	111
7.9.4 Gnangara Park	113
7.9.5 Urban Sprawl	114
7.9.6 Koalas	115
7.9.7 Pool and Golf Course	116
7.9.8 Fire	117
7.10 Objectives	118
7.10.1 Endangered Species	118
7.10.2 Gnangara Mound Groundwater	118
7.10.3 Environmental Impacts Upon the Landscape	119
7.10.4 Gnangara Park	120
7.10.5 Urban Sprawl	120
7.10.6 Koalas	120
7.10.7 Pool and Golf Course	121
7.10.8 Fire	121
7.11 Summary	122
 <b>CHAPTER 8 CONCLUSION AND GUIDING PRINCIPLES</b>	 124
8.1 Review of Study	124
8.2 Limitations	127
8.3 Guiding Principles for Future Management	128
 <b>BIBLIOGRAPHY</b>	 130
 <b>APPENDICES</b>	 143
Appendix I Cultural Heritage Listed Sites	144
Appendix II Main Issues of Draft Management Plan	146
Appendix III Yanchep and Neerabup National Parks Management Plan Issues Paper	149
Appendix IV Gnangara Park Concept Plan	157
Appendix V Register of Indigenous Sites at Yanchep National Park	159
Appendix VI Western Australia Tindale Tribal Boundaries	166
Appendix VII ‘Environment and Resources’ and ‘Air and Development’ Treaties Signed, Acceded to and Entered Into Force Since 2000	168
Appendix VIII Australian Geographical History as a Narrative: Applied to Research	182

## LIST OF FIGURES

<b>Figures</b>	<b>Title</b>	<b>Page</b>
1.0	Outline of a Rational, Adaptive and Participatory Planning Process for a Natural and Cultural Heritage Management Plan	6
4.0	Hypothetical West to East Transect Showing the Major Topographical Features of the Swan Coastal Plain and Darling Scarp	34
5.0	Nyoongar Six Seasons Weather-based Calendar	53
7.0(a)	Loch McNess and Surrounds at Yanchep National Park	87
7.0(b)	Air Photograph of Loch McNess and Surrounds at Yanchep National Park	87
7.1	Contemporary Management Model for Indigenous Input to Natural and Cultural Heritage for Uluru – Kata Tjuta National Park	99
7.2	Contemporary Management Model for Indigenous Input to Natural and Cultural Heritage for Minyirr Park	101
7.3	Historical Management Model for Natural and Cultural Heritage in Western Australia	103
7.4	Contemporary Management Model for Indigenous Input to Natural and Cultural Heritage in Western Australia	105
7.5	Contemporary Management Model for Inuit Input to Natural and Cultural Heritage for Nunavut Land	107

## LIST OF TABLES

<b>Tables</b>	<b>Title</b>	
3.0	Cultural Perspectives	31
7.0	Framework for Evaluation of Various Management Models of Indigenous Input to Natural and Cultural Heritage	93

## LIST OF PLATES

<b>Plates</b>	<b>Title</b>	
4.0	Example of Cave Formations at Yanchep National Park	36
4.1	Grass Tree, ( <i>Xanthorrhoea preissii</i> )	39
4.2	Tuart Tree, Lemon Scented Gum, ( <i>Eucalyptus citriodora</i> )	39
4.3	Western Grey Kangaroos, ( <i>Macropus fuliginosus</i> )	41
5.0	Loch McNess	56
5.1	Loch McNess	56
5.2	Indigenous Display Area Within Park	60
5.3	Indigenous Activity Area Within Park	60
6.0	Crystal Cave at Yanchep National Park	68
6.1	Cabaret Cave at Yanchep National Park	68
6.2	Administration Office at Yanchep National Park	74
6.3	Yanchep Inn at Yanchep National Park	74
6.4	Koala, ( <i>Phascolarctos cinereus</i> )	76
6.5	Row Boat on Loch McNess	76
6.6	Aerial Photograph of Pipidinny Swamp Taken on 29 April, 1941	79
6.7	Aerial Photograph of Pipidinny Swamp Taken on 16 April, 1952	79

7.0	Iron Water Filter Used by Recovery Team	Page 112
7.1	Pumping Groundwater Into Cave	112

## LIST OF MAPS

Map	Title	
1.0	Yanchep National Park Locality Map	8
4.0	Vegetation Associations of the South West	41
5.0	Nyoongar Linguistic Groups or Mobs	50
7.0	Yaberoo Budjara Heritage Trail	90

## LIST OF FOOTNOTES

Footnote		
1	The Department of Environment and Conservation (DEC) replaced the Department of Conservation and Land Management (CALM) in 2006.	2
2	When the British occupied Australia they thought the land was practically un-occupied and belonged to no-one. This idea was expressed in the Latin phrase <i>Terra nullius</i> meaning nobody's land.	14
3	The spelling of Nyoongar varies (Nyungar, Noongar, Nynugah) due to the fact that various interpretations of the word exists. Indigenous people throughout Australia utilised a purely oral form of communication, which when interpreted resulted in various spellings.	48
4	The notion of caring for country is quintessentially Indigenous. Australia has old, mostly infertile soils and its systems co-adapted to maximise their chance of survival. Indigenous people understood this and adapted to their home in remarkably intricate ways. They called it caring for country and they based their entire social structure around it.	85
5	The Conservation Commission is the vesting body for all Western Australian conservation lands including national parks, nature reserves, conservation parks, multiple-use state forests and timber reserves.	92

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Philosophy of National Parks**

George Catlin (1796-1872) is one of the first people associated with conceptualising the notion of a national park (US and Canadian Parks, 1998, p.1). He was a self-taught artist who travelled with Indigenous peoples of North America while sketching and painting. On a trip to the Dakotas in 1832, he worried about the impact of America's westward expansion on American Indian civilisation, wildlife, and wilderness. He believed that the government should create some “policy to set aside and protect a nation's park, containing man and beast, in all the wild and freshness of their nature's beauty” (US and Canadian Parks, 1998, p.1).

As Hare (1990, p.1) commented “this system began with the establishment of Yellowstone National Park in 1872”, which became the first such Park in the world. By this action “the people of the United States established the idea of setting aside national and cultural areas of national significance for the benefit of future generations” (American Society of Landscape Architects, 2001, p.1). This National Parks System, in part, “grew out of the conservation movement that began in the nineteenth century” (American Library of Congress, 1999, p.1). With increased awareness of and sensitivity toward nature came the desire to “preserve some of the most spectacular landscapes and significant historical and cultural sites” for the enjoyment of future generations (American Library of Congress, 1999, p.1). The establishment of national parks will be further explored in the Canadian, British and Australian contexts.

Canada's first national park and the world's third, is Banff National Park. It was established in the Canadian Rockies in the province of Alberta in 1855 (Baird, 1977; Luxton, 1975; Miller, Derby & Lukas, 2004). This Park is a World Heritage Listed site and encompasses "6 641 square kilometres of mountainous terrain, with numerous glaciers and ice fields, dense coniferous forest, and alpine landscapes" (Parks Canada, 2007b, p. 1). Throughout its history, Banff National Park has been shaped by tension between conservation and development interests (Luxton, 1975; Miller, Derby & Lukas, 2004; Parks Canada, 2007a). Banff is one of the world's most visited national parks, and as a consequence the health of its ecosystems have caused concern (Miller, Derby &

Lukas, 2004; Parks Canada, 2007a). In the mid-1990s, Parks Canada responded by initiating a two-year study, which resulted in management recommendations and new policies that were directed at preserving its ecological integrity (Miller, Derby & Lukas, 2004; Parks Canada, 2007a; Parks Canada, 2005).

In Britain, John Dower is one of the first people to write on the topic of national parks. This paper of May 1945 is considered one of their most important documents in the history of the evolution of the British landscape (Gaze, 1988; Blunden, 1990; London Council for National Parks, n.d). This paper helped form an impetus to create an act of parliament in 1949 for the establishment of national parks in Britain. The first designated national parks were established in 1951; these included: Dartmoor, The Lake District, The Peak District and Snowdonia (London Council for National Parks, n.d, p.1).

Australia's first national park is the Royal National Park, established in New South Wales in 1879 (Dovers, 2000; Raymond, 1978; Serventy, 1969). After Yellowstone in the U.S.A. this is the second national park to be established in the world. In Western Australia, the first national park was John Forrest National Park, established in 1947 which was named in honour of the famous Western Australian explorer and statesman (Dovers, 2000; Raymond, 1978; Serventy, 1969; Morcombe, 1971). According to the 2002 *Australia's Protected Areas* report (Department of Foreign Affairs and Trade [DFAT], p. 1) there are 547 national parks throughout Australia covering four percent of the land surface (30.9 million hectares). They are all are registered under Australian Government and State legislation. Throughout Western Australia there are "95 national parks" (Department of Environment and Conservation [DEC<sup>1</sup>], 2008, p. 1).

The benefits of national parks come from direct and indirect and sometimes unexpected ways. Apart from their obvious scenic and recreational qualities, they also offer protection of the environment and wildlife. In Australia, national parks help preserve and protect Indigenous heritage, fauna, flora, landforms and ecosystems of pre-European settlement. They also help to conserve components of the landscape that

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<sup>1</sup> The Department of Environment and Conservation (DEC) replaced the Department of Conservation and Land Management (CALM) in 2006.

reflect European endeavours upon the land, such as, all land development, exotic species of fauna and flora (both deliberately and accidentally introduced), farm lands, urban and suburban regions, transport systems, roads and dams. Conservationist Harry Butler (1981, p. 3) stated:

All National Parks, no matter what they be officially called, have an enormous value in that they preserve for now and the future those things which can be said to be the moulding characteristics of the Australian way of life. National Parks then are places of space, of civic beauty, of wilderness, of wildlife including plants, or just places of intense public use which are set aside in perpetuity for the communal good – now and in the future.

The philosophy of national park management is now more complex than it was in 1872, and continues to revolve around the protection and preservation of natural and cultural heritage. However, as with many human activities, the management of national parks is now involved with the “direct economic value of its environment and ecosystems or some of its components” (Aplin, 1998, p. 80). It is now common place for park managers to develop “integrated management plans that combine conservation and sustainable development of the park and surrounding areas” (Miller, 1992, p. 405).

Overuse of national parks has also become a problem. Many are now being threatened by “traffic jams, litter, vandalism, deteriorating trails, drugs and crime....nearby industrial development, urban growth, air and water pollution, roads, noise, invasion by alien species, and loss of natural species” (Miller, 1992, pp. 402-405). In less developed countries (LDC) problems are even worse as Miller commented (1992, p. 402):

In LDC's, the problems are even worse. Plant life and animal life in national parks are being threatened by local people who desperately need wood, cropland, and other resources. Poachers kill animals and sell their parts, such as rhino horns. Parks services in these countries have too little money and staff to fight these invasions, either through enforcement or through public education programs. Also most national parks in MDC's (more developed country) and LDC's are too small to sustain many of their natural species, especially larger animals.

Therefore, a fundamental problem encountered by management of national parks concerns the decision to either increase the public's direct use of parks and thereby increase human values and benefits, or to pursue a strategy that limits disruptions of the natural ecosystem and allows natural environmental processes to proceed to the maximum extent possible (Dovers, 2000; Aplin, 1998; Miller, 1992; Kenner, 1984).

Furthermore, the level of involvement by Indigenous people in the management of natural and cultural heritage is an issue (Head, 2000; Reynolds, 1989; McGrath, 1995; Baker, Davies & Young, 2001). This study provides an argument for equal participation in the management of natural and cultural heritage by both non-Indigenous and Indigenous structures (discussed in Chapter 7). Managing for equal participation of natural and cultural heritage by both non-Indigenous and Indigenous rights and interests is a significant challenge for governments, Indigenous groups and the broader Australian public as Baker, Davies and Young (2001, p. 3) discussed:

The beginning of this new century marks an important stage in significant changes that have been affecting indigenous management of both the lands and the coastal regions of Australia. These changes are both internal and external. Externally, at the global scale, increasing recognition of the impacts of unsustainable use of natural resources and their transferability between and within countries has fostered concern with questions of long-term sustainability. Internally, ongoing legal action and negotiations between indigenous and dominant cultures and institutions about indigenous rights to land and resources and indigenous approaches to management of country have begun to reshape the policy landscape.

In Australia, these changes have been accompanied “by a period of rapid change in many of the Government policies and programs which affect Indigenous peoples” (Baker, Davies, Young, 2001, p. 4). A recent symbolic milestone was the speech by Australian Prime Minister Kevin Rudd (Rudd, 2008, p. 1) in which he honoured the Indigenous peoples of this land, the oldest continuing culture in human history:

We apologise for the laws and policies of successive Parliaments and governments that have inflicted profound grief, suffering and loss on these our fellow Australians....We today take this first step by acknowledging the past and laying claim to a future that embraces all

Australians....A future where we embrace the possibility of new solutions to enduring problems where old approaches have failed....A future where all Australians, what ever their origins, are truly equal partners, with equal opportunities and an equal stake in shaping the next chapter in the history of this great country, Australia.

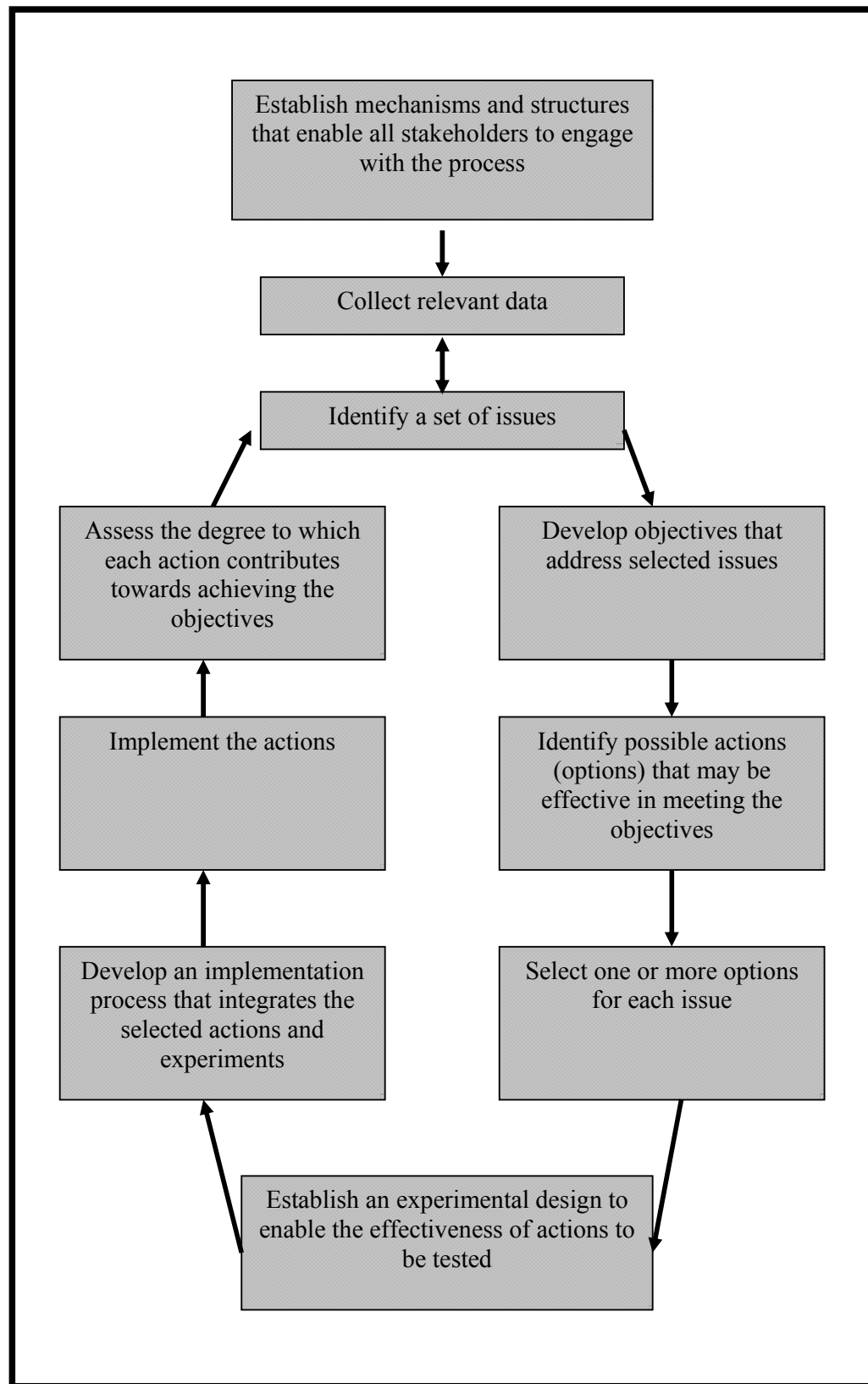
If national parks are to be sustainable and successfully managed by both non-Indigenous and Indigenous structures, their complexity and diversity needs to be understood and adapted into management plans. An outline of a planning process for managing natural and cultural heritage that incorporates rational, adaptive and participatory elements is given in Figure 1.0. Dovers (2000, p. 3) stated that:

Our relationship with the natural world, and to some extent with each other, is now largely structured by the notion of sustainability, replete with an emphasis on thinking and planning for the much longer term.

As discussed by Worboys, Lockwood & De Lacy, the preparation of a natural and cultural heritage area management plan generally involves consideration of the following topics (2001, p. 127):

- conservation of native flora and fauna
- protection and enhancement of landscape quality
- water quality management
- visitor use management
- fire protection and management
- management of threats, including control of introduced plant and animal species
- management of other uses compatible with the landscape's objectives
- management of other authorised uses, including concessions and leases

The focus of this study, Yanchep National Park, derives its name from the Indigenous interaction and usage of the landscape. The name 'Yanchep' is native in origin, and was adapted from the Nyoongar word 'Yandjip', or 'Yanget', which is their word for the bulrush reed that is abundant around the wetlands of the area (Grey, 1841; CALM, 1989). The Park aims to conserve a combination of Indigenous heritage (through the use



**Figure 1.0: Outline of a Rational, Adaptive and Participatory Planning Process for a Natural and Cultural Heritage Management Plan (Worboys, Lockwood & De Lacy, 2001, p. 127).**

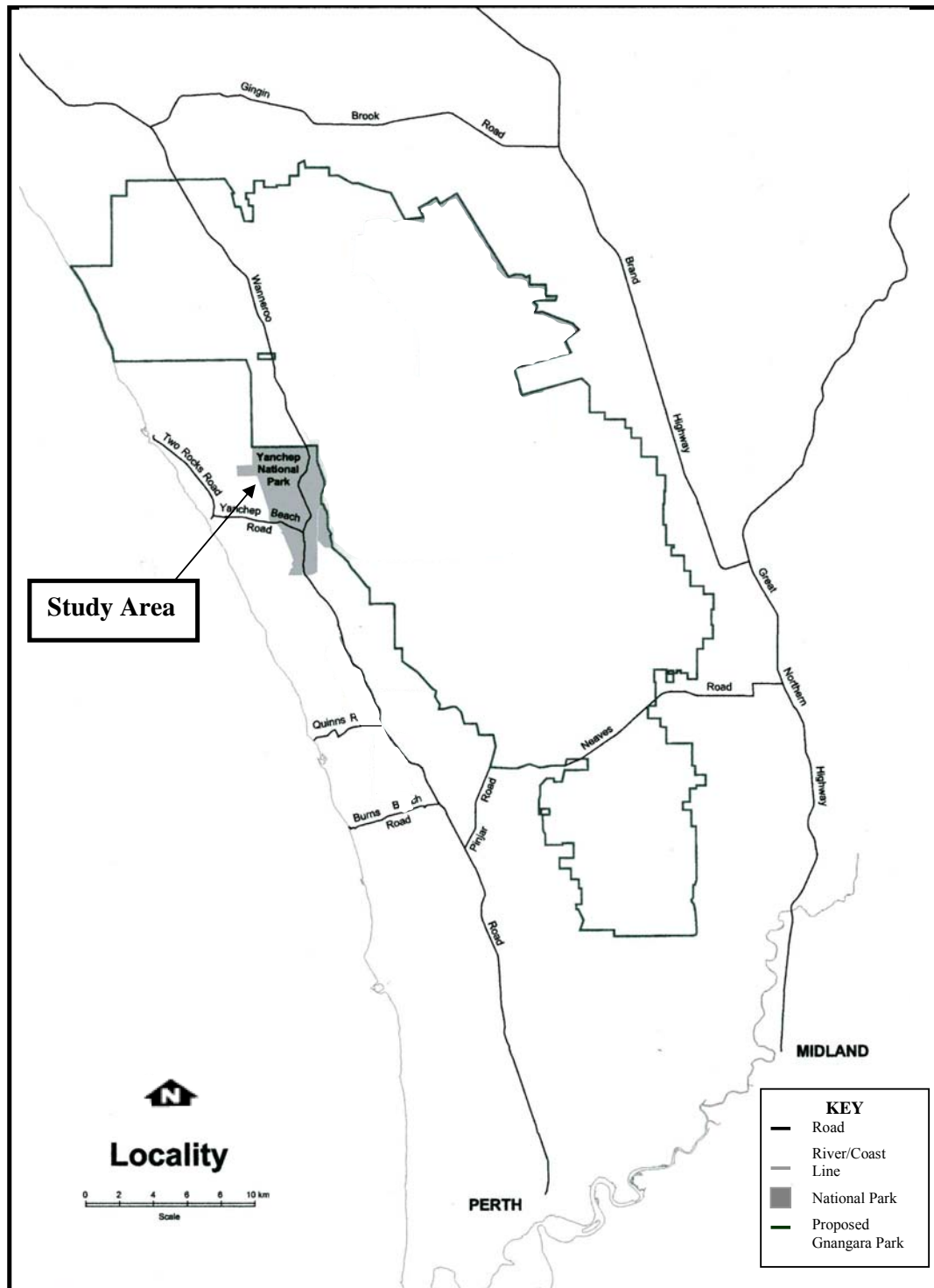
of visitor displays, activities and souvenirs), native flora and fauna, caves, European heritage and exotic species of fauna and flora, whilst also offering many recreational activities.

As the Park is located within the Perth Metropolitan Region (Map 1.0), it stands apart from the more conventional view of what a national park should represent. The cultural elements (especially early European settler) are highly visible and considered by most Park users as being just as important as the natural environment (Williams, 2003). The Yanchep area also holds a significant value to local Indigenous Nyoongar people as discussed in detail throughout Chapter 5.

Furthermore, the Park is not only representative of Australian heritage and environmental conservation, but is also part of a global heritage. Australia is signatory to many international, national, state and territory environmental protection policies, strategies, agreements, heritage treaties and conventions. A number of 'environment and resource' and 'air and development' treaties in force since 2000 are detailed in Appendix VII. Conacher and Conacher (2000, p. 131) stated that "international conventions and treaties were and are important in influencing environmental legislation and policies in Australia". DEC has the lead responsibility for complying with international and national conventions and treaties to protect and conserve the environment on behalf of the people of Western Australia. Their responsibilities include managing the state's "national parks, marine parks, conservation parks, state forests and timber reserves, nature reserves, marine nature reserves and marine management areas" (DEC, 2007, p.1).

## **1.2 Background to the Study**

This thesis is an examination of the relationship between people and the natural environment at Yanchep National Park. The approach to exploring this relationship involves the study of why particular human actions produce distinctive land use patterns in particular locations. This allows an investigation into not only landscape features, but also the people who have singly or collectively, consciously or unconsciously, transformed the landscape.



**Map 1.0: Yanchep National Park Locality Map (Adapted from Department of Environment and Conservation, 2002, p. 6). See Appendix IV for a detailed map of the proposed Gnaragar Park Concept Plan.**

The British tradition of reconstructing the different layers of social and ecological changes to landscapes over time has been documented by authors such as Tubbs (1981), Peterken (1969), Steele and Welch (1973) and Rackman (1971, 1975, 1976). They utilised historical documents to complement their field studies in an attempt to explain the ecology of plant communities in terms of their land use history throughout Britain. Others, such as Armstrong (cited in Bekle, 1981, p. 2) have seen entities such as "mediaeval villages and eighteenth century landed estates as ecosystems, and essayed to reconstruct the flows of energy and the circulation of nutrients within them, and to indicate the structure of their species networks from historical evidence".

The Australian tradition of reconstructing the layers of social and ecological changes to landscapes have been documented by authors such as Dovers (2000), Young (2000), Williams (2000) and Flannery (1994). There is also a shorter period of time in which cultures other than Indigenous have imprinted upon the landscape, and because Indigenous people left a softer imprint upon the landscape, there are less apparent transformations to the landscape that are observable. In relation to extraction and interpretation of ecological information from historical sources, Williams (1974, p. vii) stated:

It is these processes of creation and change in the visual scene, as man has made – and is still making – the landscape, that are the subject of this book. Such an investigation is inevitably historical in its method but is eminently geographical in its result. One cannot understand the landscape of the present without going back to the history that lies behind it, a process which also lends both perspective and insight into current modifications which are occurring with ever increasing speed and impact.

Later, Bekle (1981, p. 2) applied similar historical approaches to wetland ecosystems in the Perth region, he commented that:

In the analysis of historical data, there is a case for an ecological viewpoint, in which the history and ecology of a particular environment are reviewed, and an attempt is made to reconstruct the structure and dynamics of the ecosystems of the past.

These studies, like this research, explored the minds of the people, and their motives, attitudes, prejudices and preferences, who made the decisions which led to landscape

transformations. These transformations are reflective of cultural characteristics; hence cultural attitudes, ideas, institutions and actions were a central focus of this study.

Throughout all Australian landscapes human actions have produced distinctive land use patterns. Instone (1999, p. 175) claimed that these patterns (Appendix VIII) are common to all Australian landscapes. She commented that:

The idea of Australian flora, fauna, climate, soils, and landscape as unique, strange and different permeates much writing about the environment. As well, contemporary accounts of the Australian environment tell a particular type of story involving a linear narrative of human habitation and/or colonial occupation, leading to environmental degradation and followed by slow adaptation to the reality of Australian conditions. The details of place, actors, effects and outcomes vary, but the story keeps being told in much the same way.

The geographical history of the Park shows that Indigenous people utilised the land in a sustainable manner for thousands of years (Gentilli, 1998; Instone, 1999; Hallam, 1975), followed by early settler Europeans who colonised the land bringing with them their foreign cultural and agricultural practices that ultimately led to the land's degradation (McGrath, 1995; Reynolds, 1989). Introduced species of both flora and fauna detract from the natural value of the land, and much of the wetland area that once existed within the Park has been drained (CALM, 1989).

Gradually, either an environmental awareness or adaptation to this unique landscape arose, resulting in it becoming a national park in 1969, with conservation and sustainability now being integral to the management plan for the Park. Instone (1999, p. 177) commented upon the future of Australian landscapes by stating:

This is the morality part of the play – a morality tale of Edenic balance, Fall and destruction and loss, slow groping attempts at redemption, and finally a vision of a better future that is not guaranteed but will require new ways of being/thinking.

There is no way of knowing what these new ways of being and thinking will be, nor is it possible to know how values will evolve and change. However, it will be essential for the future of natural and cultural heritage to have managers who know what values

are found in their cultural landscapes and to ensure that their management plans protect and enhance these values (see Figure 1.0 on p. 6 for a rational, adaptive and participatory planning process for a natural and cultural heritage management plan).

### **1.3 Significance of the Study**

By examining the Park, it is possible to gain a specific understanding of how and why humanity has come to disturb and displace this specific natural landscape. The means of interacting with the Park have changed through time according to the shifting social and political structures that have impacted upon this landscape (for example Indigenous use of fire; early European settlers and tourism; national park and conservation). This understanding provides a better chance to detect ways in which past and present ecosystems and land use patterns are interrelated with landscape transformations.

### **1.4 Purpose of the Study**

The purpose of this research was to identify, describe and analyse the natural and cultural transformations that have shaped Yanchep National Park from antiquity to the present. It also served to evaluate the level of Indigenous input into Australian natural and cultural heritage management. This will provide an appreciation of how this landscape evolved in response to natural processes and human activities, which may be beneficial to the future development of sustainable policies and management plans for not only the Park, but also other cultural landscapes.

### **1.5 Research Problem and Questions**

The central theme of this thesis is concerned with depicting the complexity of the interrelationship between cultural and ecological systems of Western Australia's Yanchep National Park and evaluating the level of input Indigenous people have in natural and cultural heritage management. In knowing how this cultural landscape has evolved in response to natural processes and human activities and by evaluating the level of input Indigenous people have in natural and cultural heritage management, it is hoped that such information will benefit future management.

Four research questions were addressed:

1. How Yanchep National Park's landscape evolved in response to natural processes?
2. How and why changing social and political structures transformed Yanchep National Park's landscape in time and space?
3. What level of input do Indigenous people have in the management of Australian natural and cultural heritage?
4. How can the results of this study benefit future management?

### **1.6 Definitions of Terms Used**

**Conservation** – According to Aplin conservation is taken to “involve careful, judicious use of a resource or part of the environment” (1998, p. 126). Recher, Lunney and Dunn (1992, p. 415) define conservation as “the planned management of natural resources; keeping areas free from degradation by exploitation or overuse, or restoring those that have been adversely affected”. Managers of conservation areas have a responsibility to recognise their protected areas play a role in the wider landscape, and “need to be aware that protected areas are also part of a cultural landscape” (Worboys, Lockwood & DeLacy, 2001, p. 225).

**Cultural Geography** – Cultural geographers reconstruct the implied and repressed meanings within landscapes, detecting the complex of meaning in society and its significance (Duncan, Johnson & Schein 2004; Head, 2000; Duncan, 2000). It also involves the reconstruction and understanding of ecological systems that transform physical landscapes. The role of space, place and culture in relation to social issues, cultural politics, aspects of daily life, cultural commodities, consumption, identity and community, and historical legacies, become the dominant research target. They are always alert to alternate truths, reinterpreting people's meanings and making sense of the changing world around them.

**Cultural Landscape** – The fundamental principle underlying cultural landscapes is that people are the most important agents of change on the earth's surface. Duncan (2000, p. 14) defines a cultural landscape as:

Comprised of both physical and cognitive aspects of a social environment. At any given time, a locale may be utilised by many parties...Accordingly, each unit will physically use and perceive an area differently, according to their personal and cultural beliefs and constraints.

Head (2000, p. 13) stated that a cultural landscape is “one physically transformed by human action”.

**Structuration** – Giddens's Theory of Structuration explains how people develop and respond to physical and cognitive aspects of their surrounds. Giddens defines Structuration as "the structuring of social relations across time and space, in virtue of the duality of structure" (1984, p. 376). For Giddens, human agency and social structure are not two separate concepts or constructs, but are two ways of considering social action. There is a duality of structures so that on one side it is composed of situated actors who undertake social action and interaction, and their knowledgeable activities in various situations. At the same time, it is also the rules, resources, and social relationships that are produced and reproduced in social interaction. Gauntlett (2002, p. 1) stated that Structuration Theory “recognises that human agency and social structure are in a relationship with each other, and it is the repetition of the acts of individual agents which reproduces the structure”. This means that there is a social structure - traditions, institutions, moral codes, and established ways of doing things; but it also means that these can be changed when people start to ignore them, replace them, or reproduce them differently.

**Sustainability** – Aplin (1998, p. 143) defines sustainability as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Activities are sustainable if they can be maintained over time without depleting the natural resource base. For example, while water resources vary over time (as from drought), sustainable use of “water requires a reserve that can be maintained and managed so as to ensure the supply for future generations" (Sustainability of semi-Arid Hydrology and Riparian Areas, n.d, p. 1).

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

This study provided explanation of the geographical transformations that have endured through antiquity to the present upon the landscape of Yanchep National Park. To date there is no specific literature that examines the Park's cultural landscape as it has changed throughout time. Therefore, in order to place this study within the framework of available literature this chapter examines a number of issues. These include the philosophy of national parks and their fundamental management issues, past documentations of Yanchep National Park at particular points in time and examination of literature that relates to Indigenous input into natural and cultural heritage management. This chapter also discusses literature from cultural geography and Structuration, which relates to the methodology utilised by this study.

Much of the published material that relates to the cultural landscape of the Park originates from historical documentation, such as early settlers' and explorers' diaries, and from oral histories. The early research contributed by Grey (1841), Downey (1958) and Moloney (1979) ascribes Yanchep as being a landscape void of any human interaction or built environment. This perspective largely ignores the relationship and contribution made to the landscape by Indigenous people and is consistent with the early settlers view of *Terra nullius*<sup>2</sup>. Analysis of this literature illustrates that Yanchep National Park in early European settler years was an unspoilt natural landscape and was noted early for its abundance of caves, wetlands, and large quantity of wild game (Butler, 1981). These characteristics of the landscape represent part of what Yanchep National Park serves to conserve today.

### 2.2 Philosophy of National Parks

The *National Parks – A Brief History* report (US and Canadian Parks, 1998) introduced the concept of a national park and explains that this concept was originally conceived by George Catlin (1796-1872). He was “concerned about the impact of America's westward expansion on Indian civilisation, wildlife, and wilderness and believed that the

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<sup>2</sup> When the British occupied Australia they thought the land was practically un-occupied and belonged to no-one. This idea was expressed in the Latin phrase *Terra nullius* meaning nobody's land.

government should create some policy to set aside and protect a Nation's Park” (US and Canadian Parks, 1998, p. 1).

Hare (1990), established the history of the National Park System by recounting the creation of Yellowstone National Park in 1872, which became the first such Park in the world. This was the “beginning of the United States idea of setting aside national and cultural areas of national significance for the benefit of future generations” (Hare, 1990, p. 1).

The literature by Gaze, (1988), Blunden, (1990) and the London Council for National Parks (n.d) helped to reveal how national parks in Britain became established. The *History of National Parks in the UK* report (London Council for National Parks, n.d) examines the first paper written on this subject in Britain, which is considered one of the most important documents in British history. It also investigates the history and specific acts of parliament and legislation that led to the establishment of the first national parks there.

### **2.3 Methodology**

Geography explores the spatial interpretation of the human relationship with landscapes. It is a discipline that continues to evolve and many sub-disciplines exist, such as physical, human and cultural geography. Johnston (2005, p. 11) described the concept of Geography as being comprised of a wide range of studies “which have one or more of environment, place and space as their foundational concepts”. His work highlighted some of the fundamental debates that animate Geography today (Johnston, 2005).

Covering the topics of human and physical geography, Pidwirny (2006) examined what it is that these sub-fields serve to investigate. The main objective of this text is to establish that the discipline of Geography has a history that stretches over many centuries. Over this time period it has evolved and developed into an important form of human scholarship.

Cultural landscapes are reflective of human and natural (physical) transformations to landscapes. They hold different meanings to diverse groups of people, each of which hold within their relative culture, varying attitudes towards landscapes (Head, 2000; Duncan, Johnson & Schein 2004). It is these attitudes that in time come to dominate the different objectives towards making use of their landscapes. Cultural geography recognises this characteristic as well as acknowledging the fact that over time, different groups of people, hence varying cultural perceptions, come to transform the same area of land (Head, 2000). Rubenstein (1989, p. 36) stated:

A distinctive landscape results from the characteristics of a particular culture, including beliefs, social structures, and material capabilities. The impact of humans on the landscape changes over time and differs from one region to another.

Cultural geographers recognise that the cultural landscape is an ongoing process, and not static. It is concerned with understanding the distinct ways of seeing frameworks of meaning within cultures, which are ultimately responsible for landscape transformations (Head, 2000; Duncan, Johnson & Schein, 2004).

Rubenstein's book *The Cultural Landscape* outlined analogies between what the cultural landscape represents in theory with every day examples of living within our communities. He described the deep entrenchment of cultural beliefs within different groups of people and how these distinctive beliefs come to dominate transformations to landscapes. His style is easy to comprehend and he succinctly emphasises the dominant influences at play when researching a cultural landscape. Rubenstein's theory is simple to understand and is established from three types of differences; they are: differences among groups of people, differences in the period when people undertake activities, and differences among areas of the earth's surface. These differences help represent and establish a complementary theme utilised in the methodology of this study.

Similarly, Dovers (1994, 2000) wrote on the subject of environmental history, which is complementary to the cultural geography method of research. Environmental history seeks to explain the landscapes and issues of today and their evolving and dynamic nature, and from this to elucidate the problems and opportunities of tomorrow. Like Rubenstein, Dovers recognised that cultures are primarily responsible for

transformations to landscapes. Dovers book, *Australian Environmental History*, is a thought provoking representation of changing cultural landscapes throughout Australia. Specific case studies are given which describe in great detail how and why particular landscapes have been transformed by the changing cultural beliefs of Indigenous and non-Indigenous people throughout Australia's history.

Like Rubenstein's examples, Dovers has the ability to relate to the reader what environmental history represents in theory, and complements this with working examples of landscapes found within the Australian continent. His work was beneficial to this research because it provided an Australian context in which cultural landscapes can be studied. Though Dovers uses the term environmental history to describe his research, it is closely linked to the cultural geography method of research because of the complementary themes fundamental to its theoretical framework.

