

BEST PRACTICE IN STRATEGIC PARK MANAGEMENT TOWARDS AN INTEGRATED PARK MANAGEMENT MODEL



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CONTENTS

SUMMARY	VI
CHAPTER 1 PARK SYSTEMS – CHALLENGES IN DEVELOPED COUNTRIES	1
PARK MANDATES	1
MANAGEMENT PLANNING	1
IDENTIFIED CHALLENGES BY THE WORLD CONSERVATION UNION (IUCN)	2
Australia and New Zealand	2
USA and Canada	2
United Kingdom and Europe	2
PARKS IN AUSTRALIA	2
Indigenous Communities	3
Funding	3
PARKS IN NEW ZEALAND	3
Stakeholders	4
Indigenous Community NZ	4
PARKS IN CANADA	4
New Planning Structure	5
Indigenous Communities Canada	6
PARKS IN THE UNITED STATES OF AMERICA	6
Politics	6
PARKS IN THE UNITED KINGDOM	6
PARKS IN EUROPE	6
CONCLUSION	7
CHAPTER 2 PARK CLASSIFICATION	8
INTRODUCTION	8
PARKS OF THE WORLD ORGANISATION	8
Plan Earth Model	8
WORLD CONSERVATION UNION (IUCN)	9
IUCN Park Classification	9
ONTARIO PARKS CLASSIFICATION	9
Operating and Non Operating Parks	11
CONCLUSION	11
CHAPTER 3 PARK MANAGEMENT MODELS	12
INTRODUCTION	12
MANAGEMENT MODELS	12
Centralized versus Decentralized Model	12
Scientific Model	13
Ecological Integrity Model	13
Ecosystem Based Management Model	13
Active and Adaptive Management	14
Adaptive Ecosystem Management	14
Cooperative Management	14
Shared Community or Integrated Model	14
Community Orientated and Coordinated Resource Management	15
Shared Management Model	15
Parastatal Management Model	15
CONCLUSION	16
CHAPTER 4 STAFF SKILLS AND TRAINING	17
SKILL REQUIREMENT	17
Performance Management	17
Discipline Expertise	17
Ecosystem Based Training	17
Best Practice Model	17
CONCLUSION	18

CHAPTER 5 FUNDING	19
INTRODUCTION	19
Overview	19
INNOVATIVE FUNDING AND BENCHMARKS	19
USA Business Plan Initiative (BPI)	19
Banff and Kruger National Parks	20
Madikwe Game Reserve – South Africa	20
Chumbe Island Coral Park and Environmental Centre – Tanzania	20
Bunaken National Park – Indonesia	20
Wakatobi Marine National Park – Indonesia	20
CONCLUSION	21
CHAPTER 6 TOURISM AND VISITOR MANAGEMENT	22
INTRODUCTION TO VISITOR MANAGEMENT	22
TOURISM POLICIES & PLANNING BENCHMARKS	22
Australia	22
VISITOR MANAGEMENT MODELS	22
Bob Marshall Wilderness – USA	23
VISITOR IMPACTS	24
New Zealand	24
Canada	24
United States of America (USA)	25
Australia	25
Africa	25
Soufriere Marine Management Area (St Lucia Caribbean)	25
Hanauma Bay Nature Reserve Hawaii	26
Galapagos National Park – Galapagos Islands	26
CONCLUSION	26
CHAPTER 7 ASSET MANAGEMENT	27
INTRODUCTION	27
THE STATE OF ASSETS	27
AUSTRALIA	27
NEW ZEALAND	28
CONCLUSION	29
CHAPTER 8 MARKETING AND DISTRIBUTION	30
INTRODUCTION	30
SOCIAL MARKETING	30
DE-MARKETING	30
Mt Buffalo Chalet Australia	30
Wakatobi Marine National Park – Indonesia	30
INTERPRETATION AND EDUCATION	30
San Francisco Bay National Wildlife Refuge –USA	30
North American Parks	31
ELECTRONIC INFORMATION	31
New Zealand	31
CONCLUSION	31
CHAPTER 9 REVIEW AND RECOMMENDATIONS	32
PARK CLASSIFICATION	32
PARK MANAGEMENT MODELS	32
STAFF TRAINING	32
FUNDING	32
VISITOR MANAGEMENT	32
ASSET MANAGEMENT	32
MARKETING AND DISTRIBUTION	32
PARKS OF THE FUTURE	33
SUMMARY OF KEY BENCHMARK EXAMPLES/STUDIES	33
CONCLUSION – TOWARDS AN INTEGRATED PARK MANAGEMENT MODEL	34

CHAPTER 10 TOWARDS AN INTEGRATED PARK MANAGEMENT MODEL	35
INTRODUCTION	35
PARK CLASSIFICATION	35
PARK MANAGEMENT THEMES AND CHARACTERISTICS	36
Staffing	36
Funding and Impacts	37
Visitor and Asset Management	39
Marketing and Distribution	40
Governance	41
Integrated Park Management Model	42
PARK OPERATIONAL MANAGEMENT MODELS	42
CHAPTER 11 CONCLUSION	44
REFERENCES	45
GLOSSARY	48
AUTHORS	49

LIST OF FIGURES

Figure 1: Total park area Ontario	10
Figure 2: Number of parks	10
Figure 3: Operating and non-operating parks	11
Figure 4: Framework	35
Figure 5: Park classification	36
Figure 6: Staffing	37
Figure 7: Funding	37
Figure 8: Impacts	38
Figure 9: Tourism and visitor management	39
Figure 10: Asset management	40
Figure 11: Marketing and distribution	40
Figure 12: Governance	41
Figure 13: Integrated park management model	42
Figure 14: Park operational models	43

LIST OF TABLES

Table 1: National parks managed by the Commonwealth of Australia	2
Table 2: State agencies in Australia	3
Table 3: New Zealand national parks	4
Table 4: Parks of the World Parks Classification System	8
Table 5: IUCN park classification	9
Table 6: Ontario parks classification	10
Table 7: Visitor management models	23
Table 8: Choosing the 'best' recreation/tourism planning framework	23
Table 9: Asset management in Australia	28
Table 10: Future trends in park management	33
Table 11: Park management themes: key examples/studies	34

LIST OF MAPS

Map 1: Canada's national parks	5
--------------------------------	---

LIST OF BOXES

Box 1: Best practice model for staff training	18
Box 2: Best practice framework for asset management	27

SUMMARY

Objectives of Study

Faced with diminishing government funding and increasing visitor demand, traditional park systems are under considerable stress in operating effectively in the changing environmental, political, cultural and social climate (Eagles & McCool 2002). The context for this project therefore is that Park agencies worldwide are faced with increasing demand for their facilities and services coupled with declining finances and human resources, which poses many management challenges. The ability to develop a more comprehensive and relevant park management system to meet these challenges has become increasingly important.

The main aims of the project are:

- To describe, analyse and evaluate best practices and management benchmarks for the strategic management of protected areas; and
- To
- develop a framework that will guide park management agencies in the strategic management of protected areas.

The overall objective is to develop a template for the development of an integrated park management model, which has the potential to be operationalised by park management agencies worldwide.

The work provides a unique inventory of themes in park management not previously recorded. A thematic approach to the identification of benchmarks for best practice and innovative management in various settings draws together the research undertaken and further contributes to the knowledge base that exists. It will assist park management agencies in understanding the implications of their strategic decisions and with the development of relevant park management systems. This knowledge will also serve as a basis for further work by researchers in developing a framework for park management.

Parks discussed in this work fall both inside and outside National Park Systems. The study will:

- Discuss two major global park classification systems;
- Provide an overview of international park management systems;
- Summarise a variety of park management models;
- Examine the skill requirements of park staff;
- Detail innovative funding sources for park management;
- Provide an overview of visitor management models;
- Outline the progress of parks in the management of their assets;
- Report on a shift in focus in marketing and distribution trends; and
- Identify benchmarking examples of the themes discussed in the report.

The topics discussed are important considerations when developing sustainable park management systems. Many park agencies are spending increasing amounts on visitor management, infrastructure and education and less on conservation (Buckley 2000, Eagles 2002, Queensland Parks and Wildlife Service 2000). Whilst the focus for park agencies may vary, the uniqueness of each park should be considered in selecting a suitable operating model that suits the distinctive characteristics and circumstances of that park as part of a broader management system aimed at achieving sustainable outcomes.

Methodology

A thorough literature review was conducted to identify the most relevant park management themes. Their purpose and effectiveness was compared and documented and benchmark examples identified. The literature review examined: policy documentation from park, conservation, environmental and protected areas agencies; best practice awards from tourism, environment and park agencies; publications of volunteer and stakeholder organisations; journals and publications from academic, environmental and park agencies.

Consultation with agencies and academics was conducted to confirm and validate the findings. The literature search commenced with a broad view of global trends and best practice and included the following topics: park classification systems; park mandates and policy; strategic management systems; staff skills and training; funding, budgets and pricing; visitor impacts; tourism and visitor management; ecological impacts; asset management; stakeholder involvement; indigenous community involvement; marketing; and electronic dispersion of information. These topics were then narrowed down to seven main themes in park management, which are discussed in the report:

1. Park classification systems;
2. Park management models;

3. Staff skills and training;
4. Funding;
5. Tourism and visitor management;
6. Asset management; and
7. Marketing and distribution.

Policies or examples of best practice were examined from the following countries: Australia, New Zealand, Canada, USA, United Kingdom, Greece, Poland, Holland, Indonesia, India, Zimbabwe, Kenya, Tanzania, Ghana, Nigeria, Galapagos Islands.

Although the authors feel the report is comprehensive in its coverage, many themes and key examples of benchmarking in park management exist but due to time and resource constraints, some have not been identified and included in this report, which represents a limitation to this study.

Key Findings

The key findings under each theme now follow.

Park Classification

While most park agencies use the uniform IUCN global classification system to classify national parks and protected areas, there is a lack of consistent sub-classifications or specific use purposes identified for parks with high visitor use such as urban, regional and recreational parks and some national parks. The classification system underpinning each park should be based on sound scientific research to ensure a sustainable park system is maintained.

Park Management Models

Developing models that suits the unique circumstances of each park is relevant to maintaining sustainable park systems. Choosing the correct model will depend on the political, social, cultural demographic and ecological environment. A trend is occurring towards models that will allow a degree of financial independence from the reliance on government funding as well as partnerships with stakeholders and businesses.

Staff Skills and Training

Expertise in areas of ecological management is required but expertise in areas such as visitor management is becoming more important as parks explore ways to increase revenue while ensuring the sustainability of parks. Staff training must form part of management planning and be linked to defined goals for the park with funding and key performance indicators identified.

Funding

The opportunity exists to generate funds from a variety of innovative initiatives sourced through government, private companies, community involvement, trusts and royalties. Revenue raised through tourism can fund maintenance in parks through user fees, sale of goods and licenses. Revenue can be reinvested into park management and maintenance but requires appropriate legislation to be introduced.

Tourism and Visitor Management

While data on visitor numbers is often collected there is an absence of visitor impact data to assess appropriate visitor management practices. Visitor management is intrinsically linked to both asset management and risk management and cannot be considered in isolation. Agencies have used a variety of strategies to manage visitors with some considering closing parks to the public that put either the environment or visitor safety at risk. With sound research, businesses will be more willing to invest in parks, and visitor management can provide the vehicle to do so through park tourism. Measuring and articulating the economic impact of tourism is a strategy that can be used to raise the profile of parks to secure funds, however this is not a regular practice for many parks.

Asset Management

The lack of information on the condition of natural and historic assets cannot be considered in isolation as it can pose a risk to both the visitor and to the environment. The need for visitor impact studies and asset classification systems to be developed is of critical importance. The lack of well-developed classification systems is evident

across many agencies although planning is underway to rectify this.

Marketing and Distribution

A shift in the marketing and distribution of parks is gaining momentum as park agencies recognise the importance of the electronic media in educating and informing the visitor. A strategy to inform visitors prior to their visit through social marketing requires advanced technology systems, while de-marketing strategies are being adopted in some instances to control visitor numbers and activities.

Towards an Integrated Park Management Model

The final stage of the report draws together the key themes into an integrated park management framework within the context of the type of parks being managed. The model incorporates environmental and human values and identifies four prototype parks and the management implications for each:

1. *High Use Urban Parks*, with a high emphasis on servicing visitors and less emphasis on ecological integrity.
2. *Low Use Urban Parks*, with a low emphasis on both servicing visitors and ecological integrity.
3. *High Use Protected Areas*, with a high emphasis on both ecological integrity and servicing visitors.
4. *Low Use Protected Areas*, with a high emphasis on ecological integrity and less emphasis on servicing visitors.

Future Action

There is an opportunity to build on this existing work towards the second stage development of a holistic conceptual park management framework. This conceptual framework has the potential to be operationalised by classifying and locating all parks within a management framework that will assist park managers with strategic decision-making in regard to managing each individual park or protected area.

Chapter 1

PARK SYSTEMS: CHALLENGES IN DEVELOPED COUNTRIES

Introduction

This section will explore the unique aspects facing regions and the challenges to park management systems in developed countries, as developed countries are generally known to have more advanced systems. Park mandates and park policy are assessed to give an overview of each system and to ascertain the priorities set by each park agency.

Park management systems encompass a broad range of issues, which must be considered during planning to ensure sustainability of the system. Developed countries such as the United States of America (USA), United Kingdom (UK), Australia, New Zealand (NZ) and Canada each face similar challenges in managing their park systems, however there are also issues unique to each region, which require an individual approach. A strategy which may be effective in one location may not be suitable when applied in a different environment and therefore a collection of different approaches are required in the management of park systems (Management Effectiveness Taskforce 2003).

Park Mandates

A recurring theme expressed through most park policy statements in developed countries globally is to conserve and restore indigenous biodiversity, protect natural, cultural and historical sites for future generations, while providing recreational opportunities and support for tourism. The topics of communities, environment and tourism accurately summarise the themes expressed through most park mandates, with some countries placing more emphasis on one or more of these topics. The concern to strengthen partnerships with indigenous communities and to learn from their conservation methods is also noted and the ability to sustain communities within parks is mandated in park policy in the UK. Most developed countries in Europe and Africa recognise that communities living within their parks form part of whole ecosystems, while Canada and Poland have expressed 'Ecological Integrity' as important, which encompasses the completion of all parts of a system, the natural evolutionary process, 'a wholeness' – 'if parts are missing, the ecosystem is not whole' (Panel on Ecological Integrity of Canada's National Parks 2000, p. 16).

In regard to recreation and tourism use, a term used by the New Zealand Department of Conservation (2002a, p. 11) as particularly relevant is '... to foster recreation and allow tourism, to the extent that use is not inconsistent with the conservation of any natural or historic resource'. The USA has a similar mandate to protect natural resources as well as provide for visitors, and of most interest is the commitment to a more science-based approach to decision making by management (Figura 2000). Mandates such as these reflect the willingness of park organisations to provide recreational use while protecting biodiversity and natural assets. These sentiments are not always reflected in policy, which is required for implementation and continues to concern and challenge park agencies as they strive for a balance between diminishing funding, protecting biodiversity and the need for human use.

Management Planning

Park agencies in Australia and New Zealand are required to produce management plans for their parks and protected areas through legislature. The Australian and New Zealand Environmental and Conservation Council (ANZECC), has set up guidelines for best practice in park management planning. The integrated approach to park planning work adopted by Australia and New Zealand has been recognised and commended by ANZECC (2000) for the attention to detail that has been given to all areas of conservation during the planning stage. However the ANZECC working group has also identified that the haste to develop and implement plans can sometimes overlook management areas that require improvement such as the effective involvement of indigenous people; integrated planning that includes policy and strategy planning encompassing budget and development processes; monitoring and evaluating the effectiveness of plans; the use of electronic facilities for public consulting and the release of draft documents (ANZECC 2000).

Ecological sustainability of parks for the future, according to Cristoffer (2003), should also form part of all management plans, and ecological monitoring and biological surveys should form part of allocated funding in

these plans. A Natural Resource Management Plan must give a realistic plan for the next five to fifty years, which incorporates management strategies for managing the effects of global climate change on animals, birds, plants and invasive species. Environmental climate change will see some regions becoming hotter and dryer, while others experience hotter and wetter conditions or a colder and wetter climate shift. The effects on the species living in these regions will be extreme as they struggle to adapt to the climate change or are displaced as they seek to move through conservation corridors to more suitable regions.

Identified Challenges by the World Conservation Union (IUCN)

Australia and New Zealand

The World Commission for Protected Areas (WCPA), an agency of the World Conservation Union (IUCN), has identified challenges in park management facing Australia and NZ. The key issues identified for the region by the WCPA (2003a) include developing relationships with indigenous people, matters of sustainable use, achieving sustainable financing for protected areas, measuring management effectiveness and the development of a comprehensive terrestrial and marine protected area system.

USA and Canada

The IUCN (2003) has identified climate change, the increase of visitor use, and development as threats, which have altered habitat and is causing an island effect to national parks in Canada and the USA. This will effectively cut off conservation corridors inhibiting biodiversity. The IUCN also recommends that further efforts be undertaken to include indigenous people in park management strategies.

United Kingdom and Europe

The IUCN has included the United Kingdom as part of its European region. Across the region some countries have well developed systems while others are poor by international standards. It is important to recognise the difference in the terminology of National Parks in the European Region as compared to other parts of the world. Although Europe does have wilderness areas, which allow visitation, the unique aspect of the parks system in Europe is the preservation of the heritage and cultural landscapes. The WCPA (2003b) has identified hunting, forestry and water management as long-term concerns for the region, and is actively engaged in developing and implementing biodiversity; agricultural and cultural landscape guidelines towards environmental sustainability. It was also noted that generally the knowledge of local people was not recognised as contributing to conservation.

Parks in Australia

The Directorate of National Parks, supported by state agencies and staff from Parks Australia, which is a division of the Commonwealth Department of Environment and Heritage, manages national parks in Australia, which are summarised in Table 1. Charged with implementing the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC) the Directorate of National Parks is a corporation established under the Act and reports to the Minister for the Department of Environment and Heritage (Environment Australia 2003a). All reserves are declared under the EPBC Act. The Great Barrier Reef Marine Park is not included; however it is managed by the Commonwealth and operates under a separate Act of Parliament. State agencies, which are responsible for the management of other National Parks in Australia, are listed in Table 2.

Table 1: National parks managed by the Commonwealth of Australia

Commonwealth National Parks	6
Commonwealth Marine Protected Areas	13
Commonwealth Botanical Gardens	2

Adapted from information in Environment Australia (2003b)

Table 2: State agencies in Australia

Australian Capital Territory	Environment ACT
New South Wales	NSW National Parks and Wildlife Service
Victoria	Parks Victoria
Tasmania	Tasmania Parks and Wildlife Service
South Australia	National Parks and Wildlife SA
Western Australia	Department of Conservation and Land Management
Northern Territory	Parks & Wildlife Commission of the NT
Queensland	Queensland Parks and Wildlife Service

Adapted from information in Environment Australia (2003b)

Indigenous Communities

The recognition of the contribution that the Aboriginal people have made to preserve what are now national parks is commended, with the establishment of a principle value which is 'to respect and respond to the values of the traditional landowners and other partners' and to 'conserve and appreciate biological biodiversity' (Environment Australia 2002, p.7). Many national parks in Australia operate under joint ownership and this continues to be a high priority to ensure improved outcomes of training, employment and management for Indigenous landowners.

