

Sustainable Tourism – Parks and Culture



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Introduction

This portal provides ready access to information on managing nature-based and cultural tourism in natural areas with a particular focus on national parks. Much of the content is also relevant to municipal parks, walk trails on private lands, and nature based tourism opportunities on private lands. It has been designed for a broad audience: tourism operators, park and cultural heritage managers, environmental consultants, researchers and students. The content is derived from over 200 research publications by the Sustainable Tourism Cooperative Research Centre (STCRC) and other researchers and research institutions working in this field.

'Natural areas' includes national parks, marine parks and other protected areas, private conservation reserves and local reserves and managed bushland, while 'park' is a general term that encompasses a wide range of parks reserved for public purposes, including national parks, marine parks, local green spaces which may encompass both local playing fields or natural bushland. Where the term park is used it means the full range of parks.

National Parks and Protected Areas

Since the creation of Yellowstone National Park, the very first national park, almost 140 years ago, national parks have provided opportunities to recreate in natural areas enjoy the majesty of nature and contemplate our very being. They provide opportunities to relax, reinvigorate and energize and for many, to make spiritual and emotional connections with the earth. For much of their history tourism has been a constant companion of national parks and through education programs and interpretation of the wildlife, landscapes and culture, provided meaning, appreciation and understanding of these and many other values that these parks provide.

While national parks and other protected areas (see IUCN) play a primary role in protecting the world's biodiversity by safeguarding nature, wildlife, and natural landscapes they also provide important socio-cultural and economic values. National parks have become important resources worldwide for 'nature-based', 'cultural heritage' and 'ecotourism'.

Today protected areas are an international phenomenon with over 100,000 protected areas in over 200 countries. The Australian National Reserve System (NRS) covers more than ten per cent of the country's land mass and coastal waters, representing over 9,000 protected areas. These areas epitomize Australia's iconic natural landscapes, significant ecosystems, endemic wildlife and cultural identity.

These areas are the epitome of Australia's iconic natural landscapes, significant ecosystems, endemic wildlife and cultural identity. Australia's national parks are internationally renowned and are major attractions for both international and domestic tourism. Many of Australia's protected areas are inscribed as international world heritage sites and national heritage sites for their outstanding natural and cultural heritage values. (Also see the UNESCO).

Today protected area management is changing in recognition of triple bottom line sustainability where social (better health through 'recreation'), economic (tourism contributes to the livelihoods of communities) and environmental (conservation of landscapes and biodiversity) benefits are interconnected and pave the way to a better future for following generations.

Value of Parks

Protected areas contain a range of values. Understanding the values and benefits of protected areas is essential for park management. Values provide meaning and allow us to better understand the worth of a park or place. They provide the initial motivation for creation, determine the direction for management and allow evaluation of effectiveness. (For more information see *Managing Protected Areas: A Global Guide*).

Range of Values

Protected areas are valued for a many reasons. Understanding the values people assign to protected areas is fundamental to successful park management. Protected areas contain both **intrinsic (non-use) and instrumental (use) values**. (For more information see *Managing Protected Areas: A Global Guide*). Something is of intrinsic value if it is of value of, or in itself. In other words, value exists irrespective of any benefits that humans may derive from them. Instrumental values can be defined as the value derived from the actual use of a good or service.

The Earth's natural systems are under an enormous strain as can be witnessed by the unprecedented loss of biodiversity and the failure of natural systems. National parks and other protected areas conserve biodiversity and provide ecosystem services that derive from the earth's natural processes such as fresh air and water, climate regulation and assimilation of waste. The important role that ecosystem services play is not well understood and is not adequately recognised in economic markets, government policies and land management practices (see [The Value of Parks](#)). Natural areas, bush land and green space provide opportunities for exercise and other forms of recreation while national parks also allow for more active forms of recreation and outdoor pursuits and adventure activities like bush walking, kayaking and mountain biking, all of which contribute to a healthier lifestyle, [personal health benefits](#) and reduce the potential for and incidence of depression.

Parks also bring people together to relax with family and friends, socialize and enjoy each other's company. Many ethnic communities use local **green spaces, urban and peri-urban national parks** and **regional parks** as a location to bring their community together and celebrate their culture. Many national park volunteers who contribute to caring for and managing national parks also benefit from the social and personal interactions.