The literature by Head (2000) and Duncan, Johnson and Schein (2004) on cultural geography, cultural landscapes and environmental change were beneficial to this study. This literature described various approaches and changes within cultural geography and from the case studies they examined. Head's work was of specific importance because of the Australian case studies presented, which served to put this study in a wider Australian context. She stated that her research is "not to define cultural landscapes, but to consider the multiple ways in which the concept has been used" (2000, p. 9). Duncan, Johnson and Schein helped to define the nature of cultural geography and described the history and changes within this sub-field. These works help to form the methodology utilised in this study.

Stratford (1999) outlined the distinct difference between the 'old' tradition of cultural geography and the 'new' tradition. The old tradition focused upon the relations between human communities and the natural world, and the analysis of subsequent transformations of natural landscapes into cultural landscapes. However this tradition, as Stratford noted, promotes the idea of culture as being static, and not as a dynamic process. Stratford (1999, p. 5) stated that "without wishing to misrepresent the complexities of the debate, I think it fair to say that the cultural landscape is now seen as a process". Her literature also contained case studies of Australian cultural

geographies by various authors. This background helped to establish how Yanchep National Park can be placed into the wider context of cultural landscapes.

Gidden's social Theory of Structuration was also utilised to help elucidate upon the values and moral codes present within the Park. Duncan (2000, p. 25) stated that "Structuration Theory explains how people develop and respond to physical and cognitive aspects of their surrounds, and how this results in dynamic, ongoing change". According to Gidden's, society structures human action and human action structures society; it is considered to be an ongoing process. This observation is also consistent with the notion of a continual changing cultural landscape, where social interaction serves to transform the cultural activities within landscapes.

Gauntlett's (2002) research paper on Structuration noted that people's everyday actions reinforce and reproduce a set of expectations, and it is this set of other people's expectations that make up the 'social forces' and 'social structures' investigated in this study.

## **2.4 Indigenous Documentation**

From the initial arrival of Indigenous people, they learned to survive in a changing and sometimes, harsh Australian environment. For more than an estimated 50 000 years before the advent of European settlement they had lived as a materially simple, but socially complex and environmentally aware culture (Hallam, 1975; Reynolds, 1990; Dovers, 2004; Gentilli, 1998).

Because Indigenous culture did not utilise a written language system, documentation of their cultural transformations to the landscape that was to become Yanchep National Park is reconstructed from other sources, such as early settlers' and explorers' records, and documented oral histories. Boucher (2000) has commentated on Indigenous peoples use of Yanchep, and its surrounding landscape, with particular focus upon Pipidinnny Swamp. The literature cited in Boucher's study is useful for the identification of Indigenous sites within Yanchep National Park, and for commenting upon their cultural practices. Emphasis is also given to the symbiotic relationship Indigenous

people have with the land, highlighting the fact that they adapted to the realities of Australia's harsh landscape.

*Yanchep National Park's Management Plan 1989 – 1999* provided only a brief account of Indigenous history at the Park. It highlighted specific Indigenous areas of significance within the Park (see Appendix V for registered sites) and details what these areas were used for. The origin of the word 'Yanchep' is discussed, as is its significance (refer to Chapter 5). The Management Plan also details how Indigenous groups used the Park area as part of a migration route that extended from the Swan River to the Moore River. It also documented that Indigenous groups gathered at Yanchep to hold tribal meetings, conduct rituals and corroborees. Only recently has Indigenous culture been integrated into the Park's experience for visitors through the use of various activities and displays (this is discussed in detail in Chapters 5 & 7).

## **2.5 Colonial Exploration**

Explorer George Grey's (1841) observations, published as two journals, are some of the earliest recorded observations of the landscape at Yanchep. Grey commented on the abundance of birds around the wetlands, and noted the continuation of water flow that links the chain of lakes in this area. This was noted because an Indigenous person pointed out to Grey that water flowed under-ground, through the caves, and connected the lakes in a linear fashion. This would be the first reference to what is now known as the regionally significant Gnangara Mound Groundwater (see Chapter 7). Perhaps it could be suggested that this historical story is part of the beginning of recognition by early European settlers that Indigenous people have a deep knowledge of the land and that European culture may have something to learn from their knowledge (Dovers, 2004; Head, 2000).

Through Grey's observations it is possible to partially reconstruct the landscape's form at the time of his observations. The abundance of waterbirds is suggestive that their habitat (wetlands) was in a highly productive physical state. These early observations provide baseline ecological data for comparison with the current situation, thus giving an insight into the Park's wetland transformations throughout this time.

## **2.6 Settlements and Development**

The quantity of literature available on this subject has not improved greatly from when documentation of this landscape was first recorded. Furthermore, much of the emphasis of available literature focuses upon the structural changes to buildings throughout the Park's landscape and consists primarily of documentations relating to maintenance and changing management bodies.

Downey (1958) wrote a history of Yanchep that predominantly documents the history of the buildings constructed at Yanchep National Park up to the 1970's. He detailed when and by whom transformations to the built environment took place. The plans for the development of the area are detailed by Downey, as are the names of the people involved. His literature is valuable for its attention to detail (dates and names of people) and as a source of information that documents the transformations to the landscape attributable to early settler European culture. This will be expanded upon in Chapter 6 which reconstructs the transformations early settler Europeans made to the landscape. A significant part of the contribution coming from this literature stems from his research of the governing bodies that managed the land at a particular time a specific transformation took place.

Moloney (1979) also wrote a historical dissertation on Yanchep. It is much the same as Downey's exposition, for it primarily conveys the story of the buildings constructed at Yanchep National Park. It does not provide in any great detail accounts of how the actual cultural landscape has been transformed. She does, however, convey to the reader the paucity of literature available on Yanchep, and how much of the available information is established from oral histories and personal experience (hence susceptible to subjective bias). Moloney (1979, p. 3) stated that:

Although Yanchep has had only a brief life, those who gave it birth are largely lost to history. Few records were kept and even fewer photographs have survived, and so it is that much of Yanchep's history is recorded through memory, by the people who lived in the area or who were directly or indirectly involved with it's life. Inaccuracy's in memory are not infrequent and so it is that occasionally facts and figures become contradictory.

Hamlet and Langley-Kemp (1998) wrote a book on the Yanchep Inn (1936 – 1997), which detailed the evolution of this specific building. The Inn has been and continues to be an important part of the composition of buildings that have contributed to Yanchep National Park's changing cultural landscape. These authors also contribute a great deal of information regarding the various administrators of the Inn, and in addition to this provided detailed information as to the RAAF's occupation of the Park from 1943 to 1946. This historical information is valuable because it helps to reconstruct elements of the changing cultural landscape at Yanchep National Park.

## **2.7 Conservation at Yanchep National Park**

In 1905, the State Government declared 5 640 acres at Yanchep to be set-aside for the 'protection and preservation of caves and flora and for a health and pleasure resort' (CALM, 1989, p. 23). From this year to the present, many bodies of management, with their different structures and perceptions, have come to administer the Park's landscape. Yanchep officially became an "A Class reserve in 1969 and was given national park status" (CALM 1989, p. 26).

There were many developments undertaken from 1969 onwards, and in 1985, when the Department of Conservation and Land Management (CALM) became responsible for the management of the Park, many conservational orientated projects were initiated. As a national park its primary focus is on conservation, but it also offers a wide range of recreational activities to take part in. This combination of activities undertaken by the Park is documented in the *Management Plan for Yanchep National Park 1989 – 1999* (CALM, 1989). This plan touches briefly on the cultural elements of the Park, and detailed some of its geographical history. However, it is primarily a document of management for the effective conservation of Yanchep National Park, which also addresses the recreational activities the Park has to offer. There is currently a draft management plan being prepared, however, it is not available as a public document.

Additionally, the CALM staff at the Park produced a handout (Yanchep Reserve Management, n.d) documenting the Park's history from 1834 to 1979. This details significant changes to the Park's landscape and documented noteworthy events in its history. It also documented the dates and titles of the various bodies of management

that have come to administer the Park. This paper is very brief and does not expand greatly upon these changes. However, it is most valuable for its concise presentation of the Park's history.

CALM has also produced a conservation and management plan for Gloucester Lodge Museum at Yanchep National Park (1992). This document details the evolution of the building, which is part of the composition of buildings that have contributed to Yanchep National Park's changing cultural landscape.

Harry Butler gave an open-air lecture on *National Parks and the People* in 1981. He conveyed the problems national parks face and what they represent in Australia. The speech was made at Yanchep National Park and commemorated fifty years of conservation at the Park. Butler espouses some relevant historical information about the geographical history of Yanchep National Park, which is expanded upon in Chapter 6.

## **2.8 Indigenous Management Literature**

With few exceptions, the literature that is produced about the role of Indigenous knowledge and people in natural and cultural heritage management comes from affluent sectors within society (Howitt & Suchet, 2004). It is therefore questionable whether this literature adequately represents Indigenous knowledge and people as they tend not to be represented in these processes.

Kerwin (2002) and Dovers (2000) wrote upon Indigenous governance issues in which they comment upon the value that can be gained from traditional Indigenous knowledge of Australian landscapes. Furthermore, because of the substantial amount of literature on Indigenous input into community development, this study borrows from this literature to help form a framework for evaluating the level of Indigenous input into natural and cultural heritage management.

The *Social Justice* report (Aboriginal and Torres Strait Islander Social Justice Commission, 2001) recognises that both Indigenous management and Indigenous community development have familiar elements, such as the need for capacity-building and governance, the need for increased participation in decision-making and greater

regional and local involvement. This report also served to introduce the concepts of self-management and self-determination which become a focus of the evaluation in Chapter 7.

The literature sourced from the Department of Foreign Affairs and Trade [DFAT] (2002) helped by establishing what level of input into natural and cultural heritage management Indigenous people have throughout Australia. It also described the framework of joint management agreements with Indigenous people and the Australian Government.

Baker, Davies and Young (2001) wrote an overview of contemporary Indigenous management. This literature emphasised the importance of distinguishing the difference between 'what' decisions are being made from 'how' decisions are being made. The latter being concerned with what this study in part seeks to explore, that is, establishing the level of input Indigenous people have in natural and cultural heritage management.

This literature (Baker, Davies & Young, 2001; Kerwin, 2002; Dovers, 2000) recognised that governments use regulation to manage land and resource use to ensure that there is no undue impact on the natural environment of the land. However, while Indigenous groups may support the overall goals of such regulation, they also, as a matter of principle, often view the Government's efforts to regulate their own land use as unauthorised imposition. This is essentially because they assert their own rights and abilities to self-determine their own priorities and strategies with their own governance arrangements.

## **2.9 Oral Histories**

Through the use of oral histories, one must understand that the testimony is a first hand report of experience. Also there are distinct differences in the importance of oral histories according to which culture is being examined when reconstructing Yanchep National Park's cultural landscape. In non-literate societies oral history is a tradition of the passing down of information orally from one generation to the next, and this is an essential component of their culture and social construction. However, in literate cultures (European), oral traditions are less important because written documents

establish such things as laws, constitutions and property rights, and also written genealogical documents exist that eases the need for families to memorise details of earlier generations (Perks & Thomson, 1998).

However, oral histories are also a source of historical information that can provide impressions of past events in a manner that no other form of historical evidence can. It is important to note though, that oral histories can also be biased and sometimes inaccurate.

### **2.10 Aerial Photography and Maps**

Along with maps, the importance of aerial photography is simple to comprehend when utilising them in cultural geography. The landscape of the past is reflected in past aerial photos and maps, and by arranging them in a sequential order (ideally both maps and aerial photography are used together) it is possible to reveal the arrangement of spatial constructions and ongoing sub-division of the Park, water coverage and the extent of the vegetation structure. However, maps and aerial photography cannot sufficiently reflect upon the specifics of cultural and physical influences that are primarily responsible for all transformations to landscapes (Armstrong, 1975). There must also be an awareness of the assumptions and simplifications which have been made in the construction of the maps used. Lilley (2000, p. 370) suggests that the aim of map interpretation should be to practice it in a fashion that offers “a way of connecting with landscape, and those who shape it”.

### **2.11 Summary**

A range of literature has been reviewed to cover the topic of how cultural geographers research the myriad components that act to form Yanchep National Park’s cultural landscape. As mentioned previously, minimal attention has been given through literature and research to this specific topic. However, considerable research effort has been given to the concept of national parks, Geography and cultural geography, the concept of Structuration and Indigenous input into community development. A comprehensive methodology was also designed from the analysis of this literature which is developed in the next chapter (Chapter 3).

## **CHAPTER THREE: METHODOLOGY AND MATERIALS**

### **3.1 Introduction**

There exists a long and intimate relationship between people and the natural environment at Yanchep National Park. Having been shaped by continuing layers of social interaction, there is much to reveal about the way in which this cultural landscape has until now been looked after and perhaps even more to ponder about how it should be looked after into our future. To investigate this changing and complex situation, a methodology was required that might help us understand the spatial transformations and relationships between culture and nature. This chapter is a guide as to how this relationship was investigated.

The methodology adopted by this study combines two methods of analysis in an attempt to enhance the understanding and interpretation of the spatial transformations and relationships between culture and nature in Yanchep National Park. Both cultural landscape analysis and Giddens's social Theory of Structuration have been adopted. The study is initially put into context by establishing its position within the discipline of Geography as a whole followed by a description of cultural landscape analysis and Structuration. Following this, a justification is given as to why and how this combination of methods was adopted for this study. The results aim to provide an argument for more direct and meaningful input by Indigenous managers in planning and decision making processes.

### **3.2 Geographical Approaches: Brief History**

The discipline of Geography comprises a wide range of studies, "which have one or more of environment, place and space as their foundational concepts" (Johnston, 2005, p. 11). It is also a discipline that has been divided into many sub-fields and is sometimes criticised for lacking cohesion as a discipline. Johnston (2005, p. 11) comment that "geography was not bounded around a core....diversity and divulgence had replaced disciplinary cohesion around a core focus". Until the 20<sup>th</sup> century it was a discipline largely concerned with the description of landscapes and their associated

processes. There was little systematic research in regard to trying to understand the described patterns. Pidwirny (2006, p. 4) stated that:

During the first 50 years of the 1900s, many academics in the field of geography extended the various ideas presented in the previous century to studies of small regions all over the world. Most of these studies used descriptive field methods to test research questions.

Starting in about 1950, geographic research experienced a shift in methodology and geographers began adopting a more scientific approach that relied on quantitative techniques. The quantitative revolution was also associated with a change in the way in which geographers studied the Earth and its phenomena. Researchers now began “investigating processes rather than merely describing an event of interest” (Pidwirny, 2006, p. 4).

The discipline continued to split, “Geography now comprises a wide range of systematic studies” (Johnston, 2005, p. 11) and in very broad terms the majority of sub-fields that exist can be categorised under physical geography or human geography. Physical geographers examine the natural environment and how the climate, vegetation and life, soil, water and landforms are produced and interact. However, they often struggle to develop research models and theories to explain the constant processes and relationships in the cultural domain. Head (2000, p. 3) stated that “physical geographers and others are having trouble with culture – it is spreading in both space and time”.

Human geographers focus on the study of patterns and processes that shape human interaction with various environments. It encompasses human, political, cultural, social, and aspects. Head (2000, p. 4) elaborated upon human geographers’ research of cultural landscapes by stating “human geographers and others are also having trouble with culture – it is a complex, multidimensional idea that has both material and symbolic expression”.

### **3.3 Research Design**

Cultural landscape analysis, which has its roots in cultural geography, is concerned with understanding the distinct ways of seeing frameworks (structures) of meaning

within cultures. Head (2000, p. 4) explained that a “cultural landscape is seen as one materially modified by people”. This means that analysing cultural landscapes requires an explanation of the world not as we see the studied culture, but as the culture itself develops meaning. It is a multi disciplinary subject, as Duncan, B (2000, p. 10) stated:

It adopts a holistic approach to interpretation of past and present cultures that incorporates several different fields, including archaeology, history, ethnography, natural history and cognitive studies.

Because of its diversity and interdisciplinary nature, it becomes hard to generate a single definition of what encompasses cultural geography. Duncan, Johnson and Schein (2004, p. 1) stated that “this sub-field has itself had significant shifts in theory and methodology in the past two decades”. Though theoretical problems exist within this sub-field, the use of a cultural landscape approach is commonly integrated into cultural heritage management (Australian ICOMOS, 1989). The current trend in terrestrial archaeology and heritage management is to utilise the concept of cultural landscapes as an interpretive tool for analysing cultural behaviour at a regional level (Australian ICOMOS, 1989; von Droste et al. 1995; Lennon, 1997).

The concept of landscape was first given definition late in the 19<sup>th</sup> century as “the total character of a region of the earth” (Haber, 1995, p. 39). The concept of the cultural landscape was developed in 1955 by Hoskins, which he applied to the English countryside to research how people divided geographical areas into managed frameworks according to their possible uses and environmental constraints (Hoskins, 1970). The same landscape over time was consecutively occupied, which resulted in the deposition of new layers of socio-cultural identity. Examination of the subsequent landscape could indicate information about the social, cultural, economic, spiritual and environmental perceptions held by societies. Cultural landscape analysis therefore provided an insight into human activity and interaction on a regional scale (Hoskins, 1970).

The World Heritage Convention (1995, p. 431) defined cultural landscapes as:

The combined works of nature and man... They are illustrative of the evolution of human society and settlement over time, under the

influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.

However, Duncan (2000, p. 25) commented that cultural landscape analysis doesn't reveal how cultural beliefs and constraints develop and respond in context, and is recognised more as a "conceptual notion than a theoretical paradigm". He stated that:

Cultural landscapes are created as a result of both personal and collective social cognitive frameworks, and therefore to investigate this further, we need to turn to another approach based on social theory.

It will be demonstrated that Giddens's social Theory of Structuration can enhance cultural landscape analysis by explaining how people develop and respond to physical and cognitive aspects of their surrounds, and how this results in dynamic, ongoing change. Cohen (1987, p. 288) explained how Giddens's social theory advocates that "social structuring is, in part, determined by the historical, economic and ecological boundaries in which that society exists". In order to understand how/why a society is structured, it is therefore necessary to examine the historical/economic trends, cultural behaviours and ecological factors of the landscape that existed when that society was being structured. This is done in great detail in the main body of the thesis. In discussion of Structuration, Gauntlett (2002, p. 1) stated that:

Giddens's theory of structuration notes that social life is more than random individual acts, but is not merely determined by social forces. To put it another way, it's not *merely* a mass of 'micro'-level activity - but on the other hand, you can't study it by only looking for 'macro'-level explanations. Instead, Giddens suggests, human agency and social structure are in a relationship with each other, and it is the repetition of the acts of individual agents which reproduces the structure. This means that there is a social structure - traditions, institutions, moral codes, and established ways of doing things; but it also means that these can be changed when people start to ignore them, replace them, or reproduce them differently.

According to Giddens's, society structures human action, and human action structures society, it is an ongoing process. This observation is also consistent with the notion of a continual changing cultural landscape, where social interaction transforms the cultural activities within landscapes.

The methodology adopted by this study recognises that cultural landscapes are the places of people's livelihoods, identities and belief systems, while Structuration is a social theory that helps explain how these livelihoods, identities and belief systems function. Furthermore, Structuration enhances this research by giving a deeper explanation into how and why individuals within society are enabled and constrained by certain structures that existed within their society.

The different natural and cultural relationships and transformations that exist/existed at the Park are analysed in depth in the main body of the thesis where material and data of specific use is incorporated into the discussion. The following section (3.4) reviews how this material and data was collected and analysed.

### **3.4 Data Collection**

There are many data sets that were utilised by this study to extract information pertaining to cultural behaviour. Historical records proved to be a valuable source of information to access the ongoing process between individuals and structures relevant to the Park's landscape transformations. Newspapers, diaries and government policy documents were also useful sources of information to understand the socially constructed meanings that exist/existed within the Park. Data was also derived from sources that included the State Library and archives (Alexander & Battye Library), government departments (CALM, DEC, DFAT), local historical societies and museums (Gloucester Lodge Museum).

However, there is always historical bias in any record, and it should be recognised that interpretation of these sources was taken in context with political, administrative, social and cultural conditions that existed in that time.

Cultural landscapes are also not only a product of cultural factors, but are influenced and transformed by their physical surrounds. Chapter 4 details the site, situation and physical characteristics of the Park. Following this environmental background, the history of the Park in terms of the various human groups who have interacted with and left their imprint on various areas begins in Chapter 5 with discussion of Indigenous relationships within the landscape.

An analysis of the early settler Europeans interaction and imprint within the Park is provided in Chapter 6. In particular their responses and factors in their cultural context that have helped direct these interactions and imprints are analysed.

How the Park has been managed is analysed in detail throughout Chapter 7. This chapter also examines the specific issue of Indigenous input into natural and cultural heritage management and provides an argument for more direct and meaningful input by Indigenous people into not only the management of Yanchep National Park, but for all natural and cultural heritage. To explore this issue a case study from Canada was utilised as an international comparison to the evaluation of the input of Indigenous knowledge and persons in natural and cultural heritage management throughout various areas of Australia. Table 3.0 displays a broad overview of the different cultural perspectives present at the Park which are discussed in detail throughout Chapters 5, 6 and 7.

### **3.5 Limitations**

Using cultural landscape analysis and Structuration Theory as a methodology can result in too many questions being asked in an attempt to reconstruct the ongoing processes and dynamic nature of human behaviour within a spatial setting (Duncan, 2000). Because of the numerous influences that act upon landscapes, it is possible to become entrenched in an exponential growth of inquiry. For a comprehensive reconstruction of a cultural landscape would involve the history of the planet and the life on it.

Because a cultural landscape can be explained in such broad terms and an over-ambitious manner, it is of great importance to develop a research design and formulate a methodology that limits the exclusion of any relevant information. Though the research attempts to comprehensively cover the myriad of cultural and natural transformations within the Park, it is likely that some relevant information that has acted to transform its changing cultural landscape may have been omitted. Though this was not the intention of the researcher, it is a realistic observation of the nature of the research.

**Table 3.0: Cultural Perspectives**

	INDIGENOUS	EARLY SETTLER EUROPEAN	NATIONAL PARK	(AUSTRALIAN) FUTURE
<b>Land Use</b>	Hunted and harvested and managed landscape to various climatic cycles.	Recreation, hunting/feeding grounds, agriculture, hospitality, war time efforts, draining wetlands.	Recreation and conservation.	Manage for change.
<b>Geographical Knowledge</b>	Seasonal knowledge based around six seasons (Fig. 5.0). Cultural boundaries existed and travel was possible provided certain cultural protocols were upheld. Integrated education, spirituality and land management with the rhythm of the land.	Good ability to explore and develop land. They initially had a poor geographical understanding of how social and ecological systems could/should function throughout this land and as a result some landscapes throughout the Swan Coastal Plain have been degraded because of poor land management skills.	Both non-Indigenous and Indigenous knowledge is utilised throughout the Park, however, the non-Indigenous structure has the final audit and review of management plans.	This thesis provides an argument for equal participation in the management of natural and cultural heritage management by both non-Indigenous and Indigenous structures.
<b>Use of Natural and Human Resources</b>	Hunters and gatherers lived a semi-nomadic lifestyle. Extensive botanical and ethnobotanical knowledge was utilised for food, art, ceremony, material goods and healing. They traded tangible and intangible materials throughout a set of trading paths or song lines that exist across Australia.	Natural resources were utilised, exploited and modified heavily to suit their needs. Colonial perspective created a built environment with closed boundaries. People enjoyed recreational activities throughout the Park.	Conservation and recreation.	Sustainable use of natural and human resources.
<b>Form and Function of Human Settlement and Built Environments</b>	Huts (mia mia) used, semi-nomadic in culture, hence all possessions were highly portable. Stability of building not important, stability of culture valued and relationship to land valued.	Major transformers of the land. Central to European form and functions is permanence of structure. Ownership of materials and stability is valued. Relationship to the land is influenced by religious, legislative and political structures.	Buildings utilised for specific purposes. Mainly tourism and Park management facilities.	Efficient and sustainable built environments are favourable. Ability to adapt to changes in management structure.
<b>Evaluation of Landscape</b>	Structured their evaluation of the landscape around a systems approach in which the interconnectedness of all things was considered. It was a multi-disciplinary and multi-scale approach where the circle-of-elders maintained, refined and passed on what they learnt by observing and by doing.	Doctrine of <i>Terra nullius</i> . Viewed land as vacant and attempted to assimilate European cultural structures upon this land.	Native title upturned the doctrine of <i>Terra nullius</i> , however, equal participation by Indigenous people in the management of this landscape remains an issue.	Low impact and sustainable activities and developments are desirable. Continued education, adaptive management, equal participation.

strategy. It should also be acknowledged that the research conducted for this thesis took place in a cultural context itself and has been influenced by the political and social structures that existed at this particular time in this particular space. Consequently, the results from this study will not be perfect. There will be at some later date a better appreciation of the nature/culture relationship that will include the various factors for that particular case and at that particular time.

### **3.6 Summary**

This chapter provided details of the methodology and fieldwork undertaken to collect data to analyse the research questions outlined in Chapter 1. It has been demonstrated that the application of the cultural landscape approach can assist the analysis of how natural and cultural transformations and relationships have evolved at the Park. Further, it has been shown that Structuration Theory can help expand upon the notion of a cultural landscape by proposing to see human responses and reactions as a part of the context in which they take place.

The combination of a cultural landscape approach with the orientation of Structuration Theory enabled a comprehensive geographical analysis of the Park, as it has been shaped by continuing layers of social interaction. It also allowed for an analysis of the involvement of Indigenous persons in natural and cultural heritage management. Overall, the methodology utilised by this study attempted to create an understanding of the Park as a constantly changing cultural landscape.

## **CHAPTER FOUR: PHYSICAL LANDSCAPE**

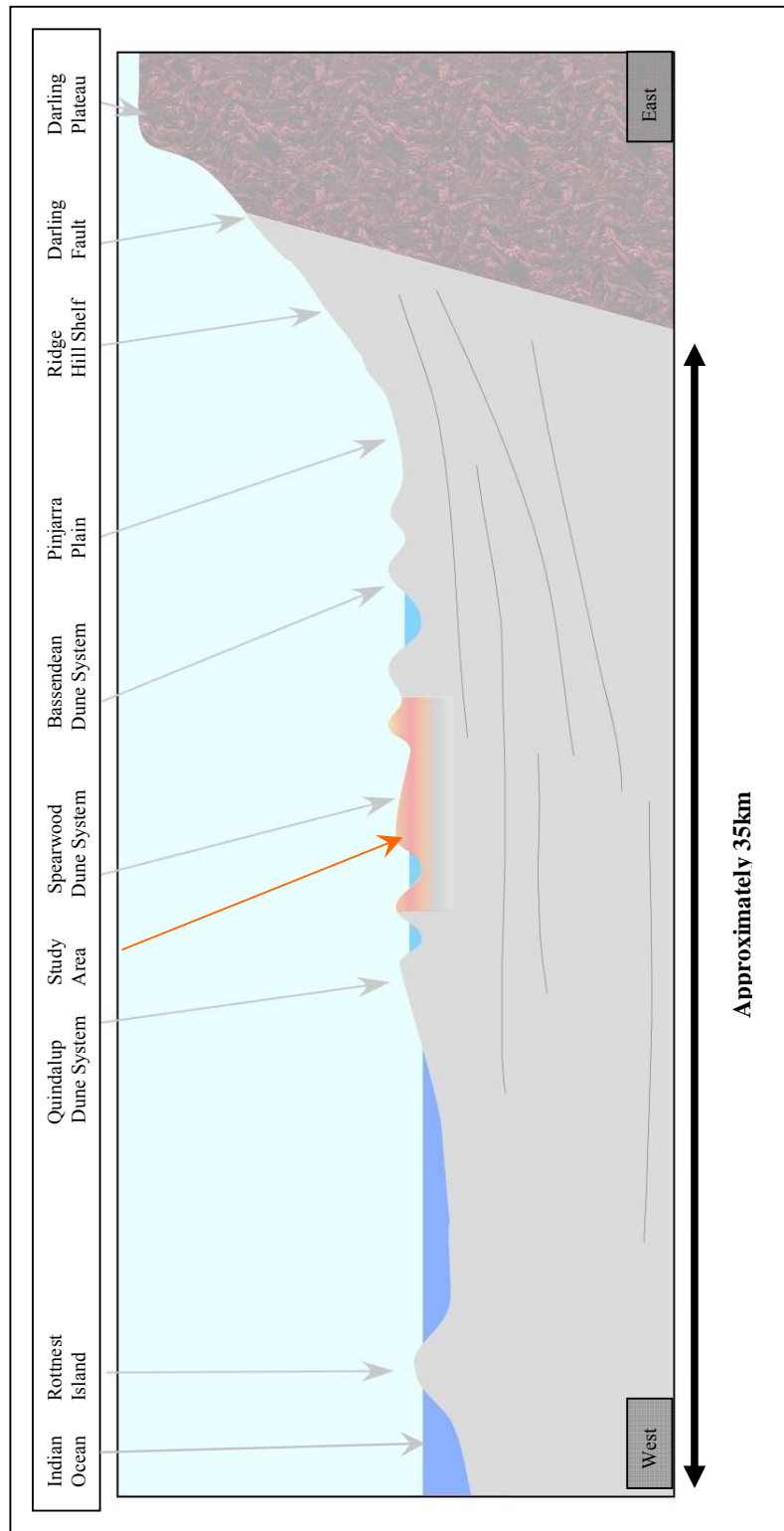
### **4.1 Introduction**

The natural environment at Yanchep National Park is characterised by gentle undulating landforms of parallel sand dunes with intervening valleys featuring depressions, some of which contain wetlands (Seddon, 2004; Guy, Kalajzich & Nelson, 1991; Gentilli, 1998; McArthur & Bettenay, 1960, see Figure 4.0). These water-bodies provide points of interest, with wildlife activity, colour, texture and contrasting composition of vegetation. The Park also contains representations of several of the Swan Coastal Plain vegetation communities (see Map 4.0, p. 41). Four wetlands exist, which have had relatively little disturbance, and over 1 000 caves, all of which lead to a rich tapestry of habitats and a corresponding diversity of both plants and animals (Gentilli, 1998; CALM, 1998). It is these visual resources that are responsible for people seeking nature-based, passive recreation in the Park.

### **4.2 Landforms**

The landforms, rocks and soils of the area are varied and complex, consisting mainly of sand and karst features (Seddon, 2004; Gentilli, 1998). Rocks and to a lesser degree ridges, provide lookout points and visual focal points. Williams (2003, p. 106) stated that the “limestone cliffs and outcrops contribute contrast, colour and composition”.

Geomorphically, the “Park is part of the low lying, gently undulating Swan Coastal Plain, which was built from accumulations of aeolian (wind deposited) and alluvial (water deposited) sediments” (Seddon, 2004, p. 106). The Department of Conservation and Land Management’s plan for Yanchep National Park (CALM, 1989, p. 11) stated that the Park “consists of the Spearwood Dunes, with a mosaic of small deposits of more recent Quindalup Dunes and wetlands”. The vegetation associations of the Park are directly associated with these dune formations and moisture availability. If water levels decline, more draught resistant species would become established which in turn would affect the availability of habitat for fauna. The relationship between moisture availability and vegetation are closely interconnected as Gentilli (1979, p. 131) stated “the factors comprising the environment do not act in isolation, and are strongly interrelated between themselves”.



**Figure 4.0: Hypothetical West to East Transect Showing the Major Topographical Features of the Swan Coastal Plain and Darling Scarp (Adapted from Seddon, 2004; Guy, et al, 1991).**

#### **4.2.1 Spearwood Dune System**

These dunes were formed in the Pleistocene period, 1.7 million to 10 thousand years before present. Churchwood & McArthur (cited in Williams, 2003, p. 108) stated that “they are comprised of Aeolian limestone, overlain by variable depths of leached yellow to brown soils”.

#### **4.2.2 Quindalup Dune System**

These dunes were formed during the Holocene period (less than ten thousand years before present). Churchwood & McArthur (cited in Williams, 2003, p. 108) stated that “they consist of recently deposited calcareous sands, with some lithification (cementing) in the lower layers”.

#### **4.2.3 Caves**

The caves in the Park (Plates 4.0, 6.0 and 6.1) comprise one of the six known major cave regions in Western Australia (Gentilli, 1998; CALM, 1989). Other cave regions are found in the Nullabor Plain, Leeuwin-Naturaliste Range, Nambung National Park, Cape Range National Park and the Napier and Oscar Ranges in the Kimberley. There are over 600 caves documented in the Park which range from narrow tunnels and vertical shafts to large caverns containing streams and pools (Gentilli, 1998; CALM, 1989). Some of the caves have been open for tourists over the past fifty years. Of particular interest is Cabaret Cave, which had major “modifications to its structure and was converted to an underground function centre in the 1930’s” (CALM, 1989, p. 41).

The caves have been formed by underground streams, which flow westward from the Gnangara Mound (Gentilli, 1989). Water depths in the caves range from about 2-3cm to about 30cm (CALM, 1989), therefore any long term, even minor, changes to ground water levels will have an impact upon the cave’s ecosystem (discussed in Chapter 7). Because the ground water is only about “ten metres below the ground, at the contact between the limestone cap and the older underlying sands, the caves are relatively small and close to the surface” (Gentilli, 1998, p. 291). In contrast, the Leeuwin-



**Plate 4.0: Example of Cave Formations at Yanchep National Park,  
(Yanchep National Park, n.d, p. 3).**

Naturaliste Range has a water table of more than “two hundred metres in depth, therefore the caves that exist there are much bigger” (CALM, 1989, p. 41).

Caves have an environment that is mainly comprised of “air and water flow, soil permeability, rock composition and solubility, air and ground humidity, temperature, and a balance of oxygen and carbon dioxide” (Gentilli, 1998, p. 291). An organism has to be highly specialised in order to survive. Some of the species the caves provide habitats for include: night-fish, frogs, bats, amphipods and gilgies. Some of the amphipod crustaceans are of “very ancient origin, being descendants from species living before the separation of Australia from the super-continent of Gondwana” (Gentilli, 1998, p. 294). Management issues associated with the protection of cave fauna are discussed in Chapter 7.

### **4.3 Water and Wetlands**

The wetlands found at the Park (including Loch McNess and Pipidinny Swamp) are directly associated with the underground water table (Gnangara Mound Groundwater). Pipidinny Swamp’s surrounding Paperbark trees, (*Melaleuca species*), and vegetation have resulted in an accumulation of organic material and tannins in its water body causing a brownish colouration. Marl is a calcareous peat soil found at Pipidinny Swamp (Boucher, 2000) whilst the other wetlands have “peaty soils, characteristic of the Herdsman Soil association” and support different vegetation types (Gentilli, 1998; CALM, 1989).

#### **4.3.1 Groundwater Component**

East of Yanchep is a vast area of sand-plain that is at the base of the Darling Fault Scarp. This area serves as a catchment for the Gnangara Mound Groundwater, a feature of great importance in the future of Perth’s water supply. The Western Australian Planning Commission (WAPC) reported that “The Gnangara Mound is the largest and most important shallow underground water resource in the Perth region. It contains substantial supplies of water which are required to meet current and future public water demands” (2001, p. 1). The slope of this mound increases in the area of the Park’s caves and the water moves mainly as streams down this gradient. The numerous

enclosed water-logged depressions and lakes within the karst no doubt play a role in recharging karst water and may themselves be the result of a series of cavern collapses and stream diversions. Springs have “been seen in the sea west of Yanchep” (Williams, 2003, p. 68).

Results from modelling Loch McNess (Gordon, Findlayson & McComb, 1981, p. 1) show that, on the “Swan Coastal Plain, rainfall in the surrounding catchment tends to infiltrate to the groundwater table first, before filling the lake”. Like Loch McNess, Lake Joondalup is part of the Wanneroo Linear Lakes wetland chain. Whilst both lakes are situated in karstic features of the Spearwood Dune System, Lake Joondalup is located 17.5 kilometres south of the Park on the steepest gradient of the groundwater flow system, whereas Loch McNess lies further west. Thus, the local groundwater of Lake Joondalup is “not damped like that of Loch McNess” (Lake Joondalup, n.d, p. 1). However, the catchment of Lake Joondalup has been urbanised over the last 20-25 years and the groundwater table now receives more water than just the direct infiltration of rainfall events; roads, rooftops and over watering of gardens all increase local groundwater recharge. The water balance at Yanchep National Park is likely to be altered in the future due to the freeway extensions northwards and planned urban development for the area (refer to Tokyu corporation, p. 114).