Funding

The effective management of Australia's natural and cultural heritage is reliant on effective fiscal management, which is showing improvement. The ability to increase revenue in order to maintain and enhance visitor infrastructure is a priority for the agency. A shift towards a performance-based approach is also welcomed but implementation of these and other initiatives is dependant on finances (Environment Australia 2002). High on the agenda for Parks Australia is their involvement in quality improvement through their involvement with the ANZECC group of agencies in developing best practice benchmarks in park management.

Parks in New Zealand

The New Zealand Department of Conservation (2002b) highlights seven key steps in planning for management of its designated parks, which are categorised in Table 3. The key steps are:

1. An expansion of biodiversity efforts to halt decline.
2. A minimisation of biosecurity risks from introduced animal and invasive weeds and marine species.
3. An increased emphasis on historic and cultural values.
4. Promotion of appropriate recreation, and increased enjoyment of protected places, while managing impacts from visitors.

The capability required to achieve the above involve the ability:

5. to engage the community in conservation;
6. to promote effective partnerships with Tangata Whenua, the Maori people; and
7. to improve capability of staff as skill requirements change to reflect the increased emphasis on integrated ecosystem management' (Department of Conservation 2002b, p. 7-10).

The ability to achieve these capabilities will depend on prioritising projects, the funding available and the ability to secure further funding, the ability to utilize the involvement of the community and the Maori people, and the ability to train and utilise the expertise of staff in their respective areas and the skill of the indigenous people in conservation.

The planning direction set out by the Department of Conservation addresses some of the issues raised by the WCPA, although current planning may not be adequate to fully address the issues in order for them to be implemented effectively.

Table 3: Types of New Zealand national parks

Park Land Mass (million ha)	8
National Parks	14
Conservation Parks	20
Reserves & other	3,500
Marine Reserves Mass (million ha)	1.1
Marine Reserves	16
Mammal Sanctuaries	2
Marine Parks & other	3

Adapted from information in Department of Conservation (2002c)

Stakeholders

Stakeholder support in conservation and park management initiatives is important to the department and it maintains an active management principle in this regard. The department also recognises that individuals, community groups and other agencies contribute substantially to public awareness, policy development and operational planning and delivery, as well as co-management arrangements through initiating their own projects.

The Karori Wildlife Sanctuary in Wellington, while supported by the department, receives its greatest support from businesses, community and private trusts, local government and the local people. Organisations such as Project Crimson, The Chinese Conservation Education Trust and New Zealand National Parks and Conservation Foundation support community projects and the number of local organisations are growing. The department supports these groups with skill training, and events that provide opportunities for community capacity building (Department of Conservation 2002a).

Indigenous Community, New Zealand

The Department of Conservation (2002a) has recognised the important input that the Maori people contribute to conservation in their rich traditional knowledge of the land. Planning is in place to increase Maori staff levels and to build the relationship and partnerships with the Tangata Whenua communities, which will in turn provide for the sharing of conservation practices.

Parks in Canada

The Parks Canada Agency was formed to manage Canada's National Parks and sits under the Federal Government's department of Canadian Heritage, whose role is to preserve Canada's culture and heritage. The constitutional authority to manage public land remains with the federal government and generates from owners land and the ability to legislate to manage the land. The federal government can either manage the lands through its departments or formally designate it to be managed by others. Designated areas are usually of historical significance such as heritage railway stations, buildings, rivers and historic sites. Agreements with provincial and territory governments as well as non-government organisations are also sought in managing resources (Commission of Environmental Cooperation of North America 2003).

The Parks Canada Agency has the direct responsibility for managing federal lands and associated resources such as national parks and heritage areas as illustrated in Map 1. Cooperative agreements are actively sought in areas surrounding these natural or heritage icons, as they cannot be managed in isolation. Legislation, which mandates the activities of Parks Canada Agency, includes the National Parks Act, Historic Sites & Monuments Act, the Heritage Railway Stations Act and Dept of Transport Act. The Federal Heritage Building Program & Canadian Heritage Rivers are operated under Cabinet authority and federal/provincial agreements between parks ministers respectively (Parks Canada 2003).

Canada's park system is governed by The National Park Act, which was amended in 1988 and uses the term *ecological integrity* as the prime mandate for the establishment of National Parks (World Conservation Monitoring Centre 1992). Parks Canada has adopted this term for its current parks management strategy, however according to the Panel on the Ecology Integrity of Canada's National Parks (2000), the term used in this context refers to zoning and visitor use only.

Map 1: Canada's national parks



Accessed from Canada Online (2003)

A study completed in 2000 by the Panel on the Ecological Integrity of Canada's National Parks, concluded that the present threat to ecosystems is grave and required immediate action in order to cope with future stresses as both the population and the need for leisure increases. The critical nature of the situation requires the recommendations of the Panel to be achieved in one generation for ecological integrity to be sustained. The concern 'that most protected areas have become ecological islands' and the parks system 'must be managed as part of a larger ecosystem' (Panel on Ecological Integrity of Canada's National Parks 2000, p.10) also supports the view expressed in the Plan Earth Model, an integrated global park management system based on biodiversity, which is discussed in detail in Chapter 2 of this report.

Parks Canada (2000) has identified the following priorities in its Corporate Plan: to maintain long term ecological integrity of national parks; to work towards extending and completing the park system; to continue to establish new conservation areas; and to contribute to developing relationships with indigenous people. Parks Canada's Corporate Plan for the next five years also recognises the importance of preserving historic natural and built assets, providing sustainable tourism experiences and recognises the contribution that indigenous people can bring to both tourism and the preservation of the natural landscapes, wildlife and habitat. The report completed by the Panel on Ecological Integrity of Canada's National Parks (2000) addresses these areas as well as highlighting the most significant problems facing Canada's Parks which are habitat loss and fragmentation, loss of large carnivores from hunting and loss of natural predator/prey balance, pollution, pesticides, invasive weeds and human overuse. They have established guidelines for Parks Canada on how to address these issues and achieve the relevant outcome.

New Planning Structure

The Panel on Ecological Integrity of Canada's National Parks (2000) believed that the whole organisation must be aligned behind the vision of *ecological integrity*, in order to make the necessary shift from traditional business management processes which focus on revenue generating and development and maintenance of facilities, to a system that has ecological integrity as its core purpose, in order to foster a culture of conservation. Although policies are in place to enact ecological integrity, the organisation has difficulties in translating the policies into practice.

Indigenous Communities, Canada

The report put forward by the Panel on Ecological Integrity of Canada's National Parks (2000) recognised the valuable knowledge of indigenous communities in environmental practices, which they indicated had not been fully utilised, and have their place in maintaining ecosystems. Recommendations were put forward that Parks Canada should continue without prejudice to further involve indigenous communities and extend these actions to include policies, planning and managing. Plans are underway by Parks Canada (2000) to continue to involve indigenous communities with aboriginal tourism as a focus to achieve this.

Parks in the United States of America

The prime mandate for the USA National Parks Service (NPS) set down in 1916 by the USA Department of the Interior is twofold: to conserve wildlife and scenery both natural and historic; and to provide for public access and enjoyment of these areas (World Conservation Monitoring Centre 1991). The development of the NPS has been greatly influenced by this mandate and continues to face difficulties in finding a balance between the two areas. The influence of government policies and political agendas on the work of the NPS is also evident. Visitor services are put above the sustainability of the parks as they are a more visible area of parks management and according to Figura (2000) will therefore have more political mileage.

Politics

The political influence both positive and negative on decisions affecting the environmental aspects of park use is evident and is demonstrated in a recent plan put forward by the NPS to phase out snowmobiles in 27 of its parks by 2004. The Economist (2001) explains that Yellowstone receives 62,000 of the 180,000 snowmobiles, which produce between 70 to 80 percent of all hydrocarbons, as well as disrupting wildlife habitat. The attempt to limit or abolish the use of these machines in national parks began with an order from President Nixon in 1972. The recent directive to ban these machines has been delayed by government for another year pending further studies on pollution. The US\$10 million a year earned by businesses producing these machines and the exclusion of the administration of Yellowstone in these decisions must also be considered.

A further example was illustrated when a government representative put forward a directive for environmental clearances, in order to push through repairs to roads and facilities in Yosemite Valley, before a new President took office. Concerned environmental experts insisted that more time was required to complete their environmental study before these clearances should be granted (Rosenbaum 2000).

The Department of the Interior favours the use of public land by sportsmen and corporations, and 62 percent of Americans expressed the view that more should be done to protect the environment even if it comes at the expense of higher fuel prices (Goldstein & Cooper 2002). The prioritising of economic benefits over sustainability underlies a general body of literature relating to the United States NPS.

Parks in the United Kingdom

The UK, like the rest of Europe, has rich cultural significance, where nature and communities have lived together for centuries within what is now designated national park or protected areas. Planning for these regions involve providing for the preservation of the communities as part of the ecosystem within the parks. Planning is overseen by the Department of Environment, Food and Rural Affairs (DEFRA), and each park is governed by an independent National Park Authority, which is bound by the *Environmental Act 1995*. Most parks are owned by farmers and private landowners, while others are managed by volunteer conservation agencies (DEFRA 2003).

Parks in Europe

The focus for parks in Europe is to preserve culture and heritage. It is recognised that people form part of whole ecosystems in Europe and must be included in the planning of the park systems. The sophistication of park systems in Europe varies with each country governed by its own legislation. It is common for European communities to live within the parks or on the outskirts of park boundaries. These communities are economically reliant on the parks, which can pose a threat to the ecological sustainability of European parks.

A new initiative to preserve Europe's natural heritage has been set up by an organisation called PAN Parks. This organisation has sought partnerships with a number of nature conservation and protected area organisations to combine tourism with conservation across Europe to provide economic value to communities and protection of natural landscapes. The initiative has the support of the IUCN/WCPA and the World Wide Fund for Nature (WWF), which is one of its founding partners. A strict verification process for sustainable tourism must be

adhered to before a park can be certified, and ongoing support and expertise is provided by the organisation (PAN Parks 2003).

Conclusion

The complexity of park management begins with the general challenges identified by the IUCN in protecting and managing national parks globally. An understanding of policies and legislation that underpin park management systems in each country illustrates the diversity of interests and priorities of governments in addressing these challenges. A perusal of park agency mandates and policies indicate the current direction and priority set by park agencies working under government legislation. The importance of legislation and policy cannot be underestimated in the work undertaken by park agencies in their ability of manage their park systems in a sustainable manner. Most park agencies use global park classification systems as a basis for protecting natural resources and establishing the level of intended use.

Chapter 2

PARK CLASSIFICATION

Introduction

National Parks worldwide undertake an important role in preserving and sustaining global ecosystems and ensuring that biodiversity is protected for future generations. Human communities have always held an attachment to the natural world and a fascination with wilderness areas, which invokes a linkage to the past. The protection of wilderness areas and natural resources are embedded in the human psychic and form part of a subconscious mechanism for survival. The protection of ecosystems in parks and protected areas is therefore strongly supported by communities and has become an integral part of park management work. How agencies classify their parks varies from country to country, however most park systems are based on international classification systems. Two global agencies of significance, which are undertaking the work of global classification, are Parks of the World and the World Conservation Union (IUCN).

Parks of the World Organisation

Parks of the World is an international organisation that works closely with regional representatives of member countries in classifying their parks. Management plans for these parks are designed to balance human usage with sustainability of the ecosystems. The unique ecology, habitat and biodiversity of a region, as well as the wildlife corridors are examined during this process (Parks of the World Organisation 2003). This method requires some parks to be closed to the public and accessed only for specific purposes, while others are planned and managed in such a way as to educate and provide enjoyment while limiting activities and numbers to ensure sustainability. Ontario Parks in Canada has adopted a similar method across all of its park categories where it classifies its parks as either 'operating' or 'non-operating' (Ontario Parks 2003b). The term non-operating is used for parks that are not serviced by rangers on site and where visitation is discouraged.

The four classifications used by Parks of the World Organisation (2003) are *Ecological Parks*, *Ribbon Parks*, *Cultural Resource Parks* and *Town or Country Parks*. An explanation of the categories is listed in Table 4.

Table 4: Parks of the World Parks Classification System

Ecological Parks	Water or land based with endangered species, sensitive ecosystems <i>Can be adjacent to ribbon & cultural resource parks</i>
Ribbon Parks	Water or land based buffer zones, linking parks & waterways <i>for human use</i> <i>trails, roads, walking tracks, land and waterscapes</i>
Cultural Resource Parks	Cultural areas put aside for human use <i>Waterfalls, battlefield, areas of cultural significance</i>
Town or Country Parks	Man made areas and open spaces for human use <i>Limited biodiversity but useful as linkage routes for sensitive species</i>

Adapted from Parks of the World Organisation (2003)

Plan Earth Model

Plan Earth is a computer-modelling tool used by Parks of the World to evaluate a country's resources in order to develop an integrated global national park management system based on biodiversity. In the context of biodiversity, humanity is included in its definition when describing ecosystems that undertake natural cycles to maintain themselves. The focus of Plan Earth is the global sustainability of resources that man needs for survival and this encompasses ecosystems, habitats and communities. Sensitive environmental areas are identified globally and the organisation works in a direct way in the management, planning and funding of these sensitive areas (Parks of the World Organisation 2003).

The park system in the UK embraces the concept of humanity as part of whole ecosystems to be included and managed as part of its park system (Lakes District National Park Authority 1999b; Association of National

Park Authorities 2003a and 2003b; DEFRA 2003), while the Panel of Ecological Integrity for Canada's National Parks, has recognised the value of ecological integrity for Canada's park system (Panel on Ecological Integrity of Canada's National Parks 2000). These two concepts, ecological integrity and human use when juxtaposed produce an interesting paradox to planners and managers of park systems worldwide when considering ecosystem management models.

World Conservation Union (IUCN)

The overall focus for the World Conservation Union (IUCN) is similar to Parks of the World, as both organisations have the sustainability of ecosystems and communities at the core of their management strategies. The connection that indigenous people have to the land and its natural resources is acknowledged and recognised by the WCPA and that cultural and traditional practices may relate directly to the conservation of biodiversity.

According to the IUCN, approximately 9% of total land in the world is classified as National Park (Eagles 2002) and within this context national parks have an important role to perform in sustainable management. The World Commission of Protected Areas (WCPA) under the IUCN has identified marine, coastal areas and mountains, as essential regions on which to focus, in order to protect biodiversity and sustain human communities (WCPA 2003d). The protection of the marine environment will ensure the sustainability of fisheries and the food source while the protection of mountains is crucial at a time when the shortage of water is a worldwide problem for communities. The effects of global warming on fauna migration will also require careful forward planning through a linkage of conservation corridors (WCPA 2003b).

IUCN Park Classification

The IUCN classification system as summarised in Table 5 was developed to standardise definitions used to classify the worlds' national parks and protected areas, which was a requirement of the United Nations. This system is widely used by park management to underpin national park and protected area systems globally. According to Eagles and McCool (2002) the focus on ecological integrity does not allow for the accurate classification of historic, cultural or urban parks, unless they retain a high level of ecological value. Although human use is not overt, a pattern emerges throughout the categories, which suggests that human use varies from minimal use in category one through to a gradual increase in use in category eight, when the activities allowed in each category are examined more closely.

Table 5: IUCN park classification

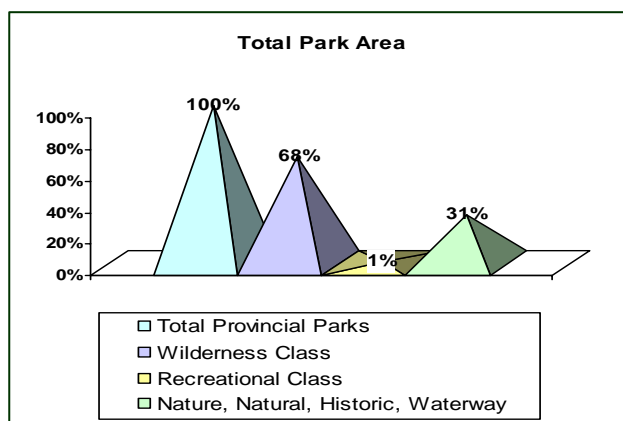
CATEGORY	TYPE OF PARK	DESCRIPTION
1a & 1b	Strict Nature Reserve/Scientific Reserve	Undisturbed natural state, high ecological significance <i>scientific, educational, environmental monitoring</i>
II	National Park	Natural and scenic international significance <i>scientific, educational, recreational</i>
III	Natural Monument/Natural Landmark	Protection of natural features & unique characteristics <i>usually relegated to small areas</i>
IV	Managed Nature Reserve/Wildlife Sanctuary	Protection of species and environment <i>with human intervention and management</i>
V	Protected Landscape/Seascape	Scenic natural/cultural land and seascapes <i>with interaction from tourism or indigenous communities</i>
VI	Resource Reserve	Interim category to protect natural resources <i>Until permanent classification is secured</i>
VII	Anthropological Reserve/Natural Biotic Area	Supports traditional communities and way of life <i>without the introduction of modern technologies</i>
VIII	Multiple Use Management Area/Managed Resource Area	Economic focus <i>for sustained use of resources, farming and tourism</i>

Adapted from WCPA (2003b)

Ontario Parks Classification

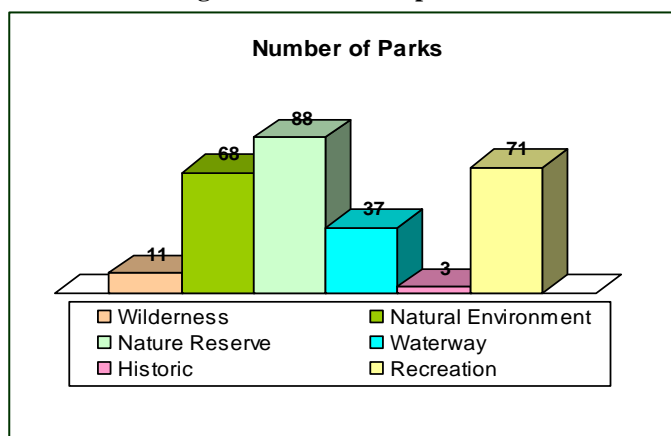
In 1967 a policy was developed for Ontario Parks in Canada to divide its parks into categories/classes for specific uses. The selection of these parks is based on predetermined criteria and numbers as shown in Figures 1 and 2 and Table 6. All parks are classified under the IUCN classification system prior to undergoing the Ontario Park classification. Most of the parks in Ontario come under the IUCN category 2, National Park classification.