National parks are also the home to parts of Australia's rich history and heritage including the history and culture of Aboriginal and Torres Strait Islander Australians. ['Cultural heritage'](#) sites remind us of our past and provide a sense of identity and meaning for the present and future.

National parks also act as a scientific laboratory and classroom for studying, education and learning about the natural environment. They act as a baseline for measuring changes to natural systems and the broader environment. Some species may hold the answer to medical and other scientific challenges facing human kind.

Now more than ever *national parks, marine parks and other forms of protected areas* are major draw cards for Australia's tourism industry and are multi billion dollar contributors to the tourism industry, which in turn has both *direct and indirect economic impacts* on local and regional economies, as well as providing a source for local and

regional employment. National parks also employ large numbers of people and significant economic activity is generated through developing and maintaining parks. Parks also create financial opportunities underpinning the businesses of thousands of tour operators providing commercial services to tourists.

The focus of Sustainable Tourism Cooperative Research Centre (STCRC) economic valuation research has on developing a robust and widely supported methodology for measures the direct visitor expenditure that can be attributed to a national parks or group of parks and other protected areas in a region.

The STCRC has developed a handbook that provides a step-by-step guide capable of developing a study, which adopts the 'spending by tourists' approach to measuring economic value of tourism to national parks. It allows for a study of national park tourism in a single sub-state region or for the compilation of state / territory level estimates, based on a representative selection of regions in the state / territory.

Research undertaken by the STCRC on the economic impacts of national parks and other protected areas includes Queensland National Parks, the Great Barrier Reef, Ningaloo Marine Park and Cape Range National Park, the south west forests of Western Australia, Kakadu National Park, north eastern New South Wales, Watarrka National Park (NT), Tasmanian National Parks, the Gold Coast (including its hinterland and beaches) and the Australian Alps.

Other points of focus for the economic valuation of tourism include cultural heritage (see [Valuing the Priceless: Valuing Cultural Heritage in Australia](#)), wildlife tourism and festivals and events.

Please see below for a range of reports related to this section.

Recreation and Tourism as a Key Value of Parks

Protected areas contain important recreation and tourism values. Much of Australia's \$40 billion tourism industry is based on Australia's natural environment and rich biodiversity and stunning landscapes, most of which can be found in protected areas (see the National Long-Term Tourism Strategy).

Australia's national parks in 2001 attracted around 80 millions visitors each year (see Pursuing Common Goals) and it could reasonably be expected to have exceeded 100 million visitors per annum currently. Visitation to national parks is increasing and will continue to increase as the world's population becomes more crowded and affluent. Sixty eight percent of all international visitors to Australia can be classified as nature-based tourists. As people become more aware of the human impacts on the environment the demand to see the world's rare and beautiful natural areas will grow. Protected areas in Australia and overseas will be exposed to increasing visitor numbers and changing visitor patterns and activities, leading to increased 'Visitor Monitoring' and concerns regarding the possible 'Visitor Impacts' that visitors on the natural values of these areas. (For more information see Tourism and Protected Area Management: Sustaining Resources).

Outdoor recreation in national parks is also a major contributor to the economy through the purchasing of goods and equipment and businesses providing outdoor recreation services, life skills programs and outdoor education courses to schools, tourists and other groups.

National parks, marine parks and other protected areas provide a wide range of recreation opportunities including nature appreciation, walking, camping, four wheel driving, horse riding, mountain biking, scenic driving, swimming, sailing, and snorkelling, to name just a few.

The relationship between the tourism industry and national parks is mutually beneficial as tourism provides support (through economic and social benefits) for establishing and protecting parks. Park-based tourism also creates new opportunities for regional economies, builds a support base that helps educate people about parks, contributes to protecting park values and assists park managers in lobbying for a greater share of public resources.

The success of this relationship relies on effective park management to sustain an appropriate balance between use and protection.

This includes accommodating the tourism industry while recognising the full range of park values for which other users and nonusers appreciate parks.

Parks and Legislation

Legislation forms the legal basis for the workings of government. Such Legislation provides the broad direction and functions for achieving the objectives and roles of protected areas including designating different types of protected areas. In Australia the responsibility for land management, and hence management of national parks and other conservation reserves, generally resides with the States and Territories. The Australian Federal Government manages a small number of national parks including Uluru-Kata Tjuta and Kakadu National Parks.