#### **4.4 Vegetation Communities**

The vegetation in the Park is representative of what large areas of the northern coastal plain resembled prior to large scale clearing for urbanisation and agriculture. Much of it has now been modified or cleared for a variety of purposes. The Park lies within the Drummond sub-district of the Darling Botanical Province (Gentilli, 1998; CALM, 1989). Beard (cited in Williams, 2003, p. 109) stated that “predominately the vegetation is representative of the Spearwood Dune System; but some of it is more characteristic of the drier Jurien System, and in some areas, the coastal Guilderton System”.

It is an area where Tuart trees, (*Eucalyptus gomphocephala*), (Plate 4.2), Jarrah, (*Eucalyptus marginata*), and Marri, (*Eucalyptus calophylla*), (found generally in the western side of Park) are the dominant upper-story tree species. There is also a heath



**Plate 4.1: Grass Tree, (*Xanthorrhoea preissii*), at Yanchep National Park. The resin can be used as a varnish for wood or metal, and as an incense. It can also be used as a sealing wax and makes a good glue. The resin is soft and pliable when heated over a flame but it cools to a rock-hard consistency. Photograph by Darren Venn, 14/2/2008.**



**Plate 4.2: Tuart Tree, Lemon Scented Gum, (*Eucalyptus citriodora*), at Yanchep National Park. The leaves of this plant are a traditional Indigenous herbal remedy. The essential oil found in the leaves is a powerful antiseptic and is used all over the world for relieving coughs and colds, sore throats and other infections. Photograph by Darren Venn, 14/2/2008.**

component of the Park that has no tall trees and is largely dominated by Banksia species and the smaller Prickly Bark Gum Tree, (*Eucalyptus todiana*). This occurs mainly in the north and east of the Park. Grass trees, (*Xanthorrhoea preissii*), are also common throughout the Park. The chain of lakes that stretch roughly north to south through the Park, support typical wetland formations, dominated by Paperbarks (Speck, 1952; McComb & McComb, 1967).

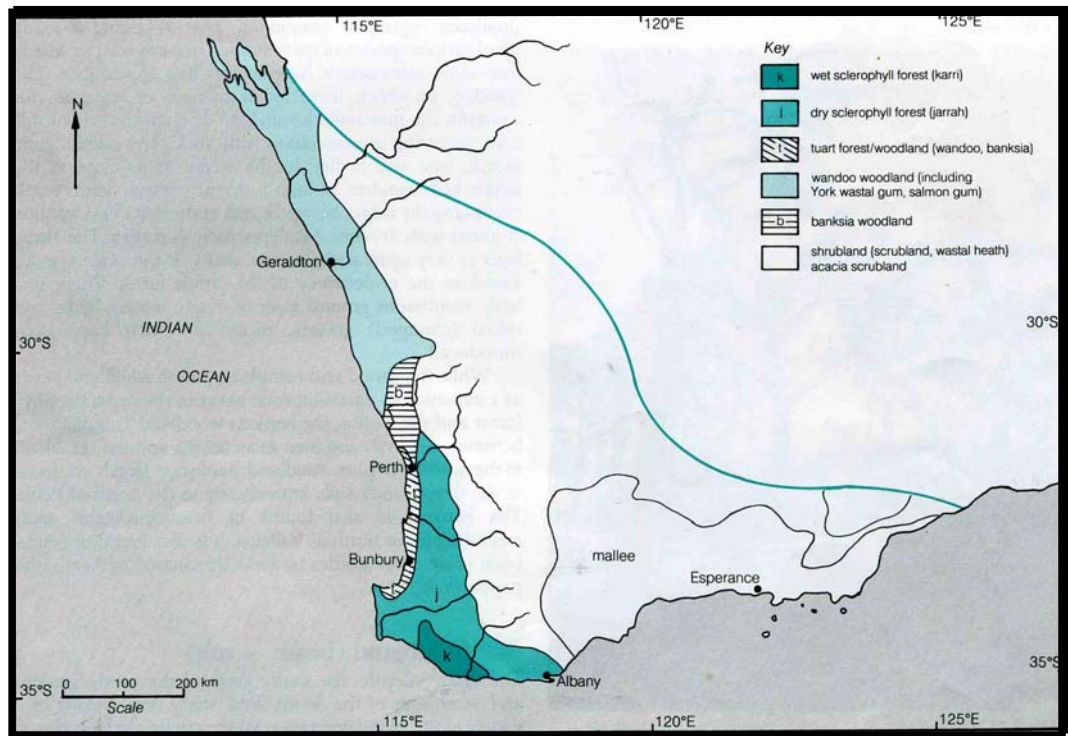
The vegetation associations of the Park have been previously described by a number of botanists: Speck in 1952, Havel in 1968, Seddon in 1972, Beard in 1979 and 1981, Heddle in 1980 and Mattiske in 1985.

Seven different vegetation associations exist at the Park. Their occurrence being closely correlated to soil type, and characteristics such as depth and moisture content and the proximity of limestone. There is a gradient between these associations without clearly defined boundaries (Gentilli, 1998). Further changes to this delicate balance could alter the species composition of these vegetation associations.

#### **4.4.1 Vegetation Associations**

These are the main vegetation associations occurring in Yanchep National Park:

- *Eucalyptus gomphocephala* (Tuart) association
- *Eucalyptus marginata* (Jarrah) association
- Banksia low Woodland (Banksia Woodlands) association
- Banksia/Eucalyptus/Allocasuarina (Banksia Woodlands) association
- Dryandra/Calothamus (Heath) association
- Melaleuca/Dryandra/Acacia (Heath) association
- *Melaleuca acerosa* (Heath) association



**Map 4.0: Vegetation Associations of the South West (Guy et al, 1991, p. 43)**



**Plate 4.3: Western Grey Kangaroos, (*Macropus fuliginosus*), on the shore of Loch McNess at Yanchep National Park. The Nyoongar word for kangaroo is 'yonga'. They are found in dense covered areas throughout the day and come out to feed on the ovals and grassed areas during early morning and late evening. Photograph by Darren Venn, 14/2/2008.**

These vegetation types are described in further detail below.

#### **4.4.2 Tuart Association**

Tuarts occur where limestone is close to the surface and are often found in association with Marri, (*Eucalyptus calophylla*), and Jarrah, (*Eucalyptus marginata*). There is also a lower storey of *Banksia attenuata*, *Banksia menziesii*, *Banksia grandis* and Sheoak, (*Allocasuarina fraseriana*), associated with Tuarts. The understorey commonly has the Grass Tree, (*Xanthorrhoea preissii*), and Zamia Palm, (*Macrozamia riedlei*). Tuart trees at Yanchep National Park are nearly at the edge of their rainfall requirements (Gentilli, 1998; CALM, 1989).

#### **4.4.3 Jarrah Association**

Occurs where soils overlying the limestone are at their deepest. Found chiefly in the western half of the Park, usually scattered amongst the Tuarts, it consists of an over-storey of *Eucalyptus attenuate* and occasionally Marri, (*Eucalyptus calophylla*). Mid-storey trees are mainly comprised of Bull Banksia, (*Banksia grandis*), Menzies Banksia, (*Banksia menziesii*), Narrow Leaved Banksia, (*Banksia attenuate*), *Casuarina spp.* and *Acacia saligna*. The under storey differs from that of the Tuart association in having no lime-tolerant species (Gentilli, 1998; CALM, 1989).

#### **4.4.4 Banksia Woodlands**

This association consists of low open woodlands and extends eastward to the edge of the treeless heath formations. They contain as part of the over-storey layer Prickly Bark Gum Tree, (*Eucalyptus todtiana*), *Allocasuarina fraseriana*, *Jacksonia spp.*, Western Australia's Christmas Tree, (*Nuytsia floribunda*), *Banksia illicifolia* and *Gyrostemon ramulosu*. The under-storey layer is made up of numerous species of small shrubs, with *Hibbertia hypericifolia*, Grass Tree, (*Xanthorrhoea preissii*), and *Stirlingia latifolia* often dominating. Creepers *Clematis pubescens*, *Clematis microphylla* and native *Hardenbergia comptoniana* can be found scrambling over the shrubbery. The Banksia woodlands generally occur on the sandy soils, the stony lime-stone soils, and is

interspersed in amongst Jarrah, Marri and Tuart formations (Yanchep National Park Management Plan, 1989; Gentili, 1998; Williams, 2003).

#### **4.4.5 Heathlands**

Dryandra-Calothamus heath and the Melaleuca / Dryandra / Acacia heath are restricted to limestone ridges with bare limestone outcrops and shallow yellow brown sand. The soil is not deep enough to support trees. The former is characterised by lime tolerant species, such as Parrot Bush, (*Dryandra sessilis*), and One-sided Bottlebrush, (*Calothamus quadrifidus*), and can be exclusively covered by either species. In the latter, occurring species include *Melaleuca huegelii*, *Melaleuca aff. Scabra*, *Grevillea thelemanniana*, *Dodonaea aptera* and *Acacia rostellifera*. *Melaleuca acerosa* heath occurs on the Quindalup Dune System which is characterised by calcareous sand. The vegetation forms a dense low scrub of woody shrub species mainly dominated by *Acacia lasiocarpa* and *Melaleuca acerosa* (Gentili, 1998; CALM, 1989).

### **4.5 Wildlife**

Because of the many different habitats present throughout the area, the Park supports a great variety of wildlife. It is also a closed system and a protected environment, in which an excess number of animals can occur and cause problems. Animal species include mammals, birds, reptiles, amphibians and fish.

#### **4.5.1 Mammals**

Fifteen native mammals and six introduced mammals have been found at the Park, with several of these species possibly at or near local extinction. In recent years there has been a “decline in mammals on the Swan Coastal Plain, reasons for this decline include, feral pigs, large scale clearing, urbanisation and fire” (CALM, 1989, p. 19).

Western Grey Kangaroo, (*Macropus fuliginosus*), (refer to Plate 4.3, p. 41) is common in the Park, particularly in the limestone scrub and recreation areas. Two species of possum are found throughout the Park, the Honey Possum, (*Tarsipes rostratus*), and Western Pygmy-possum, (*Cercartetus concinnus*). Koalas, (*Phascolarctos cinereus*),

(refer to Plate 6.4, p. 76) were introduced in an enclosed space as a tourist attraction and will be further discussed in Chapters 6 and 7. There has also been four bat species recorded at the Park, including the Greater Long-eared Bat, (*Nyctophilus major*), which is a “species of bat that prefers dry, open woodland” (CALM, 1989, p. 20).

#### 4.5.2 Birds

In 1903, Milligan (cited in Gentilli, 1998, p. 290) recorded numerous species of birds, in different habitats throughout the Park. Some more common species found at the Park were not listed, such as the Grey Teal, (*Anas gibberifrons*), Maned Duck, (*Chenonetta jubata*), Black Swan, (*Cygnus atratus*), and the Australian Grebe, (*Tachybaptus novaehollandiae*). In the woodland, Milligan observed: White-tailed Black Cockatoo, (*Calyptrorhynchus baudinii*), Magpie Lark, (*Grallina cyanoleuca*), Western Warbler, (*Gerygone fusca*), Brown Song-Lark, (*Cinclorhamphus cruralis*), Mistletoe-bird, (*Dicaeum hirundinaceum*), and the White-backed Swallow, (*Cheramoeca leucosternum*). He also recorded the Long-billed Reed Warbler, (*Acrocephalus stentoreus*), in the bulrushes, and in the reed beds he documented the Marsh (or Little) Crane, (*Porzana pusilla*). On the mud-banks he documented the Purple Swamphen (*Porphyrio porphyrio*). Around the lakes he reported White-necked Heron, (*Ardea pacifica*), and White-faced Heron, (*Ardea novaehollandiae*). Sacred Kingfisher, (*Halcyon sancta*), Brown Bittern, (*Botaurus poiciloptilus*), and six species of duck have been recorded on the open water at the Park. The Freckled Duck, (*Stictonetta naevosa*), which prefers the deeper waters among dense vegetation, is very rare.

Storr (1978b) listed other bird species at Yanchep National Park which have been decreasing in numbers: Whistling Kite, (*Haliastur sphenurus*), Swamp Harrier, (*Circus aeruginosus*), Brown Falcon, (*Falco hypoleucos*), Scarlet Robin, (*Petroica multicolour*), Golden Whistler, (*Pachycephala pectoralis*), White-naped Honeyeaters (*Melithreptus lunatus*), and Yellow-plumed Honeyeaters, (*Lichenostomus ornatus*). Australian and international migratory birds were also listed: Glossy Ibis, (*Plegadis falcinellus*), Greenshank, (*Tringa nebularia*), Common Sandpiper, (*Tringa hypoleucos*), White-winged Tern, (*Chlidonias leucoptera*), Fork-tailed Swift Bee-eater, (*Apus pacificus*), and Rainbow Bee-eater, (*Merops ornatus*). The Peregrine Falcon,

(*Falco peregrinus*), is a rare and protected species that has also been found at various locations throughout the Park.

#### **4.5.3 Reptiles and Amphibians**

There have been 47 species of reptile and amphibian found in the Park, eight of these are endemic to the west coast and coastal plain from the North-west Cape south to Geographe Bay. They are found in a range of environments including sandy areas, freshwater swamps and lakes, limestone, coastal dunes and woodland (CALM, 1989). Those species that have “shallow shelters underground or under leaf litter are likely to be killed by fire” (CALM, 1989, p. 21).

Storr (1978a) documented 41 species of reptiles and amphibians at the Park, including six skinks, a gecko and one legless lizard. Snakes are common and there are several species present at the Park, including venomous ones. Two species, Carpet Python, (*Morelia spilota imbricate*), and Black-striped Snake, (*Vermicela calonotos*), are rare or otherwise in need of special protection. Living in and near Loch McNess is the Long-necked Tortoise, (*Chelodina longicollis*). There are also several species of frogs present, as well as several species of molluscs and crustacean.

#### **4.5.4 Fish**

There have been three fish species recorded from Loch McNess; the native Nightfish, (*Bostockia porosa*), and two introduced species, Mosquito fish, (*Gambusia affinis*), and Golden carp, (*Carassius auratus*). The Mosquito fish appears to have out-competed all but the one native fish species (CALM, 1989).

#### **4.6 Summary**

Thanks to nearly a century of protection much of the Park has remained relatively unmodified and is a good representation of the natural landscape on the Swan Coastal Plain before it was cleared for human activities. In reference to this, Gentilli (1998, p. 277) stated that “there are few substantial areas of undisturbed vegetation remaining, let alone reserved for conservation”. Furthermore, because of the diversity of the

landscape, and the conservation status it receives, there exists a myriad habitats which are relatively safe for many species of fauna and flora to flourish; they may otherwise perish without such protection.

## **CHAPTER FIVE: THE INDIGENOUS CULTURAL LANDSCAPE**

### **5.1 Introduction**

This chapter goes beyond a reconstruction of the environmental transformations to the Yanchep area that can be attributed to Indigenous people. It is also concerned with conveying the notion that Yanchep holds a significant value and meaning for some local Indigenous people. This is achieved by depicting how they viewed themselves in relation to the landscape that is now Yanchep National Park (refer to Table 3.0, p. 31), and provides an interpretation of how their interaction with this landscape over many thousands of years led to significant transformations to natural elements, such as the vegetation. Yanchep National Park is situated approximately 50 kilometres north from the City of Perth and is one of Western Australia's oldest national parks (Map 1.0, p. 8).

In order to provide a case for more direct and meaningful input by Indigenous managers in planning and decision making processes at Yanchep National Park, it is first necessary to understand the development of the area. The Park is simultaneously valued for many different reasons by various groups of people, which has resulted in it becoming a contested landscape. This notion of a contested landscape occurs when different perceptions of a landscape and its past come into collision in discussions of that area's social and environmental future, as discussed by Head (2000, p. 136). The Indigenous connection with the Park is an integral part of this landscape's multiple meanings and it is important that these, as well as all of the significant elements that have combined to transform this cultural landscape into what it is today, be incorporated into future Park management. It is a landscape of multiple meanings and the management strategy should be inclusive of these combined elements.

### **5.2 Interpretation of the Indigenous Cultural Landscape**

The way Indigenous people conceptualised nature contributed significantly to how they understood themselves in relation to the landscape. The process of this conceptualisation of nature created a relationship with the land that resulted in the environment being central to their lives and well-being whilst also being fundamental

to their spiritual beliefs. As the Theory of Structuration recognises (Chapter 3), humans are bound by unacknowledged conditions and unintended consequences of their actions. The way their society was structured directly influenced the actions and day to day decisions Indigenous people made, which in turn, acted to reproduce their social and religious structures. As Gauntlett (2002, p. 2) noted, “people's everyday actions reinforce and reproduce a set of expectations - and it is this set of other people's expectations which make up social forces and social structures”.

To appreciate this relationship it is necessary to understand the fundamentals of the Indigenous belief system that is essentially guided by the 'Dreaming'. This concept describes everything from how the land was given shape as a result of the creative activities of ancestral beings, to the understandings acquired by Indigenous people. Their spiritual relationship with the land was reinforced by ceremonial songs and dances. The following statement by Bomford and Caughley (1996, p. 14), elaborates on the significance of land:

Although there is considerable debate in this area and variation amongst past and present-day Aboriginal peoples, certain themes are common to all traditional Aboriginal belief systems. Aboriginal law was established during the Dreaming when ancestral beings walked the earth, creating the landscape and all living species. The Dreaming brought order and meaning to an already existing world and all entities became subject to common law.

The land is both a topographical record of the journeys of the ancestral beings and a physical manifestation of the truth of the moral system. Life is considered a recurrent series of events set irrevocably in motion by the ancestral beings. The active ingredient is the spiritual essence which animates all things. Humans and other creatures were created or fixed in shape simultaneously from the same matter.

The Indigenous people of south-western Australia are collectively ascribed as Nyoongar<sup>3</sup>, and they share a common culture, language, history and affiliation with this land. Their ancestors have been playing a role in the transformation of Yanchep National Park's landscape for an estimated 50 000 years. The territory of the Nyoongar

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<sup>3</sup> The spelling of Nyoongar varies (Nyungar, Noongar, Nynugah) due to the fact that various interpretations of the word exists. Indigenous people throughout Australia utilised a purely oral form of communication, which when interpreted resulted in various spellings.

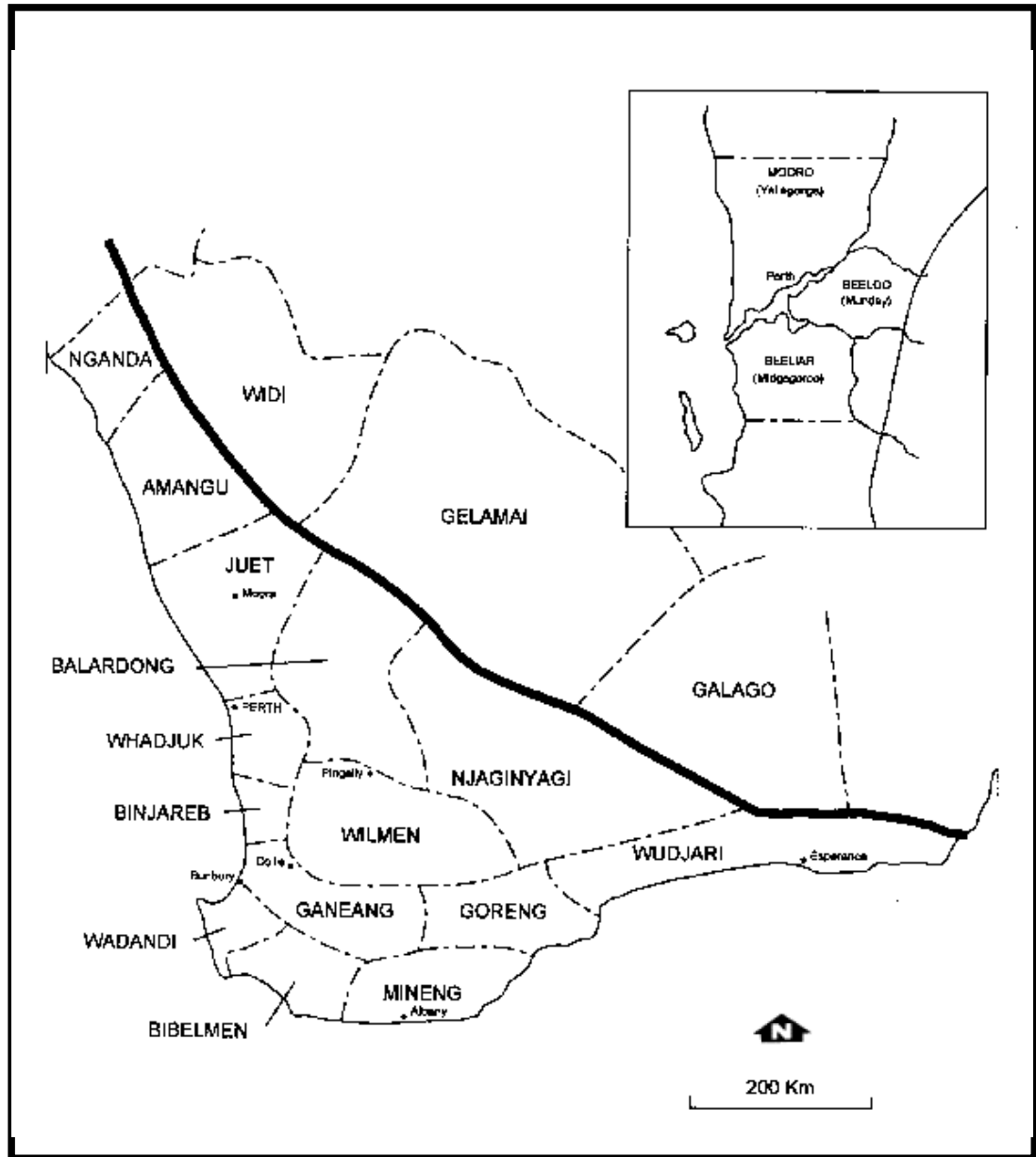
(Map 5.0) extended from the Geraldton district south along the coast to Cape Leeuwin, continuing south-east almost to Esperance and then in line north-west to rejoin the coast at Geraldton. It is an area that “spans almost 3 000 000 hectares with 1 600 kilometres of coastline” (Green, 1984, p. 1).

Each Nyoongar group had their own 'kaleep', or preferred camping ground, often of special significance to them, and beyond this there was a more extensive area over which they foraged and hunted. In 1940, Norman Tindale identified a number of tribes, or mobs, though some alternately identify these as linguistic groups (Map 5.0). It can be interpreted from Tindale's map (cited in Green, 1979, p. 45) that the Yanchep area was traditionally occupied by the 'Juet' mob. These Nyoongar were well acquainted with many of the physical features of the area and had names for the majority of the caves and surrounding wetlands. Moreover, some of these place names are still in use today. The process of naming a place has the effect of adding meaning to it, which serves to reinforce established cultural meanings of that place.

The name Yanchep comes from the Nyoongar word 'Yanget', or 'Yandjip', that refers to the Bulrush, (*Typha orientalis*), which is abundant around the wetlands of the area (Grey, 1841; CALM, 1989). The root of this rush was pounded into a paste and used as a type of flour for baking into small cakes. It is likely the rush provided a kind of staple in the diet of the Nyoongar of this area. Hallam (cited in Gentilli, 1998, p. 91) noted that the most important foods the wetlands had to offer came from “carbohydrate staples derived from plant storage organs - fruit and seeds, bulbs and corns, underground root tubers, and starch-filled stems or rhizomes”. Early settler George Fletcher Moore (cited in Gentilli, 1998, p. 94) explained how the rush was processed and cooked:

Natives are now busy digging the root of a broad sort of flag which grows in a swamp near this.....and a few days later his diary states - Got from the natives a piece of bread made from the root of the flag which they call 'yandyett'. It tastes like a cake of oatmeal. They peel the root, roast and pound it, and bake it. The root is as thick as your finger and a foot long.

It is evident from other historical accounts from early settlers, such as George Grey, that the country provided adequately for the needs of local Nyoongar. Though food resources were readily available, the Nyoongars' ability to survive required a thorough



**Map 5.0: Nyoongar Linguistic Groups or Mobs (Tindale, cited in Green, 1979, p. 45).**  
The Indigenous people of south-western Australia are collectively ascribed as Nyoongar and they share a common culture, language, history and affiliation with this land. It is an area that spans almost 3 million hectares with 1 600 kilometres of coastline. See Appendix VI for the Western Australian Tindale Tribal Boundaries in which the linguistic groups or mobs for the entire state are provided.

understanding of the environment in order to be able to successfully procure these foods. The environmental knowledge the Nyoongar had of the Yanchep area was derived from their 'Dreaming' mythology, which influenced all their daily and ceremonial activities. Their environmental knowledge also extended to a weather-based calendar that recognised six seasons. This calendar (Figure 5.0) guided their daily activities and seasonal movements. Bindon and Walley (1993, pp. 28-35) commented upon this knowledge:

Their intimate knowledge of the seasons was reflected in the formation of the resource and weather-based Nyoongar calendar. The calendar contains six seasons and allows for the effective utilisation of the resources of the area at different times of the year. Movement and activities of Aboriginals occurred in response to the seasons, mainly the prevailing wind conditions, temperature and rainfall.

The Yanchep landscape, especially around Loch McNess (Plates 5.0 & 5.1, p. 56), provided an abundant source of food during the summer drought period of Birak and Bunuru. When water supplies of inland localities were diminished by the long summer drought periods each year, the wildlife moved on to the Swan Coastal Plain where permanent fresh water is still available. Early settler Scott Nind (cited in Green, 1979, p. 25) noted the seasonal movement of Nyoongars between inland and coastal habitats:

Those families who have locations on the sea coast quit it during the winter for the interior; and the natives of the interior, in like manner, pay visits to the coast during the fishing season. Excepting at these times, those natives who live together have the exclusive right of fishing and hunting upon the neighbouring grounds, which are, in fact, divided into individual properties; the quantity of land owned by each individual being very considerable. Yet it is not so exclusively his, but others of his family have certain rights over it; so that it may be considered as partly belonging to the tribe. Thus all of them have a right to break down grass trees, kill bandicoots, lizards, and other animals, and dig up roots; but the presence of the owner of the ground is considered necessary when they fire the country for game. As the country does not abound in food, they are seldom stationary, removing, according to the time of year, to those parts which produce the articles of provision that may be in season. During the winter and early spring they are very much scattered; but as summer advances they assemble in greater numbers.

The previous account by Nind was written in 1831 and alludes to the 'individual properties' that Tindale would later identify in 1940 (Map 5.0, p. 50). It was the

responsibility of the Nyoongar people who occupied each individual part of the landscape to care for this country on a regular basis as Rose (1992, p. 107) commented:

At the most intimate, the potential is for a completely reflexive relationship: the person takes care of the country and the country takes care of the person. Such a relationship is built up over time through knowledge and the assumption of responsibility. The relationship so developed is an individual achievement; a person is born with rights, but each must choose further to develop their own relationships.

Water was always the most important resource, particularly through the summer drought period. For this reason the Yanchep wetlands have a long established history of Indigenous usage and occupation. They understand the importance of the water cycle to all living things and respected the relationships between rainfall and water flow. Loch McNess was also a mythological site for the Nyoongar. According to their traditional beliefs, the Waugal (Rainbow Serpent) inhabited this Lake and other water bodies. Gentilli stated that the Waugal was traditionally associated with “deep dark caverns and with water, and particularly with places that combine both these elements” (1998, p. 105). Furthermore, Nyoongar people from Moore River to the north, and from the Swan River in the south, were also known to come to “Loch McNess to hold tribal meetings, discuss traditional business matters, stage corroborees and in some instances initiate young men into adulthood life” (Heritage Council of WA, 1988, p. 20). It is likely that these gatherings would coincide with a period when resources provided by the wetlands of the area were in plentiful supply, such as in spring and early summer (Djilba, Kambarang, Birak and Bunuru respectively).

The Waugal was also associated with the cave that the natives called Doorda Mia (or the abode of the wild dog). In 1847 Landor (cited in Hallam, 1975, p. 83) described a tale of two spirits, one of which is the Waugal that is associated with the pools and limestone caverns of the Yanchep area:

Beside Chingi, the evil spirit who haunts the woods, there is another in the shape of an immense serpent, called Waugal, that inhabits solitary pools... One day, whilst bivouacking in a lonely and romantic spot, in a valley of rocks, situated some forty miles north of Perth, called Doorda Mya, or Abode of Dogs, I desired a native to lead my horse to a pool, and let him drink. The man, however, declined with terror, refusing to go near the pool, which was inhabited by the Waugal. I



**Figure 5.0: The Six Seasons Weather-based Calendar recognised by Nyoongar people. Source: Bindon & Walley (1992, pp. 28-35).**

therefore had to take my horse myself to the spot, while the native stood aloof, fully expecting that the Waugal would seize him by the nose and pull him under water.

It is likely that the Nyoongar of the area did not frequently venture too close to the Lake's perimeter for fear of the Waugal. Gentilli (1998, p. 281) documented that "the Aborigines' association with the Yanchep area was not a completely happy one, despite its abundant water and game, because it was believed to be the home of the Waugal". Because of this association they are likely to have had a minimal impact on the wetland environment, which helped to sustain the many birds, fish, frogs, crustaceans and tortoises that were utilised by the Nyoongar. This life strategy had the effect of mimicking an efficient land use management system. In commenting upon the Theory of Structuration, Clark, Modgil and Modgil (1990, p. 313) stated:

Analysing a social system does not mean specifying the rules and resources which 'compose' it – for social systems are not made up in such a way. It involves analysing forms of interaction, and their overlap with social relations, which are expressed in a given cluster of practices.

The analysis of the form of interaction in this social situation reveals that the belief system of the Nyoongar people reinforced social practices that had the effect of minimising their impact on the wetland environment. The nearby Pipidinny Swamp is also significant to the Nyoongar people. The importance of this wetland is conveyed in the 'Dreaming' story, 'The Emu Cave Dreaming' as narrated by Nyoongar Elder Ken Colbung (cited in Kauler, 1998, p. 69):

There is a story about the shark, the whale and the crocodile and the fight they had and the formation of Rottnest and Garden Island. As the crocodile was walking back he laid down exhausted at what is now known as Yanchep Beach and here he shed that skeletal frame work and then moved on.

The crocodile moved on to Two Rocks where in actual fact the yonga, the kangaroo and the bibilja, the scrub turkey and the head of the animals was waiting and he put a formal request to him to really come in and have a good rest. It was to there, that after consultation with the rest of the animals they made the decision that he could come forward providing he kept to the rules that they had laid down for him. The rules were that he shouldn't be jumping on trees and shouldn't be flying around and he shouldn't get into the water and that he should come forward. He had a special berry tree – the emu berry tree – that

was there for him and also he should eat seeds but not meat. And so he made the decision and they allowed him to come in. First of all he went to Pipidinni Lake and at Pipidinni Lake he sat down and all the blood ran out of his body and you will see that Pipidinni Lake is coloured like blood – brown blood. Then he moved on from there and went to Nowgerup (Now means ‘Sweet Water’) and here all the marrow in his bones poured out of his body. The crocodile then moved to Emu cave where he laid down and had a good sleep and he remembered all the things that were told to him. Here the crocodile remembered that the bibilja had placed feathers on his body and he saw where the shark had stretched his legs and then he dreamed of this animal he wanted to be. The crocodile then came out a beautiful long legged bird with long neck and a smaller head and beak that was more in line rather than a big head that could eat any animal. He was then one of the animals and due to the fact that he could not use his teeth and jaw any more he was given speed. Now you will find that the emu is one of the fastest birds alive and can run around to avoid its enemies.

This story gives a meaning to the physical environment that Nyoongar people encountered and provides an explanation for the brownish colouration of Pipidinni Swamp. It also gives meaning to how the emu came to be in existence and highlights the belief that native fauna had an organisational element. By acknowledging order in their environment, the Nyoongar reinforced, and thereby reproduced this cultural practice of caring for country by understanding that they too must organise themselves to be in harmony with their environment. Respecting the order of things and the agency of nature, and by integrating their belief system with the rhythm of the land, the Nyoongar people ensured they were able to sustain themselves throughout thousands of years. This is despite the vagaries and unpredictable climate of the Australian landscape. The story is in essence a practical interpretation of their surrounding environment. It is typical of many Dreaming stories that give similar lines of reasoning by using animals to explain how the physical environment was created. Green (1984, p. 21) elaborated on this notion:

Aboriginal mythology is rich in stories that reveal the interaction and inter-relationship of man, the physical and cosmic environment and their common origins in the Dreaming. The Dreaming linked the Nyoongar to the Aboriginal creation and gave them not only an affinity with the land but a personal relationship to it. It was an existence in which Aboriginal man had both place and purpose: a place determined by kinship and a purpose that everyone recognised and acknowledged.



**Plate 5.0: Loch Mc Ness.** This photograph of Loch McNess was taken from the eastern shoreline adjacent to the boat hire facility. The paving used in the construction of the boat ramp is visible in the shallower water (foreground). In the background, surrounding reeds and Paperbarks with Eucalyptus line the western shore. Photograph by Darren Venn, 21/8/2006.



**Plate 5.1: Loch Mc Ness.** The vegetation communities of the western shoreline (background) appear natural in contrast to the developed and, in parts, degraded, eastern shoreline shown in the foreground. Photograph by Darren Venn, 21/8/2006.

In particular, the use of fire by the Nyoongar people and its impact upon the landscape has been extensively documented by Hallam (1975) in her landmark publication *Fire and Hearth*. Their use of fire was responsible for the majority of the transformations to the landscape that can be attributed to human activity: She writes in this book that “Aboriginal populations did change the vegetational and faunal balance. Fire was a major factor in this pattern of regular exploitation and settlement” (Hallam, 1975, p. 15). Fire was a key tool in hunting and foraging, and though it wasn’t always used deliberately, it did act to replenish the resources of the land. They knew that by burning certain vegetation types, the landscape became productive.

Fire was used to flush out animals and to stimulate new growth of plants for eating, as with the Bulrush Yanget. Early explorer Sir George Grey (cited in Gentilli, 1998, p. 94) recorded “The natives must be admitted to bestow a sort of cultivation upon this root, as they frequently burn the leaves of the plant in dry seasons, in order to improve it”. Fire also acted to clear the undergrowth, which in turn facilitated the movement of Nyoongar mobs. Furthermore, the new vegetation growth that would occur proceeding a fire would encourage the feeding of animals, such as kangaroos, that could then be hunted. Boucher (2000, p. 77) described some of the local Nyoongar practices in the Yanchep area:

Fire helped to reduce the ground litter, which made transportation easier and promoted lush growth of the vegetation that attract fauna. For these reasons, ‘fire-stick farming’ practices were carried out by Aboriginal people which helped to shape the natural environment. For example, Dreaming trails such as the Yabaroo Budjerra Heritage trail would have been frequently burnt every three to four years by the Aboriginal people. This ‘fire-stick farming’ practice was to clear the undergrowth to make travelling along the trail easier and to also attract fauna that grazed upon the lush regrowth of the vegetation to be hunted by the travellers as a food source.

The evidence of fire use by the Nyoongar people is however ambiguous and inadequate to sufficiently recount the exact effect it had upon the transformation of the Australian environment. This is because varying theories and questionable evidence exists regarding this particular issue (see Kohen, 1995; Flannery, 1994; Hallam, 1975). The first consideration in this debate is the fact that fire was an important environmental variable even before the arrival of Indigenous people to the Australian continent, and

that dating techniques utilised to calculate the pattern and distribution of fire in the past are not conclusive. Head (2000, p. 19) recounted the problem:

An important dimension of the controversy is that the timing of Aboriginal burning as interpreted from the pollen and charcoal record has always been much earlier than the archaeological evidence, even though both have changed over the decades.

Though opinions differ, the long-term transformation of this environment was largely due to either regular burning practices by Indigenous people, climate change, or a combination of both. It is debatable as to whether the Nyoongar significantly impacted upon the landscape through their use of fire, or whether they accelerated a natural or already existing trend. Furthermore, the impact of fire on biodiversity within the Yanchep area would have been a direct result of the fire regime in the area. The fire regime would consist of the components of intensity, seasonality, interval between fires and the type of fire. What can be established though is that fire was an important part of the Nyoongar way of life and that they helped to control the frequency and severity of the fire regime. Modern control burning practices by government agencies and volunteer fire brigades do not mirror Indigenous regimes for various practical reasons, such as threats to surrounding land use (Head, 2000).

### **5.3 Summary**

This chapter served to establish the existence of a strong cultural relationship between the Nyoongar people and the Yanchep area. It also served to reveal how the everyday actions of Nyoongar people reinforce and reproduce their cultural expectations which make up the social forces and social structures present within Nyoongar culture.

As Structuration Theory (Chapter 3) explains, people develop and respond to physical and cognitive aspects of their surrounds, resulting in dynamic and ongoing change. The use of this theory throughout this chapter has shown that Indigenous interaction with the Yanchep area was influenced by the landscape itself. How these people perceived their environment influenced the way they interacted with the environment. It also establishes the total context in which the management of the landscape occurred.