Figure 1: Total park area Ontario



Adapted from information from Ontario Parks (2003a)

Figure 2: Number of parks



Adapted from information from Ontario Parks (2003a)

Table 6: Ontario parks classification

Nature Reserves [88] Zones [263]	Preservation of wildlife or ecosystems or protected for educational or research purposes due to fragility of features with only a few are accessible to public <ul style="list-style-type: none"> ▪ Defined by scientific earth science and life science classifications ▪ Represents natural features and ecosystems not found in other park classes
Wilderness Parks [11]	Undisturbed areas left to nature, accessible on foot or canoe, minimal facilities development strictly limited <ul style="list-style-type: none"> ▪ One park and one zone for each of the 13 site regions ▪ Site to exceed 100,000 hectares ▪ Zone to exceed 2,000 hectares
Historical Parks [3]	Protect historical and cultural resources in a natural setting <ul style="list-style-type: none"> ▪ Defined by an archaeological and historic based classification ▪ Chosen to represent cultural features and themes not found in other park classes
Natural Environmental Parks [68]	Protect landscapes and natural features while providing opportunities for swimming and camping <ul style="list-style-type: none"> ▪ One to each of the 65 site districts ▪ Minimum size of 2,000 hectare each
Recreation Parks [71]	Beaches, campground, outdoor recreation with services and facilities; interpretative programs, hiking trails, picnic facilities, beaches, campground, toilet, showers <ul style="list-style-type: none"> ▪ Total of 39,570 hectares ▪ Selection/Operation related to population distribution & demand
Waterways [37]	River corridors that provides recreation and river canoeists with quality recreation and historic river travel (Ontario Parks: Your Parks 2003a) <ul style="list-style-type: none"> ▪ Target of one corridor or waterway to traverse each of 65 site districts

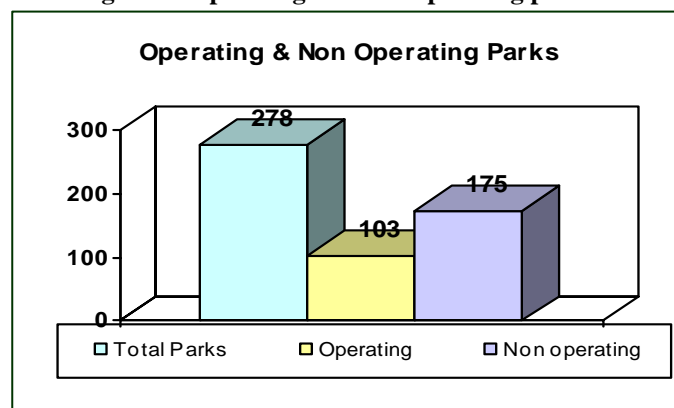
Adapted from Ontario Parks (2003a)

Operating and Non Operating Parks

In 1996 approximately one third of Ontario Parks were classified as ‘operating parks’, and two thirds as ‘non operating parks’. Operating parks have staff on site while non-operating parks do not, although existing facilities are maintained and the public can walk into the parks to enjoy more traditional activities. Approximately 15 of the operating parks were scheduled to become non-operating parks unless suitable partners could be found to fund the parks, or other cost saving measures could be implemented (Ontario Parks 1996). Operating and non-operating parks are illustrated in Figure 3.

Non-operating parks are usually established for educational and scientific purposes and not developed specifically for recreational purposes (Ontario Ministry of Natural Resources 2002). An operating park can also be made non-operating if the resources are not available to operate the park. Other considerations, which can make a park non-operating, are the compromising of the ecological integrity of a park or the sensitivity of a park environment to impacts. All of the categories for Ontario Parks are inclusive of both operating and non-operating parks (Ontario Parks 1996).

Figure 3: Operating and non-operating parks



Adapted from information from Ontario Parks (2003a)

Conclusion

Global park management classification is a vital tool in the management of sensitive ecosystems and for the sustainability of natural resources to ensure that essential elements needed for the survival of plants, animals and humans are maintained. Classification based on rigorous ecological, scientific research, can protect natural resources, allow peaceful enjoyment and sustain communities. Global classification sets the guidelines for innovative management to further develop regional classifications for managing a range of parks, as illustrated in the Parks Ontario example. When the regional classification is complete, the most relevant management model must be chosen to suit the unique circumstances of each park in the system.

Chapter 3

PARK MANAGEMENT MODELS

Introduction

Park management must take into account the relevant circumstances, goals and long-term sustainability of each park within its system. A model that is relevant and a good fit for one park may not suit another park. All elements must be considered: political, social, economic and technical, and intended use decisions made within a scientific based ecological framework. Park systems can vary from country to country and from state to state, and a park management model may vary from one park to the next. Examples given in this chapter will illustrate various approaches; however it is not intended to categorise a system used for a particular country.

Management Models

Successful systems used around the world include those, which can be modified, adapted or integrated to develop a park model to suit the unique circumstances of each park. Park systems are governed by legislation and while the traditional centralised model is still widely used, many agencies are adopting a combined approach using either decentralised management, active or adaptive management, shared or community management or ecosystem based management. Another interesting emerging system, which has significant financial viability for park management, is Parastatal Management. This allows independent reporting and management structures that operate similar to a corporation but within government. This is quite different from the decentralised form, which is still largely controlled by government.

As well as these structures there are many innovative models, which are being used in national, state and regional park settings both within and outside government park jurisdiction. It is useful to explore these models and how and why they are used in order to broaden the framework of possibilities when developing a park management system. Each system should have the flexibility for a park management model to be designed to fit the uniqueness, which governs each park and its prime purpose.

Centralised versus Decentralised Model

The most traditional form of park management is a centralised form of operation based on a traditional government agency structure with centralised financial controls, policies, structures and budgets. A trend is emerging of agency's adopting a more decentralised form of operating, with a flattened management structure which allows a degree of financial independence, reporting and management, and the setting of policies, price structures, where internal budgets are shared.

New Zealand

The New Zealand Department of Conservation (2002c) uses a decentralised form of operating which involves a network of offices throughout the country. The agency employs 1,500 permanent staff and a large number of temporary, seasonal and contract staff. There are 13 conservancies, which are responsible for conservation management and each one has area offices that deliver conservation output, while three regional offices are tasked with quality improvement. The responsibility of developing leadership, national policies and services and support functions lies with the head office in Wellington (Department of Conservation 2002b).

Canada

The structure of Parks Canada is of organisational simplicity for administrative efficiency and consists of two levels of management, being the head office and field units. Both are supported by service centres. The 32 field units are grouped into national parks, historic sites and marine conservation areas and share management and administration resources. They are responsible for all program delivery including visitor services. The four main service centres and numerous smaller service centres are supported with technical and professional assistance in areas such as history and biology expertise. All field units and service centres present annual business plans (Parks Canada 2000).

Scientific Model

A scientific approach needs little explanation as decisions are based on scientific findings. The USA National Trust for Historic Preservation states that ‘without a scientific approach, the parks service cannot adequately assess the damage...let alone take the necessary steps to fix it’ (Figura 2000, p.69).

USA

According to Figura (2000, p.68) the NPS structure in the USA ‘requires a shift to a more science-based approach’, with a lack of top level managers with scientific backgrounds evident. This view was supported in the study undertaken in 2000 by The Panel of Ecological Integrity into Canada’s National Parks. Figura (2000) states that extensive research continues to support the fact that natural resource decisions are not based on scientific fact and with the large increases in visitors, the sustainability of ecosystems in the USA is grave. Following a review of the management problems facing the NPS, which highlighted a myriad of concerns from natural resource protection to financial management, a shift of focus to a more scientific approach began in 1999 (Ballard 2001). The publishing of a book by Park Service Historian, Peter Sellers, in regard to preservation of natural areas prompted this change and was a critical step forward for parks in the USA.

Ecological Integrity Model

Adopting Ecological Integrity, as a park management model involves a shift from traditional business management processes which focus on revenue generation and development and maintenance of facilities, to a system that has ecological integrity as its core purpose, in order to foster a culture of conservation. The Panel on Ecological Integrity of Canada’s National Parks (2000) believed that Parks Canada’s whole organisation must be aligned behind this vision. Although policies are in place to enact ecological integrity, the organisation has difficulties in translating the policies into practice. The Panel has proposed a new approach to assist with this transition, ‘Adaptive Management’, which will be discussed in more detail later in this chapter.

Ecosystem Based Management Model

This model is relevant where large ecosystems traverse borders and require a focus on maintaining the system for the survival of species, which encompass humans as part of the ecosystem. The core driving force behind all decisions made in an ecosystem based management approach has the overriding focus of ecosystems and ecological integrity. Slocombe (1993 p. 612) defines it as ‘partly a matter of redefining management units and partly a matter of building on the best ecosystem science’, and seeks to adapt planning to encompass environmental protection, economic development and people and their activities as part of whole ecosystems. Ecosystem based management is used widely in Poland, Canada, Australia and the USA.

Poland

The Polish National Parks system uses this model, as its focus remains to preserve the natural systems of the region. Although visitors are allowed in the parks, the overwhelming objective of the system is to preserve the environment, which takes precedent over all other human activities making ecosystem based management the priority (Polish National Parks 2003).

Canada, USA and Australia

Ecosystem based management is the management of whole ecosystems. Hummel (1989, p.288) identifies Canada as ‘the first country in the world to have a national parks service’, which began with the establishment of Banff in 1885 (Parks Canada 2000). The significance of this is the shift in focus of management strategies in Canada from purely recreation and tourism purposes to a focus on impacts and sustainability of ecosystems, as essential components to the survival of ecosystems.

The Prince William Sound region of South Central Alaska provides a good example of an ecosystem based approach, which incorporates multidisciplinary data collection and organisation initiatives (Slocombe 1993).

Other examples of the management of ecosystems can be found at Waterton Lakes in Alberta, the Glacier National Park in Montana (Slocombe 1993; Vantighem 1991; Zinkan 1992), the Australian Alps (Slocombe 1993; Good 1989) and around Yellowstone National Park (Slocombe 1993). While most of these parks incorporate extensive visitor facilities to cater for the large number of visitors each year, each park has a particular purpose behind its ecosystem planning. For example, Waterford Lakes has an emphasis on education and regional integration, while the focus of the Glacier National Park is on research and monitoring. Although all of these parks are large they do not individually enclose a complete ecological unit, therefore cooperative

management between parks and those on the buffer areas is important.

Active and Adaptive Management

The Active and Adaptive Management model adopts an experiential approach, where management learns and adapts during the process. The Panel on Ecological Integrity of Canada's National Parks (2000) explains it as a formal process for continually improving management policies and practices by learning from their outcomes while actively managing the planning process. The definition requires an emphasis on 'the precautionary principal', which means that care and caution is needed when faced with decisions affecting the environment and ecosystems. Smith (1997) and Prato (2001) explain that adaptive management includes management actions as experiments for acquiring information while learning about ecology and social responses in circumstances of uncertainty. Adaptive or active management are often used in combination with other park management models.

Australia

The Great Barrier Reef Marine Park includes reefs, islands and coral cays and covers an area approximately 345,000 km². For the last 20 years the park has used adaptive management, which incorporates zoning and other techniques to manage the reserve (Day 2002).

Adaptive Ecosystem Management

Adaptive Ecosystem Management (AEM) expands on the concept of ecosystem-based management. This approach can be used to evaluate the compliancy of an ecosystem to carrying capacities and identifies the best course of action required to deal with this (Prato 2001).

Greece

The model is used in Greece which has 10 national parks located in mountainous remote regions. The remoteness has preserved these parks and is characterised by the lack of communities living in or near the regions; however some small villages are located near the park making them economically dependent. The Forest Service through district offices administers parks in Greece, as no other dedicated authority exists. A study was conducted in Vitos-Aoos National Park to determine a planning model for the parks of Greece. The model included elements of adaptive ecosystem management and carrying capacity, which was used to determine the optimal level of use. Carrying Capacity as a planning tool for park management is based on ecological capacity, visitor perception and economic benefits (Papageorgiou & Brotherton 1999).

Cooperative Management

This model is used when there is a clear need for cooperation between independent parties to ensure ecological sustainability. Cooperative management is required where large areas do not enclose whole ecosystems or where buffer zones are crucial to the movement or protection of wildlife living within a system. Canada, USA and Australia all utilise cooperative management in varying degrees.

Australia

Cooperative Management is evident in the Australian Alps which transverse three states, the Australian Capital Territory, New South Wales and Victoria, and was put in place in the early 1980s stemming from contentious issues which highlighted the need for a conservation framework (Slocombe 1993; Good 1989). The cooperation between states or managers is vital for this approach to be successful.

Shared Community or Integrated Model

The Shared Community or Integrated Community Model involves stakeholders in all aspects of planning, management and funding.

United Kingdom

Parks in the UK have adopted this approach which is required to accommodate the diverse populace living within the parks including large farming communities. The UK mandate governing park practices are to 'conserve the natural beauty, wildlife and cultural heritage and to promote opportunity for the understanding and enjoyment of the special qualities of the parks by the public' (Lakes District National Park Authority 1999a, p.5). When these are not compatible, the 'Sanford Principle' is applied, that is that the first quality, 'the beauty

and ecology of the area', takes precedent over public use (Lakes District National Park Authority 1999a, p.5). The main influence on the planning and management of the National Parks in the UK was the passing of the 1995 Environment Act and the increased understanding of sustainable practices (Butler & Boyd 2000).

Community Orientated and Coordinated Resource Management

This model is used when there is a strong indigenous community reliant on the park resources. It is also common in countries with poor economies such as in Africa. Park agencies in these countries find it difficult to protect wildlife, as hunting by communities around wildlife reserves often takes precedent over wildlife protection, which is necessitated for economic survival. Innovative planning is needed to involve communities in conservation and to establish more viable economic conditions. In the following examples the view that conservation is inherent in the culture of indigenous communities is evident in the decision to deeply involve the community, as a major stakeholder in decisions and management of the park.

Nigeria

The proposed Abuja National Park in Nigeria has chosen a community orientated approach and a coordinated resource management approach which involves the local communities who live in the park and who sustain their living from the natural resources of the park (Gbadegesin 2000).

Australia and New Zealand

Uluru National Park in Australia and Aoraki/Mount Cook National Park in New Zealand are further examples of a community-orientated approach, where the indigenous community is involved in managing the parks (Butler & Boyd 2000).

Shared Management Model

The Shared Management Model divides management and responsibilities of the park between the city, the state and non-profit groups and involves all stakeholders in management and is used when there is fragmentation of land ownership in parts of the country. It is considered a model that will overcome rising costs and limited budgets by sharing the responsibility of management.

Boston

The Boston Harbor Islands became a national park in 1997 and has adopted this model, necessitated by the fragmentation of land ownership in parts of the country. The 31 islands are covered with historic fortresses, estates and lighthouses and are managed under a unique ownership and management plan. Eighteen of the islands are owned by the city of Boston and private organisations while the rest are owned by the state. This means that the National Parks Service needs only contribute one quarter of the operating funds (Paul 1997).

Parastatal Management Model

An emerging model that has significant financial viability for park management is Parastatal Management. This allows more financial independence and independent reporting and management structures that operate similar to a corporation but within government. Eagles and McCool (2002) indicate that the structure is often used when there is significant stakeholder input and the capacity to earn the majority or whole of the budget from tourism. A disadvantage considered by some is the loss of central control by governments and also the concern that decisions to use this model may be motivated by financial gains. Although this form of management can be found in isolation in a few countries, both Canada and some countries in Africa have embraced this parastatal style to adapt and incorporate elements of it into the management structure of its park systems in varying forms, allowing them to set policies, price structures and internal budgets (Eagles 2001).

Africa

In parts of Africa all park funding is obtained from entrance fees, specialised programs, accommodation, facilities and donations, as well as foreign aid. As tax-based grants are being phased out, South African National Parks (SANP) are developing innovative pricing and tourism services. Many of the parks operate as parastates and offer a range of services and facilities where price is based on service level and also have a high level of private sector involvement (Eagles 2001). The Kenyan Wildlife Service, the Tanzania National Park Agency and the South African National Park Agency all have financial advantages and operate as parastates (Eagles & McCool 2002).

Canada

The Canadian Parliament passed new National Parks legislation in 1998 to allow a new management structure for Parks Canada similar to a corporation or parastate. The new structure allows Parks Canada to retain revenues, reinvest, borrow against future revenue, link revenues to costs and depreciate assets resulting in significant revenue gains (Eagles 2001). Ontario Parks and private parks in Ontario also use various parastatal models for managing their parks.

Conclusion

In order to choose the correct park model, it is important to make decisions within a scientifically based ecological framework. The political, social, economic and technical circumstances must be assessed and intended use decisions made with consideration of all stakeholders. The model chosen should suit the unique circumstances and outcomes required for a particular park. The successful implementation of a model will depend on the expertise of staff charged with this task.

Park management agencies around the world are attempting to address and, in some cases, balance ecological, community and financial imperatives and objectives. There are ranges of models in existence where the strategic management emphasis may vary considerably, both between agencies and between the protected areas being managed within the park management system. Whilst an underlying philosophy of 'ecological integrity' is apparent in many park management models, this is being increasingly diluted as managing agencies face the realities of trying to meet the goals of various stakeholders and the demands of visitors within stricter financial regimes. In particular, a trend is occurring whereby protected areas that potentially have strong visitor appeal are being increasingly managed according to commercial rather than ecological principles.

Chapter 4

STAFF SKILLS AND TRAINING

Skill Requirement

The need for trained and qualified staff in management positions in park agencies continues to be a focus for discussion. Wald (cited in Pesavento, Bator & Ross 2001) sees an effective park agency as a learning organisation and possessing the following characteristics: use of data to solve problems; innovative thinking; learning from past experiences and not repeating past mistakes; using benchmarking to gather best practice models and to integrate these ideas into business practices.

Many agencies both in Australia and overseas are still coming to terms with the range of skills required for park management and plans to implement these are not yet in place. Questions, which remain unanswered, include whether senior management requires ecosystem-based management skills, science training or both?

In the US National Park Service (NPS), the lack of scientific data is severely restricting management decisions. According to Kaiser (2000) past experiences have seen management decisions made with inadequate information and any available data has been known to be manipulated to support policy decisions. The shift by the NPS to recognise the important contribution of science to management decisions is now underway and has moved to open the way for scientists to take up management positions within the NPS (Paul 1999).

Performance Management

Performance management is also an area that has been neglected across most agencies. The Department of Conservation in New Zealand is developing a performance management framework for both internal and external reporting that includes leadership and modelling at every level, accountability and the alignment of all current performance management systems (Department of Conservation 2002a). This is part of the Quality Conservation Management concept, which is similar to Total Quality Management and was put in place after the Cave Creek accident in which 14 people died when a Department of Conservation platform collapsed (Butler & Boyd 2000).

Discipline Expertise

Discipline areas of expertise must also be considered in staff training. Research undertaken by ANZECC (1996) and the Queensland Parks and Wildlife Service (2000) indicates that there is insufficient expertise in the areas of tourism, marketing, service quality, ecotourism and technical management, which is required for agencies that wish to adopt a 'user pays' system. Eagles (2002) conclude that planning and management expertise in tourism is essential if agencies are to maintain revenue from tourism.

Ecosystem-Based Training

In Canada, the lack of promotion to upper management by those with ecosystem-based management skills or science training was observed during a study by the Panel on Ecological Integrity of Canada's National Parks (2000). The realignment of decision making, training and employee relationships needs to be transformed into a system that allows for implementation of policies into practice.