The several hundred national parks in Australia and thousands of other conservation reserves are managed by government agencies in each of Australia's eight states and territories. All national park management agencies in Australia operate under legislation that contains similar core elements including the functions of 'care, protection and management' of park values and 'facilitating that level of demand for recreation that does not impair these values'. In addition, an increasing number of protected areas are privately owned, in particular the properties held and managed for nature conservation (and in some cases tourism) by the Australian Wildlife Conservancy and Bush Heritage Australia. Australia also has 36 Indigenous Protected Areas covering 23 million hectares and managed by Indigenous people.

This function of fulfilling recreational demand, as central to the legislated purpose of national parks was conceived in the creation of the very first national parks and the first national park legislation (The National Parks Service Organic Act, 1916) which confirmed the purpose of national parks as:

"...to promote and regulate the use of the...national parks...which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

NSW became the first Australian State to introduce a dedicated National Parks Act in 1967. This legislation includes an objective of:

“fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation...” and to
“..provide opportunities for public appreciation and inspiration and sustainable visitor use and enjoyment...”.

While the States and Territories have primary responsibility for land use, planning and management (which includes the management of national parks), issues of national significance relating to the natural and cultural environment are controlled under Commonwealth legislation, namely the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 (Cth). This legislation provides protection for a range of national values including certain threatened species, and the values within Australian National Heritage areas and World Heritage properties. Any proposals that could threaten national values (as defined) needs to be considered under the EPBC Act 1999 (Cth) and referred to the Commonwealth for assessment.

National park legislation also provides specific direction for the preparation of national park management plans (see our 'Visitor Planning' section) and associated public consultation requirements. In addition, the legislation and subsidiary legislation (Regulations) set the parameters for licensing and leasing commercial operations (predominantly tourism operations) in national parks and other protected areas See sections 'Visitor Management' and 'Partnerships' for further information.

Governance Models and Strategies

While the concept of governance is not new its application in protected area management is a new development. Governance is not 'management', which is involved in addressing sites or situations, but about who makes the decisions and how. Governance of protected areas has been defined as the regulatory processes, mechanisms and organisations that determine the direction of management, the use of power, and how stakeholders are included in decision-making (see '[Stakeholder Representation and Engagement](#)'). Recent research proposes seven principles of good governance for protected areas - legitimacy, transparency, accountability, inclusiveness, fairness, connectivity and resilience (see '[Managing Protected Areas](#)').

Today there is agreement that good governance requires the inclusion of community members and stakeholders in decisions regarding the management of protected areas. In practical terms this is reflected in *joint management* and *co-management* arrangements, public consultation, and more inclusive forms of public participation in [planning](#) and decision-making (see '[Transforming Parks and Protected Areas](#)'). The approaches to governance can be classified into three broad types; top-down (hierarchical), market driven (deregulated) or collaborative (distributed/shared). Current research has identified a number of management models each with different governance implications including the centralised versus decentralised model, scientific model, ecological integrity model, ecosystem based model, active and adaptive management model, adaptive ecosystem management, cooperative management, shared community (integrated) model, community oriented model, shared management model, and parastatal model. Developing models that suit 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 allowing greater financial independence from government funding as well as partnerships with stakeholders and businesses.

Management Principles

Park managers rely on a number of principles to provide for recreation and tourism while protecting conservation values. These include:

Sustainability

Ecological sustainability – natural systems differ in their capacity to accommodate human activity. The resources we have available to manage for tourism are finite and therefore the challenge is to shape, manage and if needs be control the type, scale, intensity, duration and frequency of human activity.

Heritage values – most protected areas contain important links to our cultural heritage including Aboriginal, colonial and contemporary history.

Management

Planning – planning is essential tool of continuous improvement and the provision of quality services. Planning is the tool that evaluates and integrates values, constraints and opportunities into management solutions.

Staff skill and expertise – park and tourism sustainability depends on carefully managing visitors. It requires professional, skilled and experienced staff. Management should be based on the best available science, and precautionary and adaptive management principles.

Quality – development and maintenance of a high standard of visitor facilities, services and programs that meet visitor needs and expectations.

Innovation – the needs, preferences and expectations of visitors vary greatly and change over time as does technology such as GPS's, tents and other outdoor equipment. The natural environment is also dynamic and thus park managers need to be forward thinking and creative to ensure management outcomes remains relevant and are sustainable.

Accountability – includes ensuring value for money for park services, reinvesting revenues in local areas where they are generated, communicating with stakeholders, monitoring use and reporting on achievements.