Furthermore, it has shown that the mix of their cultural perceptions and the natural agency of the environment combined in such a sustainable manner that resulted in the successful survival of the Nyoongar people in the Yanchep area.

As for the overall cultural significance of the land to the Nyoongar people, it is very strong in mythology, involving the elements of serpent, water, earth, cave, and fire. It took thousands of years for these traditions, myths, and cultural understandings to become established and for the Nyoongar way of life to gain its momentum. It should also be recognised that some contemporary Indigenous people still interact and have a relationship with the landscape today (Plates 5.2 and 5.3 show some of the Indigenous activity and display areas within the Park).

The value gained from this chapter should not solely rest on the historical reconstruction of the transformations to the Yanchep area attributable to Nyoongar people. An accurate account of the step by step environmental transformations to the Yanchep area throughout antiquity is impossible. The main value of this account lies in the notion that the Yanchep area holds a significant value to Nyoongar people. It also provides evidence for rethinking in a more detailed way the environmental contexts in which they have operated over long periods of time with the Yanchep area. This also relates to the level of input into land management they now receive, which is an issue explored in detail in Chapter 7. Furthermore, this reconstruction of the Nyoongar cultural landscape illustrates processes and mechanisms of environmental change, and the conditions under which they occurred.



**Plate 5.2: Indigenous Display Area Within Park.** This area is utilised by Indigenous guides who share their heritage with members of an audience. Photograph by Darren Venn, 21/8/2006.



**Plate 5.3: Indigenous Activity Area Within Park.** A further extension of the display area is the open display of a traditional Nyoongar camp. Activities include string making, construction of temporary dwellings, boomerang throwing, didgeridoo playing and traditional glue and tool making. Photograph by Darren Venn, 21/8/2006.

## CHAPTER SIX: THE EUROPEAN CULTURAL LANDSCAPE

*Change is a characteristic of human societies and when the members of a society agree to the change and have time to make the necessary physical and psychological adjustments the change may advantage them. However, when a society has no control over the nature and intensity of the change its customs, laws, and its very existence are in jeopardy. And this happened in Australia after the arrival of European settlers.*

(Neville Green, 1984, p. 21)

### 6.1 Introduction

The purpose of this chapter is to depict the early onset of European cultural perceptions upon an already established Indigenous cultural landscape. The resultant interaction between the two cultures (Nyoongar & European) transformed this cultural landscape and over time a new one emerged. Both cultures viewed the landscape with vastly different perceptions, which consequently caused contention over how the landscape would be utilised.

At this time of cultural convergence both groups were responding to a new, unknown landscape. The Nyoongar were responding to large scale environmental changes that were brought about by the arrival of the early settlers and this contact with the settlers began to change the very fundamentals of their culture. In contrast, the settlers were responding to a foreign environment and an Indigenous culture they did not understand.

The Nyoongar initially welcomed many of the early settlers, rationalising them into their culture as Djanga, the ghosts of deceased relatives returned from the Dreaming (Gentili, 1998). It was perceived that the Europeans were actually their own deceased ancestors returning to the land. The idea that people would leave their land of origin was incomprehensible to the Nyoongar, as reported by early explorer George Grey (1841, p. 299-303):

This belief, that white people are the souls of departed blacks, is by no means an uncommon superstition amongst them; they themselves never having an idea of quitting their own land, cannot imagine others doing

it; - and thus, when they see white people suddenly appear in their country, and settling themselves down in particular spots, they imagine that they must have formed an attachment for this land in some other state of existence; and hence conclude the settlers were at one point black men, and their own relations.

Alternatively, the colonial process was well established within European culture and upon first contact with the Indigenous population most settlers generally regarded them as unproductive nomads. Gentilli, (1998, p. 108) concluded that “it was the impact of Europeans which in four short years reduced a people proud and secure in its knowledge of its own country, to a group regarded as unproductive vagrants”.

Two cultures meant two perceptions of the landscape now existed (refer to Table 3.0, p. 31). Both with very different conceptual notions on how to manage this land. However, it would be the conceptual notions of the early settlers that would come to dominate transformations to the landscape from now on. A Nyoongar would initially perceive a strange white man as a past occupant of this land and respect him as such, while many early European settlers, not all, initially perceived Indigenous people as being of lesser intelligence. This convergence of cultures is where the beginning of contention over Yanchep’s social and environmental future began.

It did not take long for the Nyoongar to change their perception of the newly arrived culture as they soon realised that the early settlers were not their deceased relatives returned from the Dreaming time. They began to observe the settlers’ strange behaviours which were vastly different from their own behaviours and traditions. As the settlers began to permanently occupy their hunting and ceremonial grounds it became obvious to the Nyoongar they were not Djanga at all. This revelation may have prompted many Nyoongar to question their own culture, and perhaps this is an indication that Indigenous people were beginning to lose their ability for self-determination (Chapter 7).

If they were wrong about the Djanga returning, what else could they be wrong about? Cultural change had begun and Nyoongars would subsequently encounter a fundamental change to the structure of their society. Brittain’s 1829 account (cited in

Gentili, 1998, p. 109) offered an insight into the dynamic changes that were occurring during this time:

The self-confident Englishmen, despite his struggle to succeed at the Swan River Colony, had little need to do any rethinking. He was realistic about the unpromising homeland he had left, and desperate about the new one he had come to. His line of thinking was in the ascendant, and he had everything to gain. He was land-hungry.

Not so the Nyungar. Hitherto he had never had to question his racial tradition as delivered over millennia by the elders, and now he faced a dilemma. The logic of his thought-system had concluded that the white-man was the Djanga, but the Djanga's behaviour was a contradiction and destructive to Nyungar society. If the white-man was therefore not Djanga, was the Nyungar belief system wrong? If not an ancestor in one system, the white man must be a conqueror in another system.

The Nyungar was not prepared for such thinking or its conclusion. He stood in stunned awe before these enigmatic intruders...

The Nyoongar were not prepared for such a confronting realisation. Their whole way of life would change and the Nyoongar would now be taken on a journey that would see the very fundamentals of their culture and landscape change forever. This also highlights that a fundamental shift to the structure of how the landscape would now be managed was also occurring, along with this corresponding shift in the structure of Nyoongar society. As Structuration Theory (Chapter 3) explains, society structures human action, and human action structures society, it is an ongoing process. The following section describes how the early settlers' structures and processes were implemented and put into action throughout this landscape.

## **6.2 Period of Early Explorations 1829 – 1900**

Two events mark the beginning of exploration in Yanchep and its subsequent development. The first occurred five years after the Swan River colony was first established, when a European settler by the name of John Butler wandered about 50 kilometres north of the Perth settlement searching for lost cattle. He noted the presence of freshwater lakes and an abundance of wild game. This is the first known recorded visit to the landscape by a European.

More significant though is Sir George Grey's observations of the existence of some remarkable caves throughout the area in 1838. His account of the area is also some of the first documented evidence by a settler that reveals the knowledge Nyoongar people had of the land. It is documented that one of the Nyoongar guides Grey used whilst travelling in the Yanchep valley in December 1838, stated water flowed under-ground through some of the caves and connected the lakes in a linear fashion. However, Grey did not believe him until he verified it for himself and found the lakes were indeed connected and part of one body of water. Grey (1841, p. 308-309) wrote:

I left the main party with two natives, and travelled up a swampy valley, running nearly in the same line as the chain of lakes we had followed in going north. The natives insisted on it, that these lakes were all one and the same water; and when, to prove to the contrary, I pointed to a hill running across the valley, they took me to a spot in it, called Yun-de-lup, where there was a limestone cave, on entering which I saw, about ten feet below the level of the bottom of the valley, a stream of water running strong from S. to N. in a channel worn through the limestone. There were several other remarkable caves about here, one of which was called Doorda Mya, or the Dog's house.

This may also be the first acknowledgment of the existence of the expansive underground water system, known as the Gngangara Mound (refer to 7.9.2, p. 111 & 7.10.2, p. 118). Caves in Boomerang Gorge were explored in 1841 by Surveyor General J.S. Roe accompanied by Governor Hutt. The name given to the caves in the area of Boomerang Gorge is Doorda Mya, or Dogs Houses, as they were called by the Nyoongars. This name is derived from a pack of wild dogs living in the area. Roe (cited in Senior Citizens Week, n.d, p. 1) described the area and its natural features which remains accurate to this day:

Amongst the steep limestone rocks which formed the sides of the ravine the atmosphere had formed several caves which were the nests of several wallabi or small kangaroo and their natural enemy the native dog. These caves being the object of our visit to this part of the country, we searched the ravine closely for them as it wound about to the NNW and NW and WNW, and on its NE side, close to a small pool of delicious clear cool water, found two of considerable size about half way up the rugged ascent, and another a few yards to the SW of them on the opposite side, which we resolved on exploring more minutely the next day with additional means.

According to a description made in an original Doorda Mia tour guide, Boomerang Gorge may have resulted from a collapsed cave system (Senior Citizens Week, n.d, p. 3). The stream of water running through the cave system would have acted to widen and deepen it until the roof collapsed and formed the long winding gorge we have today. However, an alternative theory was also proposed by Gentilli (1963, p. 8):

The origin of the Boomerang Gorge is probably due to the erosion of the calcareous capping by a small stream. It is not likely that the whole gorge may have been caused by the falling in of a pre-existing cave, because the collapse of the cave's roof would have left more residual rocks on the floor of the gorge. The scarcity of isolated rocks rather points to the gradual removal of material leading to the formation of the gorge, with the occasional collapse of large pieces from the overhanging walls. Also, a collapsed-cave gorge would not have the clear and level opening which this gorge has, and its floor would rather tend to rise at both ends.

Later in the same year of Roe and Hutt's exploration, Charles Webb carried out further cave explorations in the area. The remainder of the 19th century saw little attention paid to the caves. A road survey past the western edge of Loch McNess, extending from Perth to Champion Bay, was carried out in 1862. Throughout the 1860's land in the vicinity of Yanchep was taken up as pastoral leases, and in 1865 T. Hooley pioneered a stock route through the area. This route ran north to south and had acted as a feeding and watering hole for stockmen and their cattle. Cattle were regularly driven between the Murchison River area and Perth. Elliot (cited in Williams, 2003, p. 4) documented that another survey was undertaken in 1868 that led to the use of the term "Yanchep to describe the area". This name originates from the Nyoongar term for the aquatic bulrush; refer to Chapter 5 for further explanation of Yanchep's association with the bulrush plant. It seems the only non-Indigenous people frequenting the Yanchep area during this period were stockmen and kangaroo shooters.

### **6.3 First Establishment of the Built Environment 1901 - 1931**

The first major transformations to the landscape by any early European settler did not occur until 1901 when Henry White selected land near Yanchep for cattle grazing and built the first permanent building which became his home. Later, this building became the McNess Hostel. White became interested in the caves in 1902 when he heard two

Perth lawyers and naturalists, A.W. Milligan and T.P. Draper, were looking for caves in the area. White organised to show them the Yanchep caves, and subsequently the lawyers compiled a report for the Minister of Lands. This report suggested that the caves should be opened to the public, attention given to the preservation of the existing caves, the discovery of new caves be encouraged, the lake and its shores be “developed into a National Park and game sanctuary, and a road constructed from Perth to Yanchep” (Gentilli, 1963, p. 3).

Though no action was taken immediately after this report, it helped prompt the Minister of Lands to investigate the viability of reserving the area for public purposes. Subsequently the Lands Department arranged for the caves to be further surveyed, and also recommended Mr Henry White be appointed Honorary Caretaker of the caves. In 1903, a report by the Assistant to the Director of the Museum and Art Gallery (Conigrave, 1904, p. 696-697) concluded that:

Lake Yanchep is picturesquely situated in the midst of the hills; it is a resort of large numbers of water fowl, and the fauna of the surrounding country is rich in bird-life, while the kangaroos and other marsupials are plentiful. The water of the lake, which is fed by numerous springs on its eastern side, is fresh. Mr White states that these springs are permanent, and evidently issue from reservoirs in the higher land.

It was during this period of Mr White’s permanent settlement at Yanchep that interest in the suitability of this area for recreational pursuits originally developed. The message was spread by word of mouth throughout the Swan River settlement, and fishing near Yanchep beach started to become popular and people began visiting the lakes and caves of the area. Just prior to and during “1903 most of the major caves had been explored, named and recorded” (Yanchep Reserve Management, n.d, p. 2)

<b>Name of Cave</b>	<b>Discovered by</b>	<b>Date</b>
Milligan’s (Cabaret)	A.W. Milligan	1901
Yonderup	A.W. Milligan	1901
Crystal White (Crystal)	H. White	1902
Clustered Cauliflower (Cauliflower)	R. White	1902
Surprise	P. Cheese	1903

Marble Terrace	P. Cheese	1903
Yanchep	J. Grant	1903

(Refer to Plates 6.0 and 6.1, p. 68 for photographs of caves)

In 1903 the discovery of a skull in Yonderup cave also helped to create interest in the area. It was not until 1905 that the Lands Department officially gave title to this landscape. In this year it became Public Reserve Number 9868. An area of around 5 640 acres was gazetted for “the protection and preservation of caves and flora and for a health and pleasure resort” (CALM, 1989, p. 25). This act signified for the first time that the Park was officially recognised as an area of conservation. However, the area was not to become a national park until 1969. This process of officially recognising a landscape for a specific value reifies the Eurocentric epistemology of dividing and classifying physical landscapes (Howitt and Suchet, 2004).

In February 1906, the control of the reserve was given to the Caves Board which endeavoured to develop Yanchep for tourist purposes. The major obstacle to achieving this goal was the poor conditions of access into the reserve (mostly sandy tracks) and the lack of a substantial budget for capital works and staffing. The Caves Board did have plans for a resort set within a well structured ornamental garden, though these plans never came to fruition. As noted by Chandler (cited in Williams, 2003, p. 5) “the plans showed an English home, ‘Caves House’, with walkways, grassed areas, gardens, and gazebos”.

A storehouse made from stone had been constructed near the lake by 1907 which was used to store camping equipment and segregated bathing areas near the lake had also been established in this time. It was also in “1907 that the first car, an Oldsmobile driven by J. Kneip, drove to Yanchep via the road past Lake Pinjar” (Yanchep Reserve Management, n.d, p. 3). Vehicles were to provide the main means of transport used by future visitors to the Park. This influx of motor vehicles was to significantly transform the landscape, as native bush was replaced with sealed roads and car parks.

In 1908 Carp, (*Cyprinus carpio*) and Red Fin Perch, (*Perca fluviatus*), fish were introduced into Lake Yanchep and were recorded as “multiplying well” (Yanchep



**Plate 6.0:** Crystal Cave at Yanchep National Park, (CALM, n.d). Classified as an epiphreatic stream cave, crystal formations estimated at over 60 000 years old and up to two metres in length are formed when winter rains dissolve small amounts of surface cap rock that is then redeposited on the roof and floor of the cavern below.



**Plate 6.1:** Cabaret Cave at Yanchep National Park. This cave was modified, (concrete floor, doors, seating) in the 1930's and has traditionally been used for dinners and dances. It has two connected chambers with a single entrance and has lighting and power but no water. This cave is part of the natural system and as such, requires a responsible code of behavior to be followed whilst using the cave. Photograph by Darren Venn, 21/8/2006.

Reserve Management, n.d, p. 2). These feral Red Fin Perch fish have established a healthy population within the Park today, which has resulted in changes to the natural aquatic system. This is a visible ecological imprint left behind at the Park today which is a direct result of early decisions made by Europeans.

It was then in 1909 that J. Grant took over from Henry White as Honorary Caretaker (Yanchep Reserve Management, n.d, p. 3). A continued decline in funding saw the disbanding of the Caves Board in 1910 and Yanchep was placed under the control of the Department of Immigrations newly formed Tourism Division. The *Department of Immigration Annual Report 1911* (cited in Willimas, 2003, p. 5) stated it wasn't until the December of 1910 though that Yanchep was appointed a Tourism Officer, who was also responsible for the "Yallingup, Margaret River and Yanchep Caves as well as examining the potential of Rottnest Island as a tourism destination". In regard to Yanchep, the Departments Annual Report (cited in Willimas, 2003, p. 5) documented that the Tourism Officer reported:

Owing to there being a stretch of some eight miles of sand to be negotiated prior to reaching Yanchep, this Resort does not receive the patronage which its attractions certainly entitle it to. If there were a good road throughout and some accommodation procurable, I am confident that there would be sufficient patronage to make the project a payable one. There is fairly good road for some 25 miles and then a stretch of sand, rendering it impossible for motor cars to get through except in winter. However, with the combination of the caves, lakes and forest, and with the fishing and shooting to be obtained, I feel sure that the development of this place, so near Perth would be warranted.

The Tourism Officer had good intentions of developing Yanchep as a tourist resort, however, the responsibility for the Yanchep Reserve was given to the State Hotels Department in 1912 before this could eventuate. The reason why the tourism division within the Immigration Department was relocated to the State Hotels Department is unclear. It does indicate though that the intention of the Government (structure) of that time was focussed on developing Yanchep for tourism and recreation purposes.

The annual reports of the State Hotels Department make little reference to what tourist attractions would be promoted within the Yanchep Reserve and there does not appear to have been any plans to construct a hotel. Because the Department's primary interest

was to generate revenue, it is likely that developing the infrastructure of the Reserve would have lessened their profits. The Reserve did not have any accommodation available at this time, and therefore it was not actively promoted by the Department. Chandler (cited in Williams, 2003, p. 6) noted that “the Caves House in Yallingup was the major promotion by the Department during this time”. It seems that the Department, being reflective of the legislative and political structure of the day, was motivated to promote tourist attractions throughout society in order to raise revenue.

It wasn’t until the State Gardens Board was established in 1920, under the Parks and Reserves Act of 1895, that development of the Park commenced. The Board was made up of only one member, L.E. Shapcott, who was also the Secretary of the Premier’s Department. His approach to the development of the parks under his control was influenced by the principles of beautification through “taming the natural environment” (Williams, 2003, p. 7). The following is a newspaper article by the *Daily News* on 31 May 1932 (cited in Williams, 2003, p. 7) on the role of the State Gardens Board:

To civilise the wilder moods of nature, to trim the ragged edges of natural beauty, to combat those riotous elements which would otherwise despoil the scenic charm of holiday haunts and show places, is just part of the work which the State Gardens Board has set itself out to do. For these reasons, and to care for the parks and other public resorts which through lack of attention were smouldering to ruin, the Board was brought into being twelve years ago.

It is clear that the Board’s perception of natural landscapes incorporated the notion that humans existed separate to nature. The Board had clear intentions of transforming landscapes of scenic charm into show places to make a profit. This situation highlights the difference in the way settler Europeans conceptualised nature to how the Nyoongar people conceptualised nature (Chapter 5). The Board was also intended to be self supporting and therefore had to generate its own income. Shapcott was, however, aware that the natural systems within the Parks under his administration needed protection when he initiated the development of visitor facilities within their boundaries. The State Gardens Board (cited in Williams, 2003, p. 7) documented this vision:

The aim of the Board, therefore, has been to make accessible its domains by road and pathway, built from its own products and resources, adorned by the native flora of each particular haunt, with

nature expressing itself through the birds and trees and bees and flowers, rock and waters. To these perforce must be added the simple amenities of civilisation and comfort, but all within the limited means at command.

It is interesting to note that such early remarks from the State Gardens Board reflect contemporary management issues the Park faces. Namely, the promotion and maintenance of recreational activities whilst catering to the conservational priorities for the Park. As recreation is essentially based around impacting upon the physical landscape by means of a known activity, and conservation is fundamentally concerned with restricting the impacts upon the environment, they are fundamentally at odds with each other. This becomes an issue for Park management to achieve them simultaneously and in a sustainable manner.

The development of the Park progressed and a telephone system had been installed within Yanchep by 1929, but it wasn't until the Depression years (1930 - 1936) that about 17 kilometres of road was built from Wanneroo to Yanchep. This road facilitated a more rapid development of Yanchep. There was a Commonwealth Employment Service for the welfare of the unemployed at this time and one of the schemes this service initiated was to provide relief work for those prepared to do it. Much of the work carried out throughout Yanchep was completed by these unemployed relief workers. Pidgeon (cited in Williams, 2003, p. 8) noted that this was facilitated largely by the donations of Sir Charles McNess who in 1930 had "donated 11 600 pounds for the alleviation of distress due to the depression". Moloney (1979, p. 19) stated:

So, because of the economic situation Mr. Shapcott had his work force. Because of the state of the road to Yanchep, Mr. Shapcott had no trouble persuading the Government that the construction of a good road would be a worthwhile project and a start was made using limestone quarried locally. While the road was under construction other workers were deployed around the park. The road gangs and park workers were based at Yanchep and lived in huts and tents, they worked from Monday to Friday and returned to their families at weekends being transported in trucks that were used for road work. These trucks then picked the men up early on Monday morning and returned them to Yanchep. Supplies of food stuffs, newspapers and so on, were sent out on Monday, Wednesday, and Friday on State Gardens Board trucks which also transported the necessary materials for construction work.

Under the direction of the State Gardens Board this resulted in: the dredging of Loch McNess, the formation of small islands, ornamental pools, playing fields, paths, gardens, a children's playground, the creation of a parking area, fencing, water supplies and reclamation of the lake front. Some of the caves were also transformed to cater for visitors (Gentili, 1963).

By 1931 the development of the area near Lock McNess to become a pleasure resort was well under way. In March of this year the State Gardens Board officially became the new managing body, formalising the management arrangement that is likely to have been in place since the 1920's. It was also in 1931 that the road to Yanchep was finally completed. On 20 December 1931, a grand opening and public viewing of the Park was held. The *West Australian* on 21 December (cited in Williams, p. 8) documented that at this opening ceremony many people were impressed with the "physical transformation" (including public amenities) that had occurred throughout the Park.

#### **6.4 Rapid Development 1932 - 1939**

Walton became Superintendent of the Park in 1932, and in February of that year McNess made a second donation of 20 000 pounds. This acted as the catalyst for even more development throughout the area. The first permanent building in the Park was the McNess Guest House in honour of Sir Charles McNess in 1932 (Moloney, 1979; Downey, 1958; CALM, 1989). After this building was completed the administration office was built which had two flats attached to it which were utilised by Walton and Shapcott. The swimming pool was also completed in 1932 and more sealed roads were laid throughout the Park. The development of Yonderup Cave began and four human skeletons were also uncovered in the cave during this time (Yanchep Reserve Management, n.d).

The Park became a popular destination for many people and attendance figures for January 1932 record some 680 cars and 3 400 passengers (including car and bus passengers) that had visited the Park. Chandler (cited in Williams, 2003, p. 9) noted that "during 1937 the records show some 7 000 cars and 500 buses passed through the gates".

In 1933, the original Lodge was erected and in order to increase the availability of accommodation, eight trams were transported there and set up to look over Boomerang Gorge. These were converted into “holiday cottages and proved to be extremely popular” (Moloney, 1979, p. 20). It was also in 1933 that “Walton was appointed clerk in charge of the Administration Office” (Plate 6.2) for Yanchep, which had been completed by this time (Yanchep Reserve Management, n.d, p. 4). In May 1935, the Yanchep Lake was renamed Loch McNess in honour of Sir Charles McNess’s contribution to the reserve’s development.

At this time there was major construction being carried out throughout various caves with the intention to open them to the public. Moloney (1979, p. 20) commented:

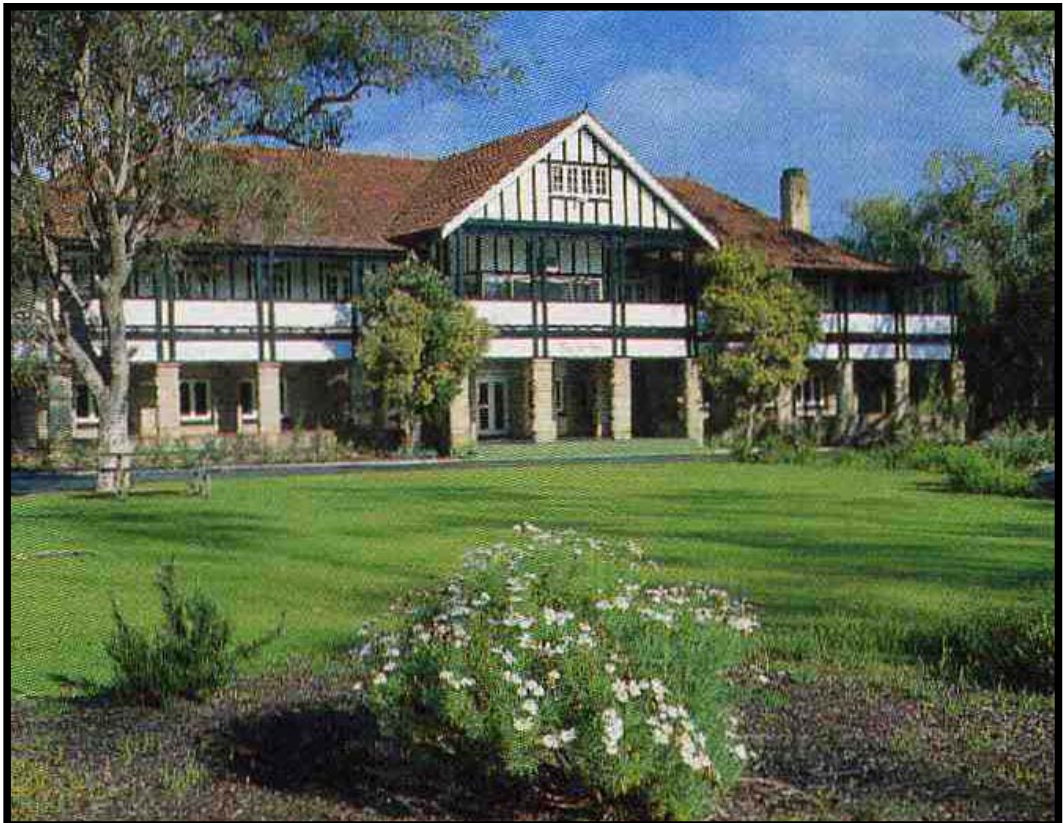
Perhaps the most outstanding work done in respect to the caves was the development of the “Ballroom” or “Cabaret Cave” previously known as the Silver Stocking Cave. This cave was converted into an underground ballroom while at the same time preserving its natural appearance and protecting the still “living” formations. Bracing pillars of limestone were erected to support the roof of the natural entrance and tunnels were dug to provide an exit at ground level. A highly polished, concrete floor was laid and stone seats provided around the edges, behind which lay numerous chasms and spring waters. The area was highlighted by strategically placed concealed lighting of varied colours and apart from being open for daily inspection the cave was available for private parties and was very popular for many years. Sadly, the cave, which was so beautiful has fallen into disrepair.

The floor of this cave was found to be destabilised by the stream that flows beneath it and was considered unsafe. During Cabaret Cave’s (refer to Plate 6.1, p. 68) initial development in the 1930’s hundreds of tonnes of limestone rock and marl (calcareous clay used for road base) were removed from the cave which were utilised to form the roads and walls of ponds and fountains that are situated throughout the Park.

The Yanchep Inn (Plate 6.3) was completed in 1936 by Charles Arnott at a “total cost of 15 828 pounds” (Yanchep Reserve Management, n.d, p. 4). Shapcott was issued a Publican’s General Licence on December 12, 1936 and the hotel, though not totally finished, opened on that day. Hamlet and Langley-Kemp (2000, p. 39) described the Inn as it appeared during this period:



**Plate 6.2: Administration Office at Yanchep National Park. Built in 1933, it has a prominent gable roof with Tudor strap-work. The entrance porch is supported on natural limestone columns. Very few examples of structures of this type now remain. Photograph by Darren Venn, 21/8/2006.**



**Plate 6.3: Yanchep Inn at Yanchep National Park (Yanchep Inn, n.d). Built in 1936, this two storey predominantly stone building is interesting for its Tudor type architecture, with limestone wall and piers, leadlight windows and internal wooden panelling.**

The first proprietors of the Inn were Mac and Marie McCarthy in January 1937. The hotel was considered most luxurious with hot and cold water in all bedrooms and an adjoining car park with lock up garages. It was undoubtedly the place to stay or visit. There were constant balls, dinners and conferences.

Further development within the Park during 1936 included the joining of Bebo Moro and Mambibby Caves and their opening to the public. A bridge was “constructed just north of the Inn and Loch McNess was dredged” (Yanchep Reserve Management, n.d, p. 4). The channel was dredged around the area of the lake and a number of rowing boats were then made available to the public whilst on “Sundays and public holidays a motor launch ferried people around the lake” (Yanchep Reserve Management, n.d, p. 4).

1938 saw the 100 000<sup>th</sup> visitor to the caves recorded at 1:45pm on January 2 and excavations in “Yonderup cave had unearthed another human skull” and an assortment of animal bones (Yanchep Reserve Management, n.d, p. 4). On the Good Friday of this same year the first koalas (Plate 6.4), 1 male and 3 females, were introduced into the Park when the Perth Zoo had insufficient feed for them (some eucalypts were also planted to provide for their feed). A temporary enclosure was built for them across the lake, but during the night they came down from the trees, swam across the water and escaped out of this enclosure. They were captured the next day and put into their new compounds. Unfortunately all these animals had died of natural causes by 1941. In 1947 the colony was re-established with additional koalas brought in from Queensland, Victoria and South Australia to ensure genetic diversity. The koalas were caged until 1976 when the current, more open plan enclosure was erected (Hamlet and Langley-Kemp, 2000).

The State Gardens Board (cited in Williams, 2003, p. 9) documented that by 1939, there had been roughly “10 500 trees and shrubs planted at Yanchep, 36 Victoria tree ferns, 114 Keysbrook tree ferns, four sacks of black, green and yellow kangaroo paws from Midland, 153 assorted gift trees and some 45 000 annuals” had also been planted. It is clear that significant transformations to the landscape had occurred by this time. The seeds for the future of Yanchep to become one of Western Australia’s favourite tourist destinations had been well and truly planted. However, the end of the thirties in



**Plate 6.4: Koala, (*Phascolarctos cinereus*), at Yanchep National Park. Koalas only eat the leaves of Eucalyptus which are grown for them within the Park. The compound is maintained to strict standards to prevent disease and stress. Photograph by Darren Venn, 21/8/2006.**



**Plate 6.5: Row Boat on Loch McNess. Row boats are available for hire on Loch McNess. The grassed shoreline is retained with limestone blocks to prevent access to the water. Photograph by Darren Venn, 21/8/2006.**

many ways marked the end of the Park's hey day as it was because the coming of the war was to see much of the built environment come into disrepair. There is also a notable total absence of Indigenous involvement with this landscape during this time of rapid development.

### **6.5 Outbreak of War 1939 – 1946**

Because of the wartime restrictions on petrol, the State Gardens Board was forced to close the Inn and the Lodge in 1941. The Board received some criticism for this move by the local press with the *Sunday Times* on January 11, 1942 (cited in Williams, 2003, p. 10) reporting that the "Board had made the decision prior to receiving instructions from the Federal Government to abandon tourist services". The entire Park was eventually taken over by the RAAF in 1943 and it was no longer open to the public.

The Yanchep Inn became known as No. 4 Rehabilitation Unit and was used for the rest and recuperation of returned servicemen. Gloucester Lodge was utilised as an office and barracks for the Radar Squadron. The majority of these rehabilitated patients were Australian but a few English and American servicemen were also housed in the Park. Superintendent H. Baily ran the reserve with a "mechanic and a grounds-man for the duration of the war" (Yanchep Reserve Management, n.d, p. 5). Hamlet and Langley-Kemp (2000, p. 39) stated: "Unfortunately, the outbreak of war brought big changes to the Inn. Finances used for the maintenance of the park were now needed for defence". Because of the lack of resources the Park began to run into disrepair. Moloney (1979, p. 21) reported:

Maintenance of the paths, caves and other features fell behind at this period due to a lack of labour so that by the end of the war many of the pathways, hewn out by depression labour had vanished beneath undergrowth. The cost of remodelling the area in its former style would no doubt have been excessive and in consequence the park is now far more natural than its original layout intended. This is by and large, a good thing as people in general now prefer to see nature's beauty rather than that which has been constructed by man.

There is no documentation to suggest that any further development occurred throughout the Park during this phase of military occupation. The RAAF vacated the Inn at the beginning of 1946. Following their withdrawal eight extra staff were employed within

the Park, and some were “housed in the tram bungalows” (Yanchep Reserve Management, n.d, p. 5).

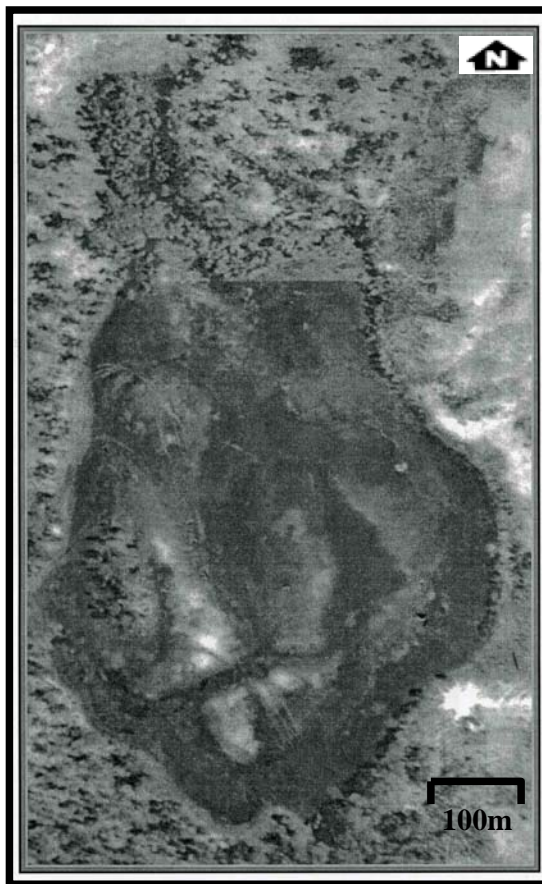
## **6.6 Post-War Years 1947 - 1956**

The early post-war years were concerned with repair of the Park after years of wartime neglect. It was also during this time that some parts of the Yanchep area were utilised for market gardens. These were largely established around the swamps (due to the fertility of the soil and available water) which are to be found near the present Wanneroo and Yanchep Beach Roads. Moloney (1979, p. 32) commented on the presence of these market gardens during this era:

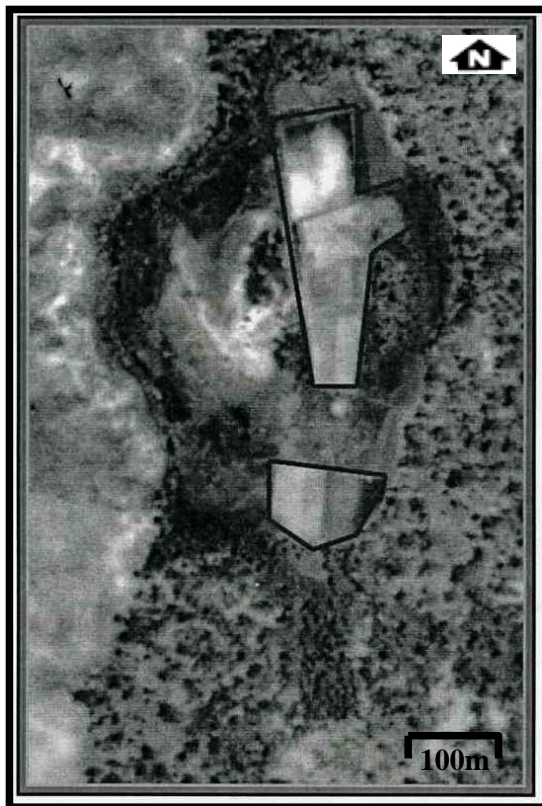
The Cockman family, living in Old Harry White’s house developed extensive gardens from the house east to the main road and the clearings that were made are still visible today by virtue of the lack of blackboys. Further farms were set up in the area. Ben Mooni and his family farmed the area between the Yanchep Beach Road and about 500 metres down the Wanneroo Road, their gardens moving inland. Two other market gardens were situated behind the Mooni garden and these were operated by Sam Ribone Mr. Rosserti. The gardens mainly grew vegetables but remains of these gardens are obliterated, however, it seems that the odd fruit tree still exists for the adventurous traveller who wishes to penetrate the bush.

Today there are no physical signs left to remind the observer of these early market gardens. The gardeners’ housing was not permanent and were usually constructed from tin and other temporary materials available. It can be concluded from Moloney’s (1979) research that these gardeners enjoyed a relatively good lifestyle, with close family networks and ties and enjoyed many visitors. Mrs. Mooni (cited in Moloney, 1979, p. 33) commented that “all the people today are in too much of a hurry. Then, we had to do things the hard way but really it was much easier without electricity”. These market gardens were eventually phased out during the fifties as the gardens throughout the Wanneroo area began to grow in number.