The ability of staff to provide 'adaptive and active management' and the emphasis on 'the precautionary principal', when faced with decisions affecting the environment and ecosystems, is applauded by most agency staff. Canada had plans in place for ecological principles to permeate all employees in the organisation through training and orientation programs for all national staff on Ecological Integrity, to be undertaken within a two-year timeframe (Parks Canada 2000).

Best Practice Model

ANZECC has developed a best practice model for staff training, which is described in Box 1. Pressure from both state and federal governments in Australia to provide a formal training strategy for the sustainable management of parks, visitor services and facilities has prompted a move towards outsourcing training to professional agencies, to allow parks to focus on core business (ANZECC Working Group 2003b).

Box 1: Best practice model for staff training

A Best Practice Model for Staff Training lists the following characteristics:

‘Senior management understand and support the role training plays in the overall business context; Have identifiable vision, mission and key performance indicators; A formal link between training and the business planning process (priorities, funding and responsibility); A training specialist employed to integrate organisational training requirements with the services provided by the external training industry; Defined competency standards and assessment system; A ‘workforce management strategy’ which addresses how to bridge the ‘competency gap’; Use a modular approach to meet specific training needs such as the National Training Framework.’

Information adapted from ANZECC (2003b)

Conclusion

Many agencies both in Australia and overseas are still coming to terms with the range of skills required for park management, though few have implemented skills development programs. A key question that remains unanswered is whether senior management requires ecosystem-based management skills, science training or both? In the US National Park Service (NPS), the lack of scientific data is severely restricting management decisions. Staff training is an integral part of park management.

As training requirements of staff is debated across agencies, it is useful to consider the selected park model and the expertise required to implement the model. Whether it is ecological or science training or discipline expertise that is required, an integral part of planning should include a staff training model to ensure adequately trained staff in place to implement the park management model. A key consideration in management of parks is funding allocation and this should include an adequate investment in human resource training and development. Innovative funding ideas are discussed in the following chapter.

Chapter 5

FUNDING

Introduction

Funding should not be considered alone. The challenge of balancing human usage needs with maintaining biodiversity, on limited funding, requires innovative planning by park management, in order to maintain sustainable park systems. The park management structure, park management planning and the involvement of stakeholders will have an impact on the financial resources available to fund parks. Stakeholders can include communities, volunteers, businesses, government, national and local organisations, financiers, friends groups, individuals, researchers and educators. Most parks have funding issues affecting how they manage their resources. Innovative ways of managing assets or the ability to attract required funding are both areas that are important in addressing this issue, as substantial finance and human resources is crucial to effective management.

Overview

Research undertaken by Eagles and McCool (2002) forecasts a shift from government grants to tourism fees/charges, putting a higher focus on visitors. Biodiversity and sustainable tourism funding will increase from non-government sources, the goal being conservation and economic benefit.

Funding issues that have been highlighted in the research include:

- The need to raise the profile of parks in order to secure funds by measuring and articulating the economic impact of Park Tourism to government and business.
- Funds must be generated from a variety of sources, government, private, community, trusts, royalties.
- Park Tourism is an opportunity to raise revenue for maintenance through user fees, sale of goods, licenses.
- Revenue that is reinvested into park management and maintenance requires appropriate legislation to be introduced.

The way that parks are funded varies, however the most common funding sources for developed countries come from government tax based grants, tourism fees and charges and donations from the private sector. Developing countries are often reliant on foreign aid from the European Union or the USA, as well as tourism fees and charges or donations from the private sector (Eagles & McCool 2002).

Innovative Funding and Benchmarks

USA Business Plan Initiative (BPI)

Volunteers Provide Expertise in Developing Strategic Plans

The USA has the largest park system in the world with visitor levels in 2000 reaching about \$430 million and managing and financing such a complex system has been challenging. An innovative plan has been implemented that involves top students from business and management courses being allocated to assist park managers develop and translate financial budgets into a language that Congress and the public can understand, which has proved to be very successful. The students analyse individual budgets using business planning as a tool for financial planning and management to develop strategic business plans. The program has helped 40 national park units to be certified for sound practice by Price Waterhouse Coopers.

The program is funded by philanthropies and private businesses. The Park Service has deepened its commitment by establishing an internal BPI team to increase the units undertaking the program and to encourage all managers to apply traditional business planning techniques in their parks, in order to identify levels of funding needed for each park to inform congress and the public (National Parks Conservation Association 2003).

Banff and Kruger National Parks

Licensing of Intellectual Property and Park Names Provide Financial Support

Private businesses will pay large sums of money to be associated with well-known park names such as Banff National Park and Kruger National Park. How this is done is through film or television or other forms of advertising (Eagles & McCool 2002). There is also a move to experiment with parks receiving royalties from products that have resulted from research undertaken in parks and licensing of park names for cooperative public private ventures (Eagles 2001).

Madikwe Game Reserve – South Africa

Ecological Restoration Funded by Tourism

The reserve was a derelict farm wasteland and was restored to an African savannah ecosystem and wildlife was introduced in 1991. The three stakeholders, the North West Parks Board, the private sector and the local community, work in a mutually beneficial way in conservation and tourism. The board sets up the infrastructure and management and identifies suitable sites for tourism-based activities to ensure conservation. The private sector finances the buildings and the management, and marketing. Private sector money is used instead of state funds. In 1999 with only three of the planned ten lodges completed the economic impact was larger than the previous farm operations. The reserve was awarded the British Airways/World Conservation Union award for Park Tourism in 1998 (Eagles & McCool 2002).

Chumbe Island Coral Park and Environmental Centre – Tanzania

Private Sector Supports Park Through Tourism

The park is a unique coral island ecosystem that is now protected and managed by a private company assisted by an advisory committee. Surrounded by fishing villages, the project has involved the local community in all aspects. The revenue generated by tourism and money from educational and research programs funds the park. Two thirds of the initial funding came from a private benefactor and the rest from international non-government organisations and benefactors (Eagles & McCool 2002).

Bunaken National Park – Indonesia

User Pays System Provides Financial Stability

Mangrove forests and coral reefs make this park rich in biodiversity. Lack of funds meant that dynamite and cyanide fishing and illegal forestry were threatening the area. Divers, backpackers and day visitors were the main source of visitors. A fee was introduced in March 2001, after consultation with stakeholders, conservation agencies, businesses, park managers and locals, who were fully supportive, with the exception of the backpacker market, which is price conscious. The Management Advisory Board, which is made up of stakeholders, received 80 percent of the fees, with the exception of the government organisations, while 20 percent is split between national, provincial and two district governments. Residents within the park are exempted and visitors receive a pass, which has become a collector's item and memento of their visit. The Park has extensive educational material to inform visitors on why the fee was introduced and how the money is used (Eagles & McCool 2002).

Wakatobi Marine National Park – Indonesia

Community Work Funds and Protects Park

An important region for biodiversity, the region covers marine, coastal and tropical forest. A British based organisation with an associated charitable trust lobbied for the park with the assistance of a counterpart in Jakarta. A dive and marine research facility was established where a diverse range of research projects are undertaken each year by a wide range of volunteers who pay to participate in the projects as well as work on community development.

The community work funds the park, while more than 50 percent of monies paid by the volunteers go directly to the community. The income from these 'ecotourists' supports the communities, through employment opportunities, providing supplies as well as the establishment of a Reef Biology Education Centre for the local children. The marine park was awarded the British Airways and the World Conservation Union 2000 award for

Park Tourism (Eagles & McCool 2002).

Conclusion

The challenge of balancing human usage needs with maintaining biodiversity, on limited funding, requires innovative planning by park management, in order to maintain sustainable park systems. Park management structures, planning and involvement of stakeholders will all impact on the availability of funding. Innovative ways of managing assets or the ability to attract funding are areas that are important in addressing this issue. Funding should not be considered in isolation.

The ability to attract additional funding through business partnerships or stakeholder involvement will depend on the profile of the park and the ability to measure and articulate economic, cultural and environmental impacts. The classification of the park and the park model chosen will also influence funding options that are available to management. Nature based tourism is a viable consideration for revenue generation, however the effectiveness of a visitor management system will influence the economic and ecological outcomes for the park.

Chapter 6

TOURISM AND VISITOR MANAGEMENT

Introduction to Visitor Management

Visitor management plays an important role in the ecological sustainability of park systems as well as offering funding opportunities and the building of business partnerships. Eagles and McCool (2002) continue in their examination of visitor management trends to see parks as models for sensitive tourism development that should retain a learning emphasis and the opportunity to observe how people and parks interact. Changing demographics will see a shift in activities, settings and experiences required by visitors, which will require a maturing of management towards tourism. Visitor management planning techniques can include; zoning, user pays systems, restricted access, restricted development, campsite planning and restriction, the banning of certain activities and spatial dispersion of visitors.

Tourism Policies & Planning Benchmarks

Australia

Australia, Tanzania and New Zealand are recognised as leaders in positive and consultative policy development in nature based and Park Tourism. Australia has also been recognised for both its State and National Ecotourism Policies as a world leader in dealing with Parks as national destinations and the ecotourism policy and plan for Queensland is considered one of the most mature plans available (Eagles 2001).

In 1997 the New South Wales National Parks and Wildlife Service, produced one of the most comprehensive tourism policy strategy documents written. The overall outcome of the policy is ecological sustainable visitor use. The four desired outcomes are: ecologically sustainable visitor use as a primary outcome; positive assistance provided for sustainable nature tourism; improved economic return through sustainable nature tourism; and improvement of heritage conservation condition of protected areas. It is written in a form that the goals can be evaluated for success or failure (Eagles & McCool 2002).

Visitor Management Models

Many visitor management models exist, most to address visitor management questions that have come about through failures of approaches designed to establish numerical carrying capacity. A summary of management models is illustrated in Tables 7 and 8. The Limits of Acceptable Change (LAC) Model developed in the USA and the Visitor Activity Managing Planning Model developed in Canada is the two most widely used approaches (Eagles & McCool 2002).

The LAC Model assesses how much change in wilderness biophysical and social conditions is acceptable and involves a wide range of stakeholders in the planning. The Visitor Activity Management Planning Model (VAMP) is a more comprehensive system with terms of reference and can incorporate the elements included in the Limits of Acceptable Change Model, and can be adapted to suit the context of each park (Eagles & McCool 2002; McArthur 2000).

Table 7: Visitor management models

Visitor Management Models	Level of Sophistication	Range of Contributing Stakeholders	Application by Heritage Managers
Tourism Optimisation Management Model (TOM)	very high	very high	low
Limits of Acceptable Change (LAC)	very high	high	moderate
Visitor Impact Management Model (VIM)	moderate	moderate	moderate
Visitor Experience and Resource Protection (VERP)	high	moderate	low
Visitor Activity Management Planning (VAMP)	high	high	low
Recreational Carrying Capacity Model (RCC)	low	low	moderate
Recreational Opportunity Spectrum (ROS)	moderate	low	high

A qualitative assessment by McArthur (2000)

Table 8: Choosing the 'best' recreation/tourism planning framework

PLANNING FRAMEWORK	Suits regional planning (more than a single natural area)	Provides impacts of visitor use needed for management planning	Makes explicit provision for inclusion of stakeholders in planning	Responsibility and discretion for action left to managers	Readily integrated with other forms of planning (management or tourism plans)	Results in a publishable stand-alone document
Recreational Opportunity Spectrum (ROS)	XXX	---	---	---	XX	---
Limits of Acceptable Change (LAC)	X	XX	XXX	XX	X	XX
Visitor Impact Management Model (VIM)	---	XXX	---	XX	X	XX
Tourism Optimisation Management Model (TOM)	XXX	XXX	XXX	XXX	X	XXX
Visitor Activity Management Planning (VAMP)	XXX	---	---	---	XX	---
Visitor Experience and Resource Protection (VERP)	XXX	XX	XX	---	XX	---

[XXX matches criteria well; XX partially matches criteria; X poorly matches criteria; --- does not match criteria.]

Adapted from Newsome (2002, p.181)

Bob Marshall Wilderness – USA

Composed of forest and alpine wilderness the main activities are backpacking, backcountry horse supported recreation trips and a big game reserve. The Limits of Acceptable Change System was used in planning to protect the wilderness. Planning included zoning which set limits to numbers and activities in each zone and indicators were identified to monitor conditions. The plan was implemented in 1987 (Eagles & McCool 2002).

Saba Marine Park – Netherlands Eastern Caribbean

While fishing and yachting are popular, diving is the main tourist activity. The Limits of Acceptable Change System was used, the outcome of which was a new zoning system based on acceptable conditions not just

activities. Group sizes were reduced and limited and accompanied dives only were introduced (Eagles & McCool 2002).

Visitor Impacts

New Zealand

Planning for the next five years will include a comprehensive analysis, inspection and categorising of visitor facilities and their uses. The demographics of visitors to a site will determine the facilities required to meet the needs of the target group. There is no national program to monitor visitor numbers or impacts at the sites, although planning to monitor sample sites for impacts is part of the new strategy. At the present time when a site is considered overused, strategies are implemented such as limiting the number of people or permits to a site or upgrading sewerage facilities (Department of Conservation 2002c).

Great emphasis has been put on the visitor satisfaction survey to improve and upgrade facilities, while measuring and managing the impact of these visitors and the sustainability of the asset has been given a lower priority to date.

Canada

The Panel on Ecological Integrity of Canada's National Parks (2000) study identified activities such as golf, personal watercraft, sound and artificial light, snowmobiles, roads and cars, motor homes, planes as inappropriate activities in national parks as they conflict with environmental values. An activity such as bird watching may also be inappropriate if conducted during the breeding season. It should be noted that Ritchie (1999) discloses that activities that damage the ecology have not been widely researched and should be a high priority. In recognition that prohibiting the mentioned activities would be controversial, the Panel's recommendation was that a comprehensive assessment of each area is undertaken along with a reassessment of appropriate activities, in an effort to reduce the ecological footprint, a term used in the report to describe ecosystem damage.

Parks Canada does not have guidelines for appropriate activity use, and, at the time of the report, activities were inconsistent with sustainable practices. The lack of visitor impact studies is directly related to funding issues. Under these circumstances the Panel recommends that the 'precautionary principle' be applied. The report suggests that inappropriate activities or facilities should be closed down where feasible, and that an environmental assessment should be undertaken prior to any refurbishments to ascertain if it would be more appropriate financially and ecologically to 'withdraw the asset'. The reassessment of activities and visitor demand management are inclusions in Parks Canada's Corporate Plan, and it is clearly noted that there is no plan to close facilities such as golf courses or roads (Parks Canada 2002).

Restrict Development

The Banff Bow Valley Study undertaken in 1996 identified serious ecological damage from the domination of tourism in Banff National Park, in which a local community lives. With community consultation, a decision was made to close the airport, and stop new developments. An environmental educational centre replaced a commercial building in the town. The National Park Act was amended in 1998 to cap the amount of developments in National Parks across the country, effectively reducing the township in size by 17.4 percent (Butler & Boyd 2000).

Camp Site Planning

Visitor impacts have been minimised in the Isle Royale National Park by continuous maintenance and introduction of spatially concentrated camping sites and activities, with small camp sizes limiting site numbers and group size restrictions (Marion 2002).

Zoning

St Lawrence Island National Park is Canada's smallest national park. The park encompasses 868 ha, and consists of an 80 km stretch of islands where each island is managed as a distinct environment. Five zoning classes: special preservation; wilderness; natural environment; recreation; and park services are used to manage visitor impacts and activities which include camping, interpretative centres, docks, boat ramps, picnic areas and other low impact outdoor activities. Four of the five zoning classes are active in this park; the only one missing is class 2, the wilderness class, as the area is too small for the requirements (Eagles & McCool 2002).

United States of America (USA)

Personal Water Craft

A permanent ban on personal watercraft in 66 of 87 parks in the USA has occurred. Bans in the remaining parks are pending environmental assessments being undertaken within a two-year time frame (Dougherty 2002).

Limit Cars

The Grand Canyon in the USA has limited the car access and increased visitor sightseeing time by building a nine mile long, three station light rail. The light rail operates from a 3,500 car parking lot and stops at two stations inside the park (Engineering News Review 1999).

ID Cards

The Big Cypress National Reserve has ended the unrestricted use of off-road vehicles by introducing driver identification cards to be presented at the information centre (Anonymous 2002).

Removal of Car Park

In the Yosemite Valley the removal of a controversial car park has restored the central area of Yosemite Village and Camp Curry. Visitors are required to use shuttle buses during the busy time and when the roads are converted into a bicycle and walking path (O'Brien 2002).

Australia

Reduction of Camp Sites

In the Carnarvon Gorge National Park campsites have been halved since the 1990's for preserving conservation (Australia State of the Environment Committee 2001).

Innovative Design

In the Valley of the Giants in the Walpole-Nornalup National Park, innovative engineering and a sensitively designed tree top walk protects the ecosystem and allows for an exceptional visitor experience (Eagles & McCool 2002).

Restricting Commercial Development

In the Purnululu National Park in Western Australia, a program to conserve the ecosystems within the park has been achieved by restricting commercial development by concentrating on a camping outback experience. The program also allows the aboriginal custodians to maintain their traditional living and customs within the park (British Airways 1990).

Zoning

Multiple use of zoning on the Great Barrier Reef is effective in controlling human use (Day 2002).

Africa

Spatial Dispersion of Visitors

The spatial and temporal dispersal of visitors at the Amboseli National Park in Kenya has reduced the impact on the park although numbers have increased (Butler & Boyd 2000).

Underutilised Areas

To reduce crowding at the Bwindi Impenetrable Forest National Park in Uganda, visitors were encouraged to visit underutilised areas. The Gorilla Conservation Program sponsored jungle walks and climbs to a nearby volcano for gorilla trackers who often will wait two weeks to view the gorillas (Butler & Boyd 2000).

Soufriere Marine Management Area – St Lucia Caribbean

The Soufriere Foundation and Department of Fisheries manage this sensitive marine park under the guidance of

a technical advisory committee made up of stakeholders; management authorities and users. The park is funded through various government agencies, the sale of goods, user fees, and through an 'active friends group' of volunteers. Planning to protect the reef from visitor impacts involves zoning, controlled numbers of divers and yacht berths. The reef is showing good signs of recovery. There is an active education and interpretation centre and research continues to monitor impacts. The park was awarded the British Airways and the World Conservation Union 1997 award for Park Tourism (Eagles & McCool 2002).

Hanauma Bay Nature Reserve – Hawaii

A volunteer group called the Friends of Hanauma Bay was formed to work with local authorities in 1997 to develop a management plan for the Bay, which was suffering ecological damage from visitor use. More bins, better sewage, increased staffing and a ban on tour buses has seen the recovery of the area (British Airways 1997).

Galapagos National Park – Galapagos Islands

Strategies implemented to control visitor impacts on the Galapagos Islands include zoning and visitation ceilings, and planning includes that all visitors must be accompanied by a licensed guide (Butler & Boyd 2000).

Conclusion

Visitor management requires a range of strategies to be implemented to control and manage ecological impacts from visitors. The selection of the correct visitor management model is important as well as the consistent monitoring and assessment of visitor impacts, in order to manage the sensitivities of a region. Some strategies employed by agencies can include controlling or limiting access through zoning, restricting activities and educating visitors about park use and sensitivities through informative marketing.