Visitor Experience

Spectrum of experience – providing the widest possible range of recreation opportunities encourages a broad base of experiences and inturn public assets and avoids pressure to promote, upgrade access and develop all sites to the same level.
Sense of place – planning and management of tourism should endeavour to maintain or enhance the inherent qualities that give every natural area its own special character.
Visitor satisfaction – a primary aim of park-based tourism is to ensure high levels of visitor satisfaction. Providing a quality visitor experience is critical to developing appreciation for nature and parks and developing a supportive constituency. Visitor surveys are an essential tool in monitoring visitor satisfaction.

Enriching visitor experiences – reconnecting people to the natural environment through stories, dance, art and songs that interpret the natural and cultural environment are a

powerful means of developing appreciation for nature and providing enjoyable and memorable visitor experiences.

Visitor safety – park managers have a legal (duty of care) and moral responsibility to consider the safety of visitors, within an environment that contains inherent dangers.

Working with Community

Equity – in addition to meeting anti-discrimination laws and policies park managers seek to ensure the community has access to and participate in the widest possible range of activities that do not diminish conservation and cultural heritage values and do not impair other forms of use or the enjoyment of others.

Community and stakeholder involvement and consultation is a key tool in achieving equitable community outcomes for park tourism.

Partnerships – business and communities are essential contributors to meeting park management goals. Park managers need partnerships with tour operators, recreation groups, industry bodies, businesses and Indigenous organisations.

Nature Based Tourism

Nature-based tourism is tourism that relies on experiences directly related to natural attractions. Australia is blessed with a diverse range of ecosystems, breathtaking landscapes and unusual wildlife. These natural attractions make Australia one of the leading providers of nature-based tourism in the world, attracting over 5.6 million international visitors in 2009. Australia's national parks and protected areas are the basis for nature-based tourism experiences and underpin Australia's \$80 billion tourism industry.

Tourism in Different Ecosystems

Tourism occurs in almost every ecosystem in Australia including Antarctic and sub-Antarctic regions, alpine areas, rangelands, forests, rivers, inlets, lakes and coastal and marine environments.

Much of the recent research undertaken by the Sustainable Tourism CRC has focused on understanding (and managing) the impacts of tourism and recreation on the structure, function and health of ecosystems, which is essential for long-term sustainability.

Visitation to the Antarctic and sub-Antarctic regions has experienced rapid growth over the past two decades, tourist visits to Antarctica have doubled and tourist vessels have increased from around 12 to almost 50. The number of ship-based tourists visiting Antarctica itself grew from 6,704 in 1992–93 to just over 46,000 in 2007–08. Research effort has focused on:

- understanding the important relationship between protected areas, tourism and animal and plant species;

- understanding the management implications for human-wildlife interactions, and
- the interface between visitor use and protected area management in regions facing increased visitor growth.

Aquatic areas are very important locations for Australian tourism. Marine and coastal tourism is a crucial sector of the Australian tourism industry. Over 80% of Australia's population lives close to the coast and 42% and 50% of all domestic and international tourism respectively is now marine or coastal based. The value of the Great Barrier Reef Marine Park to the tourism industry is alone estimated at \$4 billion pa (see [Assessment of tourism activity in the Great Barrier Reef Marine Park Region](#)). Yet, very little is known about the affects of recreation and tourism activity and tourism development on coastal, marine and aquatic ecosystems. See the 'Cruise Ship Tourism' section for more information.

Tourism and recreation is also a major activity on Australian inland water bodies and catchments and a significant contributor to local and regional economies.

Access to and protection of aquatic resources is an important issue for the tourism industry, for both consumptive and non-consumptive purposes. There are many issues surrounding tourism and recreational access to water resources, including:

- in Australia, recreation are generally excluded from the most important potable water supply catchments, the rationale being to absolutely minimise contamination risks;
- freshwater resources have historically been considered as factors of production and dominated by agriculture, reinforced by entrenched property rights;
- relatively little account has been given to recreation and tourism interests regardless of their growing significance as an economic and social force;
- the economic interests of other industries such as tourism and recreation remain broadly underrepresented in the policy debate;
- there has been limited trade-offs between recreation and tourism and major urban water catchments with exclusion of recreationists being the norm;
- very little is known about the water using behaviour of tourists;
- there are important historical socio-political and scientific lessons to be learnt for the history of water resource allocation; and
- the potential for the tourism industry to develop alliances with other sectors (environmental) where mutual interests coincide.