Aerial photographs exist depicting Pipiddiny Swamp (in the South end of the Park) during the years market gardeners utilised the Park (Plates 6.6 & 6.7). By comparing a photograph of Pipiddiny swamp taken on April 29, 1941, to the one taken on February



**Plate 6.6: Aerial Photograph of Pipidinny Swamp Taken on 29 April, 1941. Photograph obtained from United Photos, Canberra.**



**Plate 6.7: Aerial Photograph of Pipidinny Swamp Taken on 16 February, 1952. Photograph obtained from United Photos, Canberra.**

16, 1952, it is evident that the environment had undergone a substantial transformation due to the presence of market gardens. The increase in cleared land surrounding the wetlands is quite visible and acted to modify a section of the Park's ecological system.

The 1941 aerial photograph reveals minimal European disturbance to the natural environment within the wetland. There seems to be open water with plenty of vegetation, such as sedges and rushes. The predominant sedge communities consist mainly of *Schenoplectus vallidus* and *Lepidosperma drummondii*, the sedge type being determined by depth of water. *Schenoplectus vallidus* and *Baumea articulata* occur in deeper water, *Typha orientalis*, *Baumea laxa* and *B. juncea* occur in shallower water, which may dry out in summer. McComb and McComb (cited in CALM, 1989, p. 17) stated that "*Lepidosperma gladiatum* occurs densely in some areas, particularly around the borders of sedge communities and in adjacent woodlands, but also in deeper water". The southern section is seen to contain thick fringing wetland vegetation, such as Paperbarks and possibly Marri, Jarrah and Tuarts. Peaty marl soil can also be seen in the north-eastern section of the wetland. Boucher (2000, p. 78) stated:

Exposure of the marl could have been due to the removal of the vegetation by the cattle. In comparison, Wilgarup Lake to the north-east is also a seasonal wetland with similar vegetation structure, it is shown that it is completely covered with vegetation and exposure of the soil is not evident. This may indicate that the cattle did not use this wetland.

The market gardeners cleared the fringing vegetation of the wetlands to reveal a healthy organic peat soil ideal for their crops. Throughout spring and summer the water levels would recede and the gardeners claimed more and more of the rich peat soil of the lakebed to sow their crops. Furthermore, with the aid of mechanical water pumps and fertilizers they were able to extend the cultivated area for their crops to grow upon the edges of the wetlands. As a consequence approximately one quarter of the wetland (including fringing vegetation) is clearly visible when comparing the second 1952 aerial photograph. The open water that existed in the 1941 photograph is no longer visible and the eastern side of the wetland shows evidence of earthworks to create more land for the market gardeners. Unfortunately, as the market gardeners increased the use of fertilizers to grow their crops, the risk of excess nutrients leaching into the aquatic system and accumulating in concentration to cause algae blooms increased. This is still

a contemporary concern that is a legacy from past decisions made by the early settlers of the time.

In 1955 the metropolitan area of Perth was extended under the Stephenson-Hepburn Plan. It included a number of suggestions for the development of the Park: extend the Park to the coast and increase its size to 4 000 (ha); the inclusion in the Park of a section of the beach; and the road to Yanchep to be improved (Gentili, 1963).

In April 1956 the State Gardens Board became the National Parks Board. This is a defining moment in the Park's evolution, as the *National Parks Board Annual Report 1983/84* (cited in Williams, 2003, p. 10) documented "this change resulted in strengthening of the conservation policy and a general review of management procedures". This is the subject of the next chapter in which the Park's conservation policies and management procedures are explored and evaluated. This includes exploration of contemporary issues and objectives facing the Park and an evaluation of the level of input Australian Indigenous people have within natural and cultural heritage management.

### **6.7 Summary of Cultural Impact Upon the Landscape**

This chapter investigated and introduced the impacts of early settler Europeans upon the area of Yanchep National Park. It served to explain how they developed and responded to the physical and cognitive aspects of the area. Their swift introduction of a multitude of new concepts into an already established cultural system was a disruptive experience both to the people and the environment. A combining of colonialist aesthetics with an already established Indigenous landscape meant that the form and function of the Park changed considerably.

People always come from "somewhere, bringing with them plants, animals and cultural concepts" (Head, 2000, p. 18). Though this has been demonstrated throughout this chapter, a contemporary analysis of where the Park is today would reveal that it is in much the same condition that it was when Henry White first built his home in 1902. That is not to say that the landscape has not undergone significant transformations. It merely serves to emphasise the view point that the majority of the Park's landscape

retains a strong physical character. The area that has undergone significant transformations is the management structure that directs the transformations of this landscape, with a notable absence of Indigenous involvement within this structure.

However, to recount the transformations attributed to early settler European settlement reveals that the Park has been progressively cleared, modified and planted with non-Indigenous and exotic trees, together with some hardy shrubs of the period, to create a park-land setting for passive recreation activities. As a whole, the Park does have high conservation values due to its setting and to the environmental quality of its natural bushland. It is also significant for demonstrating the characteristics of a range of wetland landscapes, of which there are now fewer throughout this region.

## CHAPTER SEVEN: MANAGEMENT OF YANCHEP NATIONAL PARK

*Two things are alarmingly clear: there is an inordinately low level of understanding of how complex ecological systems actually work, and there are high levels of risk and uncertainty involved in making decisions about how to manage them.*

(Department of Agriculture Pacific Northwest Research Station, 2001, p. 1)

### 7.1 Introduction

This chapter investigates how Yanchep National Park has been shaped by continuing layers of management structures. It also explores the level of input Indigenous people have within this structure and their level of input within the wider context of natural and cultural heritage management.

The Theory of Structuration (Chapter 3) notes that people act in time and space and their outcomes are dependant on the political and social institutions that exist across time and space. This section serves to reveal how this cultural landscape has evolved in response to the political and legislative structure that has/continues to exist across time and provides a context for how people made/make their decisions in time and space in response to this structure.

### 7.2 National Parks Board 1956 – 1980's

Locally, the influence of the Stephenson-Hepburn plan was long-reaching with the National Parks Board becoming the new authority examining the general layout of Yanchep National Park. The *Master and Working Plans* CALM file written in 1959 (cited in Williams, 2003, p. 11) documented that the “Authority consulted with the Town Planning Department on ways to improve the visitors’ experience of Yanchep”.

A State Government Standing Committee (cited in Williams, 2003, p. 11) reported on the conservation of national parks in 1961 and “recommended that the whole reserve should be classified as a National Nature Reserve”. It also recommended that a further subcommittee examine the subdivision of the reserve into areas for public recreation.

The *Government Gazette* on 1 December 1961 (cited in Williams, 2003, p. 11) reported that “as a result, Yanchep became an A Class Reserve in December 1961”.

The National Parks Board had considered potential environmental impacts on the Park by late 1966, and prepared a memo on development at Yanchep. While the available evidence does not indicate whether the memo was considered by the Board, it does provide reflection on important issues at the time. This memo, dated October 1966 (cited in Williams, 2003, p. 12) stated:

Development outside the boundaries of the park to the north and east will be associated with forestry and although patches of native bush will probably remain, much of the land will be planted to pines. To the south and west of the park, agricultural development will be intensified and some sub-division for housing can be expected. This means that the Yanchep Reserve occupies a very important place in the preservation of native flora and fauna typical of the northern Tuart belt and the coastal swamps and scrub. Although adequate for the preservation of much flora and some of the smaller fauna, the size of the reserve is marginal for the conservation of kangaroos and emus and too small for the protection of wild turkey. For this reason we believe that future development should be confined to extending facilities in the already improved section east of Loch McNess and to areas adjacent to the beach road. Swamps on both sides of this road could provide attractive water areas with some deepening and clearing and adjacent flats could be developed for parking, picnicking and wild flower planting. Development north of Loch McNess is not recommended and only limited access should be given to the west side of the lake, with a footbridge replacing the present derelict structure.

In addition to utilising the services of the Town Planning Department, the Board of the National Parks Authority also recognised that other expertise was required. In May 1967, architect R.J. Ferguson was appointed to prepare a Master Plan for the Park. The *Master and Working Plans* CALM file written in 1967 (cited in Williams, 2003, p. 12) documented that correspondence from Ferguson suggested that he was also to develop a brief for the scope of work he was “commissioned to do and that this included a range of items such as building problems, access issues and the development of general policies”. By December 1967, the Master Plan was nearing draft stage for release in February or March of 1968 for public comment. The *Master and Working Plans* CALM file written in 1968 (cited in Williams, 2003, p. 12) reported that “the Master Plan was endorsed in principle by the Board in February 1968”.

Hamlett (cited in Williams, 2003, p. 13) stated that “training of Park rangers first took place at Yanchep in June 1969”. Eventually, the Park was to become a training ground for new rangers before their redeployment to other Parks around the State. By the late 1970’s there were about twenty rangers at the Park that were being trained in various aspects of conservation and land management. Learning how to ‘care for country’<sup>4</sup> through contemporary conservation management strategies at Yanchep National Park, these rangers would take this valuable training with them throughout the State, reflecting the importance of the Park within Western Australia.

The *Pathways* CALM file written in 1969 (cited in Williams, 2003, p. 13) reported that “Yanchep was formally made a National Park in 1969”. In 1976, the National Parks Board changed its name to the National Parks Authority. The Authority’s policy, similar to the Board’s policy, appeared in the National Parks Authority *Annual Report 1976/77* (cited in Williams, 2003, p. 13) as follows:

To so administer the reserves and other lands under its control as to ensure the preservation of their natural beauty, the conservation of native flora and fauna, and the protection of geological, physiographical and other features of special interest: and to develop and improve certain areas so as to permit their use and enjoyment by the public.

Consequently, the Authority maintained Yanchep National Park along similar lines to the Board. It continued to expand upon and improve the quality of recreational opportunities and experiences provided throughout the McNess recreational area of the Park. This area was regarded as the focal point for recreation. In addition the Authority improved the recreational experience of existing walk trails within the planning area as necessary. It also maintained a focus on low key, passive recreational activities and nature appreciation outside of the McNess recreational area.

### **7.3 CALM and the Department of Environment and Conservation 1985 – 2008**

This section explains the shift in policy direction for the management of Yanchep

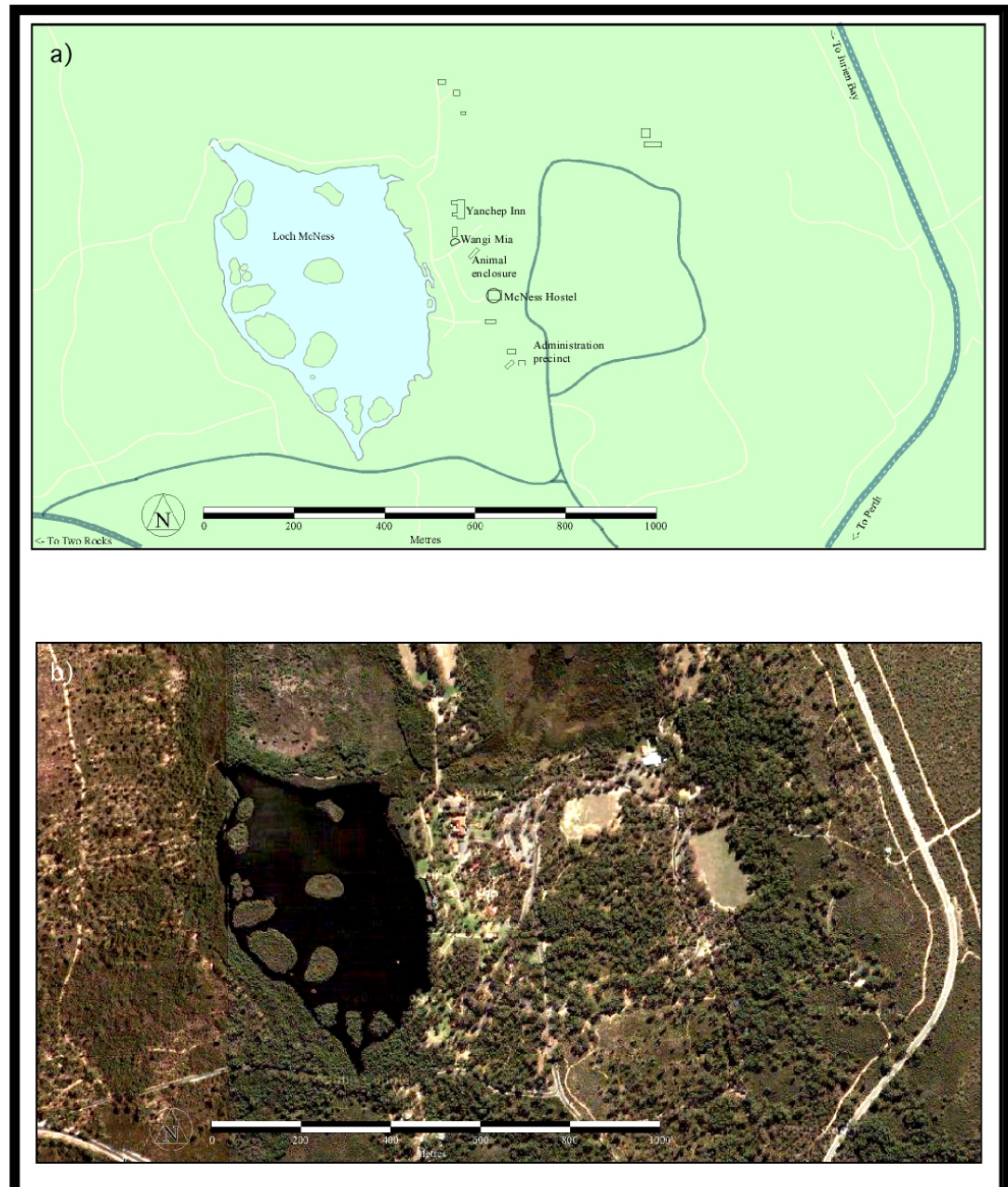
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<sup>4</sup> The notion of caring for country is quintessentially Indigenous. Australia has old, mostly infertile soils and its systems co-adapted to maximise their chance of survival. Indigenous people understood this and adapted to their home in remarkably intricate ways. They called it 'caring for country' and they based their entire social structure around it.

National Park (Map 7.0a) from 1985 to present. The *CALM Annual Report 1987/88* (cited in Williams, 2003, p. 14) documented that the “National Parks Authority, the Forests Department and the Wildlife section of the Department of Fisheries and Wildlife” merged to become the Department of Conservation and Land Management (CALM) in March 1985. Officially the formal vesting of the Park was with the National Parks and Nature Conservation Authority, but control of Yanchep passed to the newly formed Department. As well as the natural landscape attributes at Yanchep, in 1986 CALM recognised that some of the built environment present within the Park has historical value (Appendix I). A Gloucester Lodge Museum ephemeral file (cited in Williams, 2003, p. 14) recorded that the Department “asked the National Trust to complete an independent assessment of the significance of the buildings within the Park” (see Appendix I for details of heritage listed registrations at the Park).

CALM created policy that mandated management procedures be put into place, for not only Yanchep, but for each of the national parks under their management. This policy then led to the preparation of a management plan for Yanchep National Park in 1987, with the Plan being released for public comment in 1988. The *CALM Annual Report 1989/90* (cited in Williams, 2003, p. 14) documented that the “final draft of the Management Plan was completed in September 1989”. This Plan addressed planning issues relevant to both present and future development of the Park. The limits to development within the McNess Recreation Area were outlined along with a particular emphasis upon environmental controls that aimed to protect the natural and cultural heritage values of the Park.

Pipidinny Swamp (115° 41'E, 31° 35'S) became incorporated into Yanchep National Park in 1991, and now receives the high conservation status of being situated within a national park. This wetland is strongly influenced by seasonality and experiences large changes in water volume, depth and coverage. Located in the south west corner of the Park (refer to Plate 6.6 and Plate 6.7, p. 79) it occurs on the Spearwood Dune System adjacent to the more recently formed Quindalup Dune System. The Swamp was included in the “System 6 Report (1983) as area M3” (CALM, 1989, p. 72). The recommendation was for it to become, along with Beonaddy Swamp, part of an open space linkage between Yanchep and Neerabup National Parks.



**Figure 7.0 (a) Loch McNess and Surrounds at Yanchep National Park (adapted from Earth Google, 2007).**  
**(b) Air Photograph of Loch McNess and Surrounds at Yanchep National Park (Earth Google, 2007).**

In 1996, Senior Aboriginal Heritage Officer Noel Nannup (Manager of CALM's Indigenous Heritage Unit), started discussions with Yanchep National Park's manager Phil Smeeton upon ways in which Indigenous tourism could be promoted at the Park (Dr Noel Nannup, Nyoongar Elder, pers. com., 2006). By 1998, the concept of a Balga Mia Village had been proposed, a 'talking place' that would become the focal point of Indigenous culture at the Park. Prior to this an unsuccessful attempt at Indigenous tourism within the Park had been initiated by Indigenous Rangers Trevor Wally and Ardie Dechou. Their attempt was unsuccessful in part due to the perceived lack of support by Park management and the lack of people (especially Indigenous) to continue the project upon their departure (Dr Noel Nannup, Nyoongar Elder, pers. com., 2006).

This situation highlighted a difference in perspective between non-Indigenous and Indigenous opinions concerning management decisions regarding the direction Indigenous tourism should take. Because Park management did not support the Indigenous proposal it was not pursued. However, if Indigenous people had equal participation in the decision making process regarding the management of the Park, then there would possibly have been a different outcome.

Later, Noel Nannup assigned Kevin Hill as the Indigenous liaison officer on 17 October 1998. He lived and worked at the Park on a permanent basis and provided cross cultural awareness training, taught traditional tool making and took people on tours around the Park. The proposed Wangi Mia Indigenous 'talking place' near the koala enclosure was officially opened in 2000 by Environment Minister Cheryl Edwardes (DEC, 2000, p. 1) at which she commented:

The Wangi Mia 'talking place' will be the axis of the park's up-graded facilities including refurbishment of the inn and new tearooms to be completed by the end of the year. The new facility is part of more than \$3 million of work to beautify and improve Yanchep National Park. Completed work comprises foreshore improvements, new car parks, new walk trails, up-graded caves access, reticulation of the waterfront to provide lawns for picnickers, new barbeques, renovated toilets and administration buildings, improvements to the golf course and a more easily accessible Lakeview picnic area. Mrs Edwardes said the Wangi Mia shelter was part of the Department of Conservation and Land Management's (CALM's) commitment to creating a cultural focus for the park using its Aboriginal Heritage Unit. Up to 200 000 visitors a year will be able to experience and learn about Aboriginal culture in

this stunning building and take part in tours. Aboriginal people comprise 20 per cent of Yanchep National Park's visitor services staff. All contributed to the creation of the Wangi Mia.

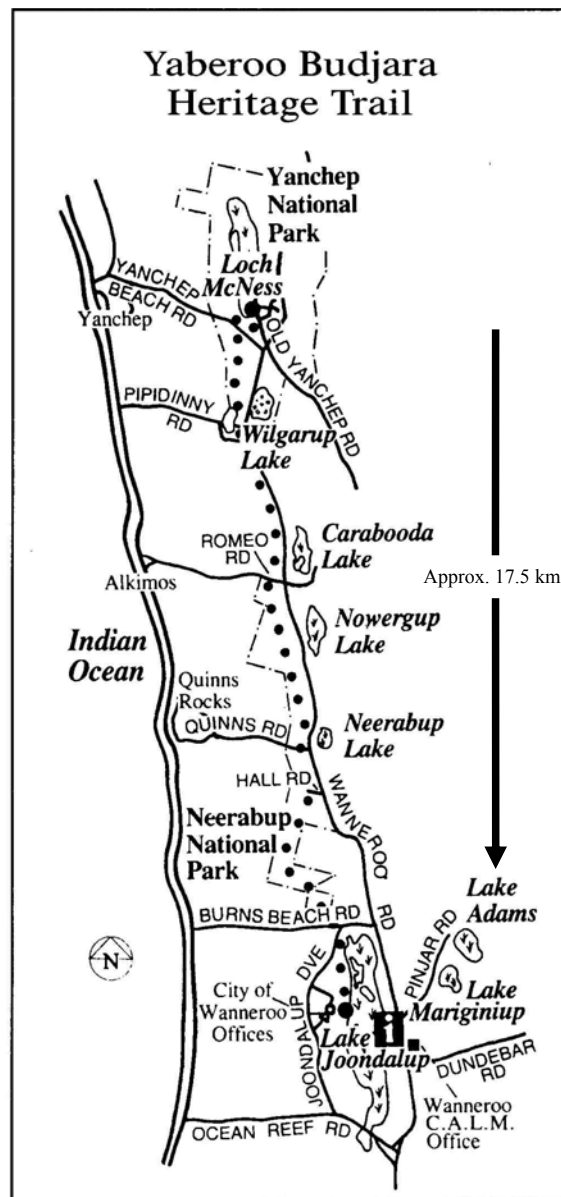
Yanchep National Park is also part of the Yaberoo Budjara Heritage Trail (Map 7.0). This 28km walk-trail from Lake Joondalup in Wanneroo through Neerabup National Park to Yanchep National Park, highlights features of natural, Indigenous and historical significance. Yaberoo Budjara means the land (Budjara) of the northern people (Yaberoo). The trail route is based on Yellagonga, (a significant local Nyoongar elder at the time of European settlement) and his people's movements and exchange of goods and ideas between Lake Joondalup, Neerabup and Yanchep. A report from the Australian National Museum (cited in Kerwin, 2005, p. 99) noted:

Australia's Aboriginal and Torres Strait Islander peoples have exchanged goods and ideas for many thousands of years. Pituri, pigments, stone and shell, as well as technological and cultural ideas, travelled along ancient trading routes. These exchange networks connected people throughout the continent and Torres Strait.

Barlow (cited in Kerwin, 2005, p. 99) stated "the Australian landscape was mapped by various Indigenous mobs with established paths in which the Aboriginal traveller traded for things along these paths from other communities". Rose sees trade as establishing "sets of relationships from individual to communities, to enhance wellbeing" (1985, p. 23). The Yaberoo Budjara Trail is also part of the Heritage Trails Network, a "project for community participation" originally devised by the Western Australian Heritage Committee now known as the Heritage Council of Western Australia (Heritage Council of Western Australia, 1988, p. 2).

Volunteers from all walks of life also play an important role within the Park. Yanchep National Park ranger Christie Mahoney coordinates the volunteer centre within the Park. There are 40 to 50 active volunteers that help with a variety activities throughout the Park such as nursery operations, seed collection and planting on rehabilitated sites. This local community involvement not only benefits nature conservation at the Park, it also acts to educate the participants involved whilst they enjoy moderate exercise in the outdoors.

On 1 July 2006, the Department of Environment combined with CALM to form



**Map 7.0: Yaberoo Budjara Heritage Trail** (Heritage Council, 1998, p. 2). The trail is based on Yellagonga's mob's movement track linking the linear lakes of the Swan Coastal Plain. It was later used by early settler Europeans as a stock route. The name Yaberoo Budjara is translated as the land (Budjara) of the people of north of Perth (Yaberoo).

the Department of Environment and Conservation (DEC). This new department has more than 1800 staff located throughout the State from Kununurra to Esperance. The intended aim is to streamline services by providing a single entry point for the community and industry. They manage Yanchep National Park as CALM had, continuing with the “facilitation of recreational experiences and the protection, conservation and rehabilitation of habitat” needed to support the Park’s native fauna and flora (Department of Environment and Conservation, 2006, p. 2).

Currently there is a process of preparing a new management plan for Yanchep National Park on behalf of the Conservation Commission<sup>5</sup>. A draft is in preparation and the main issues and objectives of this working document are included as Appendix II. The old management plan is dated 1998 – 1999, which is out of date and in need of revising. The existing Plan will remain current until the new document has been officially adopted. Three additional management documents, *Managing for Visitor Use*, *Nature Conservation* and *Fire Conservation*, are being fed into the management plan. These documents are up to date with contemporary issues and objectives, for example, a section taken from *The Managing for Visitor Use* document states:

- Continue to expand upon and improve the quality of recreational opportunities and experiences provided through the McNess Recreational Area of Yanchep National Park and maintain this area as the key focus for recreational use of the planning area
- Maintain a focus on low key, passive and nature appreciation recreation activities outside of the McNess Recreational Area
- Improve the recreational experience of existing walk trails within the planning area as necessary

These existing documents enhance the management plan and enable staff at the Park to act upon current issues and objectives, some of which are explored in greater detail in this chapter. The Commission and the DEC are also encouraging community participation in the development of the new management plan. Local community members are encouraged to comment upon a preliminary discussion paper (Appendix III), which highlights the main issues at Yanchep National Park and Neerabup National

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<sup>5</sup> The Conservation Commission is the vesting body for all Western Australian conservation lands including national parks, nature reserves, conservation parks, multiple-use state forests and timber reserves.

Park. After the draft management plan has been formalised, further public comment will be invited on the plan before it is officially adopted. The community can also express its views and concerns through the Yanchep National Park Community Advisory Committee and the Caves Advisory Committee, both of which provide a link between community expectations and Park management. Once the new management plan is completed it will outline how the Park will be managed throughout the next decade, or until another Plan exists.

#### **7.4 Indigenous Input to Natural and Cultural Heritage Management**

There will always be a need to critically evaluate management plans and whether they are working. Evaluations can be difficult and contentious, involving judgements about people, about programs, and about priorities. The following section serves to develop a framework (Table 7.0) for evaluating the level of input Indigenous Australians have in decisions about natural and cultural heritage management. A case is then put forward for more direct and meaningful input by Indigenous people and their knowledge into not only the management of Yanchep National Park, but for all Australian natural and cultural heritage. To help explore this issue, case studies of Uluru – Kata Tjuta National Park, Minyirr Park (Shire of Broome), Western Australia and an international comparison from Canada (Nunavut Land) were compared and analysed.

This part of the study does not explore the positive and negative aspects of Indigenous knowledge and how it may be used to compliment natural and cultural heritage management. Instead, it specifically serves to evaluate the level of input Indigenous people have in the management of natural and cultural heritage. The issue of whether Indigenous people should, or should not, be involved in this political and legislative structure (management of natural and cultural heritage) is also not in question here. The *Indigenous Australians: Natural Resource Management* report (DFAT, 2002, p. 3) stated that:

The Government's commitment to work closely with Indigenous people and consult them on matters of national environmental

**Table 7.0: Framework for Evaluation of Various Management Models of Indigenous Input to Natural and Cultural Heritage**

<b>Model</b>	<b>Involvement</b>	<b>Joint management</b>	<b>Self-management</b>	<b>Self-determination</b>
Western Australian Historical Model (state agency model).	<p>Indigenous people were not involved in policy development, strategic planning, on-ground management, natural or cultural heritage conservation.</p> <p>Legislation and on-ground management was administered by a large government bureaucracy (CALM). Advisory role provided by Ministerial advice through an independent statutory authority (NCNPA).</p> <p>No on-ground involvement and no higher level involvement.</p>			
Western Australian Contemporary Model (state agency model).	<p>Legislation has been moved to a statutory commission (Conservation Commission) who through delegation passes responsibility to a government agency (DEC). Review and audit provided by Commission. A single permanent Indigenous representative is provided on the commission. Agency has Indigenous heritage unit.</p>	Shared arrangements for ranger training and tourism.	Indigenous tourist operators deliver natural and cultural heritage experiences to clients independent of government management body.	
Broome Minyirr Park model (Local Shire – state agency model).	<p>WAPC provided a planning interpreter service to facilitate two-way communication between traditional owners and the land planning process.</p>	Shared arrangements for ranger training and tourism.	Indigenous tourist operators deliver natural and cultural heritage experiences to clients independent of government management body.	

**Table 7.0 (Continued): Framework for Evaluation of Various Management Models of Indigenous Input to Natural and Cultural Heritage**

<b>Model</b>	<b>Involvement</b>	<b>Joint management</b>	<b>Self-management</b>	<b>Self-determination</b>
Uluru-Kata Tjuta Model of self-determination (Federal-traditional owner partnership model).	Indigenous ownership with shared management planning and policy development. Delegated legislative responsibility.	<p>Lease back arrangements with Commonwealth establish framework for legislative delegation.</p> <p>There exists joint management planning, joint policy development and breakdown of income streams.</p>	Indigenous communities responsible for provision of non-park infrastructure and retail outlets.	<p>Significant income stream from lease and admission fees used for community development projects in the wider Indigenous community.</p> <p>These lease and admission fees contribute to economic self-determination of Indigenous communities.</p>
Nunavut Land Model of self-determination (Federal-traditional owner partnership model).	Indigenous ownership with joint management planning and joint policy development.	<p>Indigenous people are involved in policy development, strategic planning, on-ground management, natural and cultural heritage conservation.</p> <p>Canada's constitution recognises the <i>Nunavut Land Claims Act</i> which creates the legal basis for Indigenous input into natural and cultural heritage.</p>	Indigenous communities responsible for provision of non-park infrastructure and retail outlets.	<p>Indigenous input into natural and cultural heritage at every level of the legislative and political process.</p> <p>This model allows for self-determination.</p>

significance has been strengthened through Australia's Environment Protection and Biodiversity Conservation Act 1999. The legislation recognises the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity and promotes the use of Indigenous peoples' knowledge of biodiversity with their involvement and cooperation.

It is self evident from this legislation that Indigenous people have a right to participate in natural and cultural heritage management. However, it is their level of participation that is the issue for consideration here. It is not a question of what decisions are being made about natural and cultural heritage management, but rather a question of what level of input do Indigenous people have when these decisions are being made.

### **7.5 Framework for Evaluating Various Management Models of Indigenous Input to Natural and Cultural Heritage Management**

Little Indigenous governance literature for natural and cultural heritage management exists (Kerwin, 2002; Dovers, 2000), however, there does exist a significant amount of literature on Indigenous community development (Aboriginal and Torres Strait Islander Social Justice Commission, 2001; Henderson, Simmons, Bourke & Muir, 2002; Higgins, 2005). Both have many familiar elements such as the need for capacity building and governance and the need for increased Indigenous participation in decision making. Therefore, this section of the study borrows from this literature to help form the framework for evaluating the level of input Indigenous people have in decisions about natural and cultural heritage management. The 2001 Social Justice Report by the Aboriginal and Torres Strait Islander Social Justice Commission (p.1) stated that:

Capacity-building relates to 'the abilities, skills, understandings, values, relationships, behaviours, motivations, resources and conditions that enable individuals, organisations, sectors and social systems to carry out functions and achieve their development objectives over time'. Governance concerns the structures and processes for decision making... [and] is generally understood to encompass stewardship, leadership, direction, control authority and accountability.

The first criteria developed in this study to evaluate the various management models is aimed at assessing the visibility of Indigenous capacity building and governance. This criterion serves to explore the level of input Indigenous people have in management decisions (*involvement*). The second criterion explores the existence of *joint management* with Indigenous people and served to evaluate each management model

according to the level of input Indigenous people have in such an arrangement. Though joint management agreements that have the support of the Indigenous people may already exist, this criterion serves to reveal the specific level of Indigenous input in such arrangements. The fact that Indigenous joint management exists is not justification for believing that Indigenous people sanction the political and legislative process that establishes the legal basis for such agreements. In an overview of contemporary Indigenous management, Baker, Davies and Young (n.d, p. 10) commented:

Governments use regulation to manage land and resource use, both to encourage improved sustainability and to ensure that individual landowners do not cause undue impact on the natural environment of the land they own and on neighbouring lands and landowners. While indigenous groups may support the overall goals of such regulation, they also, as a matter of principle, often view the government's efforts to regulate their own land use as unauthorised imposition. This is essentially because, whether overtly or implicitly, they assert their right to self-determination based on their own inherent sovereignty.

The last two criteria of the evaluation explore the concept of Indigenous autonomy and the issues of *self-management* and *self-determination*. These two criteria serve the purpose of assessing whether Indigenous people have equal participation and the legal basis to determine their own priorities and strategies concerning natural and cultural heritage management. The Aboriginal and Torres Strait Islander Social Justice Commission (2001, p. 3) stated:

The idea of self-determination is intimately linked with that of a political community, or people, having a right and ability to determine its own priorities and design its own instruments of communal regulation and provision. It is not furthered by the present system of highly externally directed arrangements for funding Indigenous organisations in Australia, nor service delivery by non-government organisations. Self-determination requires that there should be at least some aspects within the funding arrangements that allow Indigenous incorporated bodies to determine their own priorities and strategies, and recognise them as political communities of peoples with their own governance arrangements. It has often been argued, following this line of reasoning, that current arrangements in Indigenous affairs only amount to community self-management of individual programs, rather than self-determination.

The framework developed in this study was designed to evaluate the level of input Indigenous people have in natural and cultural heritage management. The results provide a case for more direct and meaningful input by Indigenous people. It is hoped that by creating an agreement for equal participation in the decision making processes of natural and cultural heritage management, a certain level of self-determination could be achieved by Indigenous people.

### **7.6 Evaluation of Management Models of Input to Natural and Cultural Heritage Management**

In 1979 Kakadu National Park in the Northern Territory became the first National Park to be subject to joint management. The issue of contemporary Indigenous Australian involvement in the management of natural and cultural heritage is commented upon by a report titled *Indigenous Australians: Natural Resource Management* (DFAT, n.d, p. 1) which stated:

The Australian Government and Indigenous people are working together to advance the environmentally sustainable management and development of land. Indigenous land ownership and control has increased as the result of various government initiatives since the 1970s, including the legislative return of land and the purchase of land with dedicated government funds.

Under a system of joint management of some Australian Government national parks, title to Indigenous land is granted to its traditional owners, who in turn lease back that land to the Australian Government for management as a national park. The traditional owners are paid rent and other fees in recognition of the land's use for conservation purposes and public benefit.

This same report (DFAT, n.d, p. 1) also documented that since Kakadu National Park became subject to joint management, the Australian Government has entered into joint management agreements with “Booderee National Park on the south coast of New South Wales and the traditional owners of Uluru-Kata Tjuta National Park in the Northern Territory”. Baker, Davies and Young (n.d, p. 10) commented upon the issue of joint management:

Indigenous rights to Australia's land and resources are nowhere completely exclusive. They coexist with various other tenures and with government rights to regulate land use. Managing the

coexistence of indigenous rights and interests with these other tenure and management systems is a significant challenge for indigenous groups, governments, and broader Australian public and corporate communities.

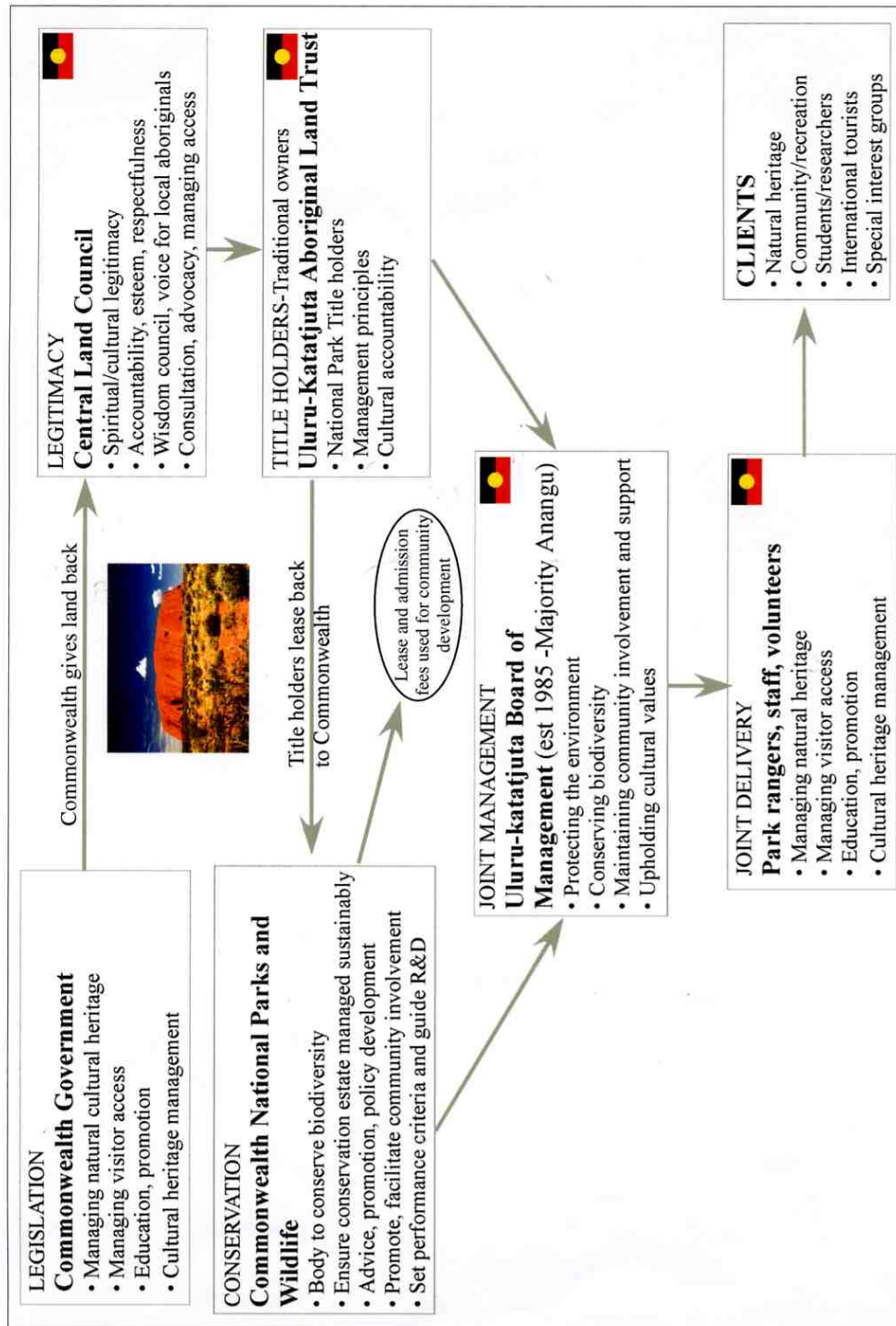
However, this form of joint management does not exist for most national parks within Australia. Other models for Indigenous input to natural and cultural heritage conservation exists and these will be described and evaluated in this section.