Visitor management also requires the effective management of assets in order to avoid both the risk to sites and visitors. Different frameworks exist for managing both visitors and assets and much emphasis is put on the importance of educating visitors and tour operators on conservation. The important consideration of the condition and management of assets should also form the cornerstone to effective visitor risk management strategies.

Chapter 7

ASSET MANAGEMENT

Introduction

Different frameworks exist for managing visitors and assets and some have more emphasis on ecological integrity than others. Most emphasise the importance of educating visitors and tour operators on ecological integrity; however the deterioration of assets, declining funds and increased visitor demand is a situation facing most agencies today. Asset management cannot be considered in isolation, as it will also impact on the risk to visitors as well as ecological sustainability.

The lack of knowledge of the condition of natural and historic assets is common and requires the need for both visitor impact studies and classification systems to be developed. Knowledge of the conditions of assets is the cornerstone to developing an effective visitor risk management strategy. An appropriate framework needs to be developed and the parameters for measurement identified. Should a system be based on an environmentally sustainable framework, risk management or both? Could visitor classification be achieved through the type of visitor / park user? Or can natural asset classification be assisted through visitor impact studies?

The State of Assets

Further perusal of park planning documents confirms that the recording of the condition of natural, cultural and historic assets is incomplete in most agencies in Australia, Canada, United Kingdom, United States of America and New Zealand, and has prompted all agencies to make specific reference to include this in their planning strategies. Most agencies focused on the acquisition stage of the process, yet risk management, maintenance and funding for the upkeep of these resources throughout their life cycle was not considered in the planning process.

Parks Canada (2000) has assessed the impacts on their parks at 81%, which have sustained significant, major or severe impacts from park practices, facilities or visitor use. This is further exacerbated by the fact that approximately 70 % of its built assets are in either fair or poor condition (Parks Canada 2000).

Priorities were reassessed in the USA park system following a director's order that 'parks would be available to visitors, but only to the degree that natural and cultural resources are not destroyed' (Ballard 2001, p.11). The Strategic Plan for the US Dept of the Interior/National Parks Service (2000) pledges to restore the natural, cultural and historic resources to good condition within the next five years. While the sentiment expressed is well intentioned, political pressure from interest groups has seen a watering down of policies and practices governing park use. Agriculture, mining, railways, roads and dams, causing an adverse affect on ecological processes, have substantially altered these areas. An inventory is being undertaken to identify and evaluate the state of natural and cultural resources, however this process is slow due to the vast number of resources to be assessed and the lack of funding (US Dept of the Interior/National Parks Service 2000).

Australia

A study undertaken in Australia by ANZECC (2003a) identified a lack of best practice across agencies in regard to the management of assets within their park systems. These assets may be natural, cultural or heritage resources, buildings, tracks or trails, land or equipment. A best practice framework was developed from this study and recognises the points listed in Box 2 as important elements for the sustainable management of assets.

Box 2: Best practice framework for asset management

An integrated data management and IT support system; Integrated management programs which include acquisition, maintenance, review, assessment, disposal and funding; Standardized documentation of processes; Performance management indicators.

(ANZECC 2003a; Environment Australia 2003a)

Australian Agencies that have achieved outcomes in managing their assets past the development stage are illustrated in Table 9. The Australia Nature Conservation Agency (ANCA) and the states of South Australia (SA), New South Wales (NSW), Tasmania (TAS), Western Australia (WA), Victoria (VIC) and Queensland (QLD) participated in the study.

Table 9: Asset management in Australia

AGENCIES WHO HAVE ACHIEVED OUTCOMES PAST THE DEVELOPMENT STAGE							
PLANNING	SA	NSW	TAS	WA	VIC	QLD	ANCA
Core Business	yes	yes	yes	yes			
Linked Plan		yes		yes			
Customer Knowledge			yes		yes		
Budget	yes		yes				yes
Flexible Timeframe	yes						
ACQUISITION							
Project Planning				yes	yes		yes
Standards		yes	yes	yes	yes	yes	yes
Design		yes	yes	yes	yes	yes	yes
Pre Contract		yes	yes		yes	yes	yes
Creation		yes	yes	yes	yes		yes
EVALUATION							
Rating Priority							
Economics							
Customer			yes			yes	
Environmental		yes	yes	yes		yes	yes
Community Expectations		yes		yes	yes	yes	yes
Strategic Directions	yes	yes			yes		
Risk Management						yes	
AGENCIES AT THE DEVELOPMENT STAGE AND NOT YET ACHIEVING OUTCOMES							
OPERATIONS	SA	NSW	TAS	WA	VIC	QLD	ANCA
Start Up							
Asset Plan	yes	yes		yes			yes
Operation							
Review						yes	
Disposal							

Adapted from information from ANZECC Working Group (2003a)

New Zealand

New Zealand has moved forward to develop its own asset classification system (Department of Conservation 2002a). The management of all physical assets will be placed within a framework of clearly defined standards and approaches, using the visitor asset management system as a base with all existing asset management systems included within this framework. The general system should be operational by 2002/03, while a National Heritage Information System is planned for completion in 2003/04. As historic assets are located on both public and private land, the department in consultation with other stakeholders is developing the system within a thematic framework to provide a classification system for heritage assets to be implemented in 2003/04 (Department of Conservation 2002a).

The department has been compiling an inventory on historic sites, in order that the community and managers can make informed choices on what course of action to follow. The Historic Asset Management System (HAMS) incorporates a set of service standards that defines and quantifies the work, maintenance or interpretation required, and then condition reports, specifications and costing are prepared.

The planning for historic assets is laid down in three stages. The Department of Conservation (2002c, p. 33) believes that, 'the avoidance of the adverse effects of human activities', is the most appropriate strategy for more than 90 % of its historic assets, which number ten thousand, and that they should be left alone as 'the knowledge of their existence is enough'. The second tier is the 7.5 percent of assets that are considered unstable such as concrete foundations, and definitely require work. The third tier and the most pressing are the 1.5 percent of the total assets that may affect human health or safety, such as buildings, huts and bridges, which contribute 146 assets. Around 14,400 visitor structures will be assessed against health and safety requirement, and those that do not meet the requirements will be either closed until repairs are undertaken or removed permanently.

Conclusion

The management of assets will have implications for both the safety of visitors and the sustainability of natural and historic sites and the stages set down in the best practice model should be closely adhered to. Asset management should be considered a key priority during the planning stage, to allow the park to be correctly classified and its intended use decided. Established parks must monitor and assess the state of their assets regularly to ensure that appropriate use is still relevant and that the safety to visitors is maintained and that the natural and historic assets remain undamaged. Many agencies are enlisting the help of visitors in maintaining and managing the natural and historic assets through educating visitors on appropriate use and through the dispersal of electronic information, marketing and distribution.

Chapter 8

MARKETING AND DISTRIBUTION

Introduction

How to market parks has brought forward a number of suggestions, a general view is that marketing should be informative about conservation. The recommendations by the Panel on Ecological Integrity of Canada's National Parks (2000) is a shift in the marketing focus from product marketing to social marketing which will influence visitation and expectations rather than promote visitation and a strict form of demarketing in some instances where ecosystems have been extensively damaged.

Social Marketing

Social Marketing requires the sharing of information to the visitor on Ecological Integrity, and its importance in preserving the park system. Visitors can then choose to visit with the knowledge of possible impacts on the environment from crowds, resources impacts and stresses. The purpose of this approach is to involve the visitor in conservation (Parks Canada 2000).

The Panel on the Ecology Integrity of Canada's National Parks (2000) concludes that product marketing is counter productive to ecological integrity and that Parks Canada must re-educate its tour operators and other parties to shift the focus to social marketing in regard to parks. The recommendations by the Panel is a shift in the marketing focus from product marketing to social marketing and de-marketing in some instances, which will influence visitation and expectations rather than promote visitation. The dispersion of information electronically was also a priority focus in the recent corporate plan.

Demarketing

In its most narrow form de-marketing would restrict public use of the facility and inform the public of the reasons. In the broader context a form of demarketing is already used extensively in what is known as target marketing or selective marketing, which effectively demarkets the product to *undesirable* tourists effectively reducing general demand (Beeton 2003). For this approach to be effective, the information must be reflected through all marketing brochures, it is not enough to just select market segments. Demarketing strategies are already being used in some instances to control visitor numbers and activities by using strategies such as price increases, notices of banned activities in brochures, providing virtual tours, separate management of large groups and advertising capacity limits (Beeton 2003). It is important for information to be given prior to the visit.

Mt Buffalo Chalet Australia

Mt Buffalo Chalet in Australia has incorporated into its marketing material information about the type of experience that they can and cannot offer, effectively de-marketing to undesirable park users (Beeton 2003).

Wakatobi Marine National Park – Indonesia

Wakatobi Marine National Park selectively markets to a group of ecotourists who can volunteer and contribute to their projects (Eagles & McCool 2002).

Interpretation and Education

Off site interpretation and education has emerged as an effective management strategy for both visitors and ecosystems. Off site interpretation also reaches non-park visitors and is reached through the Internet, tourist information centres, media and publications, school education programs and other community initiatives (Archer & Wearing 2002). Information and interpretation is dependent on what is important to each culture.

San Francisco Bay National Wildlife Refuge – USA

With a focus on ecological sciences, this centre brings together wildlife and environmental education reflecting US cultural values (Eagles & McCool 2002).

North American Parks

Parks in North America put an emphasis on information and education rather than regulation and restriction. This subtle approach puts more responsibility on to the visitor (Eagles & McCool 2002).

Electronic Information

Planning for an expansion of electronic information sources is high on the agenda for most agencies in Canada, New Zealand, USA and Australia. The purpose is to inform visitors of conservation issues within parks prior to their visit and is considered a strategy to inform and influence the behaviour of visitors towards conservation.

New Zealand

Electronic information will provide both conservation and visitor information and include government standards and use monitoring, conservation achievements and actions needed, education, projects, links to conservation and other stakeholder sites, community events and opportunities for involvement. New Zealand is a world leader in developing a sophisticated, community-based information system for park tourism. The cooperation between the public and private sectors is evident in this advanced source of information for tourists (Eagles & McCool 2002).

Conclusion

There is a range of views about how to market parks but a common view is that marketing should be informative about conservation. By sharing the information with the visitor on ecology, and its importance in preserving the park system, visitors can choose to visit a park. Enlisting the assistance of visitors in conservation management, through social marketing by informing and educating visitors, and the closing of sites at risk of ecological damage or risk to safety should be considered. Both the allocation of adequate funds and marketing expertise are essential planning requirements.

Chapter 9

REVIEW AND RECOMMENDATIONS

Park Classification

While most park agencies use the uniform IUCN global classification system to classify national parks and protected areas, there is a lack of consistent sub-classifications or specific use purposes identified for parks with high visitor use such as urban, regional and recreational parks and some national parks. The classification system underpinning each park should be based on sound scientific research to ensure a sustainable park system is maintained.

Park Management Models

Developing models that suits the unique circumstances of each park is relevant to maintaining sustainable park systems. Choosing the correct model will depend on the political, social, cultural demographic and ecological environment. A trend is occurring towards models that will allow a degree of financial independence from the reliance on government funding as well as partnerships with stakeholders and businesses.

Staff Training

Expertise in areas of park management such as visitor management is becoming more important as parks explore ways to increase revenue while ensuring the sustainability of parks. Staff training must form part of management planning and be linked to defined goals for the park with funding and key performance indicators identified.

Funding

The opportunity exists to generate funds from a variety of innovative initiatives sourced through government, private companies, community involvement, trusts and royalties. Revenue raised through tourism can fund maintenance in parks through user fees, sale of goods and licenses. Revenue can be reinvested into park management and maintenance but requires appropriate legislation to be introduced.

Visitor Management

Visitor management is intrinsically linked to both asset management and visitor risk management and cannot be considered in isolation. Agencies have used a variety of strategies to manage visitors with some considering closing parks to the public that put either the environment or safety at risk. With sound research, businesses will be more willing to invest in parks, and visitor management can provide the vehicle to do so through park tourism. Measuring and articulating the economic impact of tourism is a strategy that can be used to raise the profile of parks to secure funds, however this is not a regular practice for many parks.

Asset Management

The lack of information on the condition of natural and historic assets cannot be considered in isolation as it can pose a risk to both the visitor and to the environment. The need for visitor impact studies and asset classification systems to be developed is of critical importance. The lack of well-developed classification systems is evident across many agencies although planning is underway to rectify this.

Marketing and Distribution

A shift in the marketing and distribution of parks is gaining momentum as park agencies recognise the importance of the electronic media in educating and informing the visitor. A strategy to inform visitors prior to their visit through social marketing requires advanced technology systems, while de-marketing strategies are being adopted in some instances to control visitor numbers and activities.

Parks of the Future

It is an important part of park planning to understand past, present and future trends in order to design park systems that will be relevant and sustainable for the future. Park agencies must therefore consider the political, economic, social, demographic and technical areas when planning and managing their parks (Eagles & McCool 2002). Each urban, regional, state or national park will be required to meet varying needs from a diverse range of stakeholders. Future park trends collated from the work done by Eagles and McCool are documented in Table 10.

Table 10: Future trends in park management

Politics	Political trend towards more democratic forms of government translating into an increased involvement of the public into decisions made in park management. Parks will become an important part of regional and national economic development
Technology	The increase in technological advances will bring information to a wider audience which will lead to a more informed and knowledgeable visitor, who will require more knowledge and information, services and facilities. Information through more sophisticated use of the electronic media will see cooperation between park agencies, their governments and visitors globally
Communities & Conservation	A trend towards communities becoming more involved in protection and conservation will invoke new innovative forms of management, with a shift away from limited use to a model that combines conservation and public use, is particularly relevant to systems where communities live within their parks.
Energy Costs	The reduction in travel cost and time will allow people to travel further, however the increase in energy costs due to the depletion of light oil will see a decrease in international travel, causing domestic economic stresses and effect park visitation.
Global Warming	The impact of global warming will also be evident.
Civil Unrest	Civil unrest, war and famine will destroy parks in parts of Africa and Asia.
Ageing Population	The activities of park visitors will change to accommodate the aging population
Visitor Impacts	Managers will become more knowledgeable about visitor impacts and be better equipped for sustainable management.
Parastatal	A shift away from the reliance on government funding to new and innovative ways of democratic management. Of particular interest is the gradual emergence of parastatal forms of management which allow financial flexibility, this shift will also put a focus on tourism fees and charges and a more mature understanding of how to manage tourism and park visitor
Funding	Corporate agencies will become involved in funding and management as parks become models for sensitive, sustainable tourism development and important learning centres for the interaction between people and the environment, and cultural icons for communities globally
Stakeholders	Tourism funding will come from stakeholders whose focus is conservation and economic benefit, as the demand increases for exploitation of natural resources

Adapted from Eagles and McCool (2002)

Summary of Key Benchmark Examples/Studies

An overview of selected countries that have produced useful studies on, or provide key examples of benchmarks for the themes discussed in this paper is outlined in Table 11. This should not be considered all-inclusive, as further research on these themes is ongoing. Nevertheless, it is the most comprehensive, recent and significant research in this area to-date.

Table 11: Park management themes: key examples/studies

THEMES IN PARK MANAGEMENT	AUST.	NZ	CANADA	USA	UK	GREECE	POLAND	AFRICA	INDONES.
★ Key Examples/Studies									
☆ Other Examples or Studies									
Park Classification			★						
Decentralised Model		☆	☆						
Scientific Model				☆					
Ecological Integrity			★				★		
Ecosystem Based Model	☆		☆	☆	☆		★		
Active & Adaptive Model	★		☆						
Adaptive Ecosystem Based Model	☆		☆		☆		★		
Cooperative Management Model	☆		☆	☆					
Shared Community or Integrated Community Model					★				
Shared Management Model				☆		★			
Community Orientated & Coordinated Model	★	★						★	
Parastatal Model			★					★	
Staff Training	☆	☆	☆						
Funding	☆	☆	★					☆	☆
Tourism & Visitor Management	★	★	☆	☆					
Asset Management	☆	★							
Marketing/Distribution	☆	☆	☆	☆					☆

Conclusion – Towards an Integrated Park Management Model

The final stage of the report will draw together the key themes into an integrated park management framework. It is anticipated that the framework will be used to examine the interrelationship between the key themes within the context of the type of parks being managed. The philosophies underpinning the management of these parks may be studied and the implications for best practice examined. It is intended that the framework will assist park management agencies in determining appropriate management structures and strategies for the parks they manage.