Rangeland tourism and outback tourism offer great opportunities for tourism. Self drive tourism and organised tours across Australia's rangelands and interior are growing as vehicle and communication technology and remote camping equipment improves the safety and comfort of travellers. There is also a desire to go places few have travelled and experience the majesty of the outback. Many of Australia's remote and outback tracks such as the Canning Stock Route, the Savannah Way and Tanami Road are now recording unprecedented levels of traffic. The ongoing development of Australia's National Reserve system has seen large areas of Australia's rangelands added to the protected area estate. Given the cost of maintaining a presence in these locations and undertaking essential maintenance, park management agencies have looked at the potential for tourism to contribute to the operation of these properties.

Forms of Nature Based Tourism

Nature-based tourism is expressed through various forms of tourism including ecotourism, geotourism, cycle tourism, adventure tourism, wildlife tourism and cruise ship tourism.

Nature-Based Tourism

Nature-based tourism is any type of tourism that relies on experiences directly related to natural attractions and includes ecotourism, adventure tourism, extractive tourism, wildlife tourism and nature retreats (see [Tourism Victoria's Nature-Based Tourism Strategy](#)). Of Australia's tourism segments nature-based tourism is the most significant accounting for 62% of international and 16% of domestic overnight tourism in 2004. Nature-based tourism is the fastest growing tourism sector not only nationally, but globally.

Eco and nature-based tourists seek and expect a high level of service and product directly related to natural attractions, and they are willing to pay for it. They deliver more economic benefits than other tourists because they spend more and stay longer. For example, an international nature-based tourist spent \$6,009 per trip in 2008 compared to the average international tourist spend of \$3,747 per trip (see [TRA's Nature-Based Snapshots](#)).

Eco-Tourism

Ecotourism differs from other forms of nature-based tourism in that its core ideology is to promote education and awareness of the environment and heritage, help finance future conservation and improve the well-being of local people and environment (see [The International Ecotourism Society](#)). According to Ecotourism Australia ecotourism is "ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation".

Ecotourists seek connection and engagement with the natural environment. They seek authenticity, immersion, challenge and education, as well as a sense of remoteness and isolation (see [Tourism Victoria's Design Guidelines for Nature-Based Tourism](#)).

Geo-Tourism

Geotourism encompasses tourists looking at and appreciating natural landscapes including the landforms, rocks and processes that shaped them over time (see [Geotourism](#) by R Dowling and D Newsome). The Earth's landscapes and geological wonders have inspired people all over the world and are a fundamental part of a culture's identity. Many also form the basis for the establishment of protected areas and World Heritage Sites. An emerging area of geo-conservation and management is Geoparks, a UNESCO initiative. Geoparks are a nationally protected area containing a number of geological heritage sites of particular importance, rarity or aesthetic appeal. [Geoparks](#) achieve their goals through conservation, education and Geotourism.

Wildlife Tourism

Australia's wildlife is a significant factor in determining the decisions of international visitors to Australia. Wildlife Tourism in Australia has an annual economic impact from international tourism exceeding several billion dollars (1997 figures). Wildlife tourism depends on a viable resource (wildlife), an interested market (tourists) and accommodating locals (hosts).

Recent Australian research on wildlife tourism examined six main areas:

- The visitor (market analysis)
- Wildlife impacts and management
- Economic values
- The interaction experience
- Host communities
- Individual species and groups of like species

Key findings include:

The visitor

- Viewing wildlife is an important factor in travel decisions for 20% of international visitors and is included as a activity for over 50% of these visitors;
- Seeing wildlife in natural environments, seeing wildlife behaving naturally, and seeing rare and unusual wildlife are important factors in a wildlife experience. Good interpretation is also important factor;
- Protected areas are a major venue for wildlife interactions;
- Overall satisfaction with wildlife experiences is very high.

The interaction experience

- Wildlife interaction involves a continuous spectrum of experiences form captive to free ranging, and
- This spectrum includes unguided encounters in natural areas; specialised wildlife tours; managed local attractions; nature based tours including research, conservation and educations tours involving wildlife; sight seeing tours; and accommodation and other venues that feature wildlife.