### **7.6.1 Uluru – Kata Tjuta**

The flow diagram (Figure 7.0) developed for Uluru – Kata Tjuta was designed to represent both Indigenous and non-Indigenous input into natural and cultural heritage. It was compiled primarily using data from the *2000 Uluru-Kata Tjuta National Park Management Plan*. The *Indigenous Australians: Natural Resource Management* report (DFAT, n.d, p. 1) stated that the Park covers more than 132 000 hectares and that the title to this land was “granted to the Uluru-Kata Tjuta Land Trust in October 1985 when the traditional Indigenous owners leased the land back to the Australian Government (Whitlam government) to jointly manage with them as a national park”.

This joint management agreement with traditional owners of Uluru – Kata Tjuta National Park resulted in traditional owners forming the “majority on the board of management” for the Park (Head, 2000, p. 95). The lease requires the Director of National Parks to take all practicable steps to promote Indigenous management and control of the Park. It also allows for the continuing traditional hunting practices by traditional owners and obliges the Australian Government to provide employment and other economic opportunities within the Park (Uluru – Kata Tjuta National Park Management Plan, 2000).

Creating the legal basis for Indigenous ownership allows for money to go back into the Park from lease and admission fees. This money is used for community development projects in the wider Indigenous community. This structure, developed by the Commonwealth and Federal Government, acts to facilitate Indigenous input at the top end of legislation which allows for a more direct and meaningful input into their own priorities and management strategies. Therefore, this management model is



**Figure 7.1: Contemporary Management Model for Indigenous Input to Natural and Cultural Heritage for Uluru – Kata Tjuta National Park (The information contained in this model was developed from the 2000 Uluru-Kata Tjuta National Park Management Plan).**

demonstrative of the existence of self-determination within natural and cultural heritage management.

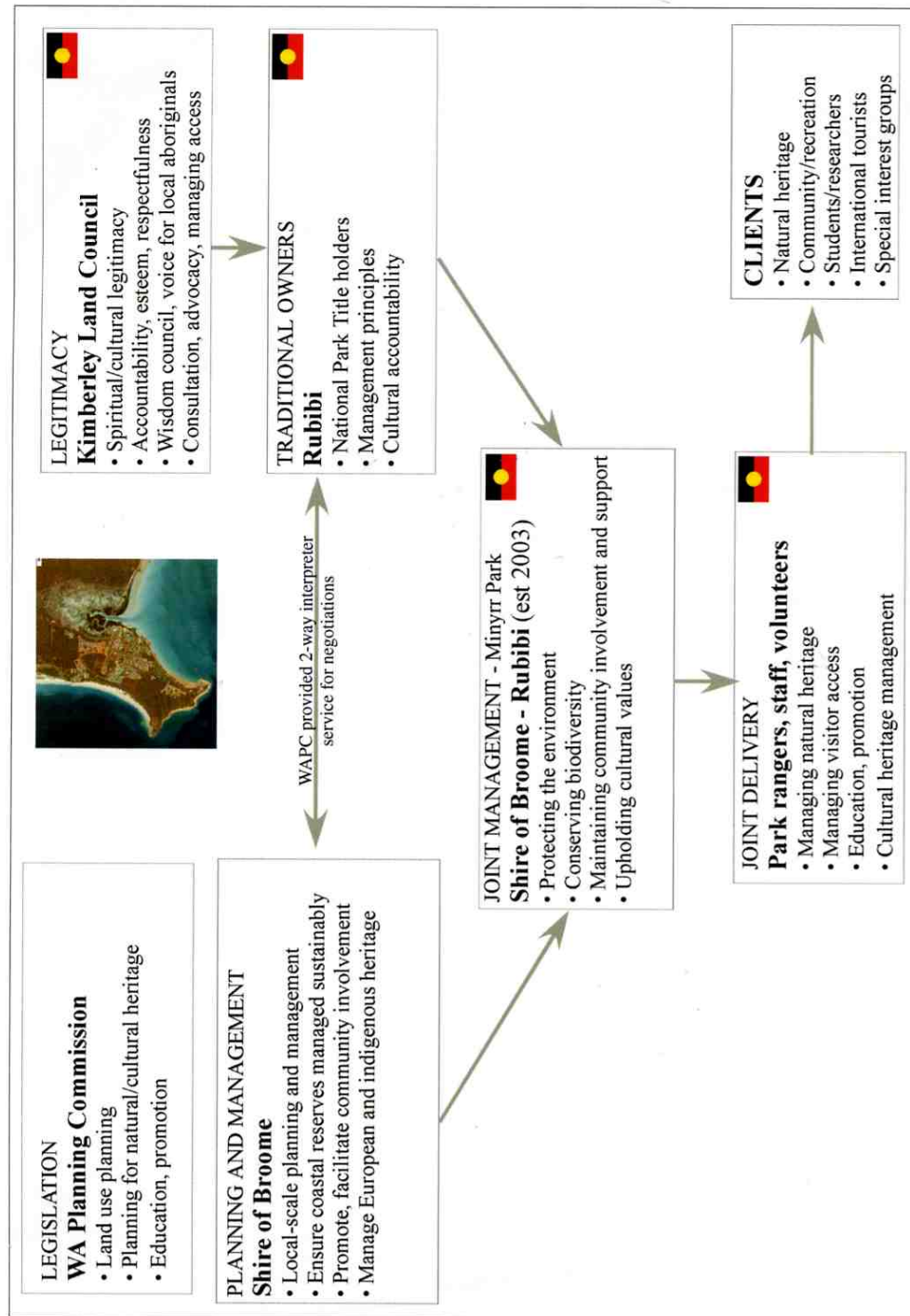
### **7.6.2 Minyirr Park**

The flow diagram (Figure 7.2) developed for Minyirr Park was compiled primarily using data from the Shire of Broome's *2007 Town Planning Scheme No. 4*. Minyirr Park is fringed by the Indian Ocean at Broome's Cable Beach. It is a joint management project between the Shire of Broome and its traditional owners represented by the Rubibi Land Heritage and Development Group. Minyirr means 'birthplace', and Indigenous people in the Broome area believe it is the site where they were created (Australia's National Local Government Newspaper Online, 2005, p. 1). Ritter (2003, p. 3) commented on this joint management arrangement:

Perhaps the earliest instance of a native title working group was the Rubibi Working Group, set up in 1995 to facilitate the inclusive representation of the relevant native title claimants in their dealings with the outside world.

To establish the parameters of the joint management plan for the Park, a subcommittee was established in partnership with the Rubibi Land Heritage and Development Group. This subcommittee would also meet on the day before the official meeting, which occurred every three months over a period of two years. An independent third-party planning consultant was provided by the Western Australian Planning Commission (WAPC) to provide a two-way interpretation service for specific agenda items. This gave the Indigenous people time to understand the nuances of the planning process and allowed them to decide how their concerns could be framed within the context of the planning process (Shire of Broome, 2007).

The planning consultant and selected Indigenous custodians were then able to better represent the Rubibi Land Heritage and Development Group at the official meeting by accurately defining Indigenous concerns and recommendations. The outcomes of this process were seen as highly successful and have now been incorporated into the Broome local planning strategy. The Shire of Broome has maintained this process as its preferred means of consultation with Indigenous custodians in the region (Shire of Broome, 2007).



**Figure 7.2: Contemporary Management Model for Indigenous Input to Natural and Cultural Heritage for Minyirr Park** (The information contained in this model was developed from the Shire of Broome's 2007 Town Planning Scheme No. 4).

This management model is one of joint management and utilises local Indigenous peoples' advice and recommendations. This process provides for some self-management, but falls short of actual self-determination. This is because Indigenous people do not have equal participation in the legislative and political structure that developed the joint management plans initially. The WAPC had the final audit and review of the management plan for Minyirr Park and created the legal basis for the consultation process independent of any Indigenous input.

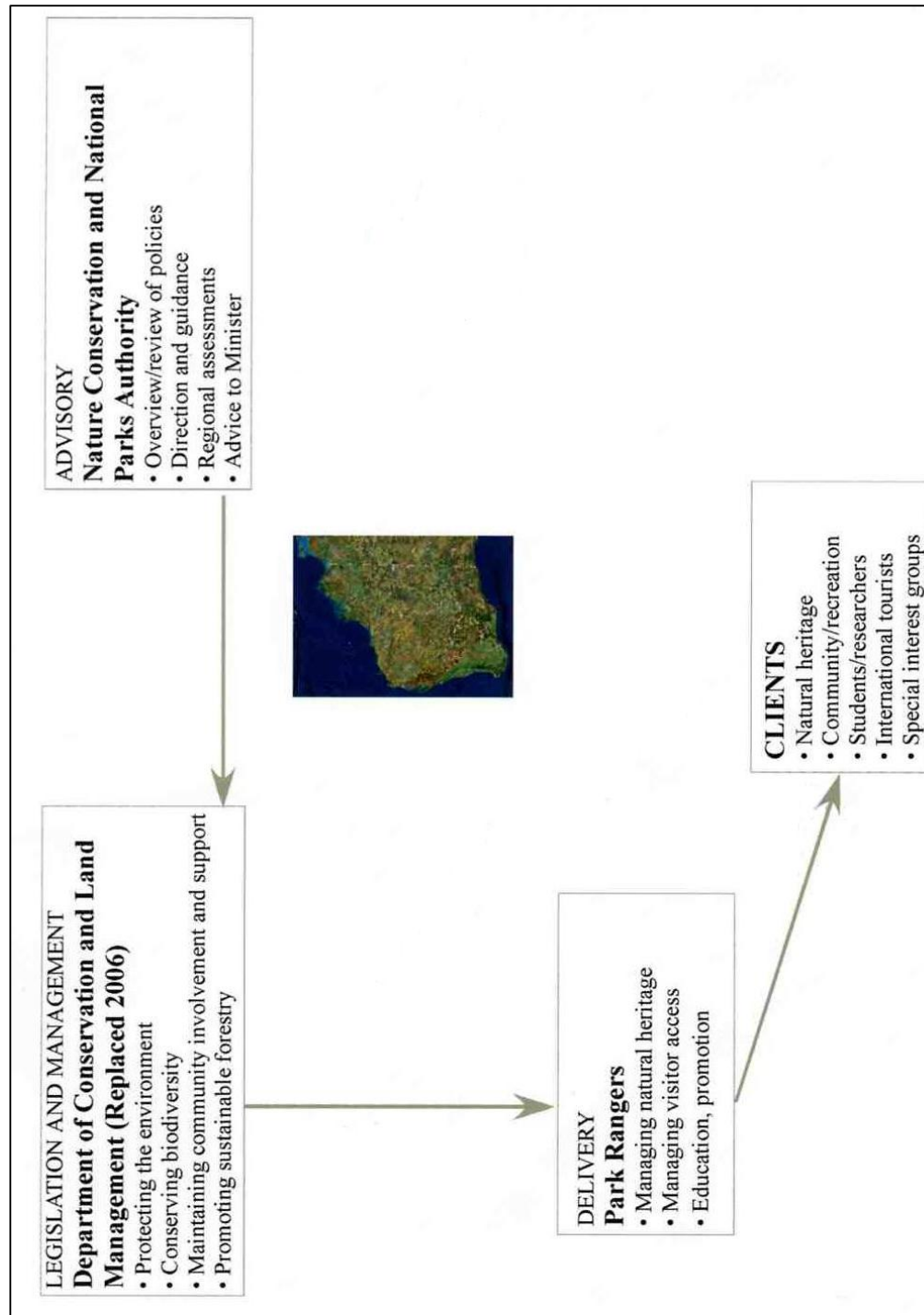
### **7.6.3 Western Australian Historical Model**

The flow diagram (Figure 7.3) developed here was compiled primarily using data from CALM's *Annual Report 2001/02* (CALM, 2002). CALM received advice through the independent statutory authority Nature Conservation and National Parks Authority (NCNPA), and was the legislative body that created and delivered management plans for national parks up until 2006. CALM was then replaced by the Department of Environment and Conservation (DEC).

The evaluation of this model reveals that Indigenous people were not involved in policy development, strategic planning, on-ground management or natural and cultural heritage management. The Western Australian historical model developed in this study shows no separation of power between Indigenous and non-Indigenous structures. The final audit and review of management plans by CALM came from the non-Indigenous political and legislative structure.

### **7.6.4 Western Australian Contemporary Model**

The flow diagram for the Western Australian contemporary management model in Figure 7.4 (refer to p. 105) represents both Indigenous and non-Indigenous input into natural and cultural heritage. It was compiled primarily using data from the Conservation Commission of Western Australia *Annual Report 2005-06* and from the Western Australian Indigenous Tourism Operators Committee (WAITOC). By exploring this information it was revealed that legislation has been moved to a statutory commission (Conservation Commission) who through delegation passes responsibility to a government agency (DEC) to develop management plans for natural and cultural



**Figure 7.3: Historical Management Model for Natural and Cultural Heritage in Western Australia, (The information contained in this model was developed from CALM's Annual Report 2001/02).**

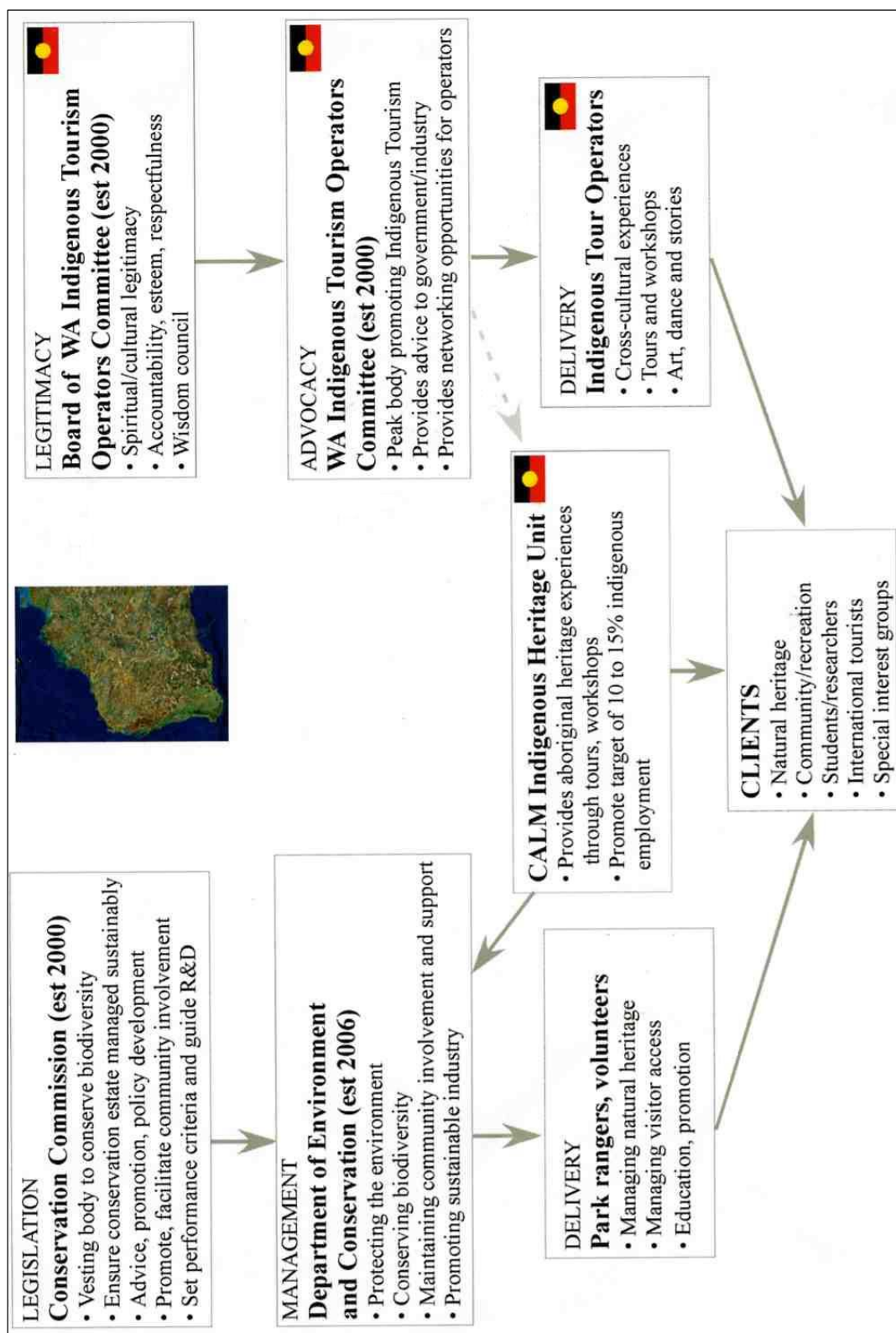
heritage management. A *Strategic Plans* report (Conservation Commission, 2007, p. 3) documented that a policy objective of the Conservation Commission is to “develop policies with Aboriginal people for the protection of biological diversity and management of the natural environment on Aboriginal lands”.

However, as the *Protected Area Management* report stated (Conservation Commission, n.d, p. 1), the “review and audit of these management plans is provided by the Conservation Commission”. Indigenous people have no level of input or participation at this top end of the legislative and political structure. The DEC does receive input from an Indigenous Heritage Unit that also delivers natural and cultural heritage experiences to clients independent of the DEC. This Indigenous Heritage Unit in turn receives its advice from WAITOC which is the peak body promoting Indigenous tourism. The *About WAITOC* document (WAITOC, 2007, p. 1) reported that it is “autonomous and provides advice and information to all relevant State Government agencies as well as the tourism industry sector”. However, providing advice and having the legal basis for equal participation at the top end of legislation are two very different matters.

By creating the capacity for Indigenous people to advise government on natural and cultural heritage management and deliver natural and cultural heritage experiences, a level of Indigenous self-management is achieved. However, because there is no level of Indigenous input coming in at the top end of this legislative and political structure, no options exist for Indigenous self-determination.

#### **7.6.5 Nunavut Land**

The flow diagram (refer to Figure 7.5, p. 107) developed for the Nunavut management model was compiled primarily by using data obtained from the Government of Nunavut (n.d) and from a report titled *Inuit Knowledge and Science Based Management* (Parks Canada Agency, n.d). The term Nunavut translates to ‘our land’ in the Inuktitut language and has been home to Inuit for millennia and part of Canada for more than a century. Historically, natural and cultural heritage management by the Canadian Government was conducted according to the traditional American model of wilderness management. Buggy and Mitchell, (2002, p. 94) commented upon this



**Figure 7.4: Contemporary Management Model for Indigenous Input to Natural and Cultural Heritage in Western Australia** (The information contained in this model was developed from the Conservation Commission of Western Australia *Annual Report 2005-06* and from WAITOC, 2007).

historical model:

The historic preservation movement has not, however, done well in recognising and protecting historic resources associated with these peoples (Inuit) outside the dominant culture.

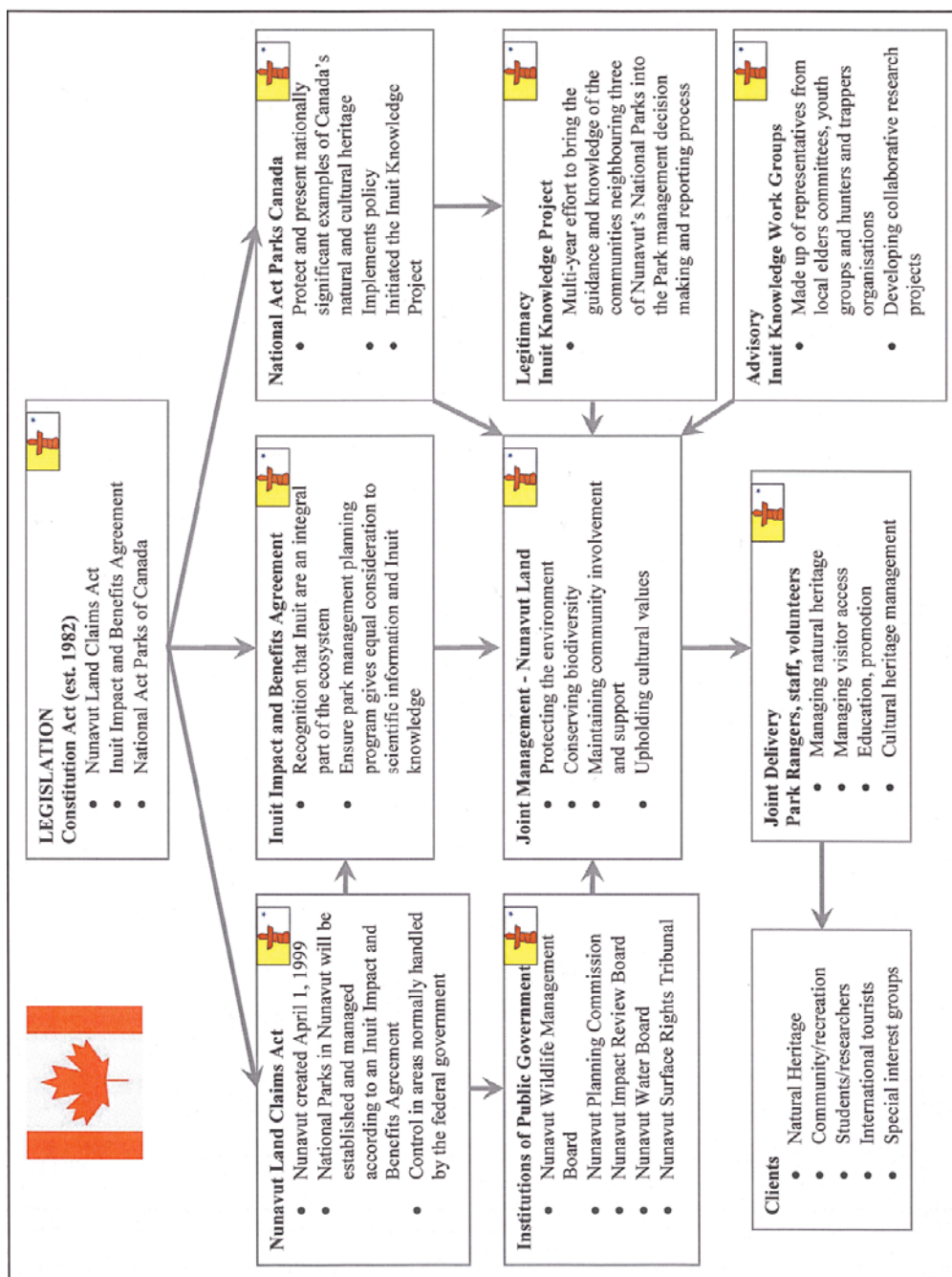
Traditionally, valued landscapes in North America have been identified as the vast wilderness parks of America. Management of these important natural area preserves has, however, also evolved from a refuge approach to situating them in their larger ecosystems, relating them more closely with their neighbours, and employing more public engagement.

The Canadian legislative and political structure for natural and cultural heritage management is now more inclusive of Inuit knowledge and also allows for the public to become engaged in this process. Bugghey and Mitchell, (2002, p. 92) explained the state of these arrangements:

The legislation establishing an area creates a collaborative management entity that generally includes government representatives at local, state and federal levels; representatives from non-profit organisations; and representatives from residents, business and other stakeholders. This group works together to identify and conserve important resources, improve the local economy, create recreational opportunities for residents and visitors, and guide the future area.

The *Inuit Knowledge and Science Based Management* report (Parks Canada, n.d, p. 1) stated that the management of natural and cultural heritage within Nunavut land is now “guided by three main documents: the Nunavut Land Claims Act (NLCA), the Inuit Impact and Benefits Agreement (IIBA) and the National Act Parks of Canada”. The NLCA is derived from the Constitution Act 1982, and is the primary document within which the framework for the management of national parks in Nunavut land are determined. The NLCA specifies that national parks in Nunavut will be established and managed according to an IIBA. Within the IIBA it is recognised that Inuit are an integral part of the ecosystem and the park management planning program will give equal consideration to scientific information and Inuit knowledge (Parks Canada, n.d).

Evaluation of this management model reveals a holistic approach to managing natural and cultural heritage. By legislating that natural and cultural heritage management must combine non-Indigenous and Indigenous knowledge in developing management plans, the Inuit have the legal basis to input at every level within this structure. This acts to



**Figure 7.5: Contemporary Management Model for Inuit Input to Natural and Cultural Heritage for Nunavut Land (The information contained in this model was developed from a report titled *Inuit Knowledge and Science Based Management*, Parks Canada Agency, n.d).**

enhance social identity and social integrity, which ultimately helps to advance self-determination.

### **7.7 Summary of Evaluation**

This section of the study has put a strong emphasis on Indigenous peoples' need for autonomy and independence; that is, making their own decisions and maintaining control over their own lives, as well as the physical landscapes around them. This is a difficult process as Baker et al. (n.d, p. 4) explained:

Today, Indigenous people strongly reassert that they rightly have a role in managing Australia's lands and coastal regions, a role in which their traditional ecology knowledge will be significant. But at the same time they, like other Australians, must perform that role in country suffering from widespread environmental degradation caused by decades of misuse through non-indigenous resource exploitation. Indigenous knowledge alone is inadequate to address this degradation and to restore degraded resources.

The key issues raised by the evaluation were communication, equal participation and respect for both non-Indigenous and Indigenous people and their knowledge. Leading from these key issues, the results indicated that change to the legislative and political structure to create the legal basis for equal Indigenous participation in the decision making processes that surrounds natural and cultural heritage management should be implemented. The evaluation also implicates that such a change in legislation may result in an increase in Indigenous self-determination. This increase in self-determination could be realised due to the increase of Indigenous rights to determine their own priorities and design their own strategies.

The evaluation also revealed that Australian legislation and policies for natural and cultural heritage management are formulated so that little self-determination by Indigenous people can be achieved. The Uluru-Kata Tjuta case study showed that a level of self-determination was possible due to direct land ownership by Indigenous people who had control over the decision making processes. The evaluation also revealed examples of joint management agreements that enabled some Indigenous self-management at Minyirr Park. The Nunavut Land management model demonstrated that

a legislative system can create the legal basis for Indigenous people to input at every level of natural and cultural heritage management successfully.

The future direction of natural and cultural heritage management is unknown. However, what is certain is that there are many directions and options to explore and opportunities for further research. If a change to legislation did occur, management plans for natural and cultural heritage may not need modification, but such a change in legislation could result in an increase of Indigenous self-determination.

### **7.8 Recommendations for Indigenous Input to Yanchep National Park**

The Conservation Commission of Western Australia facilitate all natural and cultural heritage management throughout the State, and it is this legislative body that audits and reviews Yanchep National Park's management plan. The management plan itself receives consultation from the Indigenous Heritage Unit which WAITOC advises (refer to Figure 7.4, p. 105). Though there is this level of input via WAITOC, it equates to self-management and not self-determination. At the top end of legislation, it is the Conservation Commission that has the final review and audit of the Park's management plan, which is void of any Indigenous input.

It is possible under current legislation that Indigenous people would only ever eventuate with the advancement of Indigenous self-management. To move beyond this situation a change is needed in the legislative system. This change should enable equal or substantive participation by Indigenous people at every level of the natural and cultural heritage management process.

Simply changing the legislation that allows for the equal participation of Indigenous people in natural and cultural heritage management may not directly solve ecological problems. Furthermore, how such a change in legislation would come about and the consequences that would result within the Western Australian natural and cultural heritage management structure is beyond the scope of the present study. However, the results from this evaluation do suggest that legislation change could increase self-determination for Indigenous people. Aside from Indigenous issues, there are other

important environmental issues that affect Yanchep National Park, as discussed in the following section.

## **7.9 Issues**

This section is involved with highlighting some of the important issues at the Park and aims to expand upon the treatment of specific management policies as they are applied to the Park in a contemporary setting. It is important to highlight the need to identify linkages (synergies) between management issues. Just as it benefits park managers to know how every living organism in the environment is interconnected (web of life), it is also beneficial to examine linkages between management issues. For example, one should be conscious of the possibility that in solving one management problem another one may become aggravated.

### **7.9.1 Endangered Species**

One of the major priorities for Park management is the conservation of a critically endangered species of amphipod (a small crustacean). The declining levels of the Gnangara Mound Groundwater have resulted in the cave pools and streams completely drying inside Yanchep National Park's limestone caves. This has resulted in the loss of cave habitat for these rare amphipods, and without intervention this ecological community is under immediate danger of extinction in the next few years.

The *Protecting Yanchep National Parks Caves Fauna* report (DEC, 2005, p. 1) documented that the “endangered invertebrates are found in seven caves that contain ponds or streams with tuart tree root mats”. These amphipods are highly significant Gondwanan relics found nowhere else in the world, with some species found only in an individual cave (Gentili, 1998). A Recovery Team has been working to ensure that the aquatic root mat community of these caves will survive into the future by pumping water into the cave area to maintain water levels. The Yanchep Caves Recovery Project, initiated by DEC (formerly CALM), also involves the Water Corporation and the Department of Water. Other work to ensure the survival of the “aquatic root mat community of the caves is being funded through the Natural Heritage Trust” (DEC, 2005, p. 1). Initial pumping of water into the cave was from deep underground and

consequently high in iron, therefore the water now pumped into the cave system is filtered (Plates 7.0 and 7.1).

### **7.9.2 Gnangara Mound Groundwater**

The Gnangara Mound Groundwater is the most valuable source of fresh water in the Perth Region. The sustainability of this resource and its ecological and socio-economic uses are under threat because water levels have fallen across most of the Mound since the mid 1970's. The CSIRO, as part of its Healthy Country program is looking at not only the Mound but also the interconnections between all the water bodies the city draws on, in order to understand it as an integrated network.

Deputy Chief of CSIRO Land and Water, Tom Hatton (Radio National, 2004, p. 3), claims the steep decline in the level of the “water table is already having serious ecological effects”. Hatton recognises that in places the water table has dropped five to twelve metres, which is enough for it to disconnect from the wetlands and the terrestrial vegetation that have come to depend on that groundwater. Private groundwater users also rely on water from the Gnangara Mound Groundwater, abstracting groundwater for agricultural, recreational and domestic uses. As Perth's need for water supplies increases and urban and industrial areas expand, it is vital to protect groundwater resources from pollution and overuse (WAPC, 2001).

### **7.9.3 Environmental Impacts Upon the Landscape**

The most immediate and obvious impacts are that wetlands that would hold water for the whole year, or much of the year, are now seasonally drier or dried up. Springs have dried up and the fringing vegetation around those wetlands or lakes has died. In other places, as we've changed the period of time that the water table is at or near the surface, the species of vegetation that existed in those wetlands are changing from a wetter type to a drier type (Radio National, 2004, p. 3). Some ecosystems on the Swan Coastal Plain, which are below ground, most notably in the cave systems at the Park, are at risk of being lost completely. This is due to the fact that the water table has dropped and the water in the caves are drying out as previously mentioned.

Gerald Drummond, a former ranger at Yanchep National Park, noticed a change in the ecology of the Park since the water levels began to drop from the year 2000. In a radio



**Plate 7.0: Iron Water Filter Used by Recovery Team. Groundwater is filtered before being pumped into Yanchep National Park caves. Photograph by Darren Venn, 17/10/2006.**



**Plate 7.1: Pumping Groundwater Into Cave. Groundwater is pumped into caves at Yanchep National Park to restore amphipod habitat. Photograph by Darren Venn, 17/10/2006.**

interview (Radio National, 2004, p. 8) he commented that the most obvious change would be the surface water that was visible “is no longer visible, it’s dropped somewhere between a meter and a meter-and-a-half below ground level, so you can’t physically see it any more”. This decline in the water level is beginning to have quite an impact on the Park. Drummond (Radio National, 2004, p. 8) also stated that:

Loch McNess is the main focal wetland for the Park, which the Park is well known for, and has been for the last 100 years, and there’s a very good chance that if things keep declining at the rate they are, there’s a chance it’ll dry up. This would have a huge impact upon nature conservation in the area because all the frogs, invertebrates, the birds and the marron are all dependant upon water.

Loch McNess conceives probably about 10 to 12 hectares, but the actual chain of lakes that it is a part of are themselves in the hundreds of hectares. This problem is not just at Yanchep National Park, it goes kilometres either way meaning that all the wetlands on the Swan Coastal Plain are being affected.

Through the State Water Strategy the Government has committed to develop and implement a sustainable management framework for land and water use on the Gngangara Mound Groundwater. The *Gngangara Mound* report (Department of Water, 2001, p. 1) documented that the “Gngangara Water Plan is therefore being prioritised as a component of the Metro-Peel Regional Water Plan, for consultation in 2006 and delivery of a final plan in early 2007”. This is due to the critical land and water use conflicts in this area and the importance of the Gngangara Mound from a public water supply perspective.

#### **7.9.4 Gngangara Park**

The *Gngangara Park Plan Unveiled* report (DEC, n.d, p. 1) stated that “Gngangara Park will extend from Gngangara Road to the Moore River”, which covers much of the Gngangara Mound Groundwater. This green belt for the rapidly-growing northern suburbs is made up of about 20 000 hectares of pine plantations, 47 000 hectares of other CALM managed estate and 23 000 hectares of other lands. The *Land Use and Water Management Strategy* report (WAPC, 2001, p. 20) documented that the “existing nature conservation values will be protected and enhanced”, for example by establishing vegetation corridors to link Yeal Nature Reserve and Yanchep National Park and to create buffers around endangered ecological communities. Zone 5

(Appendix IV), includes the Pinjar and Yanchep pines (the northern portion of Pinjar and the Yanchep pine plantation) and will focus upon resource use (mainly pines and groundwater) and protection of the catchment for the cave stream communities at Yanchep National Park.

Not only will Gnangara Park help the protection of the cave stream communities at Yanchep National Park, it will also make the Park an important extended habitat and ecosystem because corridors for movement of wildlife will be opened up. This equates to an increase in preferred habitats for fauna and flora, therefore improving species survival. Biogeographers Cox and Moore (2000, p. 272) stated:

However, even a large park will not safeguard the future of all of the species that live within it, if it does not contain environments that are vital for some of them.

Thus, a large park that omitted any of these crucial environments would be of less value in conserving a frog species than a smaller park that contained the appropriate breeding environment.

The chance for survival of species is improved when it contains elements vital to their environment. The Theory of Island Biogeography, developed by MacArthur and Wilson (1967), asserts that a larger reserve is likely to support larger populations of the species it contains, and therefore render them less vulnerable to chance extinction. It has also been suggested that the negative effects of the isolation of nature reserves can be reduced by establishing corridors to interconnect them (Cox & Moore, 2000).

### **7.9.5 Urban Sprawl**

The Park's environmental health will be threatened because it is eventually going to be encapsulated by urban sprawl. The Tokyu Corporation (Saint Andrews Development, 2005, p. 3) is the owner of some "5 000 ha of land in the St Andrews area in the City of Wanneroo". The St Andrews holding extends for twelve kilometres along the Indian Ocean between Yanchep and the northern extremity of the Perth Metropolitan Area, and inland to Yanchep National Park. It includes the three existing settlements of Yanchep, Two Rocks and St Andrews. In 1995 the "Tokyu corporation, Yanchep Sun City, the WAPC, and the Western Australian Land Authority entered into a

Memorandum of Understanding” that contained a program of actions necessary to facilitate long term planning objectives for the St Andrews area (Saint Andrews Development, 1995, p. 4). These parties now wish to make arrangements for co-operation during the stages of a feasibility study. The parties agree that the feasibility of developing the St Andrews landholding generally will be based on the following potential outcomes (St Andrews Development, 1995, p. 5):

- Around 55 000 serviced residential blocks with a population of some 148 000
- 50 000 to 60 000 jobs
- A regional strategic commercial centre
- Approximately 1 600 hectares of Regional Open Space on land already ceded for this use along the Indian Ocean foreshore and in extensions to Yanchep National Park

The Mitchell freeway is also planned to be extended straight through the Park, which may even create a need for another western entrance. Because of the increase in housing planned for the area and the freeway extension, an increase in population is inevitable which will bring an increase in pollution and threats to the Park’s ecology. There are already pressures from urbanisation now and with an increase in urbanisation, new pressures will exist and problems will be magnified.