Chapter 10

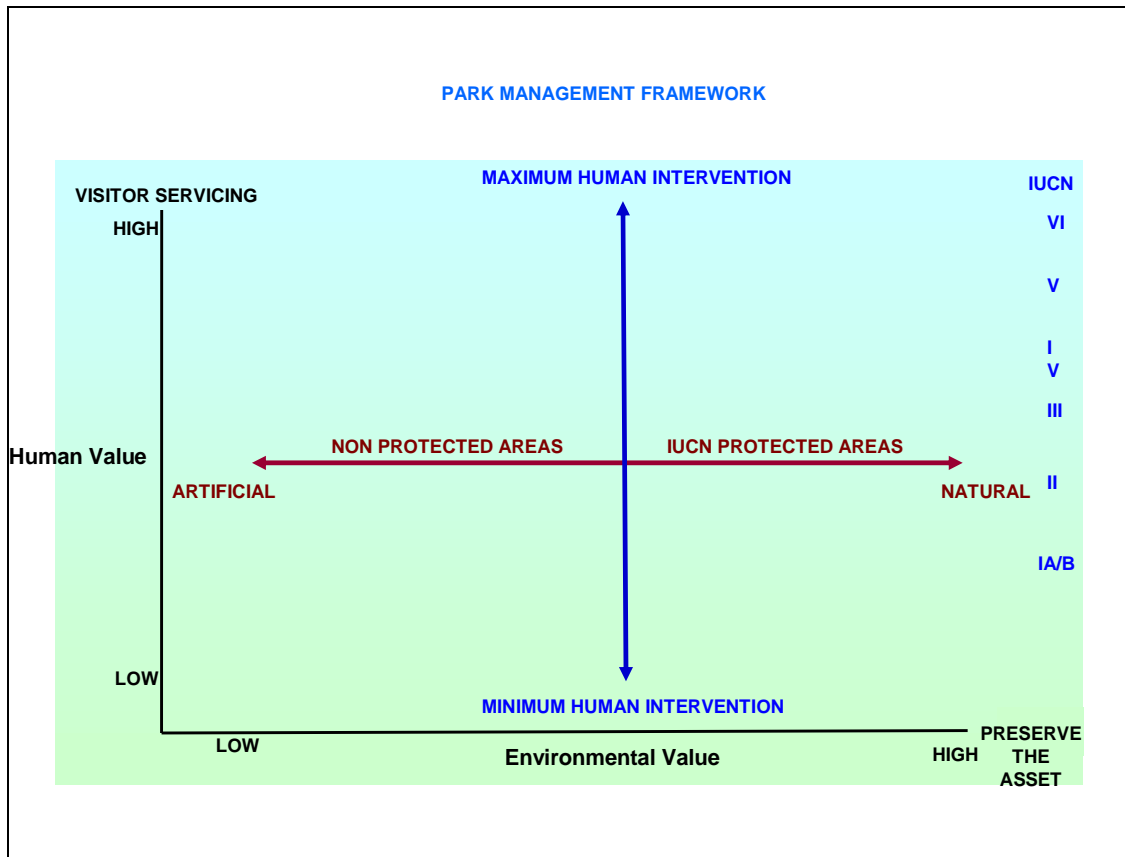
TOWARDS AN INTEGRATED PARK MANAGEMENT MODEL

Introduction

Based on the themes and best practices discussed in this report, the authors are able to conceptualise an 'integrated park management model'. The basic model draws on the IUCN classification of parks, which takes into account both environmental significance and the volume of human visitation, and extends this classification further to incorporate parks of an artificial nature that fall outside the IUCN classification system. From this, two axes can be identified:

- the X-axis which measures environmental value where the higher the environmental value, the greater is the need to protect and preserve the natural assets; and
- the Y-axis which measures human value where higher human value implies a greater emphasis on servicing the needs of visitors (see Figure 4)

Figure 4: Park management framework



Park Classification

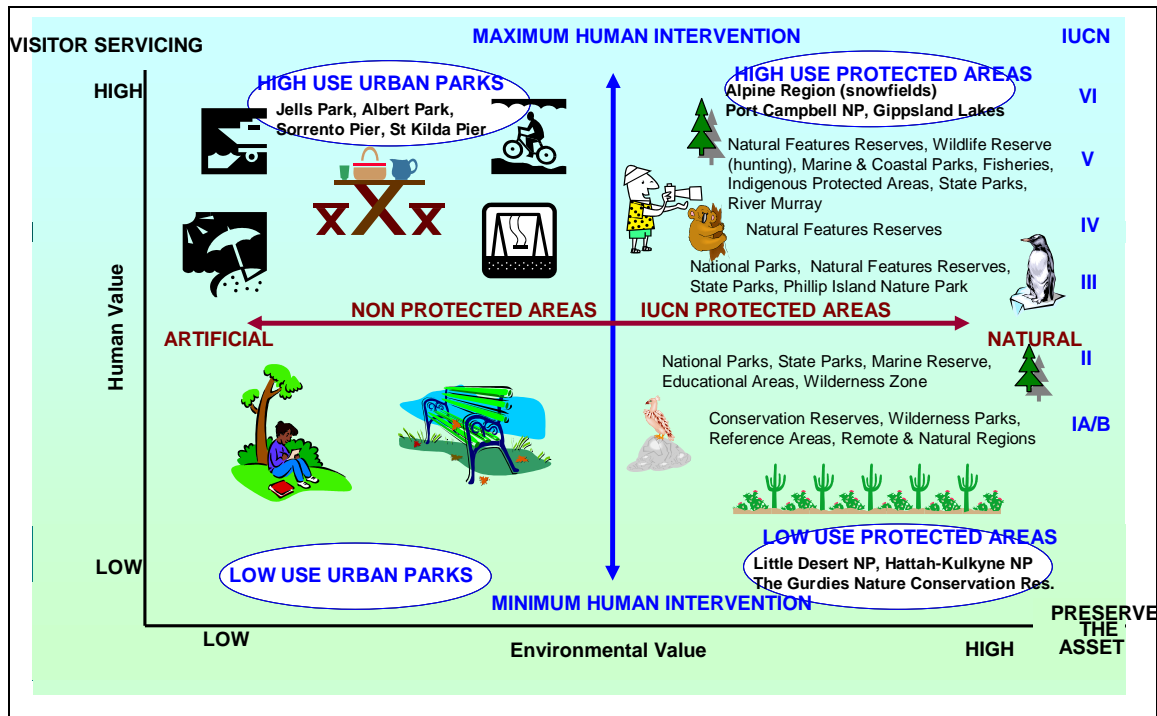
From the basic model, four quadrants in a matrix emerge to create a 'prototype' model for the classification of parks. It should be noted that any park could be located in any position within the matrix.

The four prototype parks can be described as follows (see Figure 5):

- 1) *High Use Urban Parks*, with a high emphasis on servicing visitors and less emphasis on ecological integrity. Examples in Victoria include Jells Park and Albert Park.
- 2) *Low Use Urban Parks*, with a low emphasis on both servicing visitors and ecological integrity. For example, low-grade suburban parks and reserves would fall in to this category.

- 3) *High Use Protected Areas*, with a high emphasis on both ecological integrity and servicing visitors. Examples in Victoria include Phillip Island Nature Park and the Victorian Alps.
- 4) *Low Use Protected Areas*, with a high emphasis on ecological integrity and less emphasis on servicing visitors. Examples in Victoria include the Little Desert and Hattah-Kulkyne National Parks.

Figure 5: Park classification



Park Management Themes and Characteristics

Drawing on the themes discussed in this report, Figures 6 to 9 identify the various characteristics of the four prototype parks. Each theme is discussed in relation to the prototype parks following. For each theme, we have postulated a set of axes rotated 45 degrees from the base axis to reflect these characteristics.

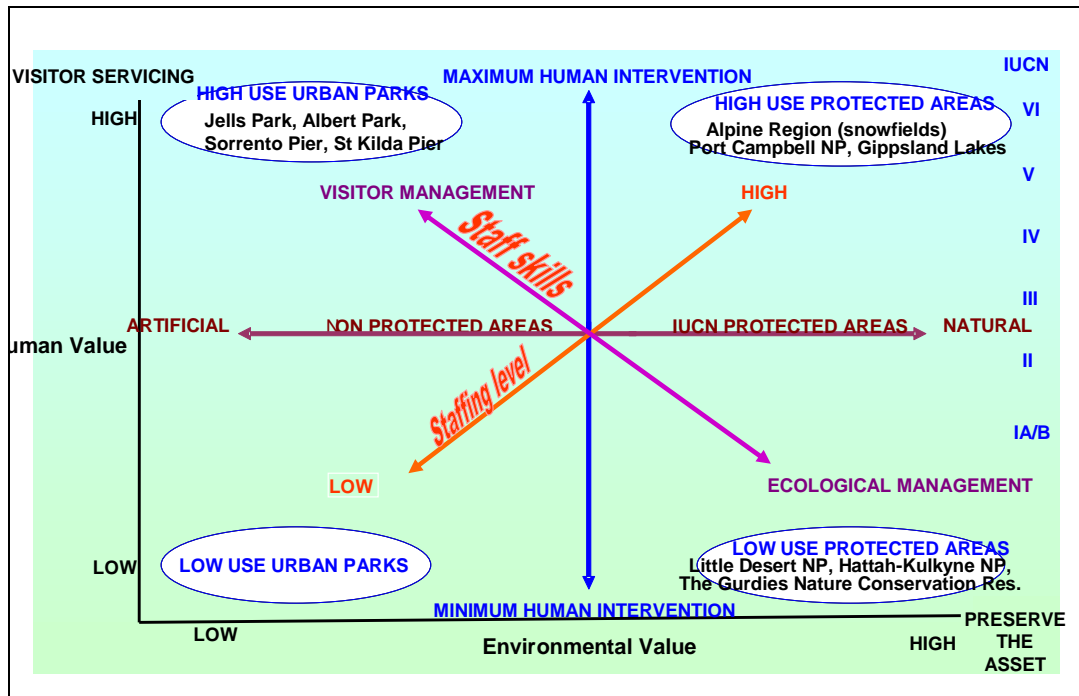
Staffing

In terms of human resources to manage parks, both the level of staff allocation and the skills base of staff are key considerations. The staff skills axis in Figure 6 indicates the need for a range of skills from commercial to environmental management. Staffing levels will also vary dependent on the complexity of the park being managed and visitation levels.

The four prototype parks have differing requirements concerning the skills base of staff and the level of staffing for each park:

1. *High Use Urban Parks* – the skills base needs to be strongly commercial. Staff require a range of business skills with a particularly strong understanding of customer service and marketing principles. Staffing levels will increase in peak periods or in relation to major events, when there will be a need to employ temporary contract staff.
2. *Low Use Urban Parks* – typically administered through a ‘Parks and Gardens’ department of local government, requiring mainly low-level administrative support (i.e. rental of facilities, sub-contracting of maintenance and cleaning services).
3. *High Use Protected Areas* – these areas require the widest range of staff skills because of their high environmental and human values. Therefore, staff with a high skill level in commercial and environmental management is required. The range of skills implies higher levels of staff support and training, supplemented by temporary contract staff in peak periods.
4. *Low Use Protected Areas* – there is a strong emphasis on non-commercial funding through government and benevolent organisations because of high environmental values and low visitation patterns. There is a strong emphasis on long term strategic expenditure programs related to conservation of the environment.

Figure 6: Staffing skills and levels



Funding and Impacts

The key considerations here are how parks raise revenue and spend that revenue as well as the potential economic and social impacts generated by park visitation. The revenue axis in Figure 7 suggests that income can be generated by way of straight commercial activity, such as selling entrance tickets and souvenirs at one end of the spectrum to being entirely dependent upon government and benevolent donations at the other end. Sitting at right angles to the revenue axis is the expenditure axis. It suggests that expenditure can be tactical, even ad hoc, at one end or highly strategic at the other.

Figure 7: Funding

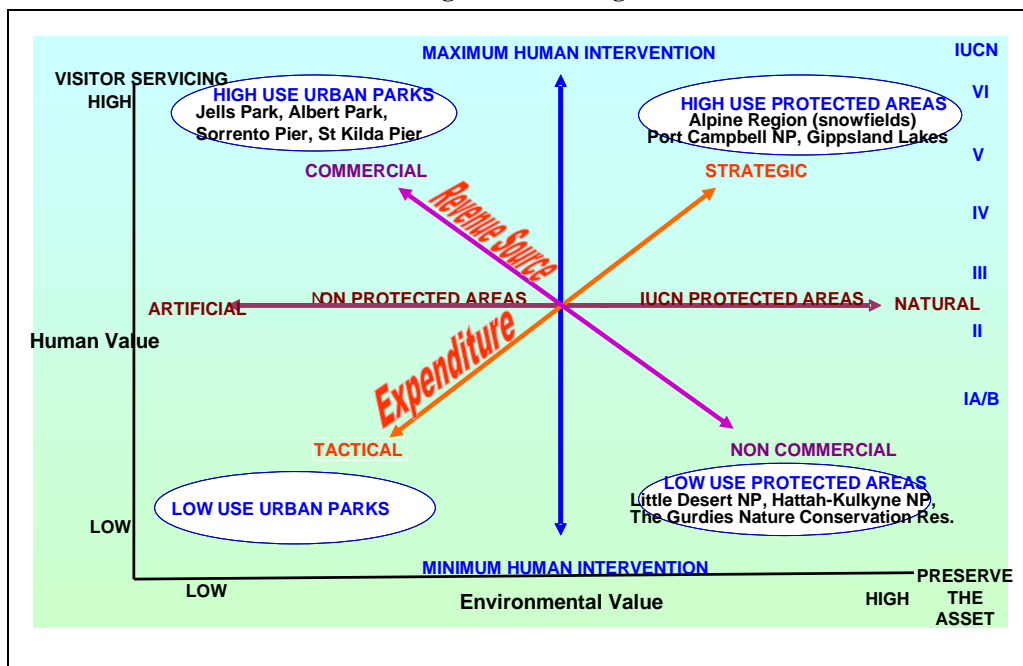
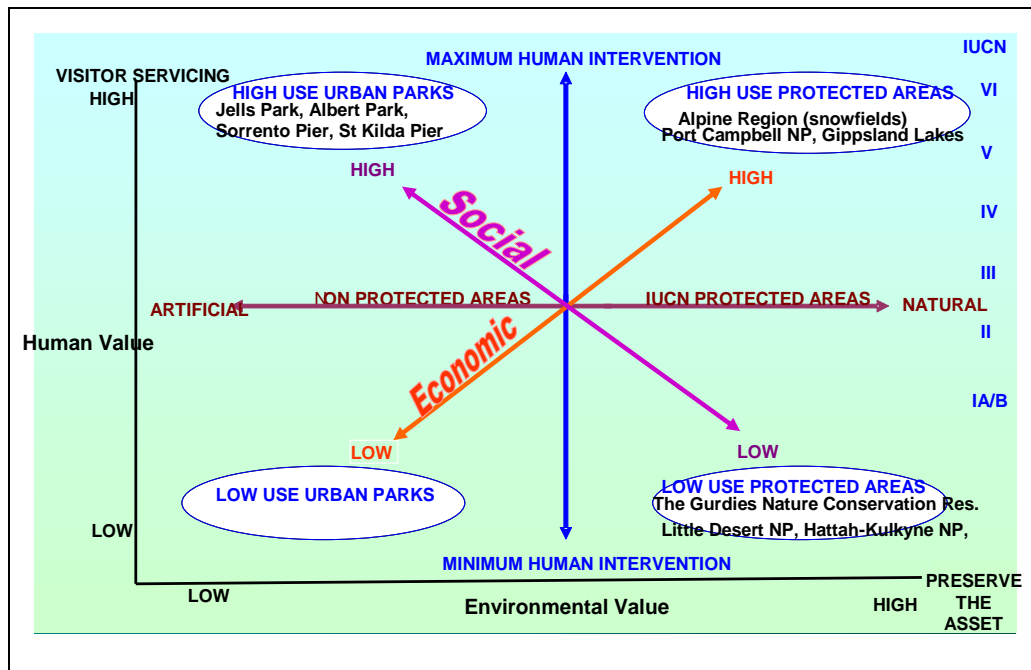


Figure 8: Impacts



The economic impacts axis in Figure 8 demonstrates the ability of parks to generate potential economic benefits to the wider community whereas the social impacts axis illustrates the potential positive and negative social impacts of parks. This therefore suggests the following revenue and expenditure patterns and impact dimensions in relation to the four prototype parks.

- 1) *High Use Urban Parks* – a high prevalence of commercially based funding from leases, rentals, merchandising and sponsorships with limited government support. There will be a mix of strategic expenditure programs on visitor infrastructure and tactical expenditure programs on maintenance and upkeep. The economic benefits to the local area will generally be low in yield as these parks typically attract local audiences. However, in some cases there may be the opportunity to generate significant economic impacts through events by attracting a greater non-local audience (e.g. the Formula One Grand Prix at Albert Park). As these are high use parks, social impacts will be large, whether they are the positive benefits of social interaction or experiencing large-scale events, or the negative impacts of crowding and the broader impacts on local communities.
- 2) *Low Use Urban Parks* – a mix of commercial funding from rentals, and non-commercial funding from local government and local community organisations. These two stakeholders accept responsibility for maintenance and upkeep with a heavy emphasis on tactical expenditure, as these parks are not sufficiently significant to warrant long-term strategic expenditure programs. These parks have very limited, if any, economic impact on the local community with the possible exception of monies raised by service clubs. However, there are positive social benefits through the provision of amenities for local communities.
- 3) *High Use Protected Areas* – a mix of commercial funding from entrance fees, merchandising and sponsorships as well as government and benevolent funding because of high environmental values. There is also a strong emphasis on long-term strategic expenditure programs, particularly those related to capital development to conserve the environment and service visitor needs. There is likely to be intense internal competition for expenditure amongst visitor and ecological interests. These parks can generate significant economic benefits in terms of both volume and yield because they have greater pulling power in attracting visitors, especially international visitors. Social impacts are more likely to be negative as visitation levels increase.
- 4) *Low Use Protected Areas* – a strong emphasis on non-commercial funding through government and benevolent organisations because of high environmental values and low visitation patterns. There is a strong emphasis on long term strategic expenditure programs related to conservation of the environment. Economic benefits will generally be low associated with low levels of visitation, though yield for some specialist groups may be quite high. Social impacts are minimal as any visitor activity often takes place in remote wilderness areas.

Visitor and Asset Management

Visitor and asset management are inextricably linked in that the level, and nature, of investment in infrastructure is closely correlated with visitor use, visitor satisfaction and the underlying management philosophy governing each park. In terms of tourism and visitor management, the nature of the service delivery will range from one that has an entertainment orientation to one that has an educational orientation. The level of the service offer will also be closely linked to visitation levels (see Figures 9 & 10).

The following variations in service orientation, the level of the service offer and the level and nature of infrastructure investment for each of the prototype parks are anticipated:

1. *High Use Urban Parks* – the key focus is on providing an entertaining and satisfying experience for visitors within a clean, attractive and safe environment. They tend to require high investment in infrastructure and operating assets to provide human comforts. Similar to staffing, the level of the service offer will vary between peak and off-peak periods. Temporary infrastructure will also be required (e.g. portaloos, marquees) to ensure human comfort levels are maintained and risk is appropriately managed. Often this may involve a cooperative arrangement with one or more commercial partners.
2. *Low Use Urban Parks* – their lack of visitation and environmental significance suggests that these parks tend to have a very minimalist level of management intervention. The ‘bare minimum’ will be spent on basic infrastructure and low level recreation facilities (e.g. seating, picnic areas) to meet the basic needs of users by keeping the park clean, tidy and safe as much as a ‘duty of care’ to manage risk. If any further investment in facilities is forthcoming, it is likely to be generated by local community and volunteer organisations.
3. *High Use Protected Areas* – high levels of visitation competing with high ecological values clearly indicates that visitor management practices must protect the visitors and the environment but also provide for high levels of visitor satisfaction in an attractive environment. This will require a high level of service effort to provide interpretation that is both entertaining and educational whilst proactively managing physical risk to humans. Accordingly, investment in infrastructure will be strategic to conserve the natural environment, provide an acceptable level of human comfort within environmental constraints and minimise risk.
4. *Low Use Protected Areas* – as ecological integrity overrides all other considerations, ideally the main emphasis should be on educating visitors about conserving and preserving the natural assets, whilst providing minimal infrastructure to ensure visitor safety. However, with a diminishing funding base for investment in assets, rather than try to pursue an infeasible service promise, in some cases park managers may simply reduce or remove the service promise altogether and attempt to quarantine areas from visitation through enforcement.