Wildlife impacts and management

- Wildlife tourism can contribute positively to conservation, including financial and non-financial contributions, socio-economic incentives and education;
- For wildlife conservation to be successful, it needs to be promoted on and off protected areas and integrated into modern economies;
- Nature based tourism is one mechanism that can contribute to conservation and economic development;
- There is concern over the growing evidence that a wide range of negative impacts can and do occur, including disruption to activity, direct killing or injury and habitat alteration, and
- Long tern sustainability will depend on effective management and monitoring;
- Some species may need to be excluded from tourism.

Economic values

- Wildlife tourism is often free or underpriced and not marketed, which can lead to misconceptions about the value of wildlife tourism;
- The non-use values of some species exceeds their use values;
- The economic use value of wildlife tourism is estimated to account for 20-40% of international tourism expenditure;
- Tourism use of wildlife can be consumptive (e.g. fishing) or non-consumptive (i.e. viewing and interacting);
- Wildlife tourism can in some cases be more economical than producing agricultural commodities, and
- The economic contribution of wildlife tourism is an important incentive for governments to invest in conserving wildlife.

Host communities

- Wildlife tourism has the potential to impact on host communities and vice versa;
- Local communities have much to offer in terms of tradition and in-depth knowledge, which can enhance the wildlife tourism experience;
- The sustainability of wildlife tourism is dependent in part on its support from the local community, and
- Factors that influence host satisfaction include the involvement of the host community and the benefits and disadvantages of wildlife tourism to them.

Species

- Particular attention has been given to researching the economic and conservation impacts of wildlife tourism on kangaroos, turtles, dolphins, birds fish whales, dingoes, and glow worms.

Sustainability of wildlife tourism

Recent wildlife tourism research by the Sustainable tourism CRC has focused on assessing the sustainability of wildlife tourism through development and testing of a framework to assess the sustainability of marine wildlife tourism operations. The framework will identify potential areas of concern in relation to marine wildlife tourism interactions as well as highlight where future research and monitoring is needed.

Cycle Tourism

Cycle tourism is a fast growing sector of the tourism industry. Cycle tourism includes leisure and day cyclists, touring cyclists, mountain bikers and event cyclists. While limited research is available on the size, scope and nature of cycle tourism and international cycle tourists, the rapid growth in domestic bicycle sales and cycle path and trail development has seen participation rates increase by 15% in recent years triggering the growth of an important niche tourism market.

Cruise Ship Tourism

Cruise ship tourism has experienced strong international growth in recent years and is diversifying its products and creating and developing new market niches (see [Tourism Queensland's Cruise Destinations](#)). Australia has also experienced significant growth

with almost a third of all international visits to Tasmania in 2002 being by cruise ship. The expeditions cruise market is a key segment and is characterized by its nature-based focus, in many cases involving adventure activities and interpretative and educational components in remote locations. Cruise ships can offer safe, rapid access to wild and remote locations like the Kimberley coast, north Queensland and Tasmania's west coast, locations with exceptional cruise tourism demand or potential.

Cultural Heritage Tourism

Cultural Heritage Tourism is a natural partner to eco and nature-based tourism. Heritage is a broad term applied to things, places and practices, which we value and wish to conserve for future generations. In Australia cultural heritage is often divided into Indigenous heritage and the period following colonisation.

Many tourists gain exposure to Indigenous culture in national parks and other natural settings. Indigenous people have a deep and ongoing relationship with the Australian landscape. Many Indigenous communities have connections to national parks and other protected areas. In some places this is reflected in joint management or partnerships to manage areas of land for conservation, tourism and cultural heritage outcomes. Indigenous people provide an alternative perspective on land and wildlife management that adds value to contemporary land management practices. Shared or joint management is fundamental to accommodating Aboriginal cultural tourism and its ongoing development in national parks (see DEH's Steps to Sustainable Tourism). It also allows Aboriginal people to share their culture and stories, which in turn can provide tangible benefits to traditional owners.

Research undertaken by the STCRC identify the following benefits from Indigenous Cultural tourism:

- Economic opportunities for Indigenous groups;
- Promotion of self determination;
- Cross cultural exchange;
- Preservation of traditional cultures, and
- Natural resource management.

Factors impacting on the successful development of Indigenous tourism include a lack of skills, ownership, and available finance; competition for eco/nature-based tourism; a low market profile; cultural factors; the structure and administration of government programs; and assistance and issues relating to any small and remote business. In addition, the lack of formal and informal business networks between Indigenous people and businesses and the mainstream tourism industry is an impediment. There are also unhelpful mainstream industry perceptions of Indigenous tourism.