#### **7.9.6 Koalas**

DEC has a policy of removing all exotic species from within National Parks, however, koalas, (*Phascolarctos cinereus*), are from eastern Australia and considered introduced in Western Australia. It is also important to note that “fossils discovered near Augusta suggest that koalas roamed wild in the South-West some thirty million years ago” (Hamlet and Langley-Kemp, 2000, p. 29). Their numbers were reduced by changes in climate, loss of vegetation due to bushfires and predators such as the Dingo, (*Canis familiaris*), and the Wedge-tailed Eagle, (*Aquila audax audax*). Koala is an Aboriginal word meaning ‘no water’, as the marsupial has no need to drink (Hamlet and Langley-Kemp, 2000, p. 30). They are nocturnal creatures and their behaviour is not often observed, they seem to be loners, apart from the mating season, spending some eighteen hours sleeping and up to five hours eating about one kilogram of eucalyptus leaves per day. They seem to prefer Flooded Gum, (*Eucalyptus rudis*), and “supply for

their feed is often outsourced when Park supplies run low” (Hamlet and Langley-Kemp, 2000, p. 30).

The koalas present at the Park are from introduced blood stock. By not allowing new blood lines into the colony, the remaining koalas are breeding amongst themselves and the offspring are becoming susceptible to genetic problems. Consequently, some new-born koalas are experiencing renal failure. The overall running of the koala enclosure is expensive; costs include food, food collection, vehicles, rangers and veterinary services.

#### **7.9.7 Pool and Golf Course**

The swimming pool is currently in a state of disrepair. It was first built in “1932, and was created from partially damming a freshwater stream flowing from Boomerang Gorge” (CALM, 1989, p. 46). The quality of the water was maintained by the stream flow through the pool. In 1969 the pool was reconstructed due to damage caused by groundwater movement. It was also chlorinated in order to conform to health regulations in this year.

The pool was a part of the experience that people came to expect from the Park, acting as the local community pool for Yanchep and Two Rock residents. It was used by a number of schools for swimming lessons, by local people and visitors. However, because the pool is costly to operate and maintain, and not considered to be part of the core function of the Park, the decision was made not to pursue it as a viable recreational activity. The locals responded negatively to this decision to close the pool, as it was considered as a loss to the community. The local council (Wanneroo) has been unwilling to accept the financial burden of creating or funding an alternative venue.

Alternately, the “nine hole golf course has been operating in the Park since 1961” (CALM, 1989, p. 45). It was the first public course to be built in the Shire of Wanneroo and is the only golf course in a national park in Western Australia (Hamlet and Langley-Kemp, 2000, p. 53). The Yanchep National Park Golf Club assists with any maintenance issues at the golf course. In contrast to the swimming pool, which is not a

profitable activity, the golf course is a profitable recreational activity and continues to be managed by the Park.

### **7.9.8 Fire**

The *Yanchep National Park Flourishing One Year After Fire* report (DEC, 2006, p. 1) stated that in “January 2005 fire swept through Yanchep National Park that burnt out 1 500 hectares”. This fire prompted the evacuation of about 140 people, including 120 Park visitors, family members of Park staff and other staff. It also resulted in the serious injury of a Park ranger and the loss of one house and damage to another. There have been two other major wildfires at the Park; one in “April 1977 burnt 500 hectares south of Yanchep Beach Road, and the other, in March 1983, burnt 800 hectares” including a large portion of Loch McNess (CALM, 1989, p. 49). Fire is a frequent hazard in the Australian landscape, and possibly the greatest threat in closed ecosystems, such as national parks.

Although fire has been, and continues to be, one of the most important factors influencing the structure and distribution of plant and animal communities in Australia, understanding of fire as a management tool is incomplete (Friend, 1994). The Management Plan for the Park documented (1989, p. 49) that “knowledge of frequency, season and intensity of fires required to perpetuate the different vegetation communities in the Park is incomplete, and therefore a range of fire regimes is desirable to maximise diversity of vegetation ages”. In commenting upon knowledge of fire regimes, Friend stated that (1994, p. 1):

On the one hand we have quite sound knowledge of the principles of fire physics, and how weather, fuel and other site factors influence fire behaviour. Such knowledge forms the rationale for the prescribed burning of forested areas in the south-west and south-east of Australia to reduce fuel loads and wildfire hazard. On the other hand, however, there is relatively little information available regarding the impacts of fire on the biota, particularly in the longer term, and of the precise role of fire in ecosystem management.

There is a clear need to assess current knowledge of fire regimes, and in particular to critically examine whether the information at hand is sufficient to enable sound management decisions to be made at the Park. The Yanchep National Park Management Plan states that “monitoring the effects of fire management prescriptions

can provide a basis for improving our understanding of fire ecology” (CALM, 1989, p. 51).

## **7.10 Objectives**

It is beyond the scope of the present study to explore all Park issues and objectives. This would require detailed investigation and interdisciplinary experience. However, the previous outlined issues will now be considered with the view of developing appropriate objectives for the Park.

### **7.10.1 Endangered Species**

The objective is to protect and conserve endangered native plants and plant communities, particularly those vegetation communities and species susceptible to disturbance, plant disease or weed invasion. The conservation of as much habitat in its unaltered state, with a particular emphasis upon the habitat of the endangered species found within the caves should be a priority. The water being pumped into the caves comes from deep underground and, consequently, is high in iron. Even though an iron filter has been utilised to alleviate this problem, constant monitoring is still required.

### **7.10.2 Gnangara Mound Groundwater**

The objective here is to have a sustainable water management strategy that is under constant scrutiny and revision. Conservation of water is a priority and ultimately we need to change our current water use. The surface wetlands and water levels within the caves should not be permitted to completely dry up. If Loch McNess dried up, this would result in a decline in visitor numbers, less habitat, less fauna and flora and a loss of revenue that could have been used for rehabilitation. Drying of Loch McNess has already resulted in the hire of row boats stopping in the summer of 2007/08 due to the wetland being too shallow and unsafe for boat use. As a consequence, Park visitor numbers declined over summer (DEC, 2008).

Further consideration needs to be given to the South West Yarragadee Water Supply Development proposal which includes the “construction and operation of a well-field to

extract 45GL/yr” (City of Bunbury Council Committee Meeting, 2006, p. 32) from the South West Yarragadee aquifer to meet growing demand in the Integrated Water Supply Scheme (IWSS). The Yarragadee Aquifer contains approximately 1 200 000 GL of water in storage and the annual recharge into the aquifer through the infiltration of rainfall comprises approximately 374 GL/yr. The quality of water in the “Yarragadee Aquifer is fresh to very fresh as opposed to upper layers of the basin, which are brackish in certain areas” (City of Bunbury Council Committee Meeting, 2006, p. 33).

Whilst the perceived benefits of the Water Corporation’s proposal to abstract 45 GL per year from the South West Yarragadee Aquifer are said to include local job creation and water supply security, considerable uncertainty still remains upon the long-term environmental, social and economic implications of the proposal on the South West Region. The appropriateness of utilising the Yarragadee to supplement unsustainable water consumption practices in Perth at the expense of the future development of the South West Region is also questionable and is further emphasised by the fact that the existing water supply for many towns in the South West continues to remain substandard.

The *Gnangara Land Use and Water Management Strategy* (WAPC, 2001, p. 8) stated “the overall aim of this strategy is to protect the important groundwater and environmental features of the Gnangara Mound while allowing compatible development of the land for the benefit of the community”. Complementary water use strategies should also be utilised with the *Gnangara Land Use Water Management Strategy* to maximise water use efficiency.

### **7.10.3 Environmental Impacts Upon the Landscape**

In regards to the declining water table, Dr. Brenton Knott, who is a zoologist at the University of Western Australia (Australian Broadcasting Commission, 2004, p. 4) claimed that “modeling indicates that Loch McNess will be dry in a few years time. There is a fair chance of that. Come back then and enjoy your mud bath”. This is one of the most pertinent issues facing the Park, because if sustainable water use is not achieved and current levels are maintained, a main attraction of the Park, Loch

McNess, could disappear completely. This would have a devastating impact on the ecology of the Park and upon the number of visitors it receives.

#### **7.10.4 Gnangara Park**

This will create open corridors of movement, increasing the Park's boundaries, and extending the habitat of flora and fauna currently found at the Park. Furthermore, the "greenhouse effect may bring climatic changes" to the South West over a very short time scale compared to previous changes (Regional Institute, n.d, p. 1). If these predicted climatic changes eventuate then the conservation value of Gnangara Park, and its adjoining reserves like Yanchep National Park, will be of increasing significance.

#### **7.10.5 Urban Sprawl**

The increase in housing planned for the Yanchep area by the Tokyu Corporation, coupled with the proposed freeway extension, will result in an increase in population and an increase in Park use. It seems inevitable that when this change takes place it will result in an increase in pollution and threats to the Park's ecology. The pressures from urbanisation are already felt by the Park now, and with an increase in urbanisation, new pressures will develop and existing problems will be magnified.

Objectives to meet could include: decreasing the frequency of the dumping of rubbish, decrease use of trail bikes and decreasing the number of feral cats at the Park. It would also be desirable to conduct research to determine if there will be sufficient facilities at the Park to cater for an increase in visitor numbers. Adequate resources and funding to address this issue of urbanisation would also be required.

#### **7.10.6 Koalas**

The objective will be to ascertain whether the breeding of koalas is even in DEC's jurisdiction. Consideration needs to be given to whether the koalas have a legitimate role within the Park as they are an introduced species. Possibly such undertakings are better left to institutions, like zoos, or other sanctuaries that cater for koalas, like Cohunu Wildlife Park (situated 35 minutes from Perth).

It is important to consider both sides of this issue, as the koalas have been present at Yanchep National Park before DEC management. Many people associate them with the overall Park experience. There are considerable management issues: the koala enclosure requires maintenance, their health needs to be maintained, and their feed needs to be procured. Such management requires an allocation of funds from the Park's annual budget. Before a decision is made and objectives are created to help resolve this issue, it would be beneficial to consult with the community and to seek professional breeding advice.

#### **7.10.7 Pool and Golf Course**

The objective here is to ensure the operation and management of the golf course is compatible with the objectives of the Park. It may benefit the Park to consider negotiating with the Yanchep Golf Club to undertake the responsibility of all maintenance and service costs to the course, and to review the allocation of revenue it generates. Monitoring fire risks present at the golf course and managing its water use in a sustainable manner would also be an important consideration.

#### **7.10.8 Fire**

The recent fire (January 2005) at Yanchep National Park and the impact it had upon the community and the environment is fresh in the memories of many, and a poignant reminder that fire is always a risk in the Australian bush. This fact is emphasised more when it is in a closed system, such as within a national park. In a closed system, wildlife are unable to escape to surrounding areas. An important objective is to consider the resources required to combat all possible threats that fire may cause within the Park.

According to the *2005 Western Australian Emergency Management Act*, DEC are the Hazard Management Agency for fire management at national parks throughout Western Australia (Mike Venn, FESA Manager Volunteer Firefighter Training, pers. com., 2008). This involves fire prevention and suppression that is in line with the National Hazard Management principles of prevention, preparedness, response and recovery (PPRR). The general management principles of fire prevention and

suppression in Western Australia are documented in the *2005 Westplan Bushfire* document. DEC also has the legal obligation to comply with the provisions of the *Bushfires Act 1954* (as amended) and the *CALM Act 1993*, both of which relate to fire prevention and control of fire on DEC land (Mike Venn, FESA Manager Volunteer Firefighter Training, pers. com., 2008).

If intense fires burn too frequently they reduce the ability for vegetation to recover and reduce vegetation species diversity. As the Park's Management Plan (1989, p. 49) stated "an extensive fire which burns most or all of each major vegetation association is considered undesirable as it will lead to a lack of diversity in vegetation structure and habitat types". Fire episodes are likely to increase as the climate dries and more people occupy the surrounding landscapes. Therefore, to minimise the risk of fires burning out large portions of the Park, the management planning process should be done in consultation with fire management experts to ensure that the most up-to-date science is incorporated into management decisions.

### **7.11 Summary**

National parks are contentious places to manage, even more so when they are within a fragile ecosystem. In seeking to protect conservation values whilst pursuing recreational and commercial activities, national park managers immediately find themselves on contentious ground. Conservation priorities are often in conflict with the demands of recreation. The former being concerned with nature conservation and rehabilitation, whilst recreational activities within national parks are aimed at bringing the participant into an experience with the landscape which ultimately means disruption to the ecosystem.

The uniqueness of Yanchep National Park is that parts of it are a cultural artefact, representative of past and present cultures in this landscape. It has also had a sense of place in society long before conservation management even existed. People still have cultural expectations of what the Park experience should be and these expectations move beyond purely conservational themes. There needs to be opportunities for both non-Indigenous and Indigenous people to contribute towards a shared Dreaming for the

Park, one developed using respect and honesty whilst managing ecological processes in a sustainable manner for the future and beyond.

This chapter also put a strong emphasis on Indigenous peoples' need to make their own decisions and maintain control over their own lives and the physical landscapes around them. Leading from this a framework was developed that evaluated the level of input Indigenous people have in natural and cultural heritage management. The results of this evaluation indicate that change to the legislative and political process to create the legal basis for equal participation by Indigenous people in natural and cultural heritage management should be implemented. The importance of the link between Indigenous self-determination and the right to land was also explored.

Conservation and the environment must be thought of as a set of resources which are held, by virtue of national parks and similar reserves, as common property of the community as a whole. What we do here affects everybody in the world because it affects the biosphere in which we live. Yanchep National Park becomes then part of not only our national heritage but part of a global national heritage. This view is supported by Australia's commitment to international and national conventions and treaties for the protection of the environment (Appendix VII).

## **CHAPTER EIGHT: CONCLUSION AND GUIDING PRINCIPLES**

### **8.1 Review of Study**

The central theme of this thesis has been the depiction of the complexity of cultural and ecological systems in Western Australia's Yanchep National Park. This theme has been explored with the idea that culture is a process; something that is constantly being reinvented, and that is subject to change because of temporal and spatial considerations. Furthermore, this thesis serves to evaluate the level of input that Indigenous people have within the legislative and political structure of natural and cultural heritage. From this evaluation, an argument has been provided for Indigenous people to have more direct and meaningful input into this legislative and political structure.

Yanchep National Park is well suited as a study area for this type of investigation because of its close proximity to a major urban centre (Perth). There is also a strong Indigenous relationship that exists within the landscape, resulting in a highly visible cultural heritage within the Park. To investigate the complexity of the cultural and ecological transformations of the Park comprehensively, four research questions were formulated (Chapter 1.5). These queries defined the scope of the research, and were fundamental to the research design.

The first question served to explore how Yanchep National Park's landscape evolved in response to natural processes. This study showed the Park to have a dynamic form, in that it is constantly being re-interpreted and impacted upon by cultural and ecological processes.

The natural environment at the Park is characterised by gentle undulating landforms of parallel sand dunes with intervening depressions, some of which contain wetlands. It is the combination of these visual resources that are responsible for people seeking nature-based passive recreation at the Park.

The second question investigated how and why changing social and political structures transformed and continue to transform Yanchep National Park's landscape in time and

space. This study acknowledges that the Park exists in a constant state of change. The investigation of these transformations are discussed throughout Chapters 5, 6 and 7.

The first cultural impacts to the landscape (refer to Table 3.0, p. 31) are attributed to the Nyoongar people extending over 50 000 years, as discussed in detail in Chapter 5. The cultural relationship with this landscape by the Nyoongar people is strong in mythology, involving the elements of serpent, water, earth, cave and fire. This strong cultural relationship, which also establishes the total context in which Nyoongar managed the landscape, resulted in their successful adaptation to the Yanchep area.

The established Indigenous cultural landscape was altered with the arrival of early European settlers and their different perceptions of the environment. At this time of cultural convergence both cultural groups were responding to a new, unknown landscape. The Nyoongar were responding to large scale environmental changes that were brought about by the arrival of the early settlers and this contact with the settlers began to change the very fundamentals of their culture. In contrast, the settlers were responding to a foreign environment and an Indigenous culture they did not understand.

From 1829, the year of European settlement, there has been significant transformations to the Park (Chapter 6). The introduction of their new concepts into the already established Indigenous cultural system was a disruptive one. The Park has been progressively cleared, modified and planted with non-Indigenous trees since their arrival. The majority of development in the main recreation area at the Park occurred in the 1930's when the Yanchep Inn (refer to Plate 6.3, p. 74), Gloucester Lodge, the Pool, and McNess House were built.

Chapter 7 is in part concerned with the management of the Park and the transformations that occurred once the landscape officially became a national park. Pipidinnny Swamp was incorporated into the Park in 1991, and Indigenous tourism was established at about the same time. The limitation of development within the McNess Recreation Area was outlined along with a particular emphasis upon environmental controls that aimed to protect the natural and cultural heritage values of the Park.

The third research question served to evaluate the level of input Indigenous people have in the management of natural and cultural heritage, which is also explored throughout Chapter 7. In this section of the study a framework was developed for evaluating the level of input Indigenous people have in decisions about natural and cultural heritage management. An argument is then put forward for more direct and meaningful input by Indigenous people and their knowledge into not only the management of Yanchep National Park, but for all Australian natural and cultural heritage areas.

The key issues raised by the evaluation were communication, equal participation and respect for both non-Indigenous and Indigenous people and their knowledge. Leading from these key issues, the results of the evaluation indicate that change to the legislative and political process to create the legal basis for equal participation in natural and cultural heritage management should be implemented. The evaluation also implicated that such a change in legislation may result in an increase in Indigenous self-determination.

The fourth question investigated how the results of this study can benefit future management. Managing landscapes requires managers to know what values are found in their cultural landscapes and to make sure that their management strategies protect and enhance these values (Head, 2000; Howitt and Suchet, 2004). However, the problem is that values are dynamic and evolve and change, requiring constant revision and examination.

This question required research into the direction taken by the various managing bodies of the Park and an explanation for the different shifts in policy, as discussed in Chapters 6 and 7. It was found that there will always exist a need to critically evaluate management plans to establish if they are working satisfactorily.

A primary challenge in managing the Park in the years ahead will be addressing the need to buffer conservation values from the pressures of increasing urbanisation, and any associated increase in recreational demand. Low impact recreational activities, water conservation and Indigenous management issues will also be challenges in the future. Change is a constant, therefore successful management must incorporate managing for this change.

## **8.2 Limitations**

It is necessary to acknowledge that whilst every effort was made to ensure a rigorous methodology and research process throughout the study, there were some limitations. The Park is a cultural landscape that has a dynamic form, it is constantly being re-interpreted, and always at the mercy of cultural values. Values are inherently dynamic, in constant flux, and therefore, in a state of constant change. This limited the accuracy of the research because once documented, the landscape and cultural values change and the research becomes dated. Furthermore, culture is an ambiguous term to use, and as such, a comprehensive and accurate study of cultural perceptions is impossible. Though this task was thoroughly attempted, it is recommended that more research into non-Indigenous and Indigenous culture be undertaken.

There are limits to the knowledge of the complexity of systems. For example, the cycle of water levels and fire regimes over space and time are not completely understood in the study area. It is not known how the landscape would appear without a long history of Indigenous peoples' use of fire. Furthermore, the true extent of visitor impacts upon the present Park ecosystem is not fully understood. More research upon these other directions and questions would have been preferred; it was just not feasible to do so.

This study was also limited in its ability to identify preferred scenarios and monitor results of policies and/or management actions that would help to resolve current management issues. These limitations are due to the lack of research data, monitoring and evaluation of knowledge that would help resolve current management objectives and issues at the Park.

Furthermore, research students will always encounter certain limitations due to their own socialisation and cultural perceptions. It should be recognised that the research conducted for this thesis was undertaken in a cultural context itself and has been influenced by the political and social structures that exist at this particular time and in this particular space. Therefore, the results from this study will not be perfect; there will be at some later date a better appreciation of the nature/culture relationship at the Park that will include the various factors for that particular case and at that particular time.

### 8.3 Guiding Principles for Future Management

With keeping these limitations in mind, the study addressed the key research questions around which it was based. During the process of this investigation it became apparent that there are still management issues that affect the Park. Notably, challenges will always exist when managing for constant change in landscapes. The future development of sustainable policies and management plans for not only the Park, but also other cultural landscapes, may benefit from consideration of the following guiding principles:

- All *rare and endangered species* within national parks should be protected, particularly those that are susceptible to disturbance from fire, predatory animals, pollution, disease and human disturbance. Of particular importance to Yanchep National Park is the endemic cave fauna which would benefit from perpetual monitoring and protection.
- Identify and modify or restrict national park operations which interfere with *groundwater and surface water bodies*. For Yanchep National Park, consider regional groundwater effects and the dependency of the wetlands and caves on ground water.
- National parks in close proximity to population centres are exposed to increasing pressures and effects from *urban sprawl*. At Yanchep National Park it is not known if there are enough resources and facilities to cater for an increase in visitors and damage associated with urbanisation. The Park is part of our global environment and plays a role in greenhouse issues, and as urbanisation increases, so does the damage to the environment.
- National parks are like an island ecosystem, and therefore, *fire* needs to be treated differently. Generally, *fire* is beneficial for the Australian landscape, however, when it occurs in a closed system, like in national parks, the burnt area can not be recolonised from the surrounding environment. Severe *fires* in such circumstances may result in extinctions.

- National parks should be considered in a *regional context*, and not as isolated landscapes. It would be beneficial to facilitate *linkages* with regional systems and the Park, as outlined in the Gnamara Park Proposal, and give consideration to the conservational roles national parks play on an international level.
- The successful management of national parks should include *equal participation* by non-Indigenous and Indigenous people to seek a balance between natural values, Indigenous significance and value of the developed areas.
- *Community participation* can benefit nature conservation within national parks, and it should be a focus for management. There is still a lot of work to be done in the future, and with an aging population and an increase in retirees willing to volunteer, community participation can play an important role. Engaging these people in environmental participation leads to a flow on effect of environmental knowledge into the community at large. It raises community awareness of the need for conservation.

This study investigated and depicted the complexity of cultural and ecological systems in Western Australia's Yanchep National Park. The results demonstrate a potential to yield information that will contribute to a better understanding of the natural and cultural history of Western Australia. The study also demonstrated how the Park fits into the changing nature of national parks as a cultural landscape. Furthermore, an argument was provided for more direct and meaningful input by Indigenous people (and their knowledge) into the management of Yanchep National Park, as well as in all aspects of Australian natural and cultural heritage.

The Park is a landscape that provides scenic, economic, spiritual, ecological, social, recreational and educational opportunities. Such opportunities assist Australians to understand themselves as individuals, communities and as a nation. The ongoing preservation of the Park can yield an improved quality of life for all and, above all, a sense of place or identity for future generations.

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## **APPENDICES**

**Appendix I:**  
**Cultural Heritage Listed Sites**

## Cultural Heritage Listed Sites

Many individual places within the Park have been recognised by the various heritage agencies operating in this State. The following table is a summary of the cultural heritage significance of many aspects within the Park. The Heritage Council number refers to the Heritage Council's database of places.

<b>Places</b>	<b>Heritage Council Number</b>	<b>Heritage Council</b>	<b>National Trust</b>	<b>Australian Heritage Commission</b>	<b>Municipal Inventory</b>
Yanchep National Park	4151				25/5/94
Gloucester Lodge and Pool	2677	16/6/1992	6/4/1987	8/4/1988	25/5/94
Yanchep Inn	2678	16/6/1992	6/4/1987	8/4/1988	25/5/94
Tram Cottages	2679	16/6/1992	6/4/1987	8/4/1988	25/5/94
McNess House	2680	16/6/1992	6/4/1987	8/4/1988	25/5/94
Ghost House Ruin, Chauffeur's room and garage	2681	16/6/1992	6/4/1987	8/4/1988	25/5/94
Army Bunkers	2682	16/6/1992	6/4/1987	8/4/1988	25/5/94
Administration Building	2683	16/6/1992	6/4/1987	8/4/1988	25/5/94
Avenue of Trees	9531				25/5/94
Crystal Cave	9529				25/5/94
War Memorial*	14275				

\* Included in the State wide survey of war memorials.

<b>Cultural Heritage Listed Sites, (Williams, 2003, p. 16)</b>
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**Appendix II:**  
**Main Issues of Draft Management Plan**

### **Main Issues of Draft Management Plan**

- To ensure that the gazetted purpose, vesting and tenure of the reserves reflect their values and use.
- To implement a management zoning system that will protect the Park's conservation values and provide for compatible recreation and commercial uses.
- To protect and conserve geological, landform and soils.
- To protect and conserve the quality and quantity of surface and ground water of the Park.
- To protect and enhance the cultural and natural landscape values of the Park while providing opportunities to appreciate aspects of the landscape of the Park and the region.
- To protect, maintain and enhance (where possible) the environmental quality of the Parks wetlands according to their purpose.
- To protect and conserve native plants and plant communities, especially threatened or other priority species.
- To protect and conserve indigenous fauna while providing opportunities for visitors to observe and gain a better understanding of the Park's fauna.
- To protect and conserve the cultural heritage of the Park and promote a greater understanding of the Park's cultural values.
- To prevent the introduction of diseases into disease-free areas of the Park and to minimize the spread of disease in the Park.
- To minimize the impacts of introduced plants and animals on ecosystem values.
- To minimize the impact of weeds, and non-local plants and minimize detrimental effects of control on the Park environment.
- To rehabilitate degraded areas to a stable condition resembling the natural environment as closely as possible.
- To enhance Yanchep National Park's role as an important tourist destination, while protecting the conservation values of the Park.
- The objective is to provide and maintain suitable access while ensuring the Park's values are not adversely affected.
- To provide opportunities for visitors to view and gain a greater understanding of koalas, kangaroos and emus in the Park environment.
- To provide opportunities for the appreciation of the wildflowers of WA and the cultural values of some exotic plant gardens; and areas for active sporting activities.
- To provide high quality, safe opportunities for children to explore and experience within the Park environment.
- To provide picnic areas and facilities that enhance visitor enjoyment of the Park environment.
- To provide bushwalking opportunities to interact with and with minimal impact on the environment.
- To protect and maintain the cave environments while facilitating low impact, safe enjoyment and appreciation of designated caves by visitors.
- To minimize the negative impacts of horse-riding on the Park's environment and other visitors.
- To provide a range of bicycle riding opportunities which do not impact on conservation, landscape and other values.
- To provide limited camping opportunities within the Park.

- To ensure the operation and management of leases and concession facilities in the Park is compatible with the objectives of the Park.
- To take all reasonable and practical steps to minimize the risk of injury and misadventure to visitors to the Park.
- To increase awareness, appreciation and understanding of the values of the Park and support the strategies used to manage and conserve them.
- To develop, encourage and facilitate effective involvement of the community and other relevant authorities in management of the Park.
- To minimize the effects of apiculture and feral bees on the Park environment.
- To minimize the impact of extractive industries on the Park.
- To minimize the impact of utilities and services on the values of the Park.
- To approve and establish only those structures, facilities and developments that are compatible with other Park values and management objectives.
- To further develop and maintain knowledge in regard to natural processes and visitor use.
- To regularly review implementation of the plan according to priorities.

**Appendix III:**  
**Yanchep and Neerabup National Parks Management Plan Issues Paper**

# **YANCHEP AND NEERABUP NATIONAL PARKS MANAGEMENT PLAN ISSUES PAPER**

## **INTRODUCTION**

The Department of Conservation and Land Management is in the process of preparing a management plan for Yanchep and Neerabup National Parks, on behalf of the Conservation Commission of WA. The management plan will determine how the Parks are managed over the next 10 years, or until another management plan is prepared.

The Commission and Department have a firm commitment to providing opportunities for public participation in the conservation of Western Australia's biodiversity. Involving the public in management planning is one way in which this is done. A draft management plan is usually prepared following discussions with key stakeholders. This may take the form of public meetings, meetings with specific interest groups, local and state government agencies, or written submissions. A draft management plan is then released for public comment for a minimum two-month period, during which time members of the public can submit their thoughts on the draft. Submissions to the draft plan are considered in preparing the final management plan. The plan is then implemented once it has been approved by the Minister for Environment and Heritage.

This discussion paper highlights some of the main management issues of Yanchep and Neerabup National Parks and has been prepared to inform and assist public participation in the management planning process. We welcome constructive, creative and innovative suggestions on ways in which the Department can address these issues or any others with direct relevance to these Parks.

## **Brief Overview**

A primary challenge in managing Yanchep and Neerabup National Parks in the years ahead will be addressing the need to buffer their conservation values from the pressures of increasing urbanisation, and any associated increase in recreational demand. In particular, management strategies aimed at preventing/minimising rubbish dumping (eg. cars and household rubbish), unauthorised wildflower picking, firewood cutting, and trail bike riding will be necessary. Such activities have increased in Neerabup National Park as urban development around the Park has increased.

## **Regional Context**

The proposal to incorporate 'Ridges State forest', and part of 'State forest No 65' into Yanchep National Park was discussed in the Yanchep National Park Management Plan 1989-1999, and in Departmental regional-level plans. The proposed additions have high conservation and recreation value and are sought to supplement and buffer Yanchep National Park. To date, neither area has been added to the Park as transfer has been held up by the government's need to consider mineral prospectivity in the area. However, in the interim, these areas have been incorporated into Gnamptara Park and will be managed as though they were National Park (Department of Conservation and Land Management 1999). Securing protected area status for these areas remains an important management goal.

Other proposed additions to Yanchep National Park were discussed in the Yanchep National Park Management Plan 1989-1999, namely, Pipidinny and Beonaddy Swamps. Whilst the process of adding these areas is nearing completion they are not as yet formally part of the Park. Despite the fact that these areas have been impacted by human use, they will be valuable additions to the Park as they provide important refuge for a variety of breeding birds.

The northern extension of the Mitchell Freeway and other road/rail development requires the excision of land from Neerabup National Park. In compensation for land excised from the Park, a total of 572 ha of land is to be added to the Park. The net result of these excisions and additions will be an increase of about 370 ha in the area of the National Park. The current and anticipated management of lands to be added to the Park will be considered as part of this management planning process.

## **MANAGING THE NATURAL ENVIRONMENT**

### **Native Plants And Habitats**

Seven regional floristic groups of the Swan Coastal Plain are represented in Yanchep National Park and two regional floristic community types are represented in Neerabup National Park. Both Yanchep National Park and the proposed Ridges extension contain endangered vegetation communities. The protection of the reserves' endangered and remnant vegetation from threats such as fire, jarrah dieback (*Phytophthora cinnamomi*) and weed invasion is a key focus of management and will become particularly important as further urban development occurs.

### **Environmental Weeds**

Weed infestations in both Parks are ongoing management challenges. The potential for greater weed invasion as a result of encroaching urbanisation is anticipated and mechanisms for addressing this increased threat will be identified. Management of environmental weeds will need to focus on community education and controlling public access, as progress in weed control is negated by the dumping of garden refuse and uncontrolled vehicular and pedestrian access. Specific weed control plans are formulated in accordance with the Environmental Weed Strategy (Department of Conservation and Land Management 1999). Prioritising weed control will be necessary. For example, targeting weeds that threaten species of conservation significance or weeds that can be readily controlled due to their localised extent would be high priorities.

### **Native Animals and Habitats**

Yanchep and Neerabup National Parks provide important habitat for several species and communities of conservation significance including specially listed migratory birds, threatened and priority fauna. Protection, conservation and rehabilitation of habitat needed to support the Parks' native fauna are key management goals. The management planning process will identify indicators that can be used to assess the extent to which these goals are met. One of the principal threats to the Parks' native animals is introduced/feral animals. This threat is anticipated to increase as urban development encroaches. Feral animals such as cats, foxes and, to a lesser extent,

rabbits are of particular concern. The incorporation of the Department's predator control program, Western Shield, into Yanchep National Park is now underway and will see future re-introductions to the Park of species now locally extinct or rare (eg. the Chuditch and Quenda).

Feral cats, rabbits and foxes are also present in large numbers in Neerabup. However, the Park is considered a high-risk location to bait given its narrow shape and proximity to urban areas. Under such circumstances the Department's policy limits 1080 baiting to avoid harming dogs that may wander into reserves. In view of this, less efficient methods of feral animal control such as trapping are being utilised in Neerabup National Park.

### **Caves/Cave Fauna**

A major objective of management of Yanchep National Park is the conservation of Critically Endangered root mat communities (known to occur in six of the Park's caves), and of a species of amphipod (a small crustacean) endemic to Crystal Cave.

Managing the threats to the cave fauna requires the co-operation of several agencies such as Water and Rivers Commission, Water Corporation and the Forest Products Commission to address potential/actual changes in groundwater levels and quality. Cave fauna are thought to have been placed under pressure as a result of the influence of surrounding pine plantations, a period of successive dry climate conditions, and on-going groundwater water abstraction.

Further work to identify/clarify the role of surface waters such as Loch McNess and Yonderup Lake in the conservation of cave fauna is needed. These wetlands are thought to serve as conduits for possible colonisation of caves in the area.

Strategies to address the role of surrounding pine plantations in the drying of caves at Yanchep National Park are being developed. These include, for example; thinning of pines within the cave catchment to a density that more closely reflects that of the original native woodlands. It is anticipated that water levels will then more closely approach previous levels.

Conservation of the cave formations created through mineral deposition (speleotherms) will continue to be a focus of future management of Yanchep National Park. Vandalism of speleotherms is a significant management problem. Gates have been installed at Cabaret, Mambibby and Pophole caves to restrict access to those caves:

- most effected by vandals;
- of high visitor risk; or
- to protect the threatened communities they contain.

Other caves requiring similar protection will be dealt with as resources allow. Current management of the caves involves liaison with the Yanchep National Park Caves Advisory Committee, which comprises experts from various caving groups.

## **Wetlands**

Yanchep National Park has three permanent wetlands (Loch McNess, Yonderup and Wilgarup Lakes) and two seasonal ones (Pipidinny and Beonaddy Swamps) of relatively high water quality. The Loch McNess system is of particular management significance as it has been identified as one of Australia's nationally important wetland systems providing important habitat for migratory waterbirds.

The management planning process facilitates review of wetland management, and re-evaluation of the mechanisms in place to mitigate ecological impacts and to monitor management actions. Management strategies will be directed at maintaining the wetlands' natural water cycles and quality.

## **Fire**

Neerabup National Park presents particular management challenges with respect to fire protection and management. The area has experienced regular wildfire that has been difficult to control because of the influence of local topography, regular south-westerly breezes, and the linear shape of the Park.

The management planning process affords the opportunity for review of the current fire management regime for both Yanchep and Neerabup National Parks and will be done in consultation with fire management experts to ensure that the most up-to-date science is incorporated into management decisions. The anticipated increase in fire frequency as a result of encroaching urbanisation will need to be taken into consideration.

## **MANAGING OUR CULTURAL HERITAGE**

### **Indigenous Heritage/Indigenous Involvement In Management**

Government policy provides for an increased level of Aboriginal involvement in nature conservation and land management than has previously occurred. More specifically, consultation and liaison with Aboriginal people regarding management of conservation reserves is to be strengthened, and movements towards joint management are proposed.

To this end, the management planning process for Yanchep and Neerabup National Park will seek to establish formal processes for Aboriginal consultation and interaction in management and management planning.

## **MANAGING RECREATION AND TOURISM**

The heritage values of the built and landscaped environment within Yanchep National, and the kind of recreational opportunities provided there, make it unique amongst national parks in WA. The majority of development in the main recreation area at Yanchep National Park occurred in the 1930s when Yanchep Inn, Gloucester Lodge and Pool, and McNess House were built. These sites (amongst others) are now listed on the Commonwealth Register of the National Estate, and on the State Register of Heritage Places. The Gloucester Lodge Pool has not been used for many years due to unresolved structural problems that caused it to leak chlorinated water into the groundwater. To date, the costs of repairing/restoring the pool to working condition

have been prohibitive. The pool is consequently a significant 'eye-sore' and poses potential visitor safety risk. The management planning process provides a valuable opportunity for re-assessing these issues. The plan will reflect the results of consultation with heritage conservation experts to evaluate management options available, and the costs associated with these options. In this way, once funds do become available, the implementation of the preferred management option can proceed as per the plan.

The Ornamental Lakes at Yanchep National Park have similarly not been maintained. The management plan will also need to assess management options for this area.