Figure 9: Tourism and visitor management

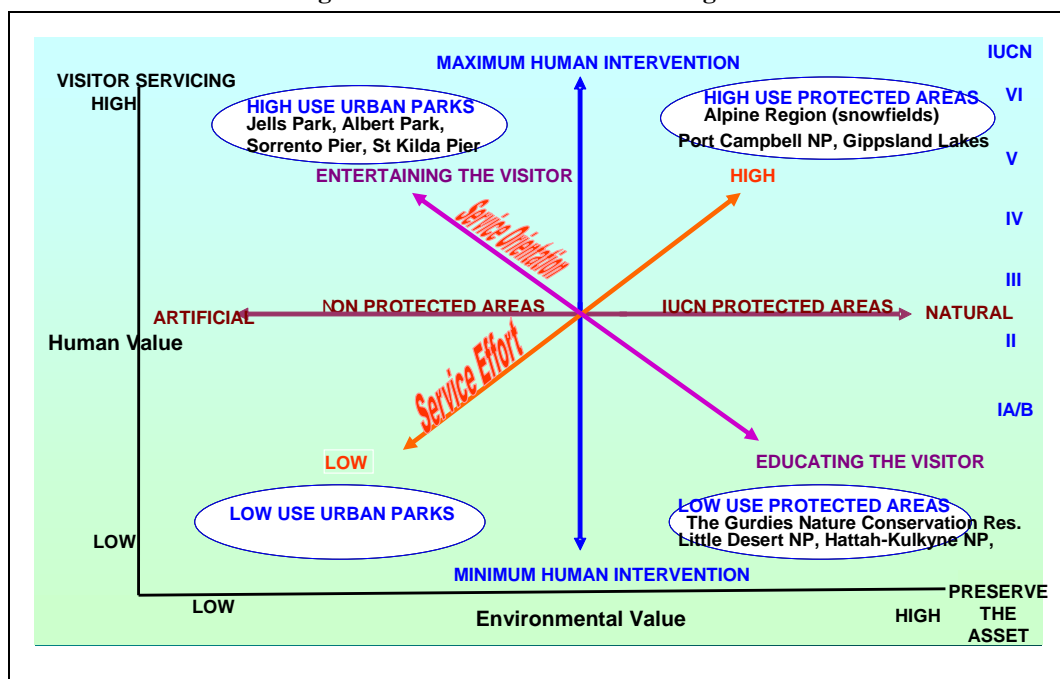
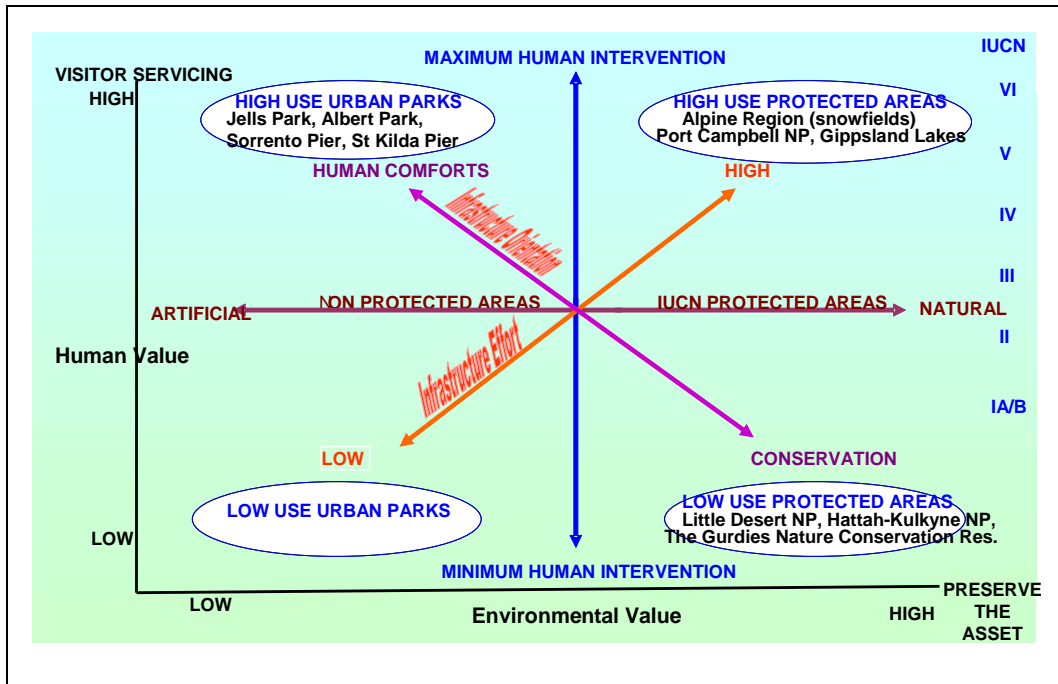


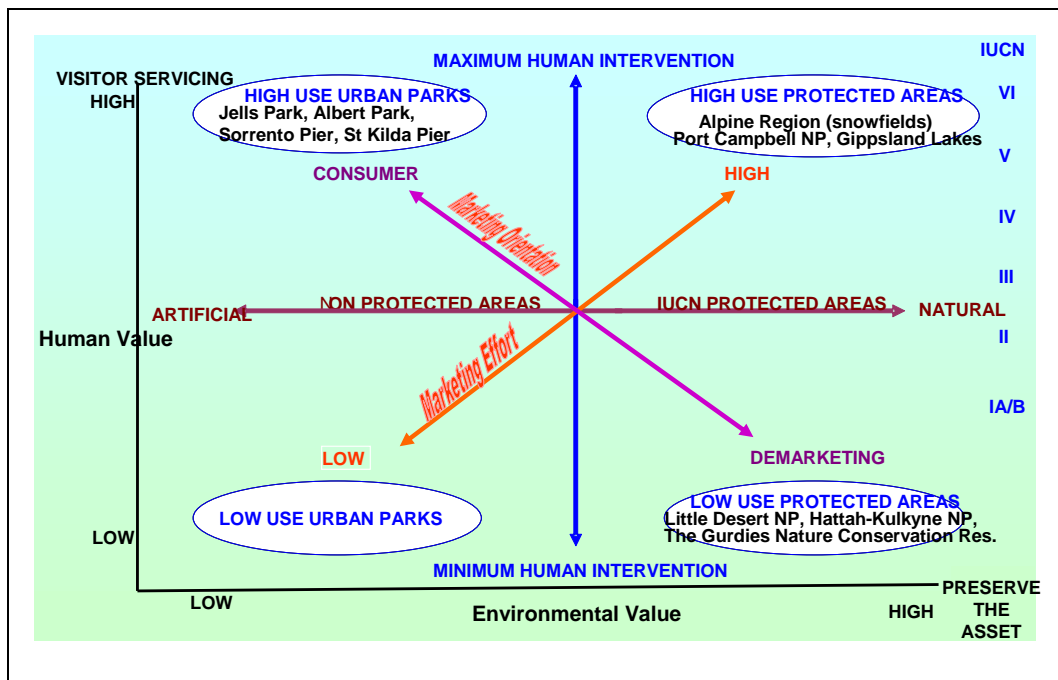
Figure 10: Asset management



Marketing and Distribution

Drawing on the earlier literature review, the marketing orientation and appropriate marketing resources for each of the prototype parks can be clearly specified (see Figure 11).

Figure 11: Marketing and distribution



A common issue is for park managers to ensure that visitors are able to obtain as much information as possible about a park prior to their visit as a means of managing visitor expectations. The use of electronic distribution systems (e.g. web sites) is increasingly regarded as an essential tool for managing communicating with visitors.

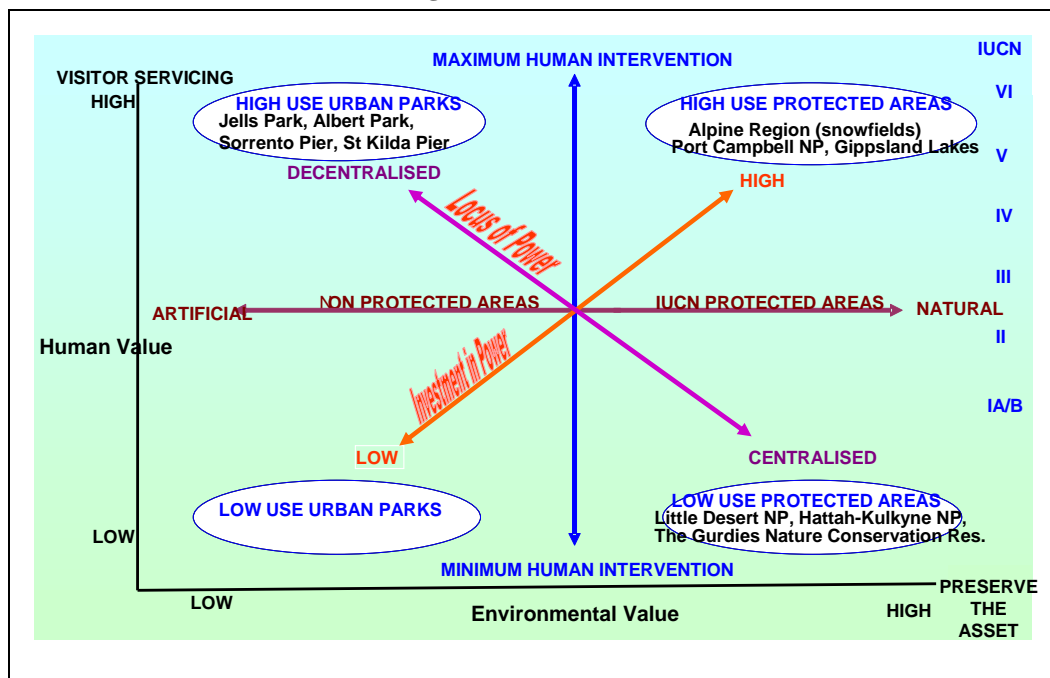
The implications in relation to the four prototype parks are as follows:

1. *High Use Urban Parks* – marketing has a strong consumer orientation, utilising traditional marketing principles, with the aim of maximising visitor expenditure in the Park. Marketing activity is generally highly visible in the form of brochures and web-based distribution, informing potential visitors of products, activities and events that have the potential to generate revenue.
2. *Low Use Urban Parks* – a minimalist approach to marketing with basic information provided through local government publications and web sites as well as newsletters of community organisations in relation to any community events held in these Parks. There is unlikely to be a ‘park brochure’ as such.
3. *High Use Protected Areas* – marketing has a strong ‘societal’ emphasis to ensure that the organisation’s mission of environmental integrity is pursued. Whilst park brochures, notes and web sites contain information about products, activities and services, some of which are of a commercial nature, there is an underlying theme to inform visitors and tour operators of conservation values and positively influence their behaviour towards the environment once in the park. Where the environmental values and human usage are high, more resources are required to effectively communicate this message.
4. *Low Use Protected Areas* – in these settings, park managers may restrict access through limits on visitor activities or capacity, or simply by advising people not to visit, informing visitors of the rationale for such policies. This notion of ‘demarketing’ is likely to become more prevalent as park agencies have more areas to manage but with relatively less funding, determining some parks as ‘non-operational’.

Governance

The final aspect to be addressed is that of governance (see Figure 12). As noted earlier, a general worldwide trend is occurring towards greater decentralisation. This requires specific legislation to ensure greater financial independence for park agencies to ensure that revenue is reinvested in to park management and maintenance. However, where ecological integrity is paramount, some form of centralised control is essential.

Figure 12: Governance



An optimum form of governance has therefore been identified for each of the four prototype parks.

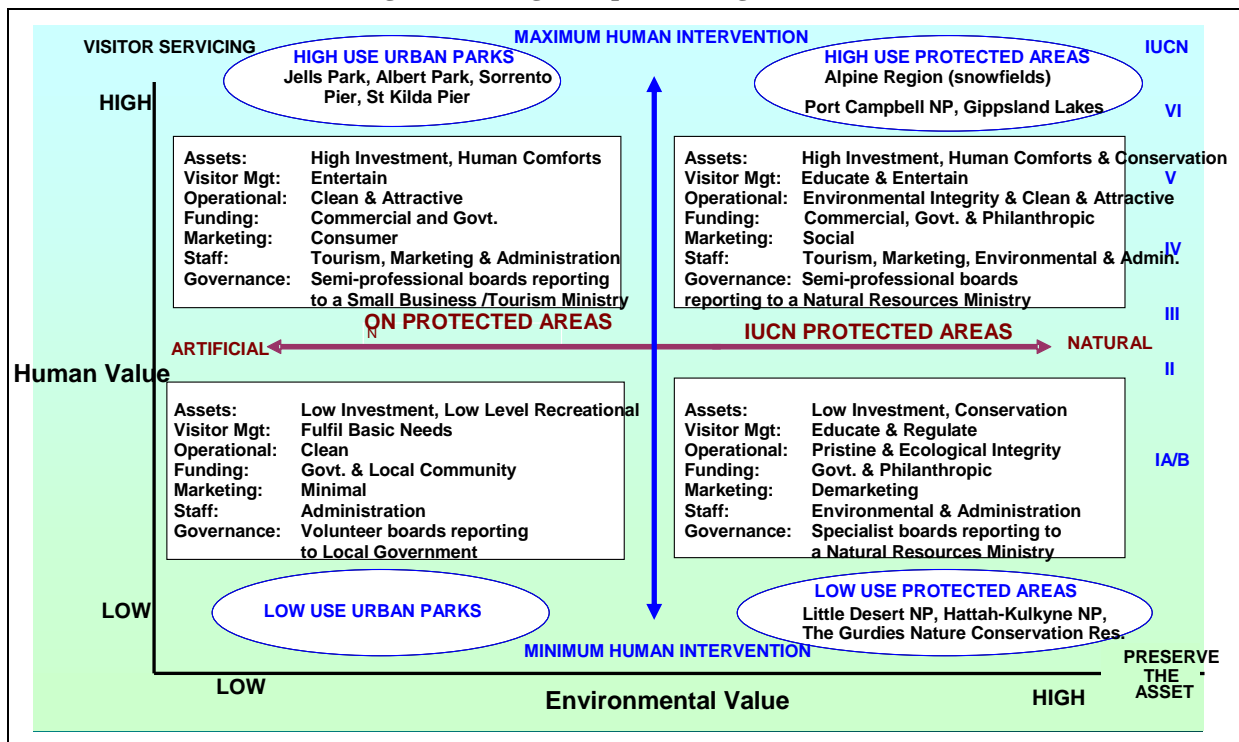
- 1) *High Use Urban Parks* – these parks may be best operated as autonomous corporative entities reporting to a Business or Tourism style Ministry, rather than an Environmental Ministry. We note the use of the term ‘parastatal model’, and whilst there is still some uncertainty in properly defining and conceptualising this term, the use of semi-professional independent boards with a commercial charter appears to be a consistent style of governance for these types of parks.
- 2) *Low Use Urban Parks* – these parks tend to be supervised by a local volunteer committee of management which may, with some support from local government, be granted limited autonomy to maintain the park (e.g. mowing the lawns) and to undertake some minor forms of infrastructure

- development (e.g. putting in flower beds, building picnic tables).
- 3) *High Use Protected Areas* – these parks may best operate as semi-autonomous corporative entities with a large degree of operational independence (i.e. Phillip Island Nature Park). However, given that they have both an environmental and commercial charter, they would need to report for major policy decisions to a professional board of management under the auspices of an Environmental Ministry rather than a Business Ministry. The board would consist of professionals with commercial and environmental expertise.
 - 4) *Low Use Protected Areas* – because of their environmental significance, these parks are best operated directly under the auspices of a centralised protected area management agency with limited devolved operational autonomy. Devolved management may be in conjunction with one or more specialist interest groups that have particular expertise in that area or habitat. An Executive Management Group within an Environmental Ministry would determine overall policy for these parks, drawing on specialist (co-opted) environmental and administrative expertise as required.

Integrated Park Management Model

All themes and concepts discussed in this section are illustrated in a fully integrated and holistic park management model in Figure 13, which draws together the key themes discussed in this section and their implications for park managers.

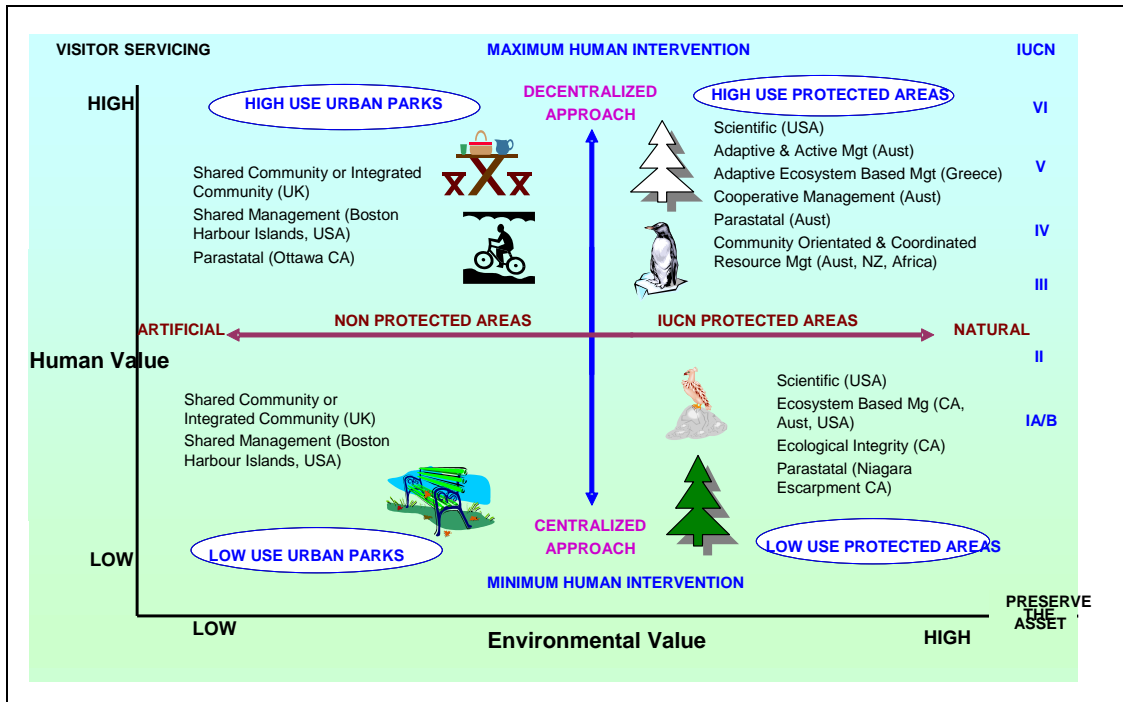
Figure 13: Integrated park management model



Park Operational Management Models

In Figure 14, the various park operational management models discussed in this report are then overlaid on the four quadrants representing the prototype parks.

Figure 14: Park operational models



Whilst there are many different management options for each prototype park, and no clear patterns emerging from the literature, some general principles can be noted. A community-orientated management approach is likely to fit best in low-use urban parks that essentially service local communities, whilst a scientific, ecosystem based management approach is more appropriate for low-use protected areas where ecological integrity is paramount. In high-use protected areas, where the issues are more complex, an adaptive management approach is best suited to handling such complexities. In the case of high-use urban parks of a commercial nature, the parastatal form which provides for greater financial independence and devolved decision-making.

Chapter 11

CONCLUSION

Through this research, key themes have been drawn together to develop a theoretical fully integrated park management framework utilising a thematic approach, incorporating best practice examples from across the globe. There is an opportunity to build on this existing work towards the second stage development of a holistic conceptual park management framework. This conceptual framework has the potential to be operationalised by classifying and locating all parks within a management framework that will assist park managers with strategic decision-making in regard to managing each individual park or protected area.

The criteria for classification would consider environmental, political, social, cultural and technological conditions for each park or protected area. The model would also address park management concerns in regard to the most effective and sustainable way to approach key issues such as funding, managerial skill requirements, stakeholder involvement, asset management, visitor impacts, visitor management, risk management, ecological integrity and marketing and distribution.