Recent research indicates that Australia's cultural and heritage tourism market in 2007 was predominantly comprised of domestic visitors. In 2007, there were 10.9 million domestic overnight visitors who participated in cultural or heritage activities and 10.4 million domestic day visitors. Since 2006 the number of domestic overnight cultural and heritage visitors has grown by 11% while total domestic overnight visitation remained flat over this same period. Tourism Research Australia (TRA) research indicates international cultural and heritage visitors have increased 3% since 2006. This was slightly higher than total international visitors during this period (2%). Both international (40 nights) and domestic (6 nights) cultural and heritage visitors stay longer than

international and domestic non-cultural and heritage visitors (20 nights and 4 nights respectively).

Recent cultural tourism research projects by the STCRC have focused on:

- The development and implementation of methodologies to estimate the economic value that Australians place on national cultural institutions;
- Ways to assist the Australian tourism industry (particularly those located in regional and rural areas) in understanding the growing importance of cultural tourism, by developing a number of case studies of cultural landscapes tourism;
- The development of factors that contribute to success in achieving viable cultural heritage tourism and heritage conservation goals;
- Examples of cost effective strategies to revive and update interpretation in a heritage tourist attraction, and
- How to enhance the sustainable use of heritage sites in Australian tourism through the development of a thematic framework for the interpretation of cultural heritage sites for use in tourism.

Visitor Planning

Visitor planning involves a range of tasks and activities that are best developed through a management or visitor planning process. Visitor planning encompasses two key areas of management:

1. controlling and limiting the impacts of visitor use; and
2. maximising visitor experiences through appropriate activities, education and interpretation.

Tourism Trends and Key Concepts

Understanding the visitor and their ever-changing needs is fundamental to tourism planning. Having historical visitor data and understanding global and local trends in tourism and society is important for effective planning. Predictive tools (such as 'tourism models') that have the capability of storing and analysing large amounts of data can assist visitor planning and management.

Visitor planning generally involves a number of well-accepted planning elements. A range of '[tourism planning frameworks](#)' (planning concepts) have been developed that can assist in effective visitor planning at the site level.

Recreation and Tourism Trends

Strategic planning and management of parks and protected areas is a complex process. It is important that protected area planners and managers understand past, present and future trends in order to design park systems that will be relevant and sustainable for the future. Trends need to be considered at several levels:

- Major worldwide trends affecting tourism at a global and national level; including long term economic, social, political and environmental trends.

- Trends affecting tourism in protected areas.
- Specific trends affecting protected areas, such as 'climate change', governance, involvement of Indigenous communities, biodiversity initiatives, visitation trends, and sustainability.

Recent national and international research suggests the present and future trends in protected area tourism include:

- Park visitation will increase;
- Park tourism leads to increased public participation and ultimately collaboration;
- Increasing education levels in society lead to demands for increasing sophistication in park management and park services;
- A population shift in the developed world towards increasing numbers of older citizens results in significant change in activities, settings and experiences sought by visitors;
- Increased accessibility of information technology means that potential, current and past visitors will be better informed and knowledgeable about what leisure opportunities exist, the current state of management and the consequences of management actions;
- Increasing availability of information technology profoundly influences park visitation;
- Advances in the technology of travel and reductions in costs result in increased demand for park and protected area opportunities distant from one's residence;
- The increase in park area, number of parks, and park visitation exceeds the capability of many protected area agencies;
- Park management will shift gradually from government agency structures, with centralised financial control, to parastatal forms, with flexible financial management.
- Park management funding will increasingly shift from government-consolidated funds to park tourism fees and charges. This results in a greater focus on visitor management.
- Protected area agencies develop increased sophistication in their understanding and management of park visitation and tourism;
- The world's international travel will be strongly affected by decreasing supplies of oil and gas and large increases in energy cost in the second decade of the 21st century, and
- Parks increasingly recognised as cultural icons.

Information about the rates of participation in outdoor recreation (including spatial and temporal distribution) is an important aspect of recreation and tourism planning.