As illustrated by the above examples, conserving the integrity of Yanchep National Park's historical/cultural landscapes, and maintaining the recreational services and facilities provided there, requires a greater than usual level of resources. It is envisioned that Department run activities at Yanchep National Park will be at least self-sustaining, with a longer-term aim of them subsidising the Park's nature conservation and other management activities.

An increased demand for recreation at Yanchep National Park is anticipated as urban development nears the Park, and as an indirect consequence of the proposed road developments between Lancelin and Cervantes. It is anticipated that the sealing of the Lancelin to Cervantes Road will reduce travel time for tourists and hence increase the likelihood of them including Yanchep National Park in their trip. The management planning process will need to re-assess options regarding the ongoing development of recreation/tourism services and opportunities, and consider management strategies to respond to the anticipated increase in demand.

Bushwalking, nature study and photography are the main recreation activities currently occurring at Neerabup National Park. Visitor numbers at Neerabup National Park have not been surveyed but Ranger observations suggest that the majority of visitors are local people. Entry fees do not apply at Neerabup National Park and there are no facilities provided apart from walk trails. The planning process will need to consider the need to accommodate increasing use of the Park, and to plan for protection of the Park's values from potential negative impacts of recreational use.

### **Access**

Access control issues are inherent in both Yanchep and Neerabup National Parks and contribute to the problems associated with fire management, weed control, erosion, littering and theft. Various strategies for addressing access problems need to be considered, although the use of strategic fencing and gates may be the only effective means of doing this in some instances.

### **Commercial Operations**

The Department provides several leases and licences for sites and activities within Yanchep National Park. The Golf Club, Gloucester Lodge, Yanchep Inn, and the Tearooms are examples. These leases and licences provide valuable revenue that can be re-invested into nature and cultural conservation activities. Greater returns are

anticipated in future years once improvements to facilities have been completed and become established.

## **INVOLVING THE COMMUNITY**

A student program for Yanchep National Park has been developed recently and has been well accepted by the schools market. Interpretation programs for Yanchep National Park are designed for both Nyoongar cultural heritage and environmental issues and are closely linked to the curriculum framework.

Effective community information, education and interpretation are essential to achieving many management goals for the Parks, and strategies to this end will be an important component of the management plan.

Providing strong links with the local community is an important aspect of managing Yanchep and Neerabup National Parks. The Yanchep National Park Advisory Committee will be integral to maintaining community networks and in further involving a growing neighbourhood in Park affairs.

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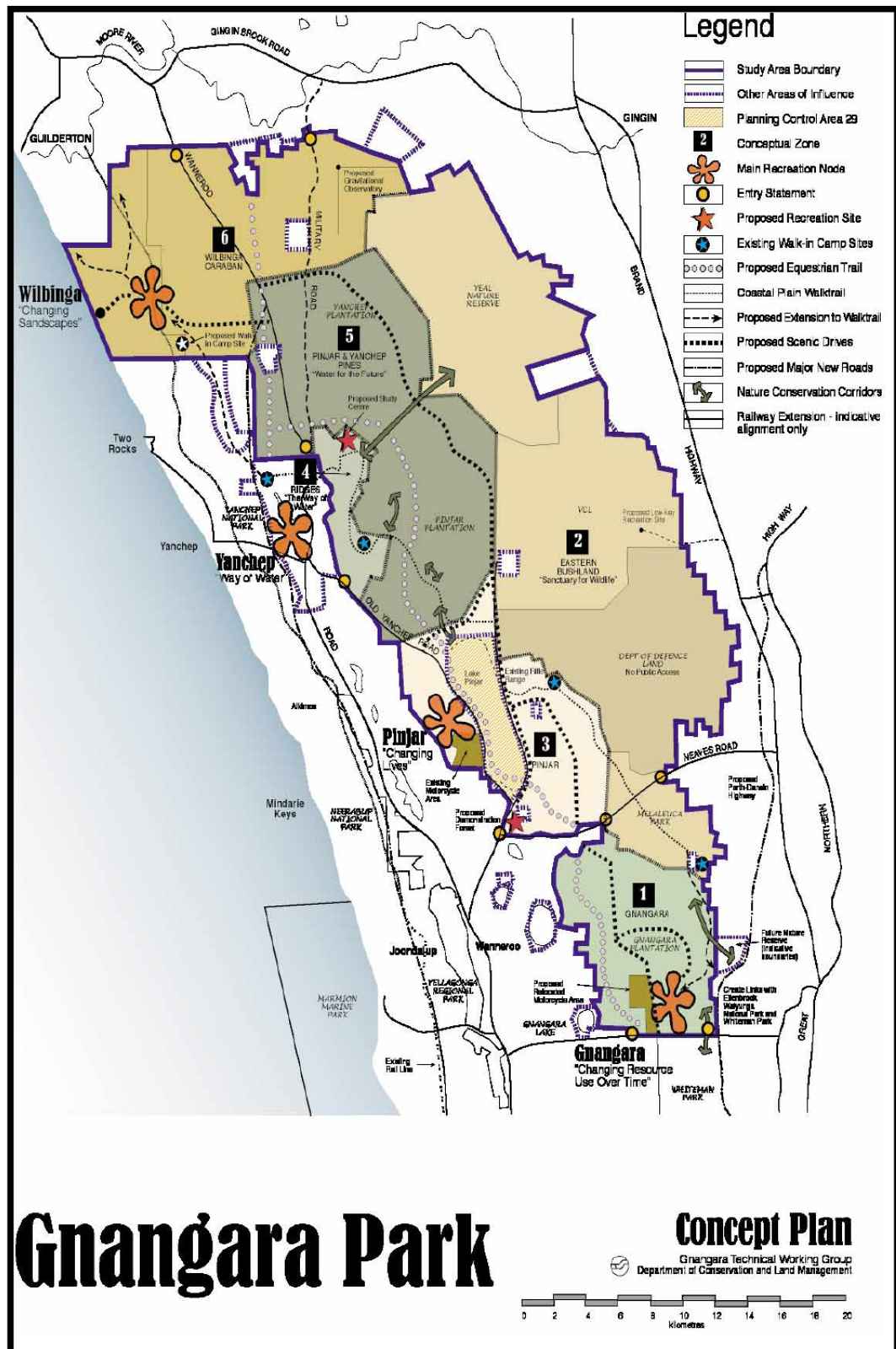
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<p><b>Yanchep and Neerabup National Parks Management Plan Issues Paper, (DEC, 2002).</b></p>
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**Appendix IV:**  
**Gnangara Park Concept Plan**



Gnangara Park Concept Plan, (WAPC, 2001, p. 1).

**Appendix V:**  
**Register of Indigenous Sites at Yanchep National Park**



Department of Indigenous Affairs  
Government of Western Australia



## Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

### Search Criteria

4 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6505079	371027
6514072	379307

### Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

### Copyright

Copyright in the information contained herein is and shall remain the property of the State of Western Australia. All rights reserved. This includes, but is not limited to, information from the Register of Aboriginal Sites established and maintained under the Aboriginal Heritage Act 1972 (AHA).

### Legend

Restriction	Access	Status	Coordinate Accuracy
N No restriction	C Closed	L Lodged	Accuracy is shown as a code in brackets following the site coordinates. [Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture. [Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.
M Male access only	O Open	I Insufficient Information	
F Female access	V Vulnerable	P Permanent register	
		S Stored data	

### Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map. I.e. '5000000.250' means Easting=5000000, Zone=50.

Aboriginal Heritage Inquiry System: Disclaimer, Copyright and Legend,  
(DIA, 2008).



# Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
3186	P	C	N	Yonderup Cave	Skeletal material/Burial	[Other: PA 77]	*Registered Informant names available from DIA.	Not available for closed sites	S00544
3742	P	O	N	Loch Mcness, wagaradu Spring.	Ceremonial, Mythological	Massacre, Meeting Place, Camp, Water Source	*Registered Informant names available from DIA.	374020mE 6510678mN Zone 50 [Unreliable]	S02189
17451	P	O	N	Pipidinny Lake	Mythological		*Registered Informant names available from DIA.	375183mE 6505378mN Zone 50 [Reliable]	
24673	L	O	N	Loch Mcness Stone Cairn	Man-Made Structure		*Registered Informant names available from DIA.	374223mE 6509324mN Zone 50 [Reliable]	

Aboriginal Heritage Inquiry System: Register of Aboriginal Sites at Yanchep National Park, (DIA, 2008).



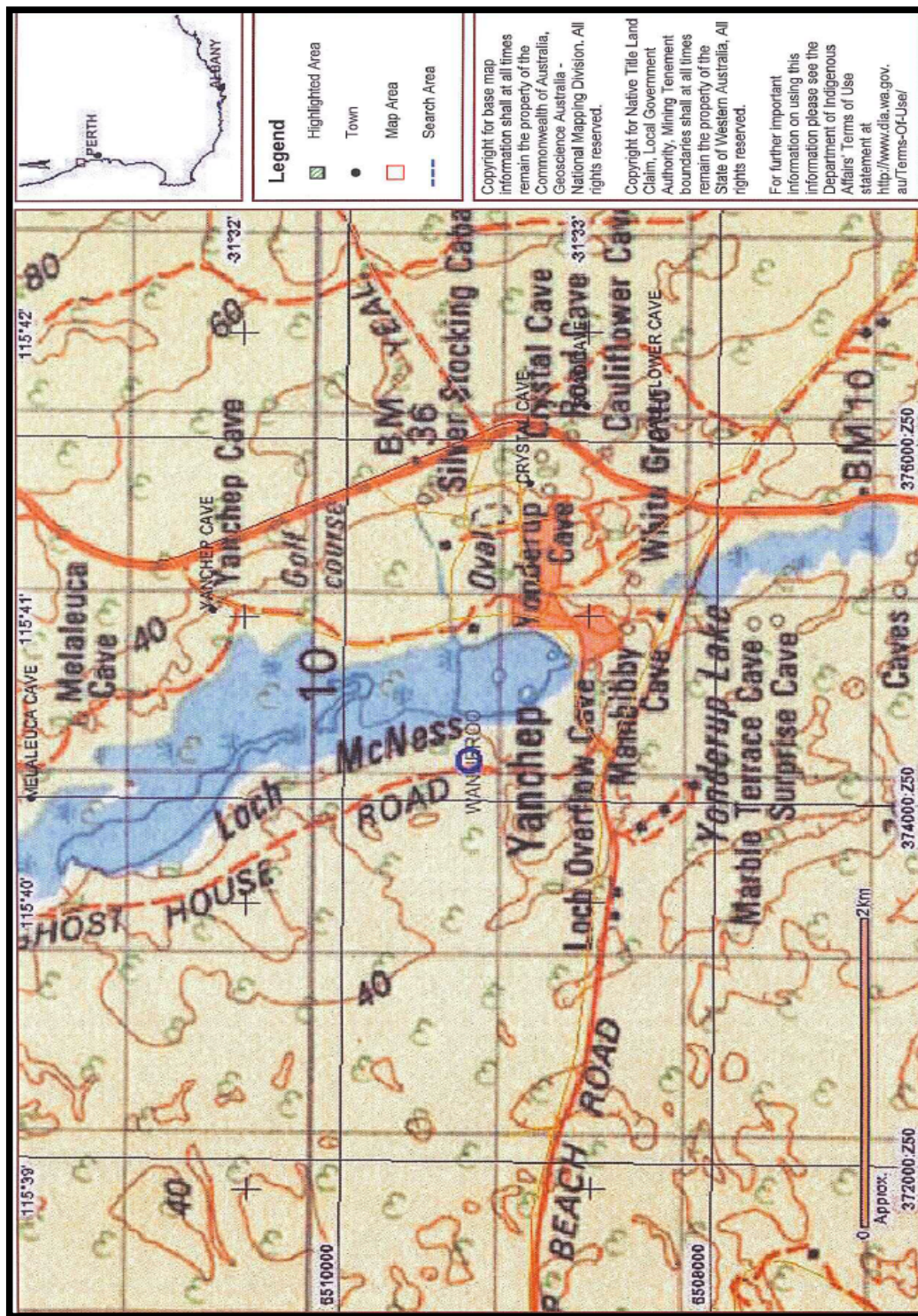
Aboriginal Heritage Inquiry System: Yonderup Cave. Site Type: Skeletal material / Burial, (DIA, 2008).



**Aboriginal Heritage Inquiry System: Loch McNess, Wagardu Spring. Site Type: Ceremonial, Mythological, (DIA, 2008).**



Aboriginal Heritage Inquiry System: Pipidinnny Lake. Site Type: Mythological, (DIA, 2008).

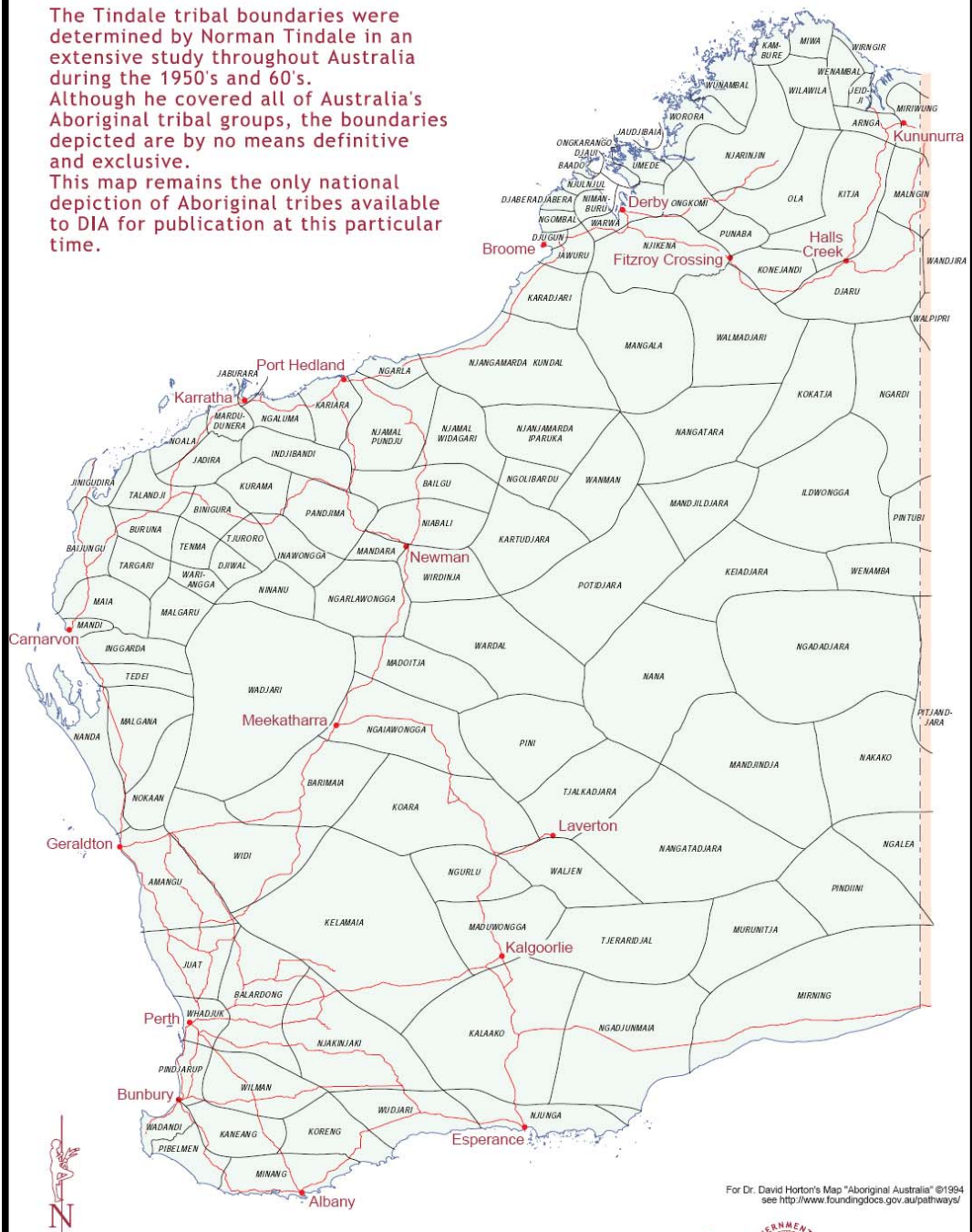


**Aboriginal Heritage Inquiry System: Loch McNess Stone Cairn. Site Type: Man-made Structure, (DIA, 2008).**

**Appendix VI:**  
**Western Australia Tindale Tribal Boundaries**

# WESTERN AUSTRALIA TINDALE TRIBAL BOUNDARIES

The Tindale tribal boundaries were determined by Norman Tindale in an extensive study throughout Australia during the 1950's and 60's. Although he covered all of Australia's Aboriginal tribal groups, the boundaries depicted are by no means definitive and exclusive. This map remains the only national depiction of Aboriginal tribes available to DIA for publication at this particular time.



For Dr. David Horton's Map "Aboriginal Australia" ©1994 see <http://www.foundingdocs.gov.au/pathways/>

Last update: November 2006

[www.dia.wa.gov.au](http://www.dia.wa.gov.au)

Acknowledgement to The Regents of the University of California

0 100 200  
kilometres



Department of  
Indigenous Affairs

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**Western Australia Tindale Tribal Boundaries, (DIA, 2008, p. 1). When Tindale began this project during the 1920's the popular view was that Indigenous groups roamed across the landscape, with no fixed territories. This map provides evidence that no part of Western Australia was *Terra nullius*, nobody's land.**

**Appendix VII:**  
**‘Environment and Resources’ and ‘Air and Development’ Treaties**  
**Signed, Acceded to and Entered Into Force Since 2000**

**Environment and Resource Treaties in Force Since 2000**  
(ATS = Australian Treaty Series Number)

<ul style="list-style-type: none"> <li>• Agreement between the Governments of Australia, Argentina, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of the Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America concerning the Peaceful Uses of Antarctica. [1961] ATS 12</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on the Conservation of Migratory Species of Wild Animals. [1991] ATS 32</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on Biological Diversity. [1993] ATS 32</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Appendices I and II of the Convention on the Conservation of Migratory Species of Wild Animals done at Bonn on 23 June 1979 ([1991] ATS 32. [1991] ATS 32</li> </ul>
<ul style="list-style-type: none"> <li>• Establishment Agreement for the Centre for International Forestry Research (CIFOR), Canberra 5 March 1995. [1993] ATS 13</li> </ul>
<ul style="list-style-type: none"> <li>• United Nations Framework convention on Climate Change. [1994] ATS 2</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment of the Montreal Protocol on Substances that Deplete the Ozone Layer of 16 September 1987. [2005] ATS 29</li> </ul>
<ul style="list-style-type: none"> <li>• Headquarters Agreement between the Government of Australia and the Commission for the Conservation of Southern Bluefin Tuna. [1999] ATS 6</li> </ul>
<ul style="list-style-type: none"> <li>• United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. [2000] ATS 18</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement on the Privileges and Immunities of the International Atomic Energy Agency. [1986] ATS 10</li> </ul>
<ul style="list-style-type: none"> <li>• Statute of the International Atomic Energy Agency with Certified true copy in 5 languages, including 1957 rectifications to the Chinese and Russian texts</li> </ul>

<p>Certified in Washington on 8 May 1957. [1957] ATS 11</p>
<ul style="list-style-type: none"> <li>Amendment to Article VI.A.3 of the Statute of the International Atomic Energy Agency of 26 October 1956. [1963] ATS 17</li> </ul>
<ul style="list-style-type: none"> <li>Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology. [1988] ATS 11</li> </ul>
<ul style="list-style-type: none"> <li>Amendment to Article VI.A.1 of the Statute of the International Atomic Energy Agency of 26 October 1956, as amended ([1957] ATS 11. [1989] ATS 39</li> </ul>
<ul style="list-style-type: none"> <li>Exchange of Notes constituting an Agreement with the Korean Peninsula Energy Development Organization [KEDO] regarding an Australian Financial Contribution to KEDO. [1995] ATS 34</li> </ul>
<ul style="list-style-type: none"> <li>Agreement for Cooperation concerning Civil Uses of Atomic Energy. [1956] ATS 8</li> </ul>
<ul style="list-style-type: none"> <li>Amendment to the Australia-USA Agreement for Cooperation concerning the Civil Uses of Atomic Energy of 22 June 1956. [1961] ATS 8</li> </ul>
<ul style="list-style-type: none"> <li>Protocol suspending Safeguards Applied in Australia under the Agreement with the IAEA and the USA for the application of Safeguards of 26 September 1966 and providing for the application of Safeguards pursuant to the Treaty for Non Proliferation of Nuclear Weapons of July 1968. [1974] ATS 17</li> </ul>
<ul style="list-style-type: none"> <li>Agreement between the Government of Australia and the Government of the United Kingdom of Great Britain and Northern Ireland concerning Transfers Nuclear Transfers between Australia and the United Kingdom. [1979] ATS 11</li> </ul>
<ul style="list-style-type: none"> <li>Agreement between the Government of Australia and the Government of the Republic of Korea concerning the Cooperation in Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material. [1979] ATS 5</li> </ul>
<ul style="list-style-type: none"> <li>Exchange of Letters constituting a Transitional Agreement to Enable Conversion and/or Enrichment in France of Australian Origin Nuclear Material Supplied to Japan.</li> </ul>

[1980] ATS 27
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the Republic of Finland concerning the Transfer of Nuclear Material. [1980] ATS 4</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of Sweden on conditions and controls for Nuclear transfers for Peaceful Purposes between Australia and Sweden and Exchange of Letters. [1981] ATS 13</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the French Republic concerning Nuclear Transfers between Australia and an Associated Exchange of Letters. [1981] ATS 23</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the United States of America Concerning Peaceful Uses of Nuclear Energy. [1981] ATS 4</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of Canada concerning the Peaceful Use of Nuclear Energy. [1981] ATS 8</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of Japan for Cooperation in the Peaceful Uses of Nuclear Energy. [1982] ATS 22</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement with the Government of the Philippines concerning Cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear materials. [1982] ATS 25</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on Early Notification of Nuclear Accident. [1987] ATS 14</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on Assistance the Case of a Nuclear Accident or Radiological Emergency. [1987] ATS 15</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on the Physical Protection of Nuclear Material. [1987] ATS 16</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the Swiss Confederation concerning the Peaceful uses of Nuclear Energy. [1988] ATS 15</li> </ul>

<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the Arab Republic of Egypt concerning cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material between Australia and the Arab Republic of Egypt and Agreed Minutes. [1989] ATS 14</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement with the Government of the Arab Republic of Egypt concerning cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material between Australia and the Arab Republic of Egypt and Agreed Minutes. [1989] ATS 14</li> </ul>
<ul style="list-style-type: none"> <li>• Exchange of Notes between the Government of Australia and the Government of the Republic of Singapore constituting an Agreement concerning Cooperation on the Physical Protection of Nuclear Material. [1989] ATS 34</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the Union of Soviet Socialist Republics Concerning the Peaceful Uses of Nuclear energy. [1990] ATS 43</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the Union of Soviet Socialist Republics Concerning the Peaceful Uses of Nuclear energy. [1990] ATS 43</li> </ul>
<ul style="list-style-type: none"> <li>• Exchange of Notes constituting an Agreement to bring International Obligation Exchanges under the Coverage of the Agreement concerning Peaceful Uses of Nuclear Energy, and Agreed Minute, of 5 July 1979. [1991] ATS 48</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the United Mexican States concerning cooperation in Peaceful Uses of Nuclear Energy. [1992] ATS 32</li> </ul>
<ul style="list-style-type: none"> <li>• Exchange of Notes constituting an Implementing Arrangement, concerning International Obligation Exchanges, to the Agreement with the European Atomic Energy Community [EURATOM] concerning Transfers of Nuclear Material of 21 September 1981 ([1982] ATS 26. [1993] ATS 27</li> </ul>
<ul style="list-style-type: none"> <li>• Exchange of Notes constituting an Agreement with the Government of Canada to amend and to provide for International Obligation Exchanges under the Agreement concerning the Peaceful Uses of Nuclear Energy of 9 March 1981.</li> </ul>

[1995] ATS 19
<ul style="list-style-type: none"> <li>Exchange of Notes constituting two Agreements between the Government of Australia and the Government of Canada to provide for Certain Nuclear Transfers under the Agreement concerning the Peaceful Uses of Nuclear Energy of 1981. [1995] ATS 19</li> </ul>
<ul style="list-style-type: none"> <li>Exchange of Notes constituting two Agreements between the Government of Australia and the Government of Canada to provide for Certain Nuclear Transfers under the Agreement concerning the Peaceful Uses of Nuclear Energy of 1981. [1995] ATS 19</li> </ul>
<ul style="list-style-type: none"> <li>Convention on Nuclear Safety. [1997] ATS 5</li> </ul>
<ul style="list-style-type: none"> <li>Exchange of Notes constituting an Implementing Arrangement with the European Atomic Energy Community [EURATOM] concerning Plutonium Transfers under the Agreement concerning Transfers of Nuclear Material from Australia to EURATOM, and accompanying Side Letter No. 2, of 21 September 1981, and the Implementing Arrangement concerning Plutonium Transfers of 8 September 1993. [1999] ATS 8</li> </ul>
<ul style="list-style-type: none"> <li>Agreement between the Government of Australia and the Government of the Republic of Hungary on Cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material. [2002] ATS 10</li> </ul>
<ul style="list-style-type: none"> <li>Agreement between the Government of Australia and the Government of the Czech Republic concerning Cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material. [2002] ATS 8</li> </ul>
<ul style="list-style-type: none"> <li>Exchange of Notes constituting an Agreement between the Government of Australia and the Government of the United States of America concerning Cooperation in the application of Non Proliferation assurances on retransfer to Taiwan. [2002] ATS 9</li> </ul>
<ul style="list-style-type: none"> <li>Joint Convention on the Safety of Spent Fuel Management and on the Safety of Nuclear Waste Management. [2003] ATS 21</li> </ul>
<ul style="list-style-type: none"> <li>Agreement with the Argentine Republic concerning cooperation in the</li> </ul>

<p>peaceful uses of nuclear energy. [2005] ATS 5</p>
<ul style="list-style-type: none"> <li>• Exchange of Notes constituting an Agreement with the Government of Japan to amend [by replacing the Delineated and Recorded Japanese Nuclear Fuel Cycle Program] the Agreement for Co-operation in the Peaceful Uses of Nuclear Energy [to replace of 5 March 1982, as amended. [2006] ATS 18</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement on the Establishment of the Korean Peninsula Energy Development Organization. [1995] ATS 27</li> </ul>
<ul style="list-style-type: none"> <li>• Convention to Ban the Importation into Forum Island Countries of Hazardous and Radio Active Waste and to Control the Transboundary Movement and Management of Hazardous Waste within the Pacific Region. [2001] ATS 17</li> </ul>
<ul style="list-style-type: none"> <li>• 1996 Amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code vague expressions). [1998] ATS 27</li> </ul>
<ul style="list-style-type: none"> <li>• 1996 Amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code). [1998] ATS 28</li> </ul>
<ul style="list-style-type: none"> <li>• 1996 Amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH Code). [1998] ATS 29</li> </ul>
<ul style="list-style-type: none"> <li>• Basel Convention for the Control of Transboundary Movements of Hazardous Wastes and their Disposal. [1992] ATS 7</li> </ul>
<ul style="list-style-type: none"> <li>• Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in, International Trade. [2004] ATS 22</li> </ul>
<ul style="list-style-type: none"> <li>• Convention for the Protection of the Natural Resources and Environment of the South Pacific Region. [1990] ATS 31</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on Conservation of Nature in the South Pacific. [1990] ATS 41</li> </ul>
<ul style="list-style-type: none"> <li>• Convention for the Conservation of Southern Bluefin Tuna.</li> </ul>

[1994] ATS 16
<ul style="list-style-type: none"> <li>• Convention on the Conservation of Antarctic Marine Living Resources. [1982] ATS 9</li> </ul>
<ul style="list-style-type: none"> <li>• 1992 Amendments to the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code). [1994] ATS 42</li> </ul>
<ul style="list-style-type: none"> <li>• 1992 Amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH Code). [1994] ATS 43</li> </ul>
<ul style="list-style-type: none"> <li>• 1990 Amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH) Code). [2000] ATS 34</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Regulations 5 and 6 of Annex V (Regulations for the Prevention of Pollution by Garbage from Ships) to the Protocol of 17 February 1978 relating to the International Convention for the Prevention of Pollution from Ships of 2 November 1973 ([1984] ATS 5. [1991] ATS 51</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to the Limitation Amounts in the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969. [2004] ATS 27</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to the Limitation Amounts in the Protocol of 1992 to amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971. [2004] ATS 28</li> </ul>
<ul style="list-style-type: none"> <li>• International Convention on Civil Liability for Oil Pollution Damage, 1969. [1984] ATS 3</li> </ul>
<ul style="list-style-type: none"> <li>• Protocol to the International Convention on Civil Liability for Oil Pollution Damage of 29 November 1969. [1984] ATS 3</li> </ul>
<ul style="list-style-type: none"> <li>• Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships of 2 November 1973, as amended. [1988] ATS 29</li> </ul>

<ul style="list-style-type: none"> <li>• Amendment and Adjustments of the Montreal Protocol on Substances that Deplete the Ozone Layer. [1994] ATS 19</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment and Adjustments of the Montreal Protocol on Substances that Deplete the Ozone Layer. [1999] ATS 16</li> </ul>
<ul style="list-style-type: none"> <li>• International Plant Protection Convention. [1952] ATS 5</li> </ul>
<ul style="list-style-type: none"> <li>• Plant Protection Agreement for the South East Asia and Pacific Region. [1956] ATS 11</li> </ul>
<ul style="list-style-type: none"> <li>• New [second] revised text of the International Plant Protection Convention of 6 December 1951, as revised 28 November 1979. [2005] ATS 23</li> </ul>
<ul style="list-style-type: none"> <li>• Convention for the Protection of the World Cultural and Natural Heritage. [1975] ATS 47</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment. [1981] ATS 6</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on the prohibition of military or any other hostile use of environmental modification techniques. [1984] ATS 22</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article XI.3(a) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora of 3 March 1973 ([1976]). [1987] ATS 28</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment. [1988] ATS 22</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement with the Union of the Soviet socialist Republics on Cooperation the Field of Protection and the Enhancement of the Environment. [1990] ATS 10</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement establishing the South Pacific Regional Environment Programme.</li> </ul>

[1995] ATS 24
<ul style="list-style-type: none"> <li>• Agreement with the Government of the Republic of Korea on the Protection of Migratory Birds, and Exchange of Notes. [2007] ATS 24</li> </ul>
<ul style="list-style-type: none"> <li>• Antarctic Treaty - Annex V - on Area Protection and Management to the Protocol on the Environmental Protection to the Antarctic Treaty.</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.</li> </ul>
<ul style="list-style-type: none"> <li>• Convention on Long-Range Trans-boundary Air Pollution.</li> </ul>
<ul style="list-style-type: none"> <li>• Protocol to the 1979 Convention on Long-range Trans-boundary Air Pollution on Heavy Metals.</li> </ul>

### Air and Development Treaties in Force Since 2000

<ul style="list-style-type: none"> <li>• Agreement Establishing the Asian Development Bank. [1966] ATS 13</li> </ul>
<ul style="list-style-type: none"> <li>• Supplementary Agreement to the Second Nam Ngum Development Fund Agreement of 26 June 1974 ([1974] ATS 21. [1976] ATS 9</li> </ul>
<ul style="list-style-type: none"> <li>• Exchange of Notes constituting an Assistance to the Malaysia Armed Forces in the Furtherance of the Agreement on the Five Power Defence Arrangements for Malaysia and Singapore, with Annexes. [1971] ATS 21</li> </ul>
<ul style="list-style-type: none"> <li>• Exchange of Notes constituting an Assistance to the Singapore Armed Forces in the Furtherance of the Agreement on the Five Power Defence Arrangements for Malaysia and Singapore, with Annexes. [1971] ATS 21</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement on Development Cooperation with India. [1990] ATS 38</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement with the Government of the Islamic Republic of Pakistan on Development Cooperation. [1991] ATS 35</li> </ul>
<ul style="list-style-type: none"> <li>• Rehabilitation and Development Cooperation Agreement with the Government of the Republic of Nauru. [1994] ATS 15</li> </ul>
<ul style="list-style-type: none"> <li>• General Agreement on Development Cooperation with the Government of the Republic of the Philippines. [1998] ATS 11</li> </ul>
<ul style="list-style-type: none"> <li>• General Agreement with the Government of the Republic of Indonesia on Development Cooperation. [1999] ATS 13</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement establishing the European Bank for Reconstruction and Development. [1991] ATS 15</li> </ul>
<ul style="list-style-type: none"> <li>• Food Aid Convention, 1999. [1999] ATS 28</li> </ul>

<ul style="list-style-type: none"> <li>• Constitution of the Food and Agriculture Organization of the United Nations. [1945] ATS 9</li> </ul>
<ul style="list-style-type: none"> <li>• Protocol for the Dissolution of the International Institute of Agriculture and the Transfer of its Functions and Assets to the Food and Agriculture Organization of the United Nations. [1948] ATS 4</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article VI(2) of the Agreement for the Establishment of the Indo-Pacific Fisheries Council of 26 February 1948 ([1949] ATS 4. [1952] ATS 22</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Articles V, XVIII and XX of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945. [1959] ATS 34</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article VII of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1961] ATS 29</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Articles III and V of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1961] ATS 29</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Articles VI and X of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1963] ATS 35</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Preamble and Article V of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1965] ATS 26</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Article V of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1967] ATS 36</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article XXII of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1946] ATS 9. [1969] ATS 37</li> </ul>

<ul style="list-style-type: none"> <li>• Agreement for the Establishment of a Regional Animal Production and Health Commission for Asia, the Far East and the South-West Pacific [under the auspices of FAO]. [1976] ATS 17</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article V of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1977] ATS 35</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article XXII of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1977] ATS 35</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Article VII of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1977] ATS 35</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Article IV of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1979] ATS 25</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Articles II, XIV and XVIII [membership by regional economic integration organizations] of the Constitution of the Food and Agriculture Organization of the United Nations of 16 October 1945 ([1945] ATS 9. [1991] ATS 54</li> </ul>
<ul style="list-style-type: none"> <li>• Conference of Plenipotentiaries on the Conservation of Atlantic Tunas -- Final Act.</li> </ul>
<ul style="list-style-type: none"> <li>• Articles of Agreement of the International Development Association [IDA - under the auspices of IBRD]. [1960] ATS 12</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to [Article III of] the Articles of Agreement of the International Finance Corporation [IFC] of 25 May 1955 ([1956] ATS 14. [1961] ATS 26</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to [Articles III and IV of] the Articles of Agreement of the International Finance Corporation [IFC] of 25 May 1955 ([1956] ATS 14. [1965] ATS 25</li> </ul>
<ul style="list-style-type: none"> <li>• Amendments to Articles II and VII of the Articles of Agreement of the International Finance Corporation [IFC] of 25 May 1955 ([1956] ATS 14. [1993] ATS 47</li> </ul>

<ul style="list-style-type: none"> <li>• Agreement Establishing the International Institute for Democracy and Electoral Assistance. [1997] ATS 16</li> </ul>
<ul style="list-style-type: none"> <li>• Articles of Agreement of the International Monetary Fund [IMF]. [1947] ATS 11</li> </ul>
<ul style="list-style-type: none"> <li>• Articles of Agreement of the International Bank for Reconstruction and Development [IBRD - World Bank]. [1947] ATS 15</li> </ul>
<ul style="list-style-type: none"> <li>• [First] Amendment to the Articles of Agreement of the International Monetary Fund of 27 December 1945 ([1947] ATS 11. [1969] ATS 30</li> </ul>
<ul style="list-style-type: none"> <li>• Second Amendment to the Articles of Agreement of the International Monetary Fund. [1978] ATS 10</li> </ul>
<ul style="list-style-type: none"> <li>• Amendment to Articles of Agreement - Resolution No 21.</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement Recognising the International Legal Personality of the International Rice Research Institute (IRRI). [2001] ATS 6</li> </ul>
<ul style="list-style-type: none"> <li>• Convention establishing the Multilateral Investment Guarantee Agency [MIGA]. [1998] ATS 24</li> </ul>
<ul style="list-style-type: none"> <li>• Nam Ngum Development Fund Agreement [First]. [1966] ATS 15</li> </ul>
<ul style="list-style-type: none"> <li>• Charter of the Asian and Pacific Development Centre [under the auspices of ESCAP]. [1983] ATS 20</li> </ul>
<ul style="list-style-type: none"> <li>• Agreement [between the Governments of Australia, New Zealand, Tuvalu and the United Kingdom of Great Britain and Northern Ireland] concerning an International Trust Fund for Tuvalu. [1988] ATS 35</li> </ul>

**Australian Treaties Database, (DFAT, 2008).**

**Appendix VIII:**  
**Australian Geographical History as a Narrative: Applied to Research**