The major benefit to park agencies of developing such a conceptual framework is that it will enable the development of clear operational guidelines for each park and for park management decision makers. Amongst other things, this would include the ability to: identify income streams, generate funding, prioritise budget allocations, estimate risk to humans and the environment, identify and prioritise high risk parks, identify skills requirement of staff, and determine the most appropriate form of marketing and distribution.

Therefore, the authors believe the groundwork for enhancing the strategic management of protected areas has been established through this study and recommend that stage two be vigorously supported as the potential benefits for park management agencies and managers are immense.

REFERENCES

- ANZECC (2000). 'Best Practice in Protected Area Management Planning Summary', ANZECC Working Group on National Parks and Protected Areas Management Benchmarking and Best Practice Program, Parks and Wildlife Service Tasmania, viewed February 2003, www.ea.gov.au/parks/best-practise/reports/index.html.
- ANZECC Working Group (2003a). 'Best Practice in Asset Management', ANZECC Working Group on National Parks and Protected Areas Management Benchmarking and Best Practice Program, Asset Management (updated from a report originally published in September 1996) Department of Environment and Natural Resources South Australia, viewed February 2003, www.ea.gov.au/parks/best-practise/reports/index.html.
- ANZECC Working Group (2003b). 'Best Practice in Staff Training', ANZECC Working Group on National Parks and Protected Areas Management Benchmarking and Best Practice Program, Staff Training Processes (updated from a report originally published in September 1996) Department of Natural Resources and Environment, viewed February 2003, www.ea.gov.au/parks/best-practise/reports/index.html.
- Anonymous (2002). 'U.S. National park service 'cards' off-road drivers', *Security*, vol. 39, p.55.
- Archer, D. & Wearing, S. (2002). 'Interpretation and Marketing as Management Tools in National Parks: Insights from Australia', *Journal of Leisure Property*, vol.2, pp. 29-39.
- Association of National Park Authorities (2003a) 'The Conservation and Enhancement of the Natural Beauty, Wildlife and Cultural Heritage', Association of National Park Authorities, viewed February 2003, www.anap.gov.uk.
- Association of National Park Authorities (2003b). 'The Work of the National Park Authorities', Association of National Park Authorities, viewed February 2003, www.anap.gov.uk.
- Australia State of the Environment Committee (2001). 'Australian State of the Environment Report', Australia State of the Environment Committee, viewed February 2003, www.ea.gov.au/soe/2001/heritage.html.
- Ballard, T. (2001) 'Balance of Nature', *Government Executive*, vol. 33, pp. 111-113.
- Beeton, S. (2003) 'Swimming against the Tide - Integrating Marketing with Environmental Management via Demarketing', CAUTHE, Queensland.
- British Airways (1990). 'British Airways Tourism for Tomorrow Awards Winner: Purnululu National Park, Bungle Bungle, Western Australia', viewed February 2003, www.britishairways.com/tourism
- British Airways (1997). 'Hanauma Bay Nature Preserve Management Plan, Hawaii Tourism for Tomorrow Awards, British Airways', viewed February 2003, www.britishairways.com/tourism/docs/previous-winners/index.shtml
- Buckley, R. (2000). 'Neat Trends: Current Issues in Nature, Eco and Adventure Tourism', *International Journal of Tourism Research*, vol. 2, pp. 437-444.
- Butler, R.W., & Boyd, S.W. (2000). *Tourism and National Parks - Issues and Implications*, John Wiley & Sons, Chichester, England.
- Canada Online (2003). 'New National Parks for Canada', Canada Online, viewed April 2003, <http://canadaonline.about.com/library/weekly/aa100502a.htm>.
- Commission of Environmental Cooperation of North America (2003). 'North American Environmental Law, Policy & Practice', Commission of Environmental Cooperation of North America, Quebec, Canada.
- Cristoffer, C. (2003). 'Observe Globally, Think Locally', *Parks & Recreation*, vol. 38, pp. 49-56.
- Day, J.C. (2002). 'Zoning-Lessons from the Great Barrier Reef Marine Park', *Ocean & Coastal Management*, vol. 45, pp. 139-156.
- DEFRA (2003). 'Countryside Issues; Landscape Protection', Department for Environment, Food and Rural Affairs (DEFRA), viewed February 2003, www.defra.gov.uk.
- Department of Conservation (2002a). 'Statement of Intent 2002-2005', Department of Conservation, Presented to the House of Representatives pursuant to Section 31A of the Public Finance Act 1989, New Zealand.
- Department of Conservation (2002b). 'Statement of Intent 2002-2005', Department of Conservation: 7-10, Presented to the House of Representatives pursuant to Section 31A of the Public Finance Act 1989 New Zealand.

- Department of Conservation (2002c). 'Statement of Intent 2002-2005', Department of Conservation New Zealand: 12, Presented to the House of Representatives pursuant to Section 31A of the Public Finance Act 1989, New Zealand.
- Dougherty, R. (2002). 'PWC's banned in most of Park System', *National Parks*, vol.76, p. 14.
- Eagles, P. (2001). 'International Trends in Park Tourism'. Paper prepared for Europarc, University of Waterloo, Ontario, Canada.
- Eagles, P. (2002). 'Trends in Park Tourism: Economics, Finance and Management', *Journal of Sustainable Tourism*, vol.10, pp. 132-153.
- Eagles, P., & McCool, S. (2002). *Tourism in National Parks and Protected Areas, Planning and Management*, CABI International, London, UK.
- Engineering News Review (1999). 'Grand Canyon's Grand Plan', *Engineering News Review*, vol. 242.
- Environment Australia (2002). *Director of National Parks Annual Report 2001-2002*, Environment Australia, Canberra, ACT.
- Environment Australia (2003a). 'Best Practice in Park Management', Environment Australia, viewed 2003 www.ea.gov.au/parks/best-practice/reports/index.html.
- Environment Australia. (2003b). *Parks and Reserves for Australia*, Environment Australia, Canberra, ACT.
- Figura, S.Z. (2000) 'Progress in the Parks', *Government Executive*. Vol. 32, pp. 67-73.
- Gbadegesin, A. (2000). 'Avoiding the Mistakes of the Past: Towards a Community Oriented Management Strategy for the proposed National Park in Abuja-Nigeria', *Land Use Policy*, vol. 17, pp. 89-100.
- Goldstein, A. & Cooper, M. (2002). 'How Green is the White House?', *Time Australia*, vol. 16, April 29.
- Good, R. (1989). *The Scientific Significance of the Australian Alps*, Australian Alps National Park Liaison Committee and Australian Academy of Science, ACT.
- Hummel, M. (1989). *Endangered Spaces, the Future for Canada's Wilderness*, Key Porter Books, Toronto.
- IUCN (2003). 'World Commission of Protected Areas: North America Key Issues', The World Conservation Union (IUCN), viewed February 2003, <http://iucn.org/themes/wcpa/region/namerica/namerica.html>
- Kaiser, J. (2000). 'Bringing Science to the National Parks', *Science*, vol. 288, pp. 34-37.
- Lakes District National Park Authority (1999a). *Lakes District National Park Management Plan Annual Report 2001/02*, Lakes District National Park Authority, United Kingdom.
- Lakes District National Park Authority (1999b). *Lakes District National Park Management Plan for 2001/02*, Lakes District National Park Authority, United Kingdom.
- Management Effectiveness Taskforce (2003). 'What is the Role of the Park Management Sub-Group?', Management Effectiveness Taskforce, viewed February 2003, www.nrsm.uq.edu.au/wcpa/metf/pages/pminfo.htm
- Marion, J.L. (2002). 'Management Practices that Concentrate Visitor Activities: Camping Impact Management at Isle Royale National Park, USA', *Journal of Environmental Management*, vol. 66, pp. 201-212.
- McArthur, S. (2000). 'Thesis: Visitor Management in Action', University of Canberra, ACT.
- National Parks Conservation Association (2003). 'The Business Plan Process meets the National Parks', National Parks Conservation Association, viewed February 2003, www.npca.org
- Newsome, D. (2002). *Natural Area Tourism: Ecology, Impacts and Management*, Cromwell Press, UK.
- O'Brien, B.R. (2002). 'A Vision Sustained', *National Parks*, vol. 76, pp. 44-46.
- Ontario Ministry of Natural Resources (2002). *Annual Report of the Provincial Auditor of Ontario*, Ontario Parks Program, Canada.
- Ontario Parks (1996). 'Ontario Parks-A New Business Model for Ontario's Provincial Parks Fact Sheet', Ontario Parks, viewed April 2003, www.mnr.gov.on.ca
- Ontario Parks (2003a). 'Ontario Parks', Ontario Parks, Canada, viewed April 2003, www.ontarioparks.com
- Ontario Parks (2003b). 'Ontario Parks-Your Parks', Ontario Parks, Ontario, Canada, viewed April 2003, www.ontarioparks.com
- PAN Parks (2003). 'PAN Parks for Europe's Wilderness', PAN Parks Organisation, viewed May 2003, www.panparks.org
- Panel on Ecological Integrity of Canada's National Parks (2000). 'Unimpaired For Future Generations' in 'Setting A New Direction for Canada's National Parks' (Vol. 2), Panel on Ecological Integrity of Canada's National Parks, Government Report, Minister of Public Works and Government Services, Ottawa, Canada.

- Papageorgiou, K., & Brotherton, I. (1999). 'A Management Planning Framework based on Ecological, Perceptual and Economic Carry Capacity: The case study of Vikos-Aoos National Park', *Journal of Environmental Management*, vol. 56, pp. 271-284.
- Parks Canada (2000). 'Parks Canada Corporate Plan 2001/02-2005/06', Parks Canada Agency, Canada, viewed March 2003, www.parkscanada.gc.ca
- Parks Canada (2002). 'Parks Canada Corporate Plan 2002-2007', Parks Canada Agency, Canada, viewed April 2003, www.parkscanada.gc.ca
- Parks Canada. (2003). 'Guiding Principles and Operating Policies', Parks Canada Agency, viewed March 2003, www.parkscanada.gc.ca
- Parks of the World Organisation (2003). 'International Parks', Parks of the World Organisation, viewed February 2003, www.parksoftheworld.org
- Paul, E. (1999). 'National Park Service Sets Out the Welcome Mat for Science', *Bioscience*, vol. 49, p. 958.
- Paul, N.C. (1997). 'Nation's Newest Park is Island unto Itself', *Christian Science Monitor*, vol. 89, issue. 150.
- Pesavento, L., Bator, M.G., & Ross, J. (2001). 'Staff Development Practices: Is your Organisation 'Learning' in the 21st Century', *Parks & Recreation*, vol. 36, pp. 24-31.
- Polish National Parks (2003). 'Polish National Parks', viewed February 2003, <http://hum.amu.edu.pl/~zbow/ph/pnp/pnp.htm>
- Prato, T. (2001). 'Modelling Carrying Capacity for National Parks', *Ecological Economics*, vol. 39, pp. 321-331.
- Queensland Parks and Wildlife Service (2000). 'Benchmarking and Best Practice Program-User-Pays Revenue', Queensland Parks and Wildlife Service.
- Ritchie, J.R.B. (1999). 'Policy Formulation at the tourism/environment interface: Insights and Recommendations from the Banff-Bow Valley Study', *Journal of Travel Research*, vol. 38, p. 100.
- Rosenbaum, D. (2000). 'Park Service Seeks Clearances to Repair and Rebuild Yosemite', *Engineering News Review*, vol 244, issue 4.
- Slocombe, D.S. (1993). Implementing Ecosystem-Based Management, *Bioscience*, vol. 43, pp. 612-620.
- Smith, G.R. (1997). 'Making Decisions in a Complex and Dynamic World' in K.A. Kohm & J.F. Franklin (Eds). *Creating Forestry for the 21st Century: The Science of Ecosystem Management*, Island Press, Washington DC.
- The Economist (2001). United States: A Year's Grace? *The Economist*. London, vol. 360, p. 32.
- US Dept of the Interior/National Parks Service (2000). 'National Park Service Strategic Plan 2001 – 2005', US Department of the Interior/National Parks Service, Denver, viewed February 2003, <http://planning.nps.gov/policy.cfm>
- Vantighem, K. (1991). 'Continents Crown at Risk', *Environmental Views*, summer issue, pp. 3-12.
- WCPA (2003a). 'World Commission of Protected Areas: Australia/New Zealand Key Issues', The World Conservation Union, viewed February 2003, <http://iucn.org/themes/wcpa/region/anz/anz.html>
- WCPA (2003b). 'World Commission of Protected Areas: Building the Global System Theme', The World Conservation Union, viewed February 2003, <http://iucn.org/themes/wcpa/theme/global.html>
- WCPA (2003c). 'World Commission of Protected Areas: Europe Key Issues', The World Conservation Union, viewed February 2003, <http://iucn.org/themes/wcpa/region/europe/europe.html>
- WCPA (2003d). 'World Commission of Protected Areas: Key Issues Overview', The World Conservation Union, viewed February 2003, <http://iucn.org/themes/wcpa/biome/marine/issues.html>
- World Conservation Monitoring Centre (1991). 'Country Sheets, Current Text from the 1991 IUCN Directory of Protected Areas in Oceania', World Conservation Monitoring Centre, viewed January 2003, www.wcmc.org.uk
- World Conservation Monitoring Centre (1992). 'Country Sheets, Protected Areas of the World: A Review of National Systems, Canada', World Conservation Monitoring Centre, viewed January 2003, www.wcmc.org.uk
- Zinkan, C. (1992). 'Waterton Lakes National Park: Moving Towards Ecosystem Management' in J. H. M. Willison et al. (Eds). *Science and Management of Protected Areas*, Elsevier, New York, pp. 229-232.

GLOSSARY

ANZECC	Australian and New Zealand Environmental and Conservation Council
BPI	Business Plan Initiative (USA)
DEFRA	Department of Environmental, Food and Rural Affairs
EPBC Act	Environmental Protection and Biodiversity Conservation Act
HAMS	Historic Asset Management System (NZ)
IUCN	World Conservation Union
LAC	Limits of Acceptable Change Model
NPS	National Parks Service (USA)
STCRC	Sustainable Tourism Cooperative Research Centre
VAMP	Visitor Activity Management Planning Model
WCPA	World Commission of Protected Areas

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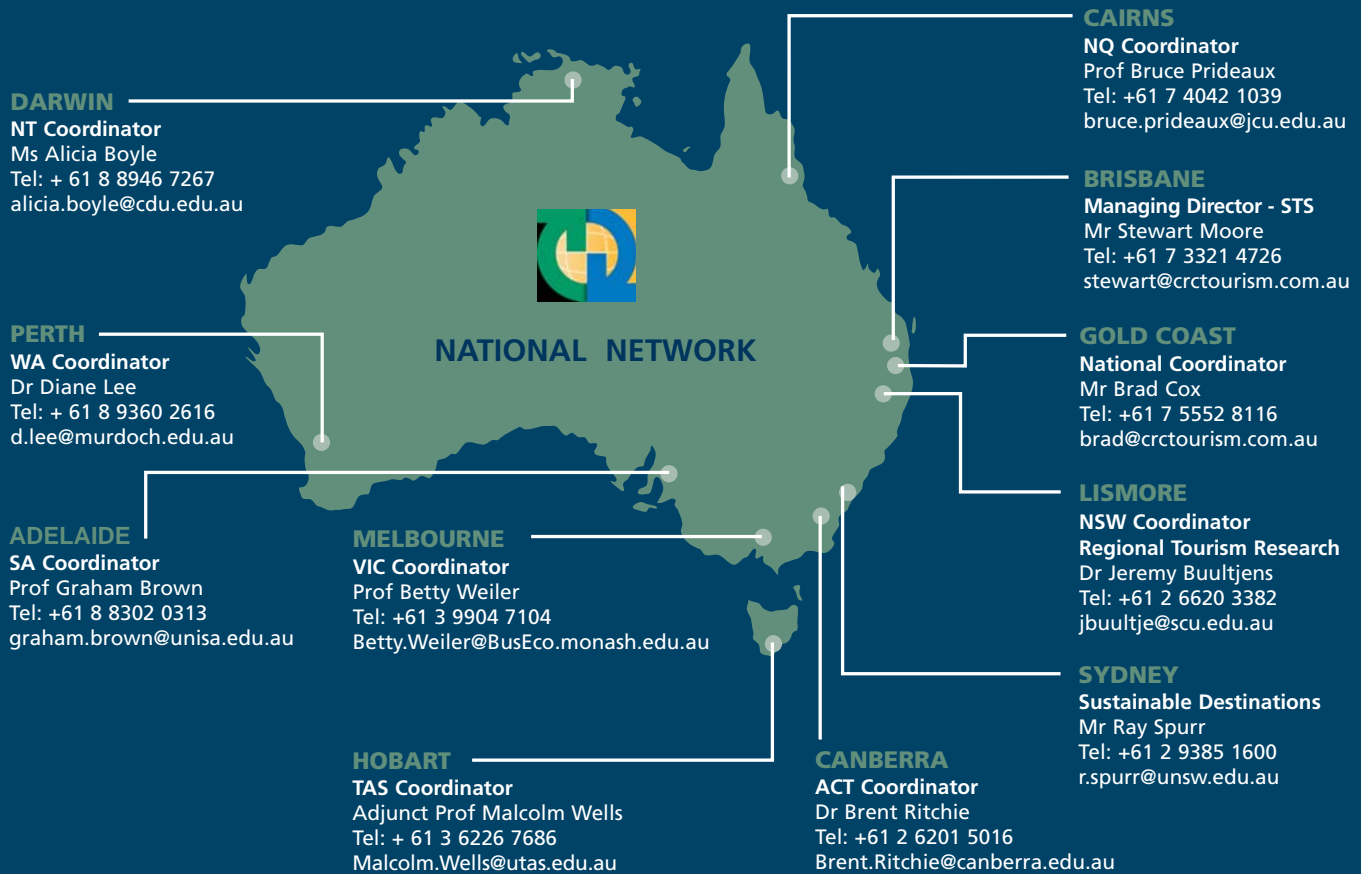
Judi Inglis is a Ph.D. Scholar at Victoria University. From a diverse background in hospitality, tourism operations and managing her own tour business, Judi joined the university environment in 1996, to develop and support local and international students in work placements in Australia and overseas. Her research interest of sustainable practices concerning people and the natural environment is the topic area of her thesis. Email: judi.inglis@research.vu.edu.au

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Paul A Whitelaw is a Senior Lecturer in the School of Hospitality Tourism and Marketing at Victoria University and is a research associate with the Centre for Hospitality and Tourism. His current research interests relate to managers career progression, academic pedagogy and curriculum development and the application of digital technologies in teaching. Email: paul.whitelaw@vu.edu.au

Michael Pearlman

Michael Pearlman is a Senior Lecturer in the School of Hospitality Tourism and Marketing at Victoria University and is a research associate with the Centre for Hospitality and Tourism. Michael's main areas of interest and expertise are regional tourism planning, sustainable tourism management and community consultation. Michael has been involved in a number of tourism and local government committees, including the City of Ballarat's Strategic Planning Reference Group, the Goldfields Region Tourism Campaign Committee and Tourism Victoria's Regional Research Reference Group. He is currently a member of the Executive Committee of the Asia-Pacific Education and Training Institutes in Tourism (APETIT). Email: michael.pearlman@vu.edu.au



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