Planning for Tourism in Protected Areas

National parks and other protected areas that accommodate recreation and tourism require a plan that describes how tourism and related development will be managed. Planning for tourism is no easy task. Planners need to take into account of the seemingly conflicting roles of nature conservation and public use and enjoyment. If managed effectively tourism planning can be the catalyst for engaging stakeholders and communities in managing and protecting parks that provide sustainable economic and social tourism benefits.

Management plans describe the goals and objectives for a park, consistent with a park agency's legislation and policies. They convert the general parks legislation into

management policies and actions. Management Plans generally have a life span of 10 years and involve public consultation and notification. Recently, management plans have become important tools in evaluating management effectiveness (See ['Visitor Monitoring and Research'](#)).

Tourism management plans can take different forms and may be a stand-alone document (also known as visitor services plan, tourism plan or visitor strategy) that is a subset of a park management plan or is incorporated into a park management plan. Or, they may address tourism management of lands (and waters) of various tenures beyond a single national park (e.g. Tourism Optimisation Management Model as used for managing tourism on Kangaroo Island, South Australia). Management plans are usually an articulation of policies, goals, objectives, decisions and strategies for managing a specific park or group of parks (see Tourism in National Parks and Protected Areas and Best Practice in Protected Area Management Planning).

An important aspect of designing a tourism planning process is to adopt procedures that are understandable, defensible and transparent. Stakeholder involvement and public participation and consultation are essential components of the planning process (see [Sustainable Tourism in Protected Areas](#)).

Recent research and scholarly advice suggests that there are seven key elements (guidelines) to successful planning.

- Clarity in plan production – states how the plan will be produced, implemented and resourced and the timeframe for implementation and review
- Implementation oriented – indicates roles and responsibilities and identifies and involves local communities and others in the implementation process
- Socially acceptable – input from a wide range of interest, using consensus building processes and technical expertise.
- Mutual learning oriented – involve techniques that encourage social learning with two-way transfer of knowledge between planners, scientists, community and other stakeholders. Understand the impacts of decisions and actions/inactions.
- Responsibility and shared ownership – use a range of 'community involvement' techniques, encourage public participation and create responsibilities for stakeholder groups.
- Representative of a wide range of interests – the plan should embody a wide range of values, views and interests
- Relationship building oriented – use the process to strengthen relationships, secure community commitment and build support.

More contemporary forms of planning are emerging to guide the management of protected areas. Approaches include governance arrangements facilitating community and stakeholder involvement in planning, including deliberative inclusive processes that suggest collaborative, decentralised forms of governance (see [Transforming Parks and Protected Areas](#)).

Planning guidelines have been produced for special areas such as National Heritage Sites and World Heritage sites to meet their specific requirements (see [Management Planning for World Heritage Properties](#)).

Community Involvement in Planning

In Australia and other developed countries, community members and other stakeholders have an expectation that they will be involved in tourism and recreation planning for protected areas. Furthermore, recent research by the Sustainable Tourism CRC shows that communities can develop high levels of attachment to places including national parks and other protected areas. This research indicates that:

- The identification of locations with protected areas represent important attachments for a range of users and this helps to identify significant historic, cultural and natural resources;
- Understanding attachment to place allows park managers to make informed decisions about appropriate long term balance between use and protection, and
- Protection and interpretation of such places help form part of a community's regional identity and character.

Recent research also suggests a range of benefits and costs of involving stakeholders in visitor planning (see [Natural Area Tourism](#)). Some benefits include:

- The potential for better decisions;
- Increased accountability;
- Stakeholder acceptance, local community empowerment and
- Clarifying visitor preferences.

Some of the costs of community involvement include:

- Requires more time and staff, and
- The potential to lose control of the planning process.

Fundamental to achieving stakeholder involvement in the management of protected areas for conservation and recreation and tourism outcomes are the processes of 'governance' and in particular the decision making approaches within the 'planning process'. While park planning is guided by legislation, most is flexible enough to incorporate inclusive deliberative processes that facilitate information and knowledge transfer, engender ownership and encourage participation and involvement in plan implementation.

Tour operators in protected areas need to have certainty about how a national park, group of parks or state-wide park system will be managed. Significant changes to national park policy and park management practices and operations can have significant operational and financial impacts on tourism operations, local communities and related businesses. As such, there are good economic and equity reasons for including the tourism industry in decision making that is likely to affect their livelihoods. Such inclusion can also help park managers better understand the implications of their decisions and actions, contribute to better decisions and more efficient operations, and help build trust and relationships between operators and park managers.

Tourism Planning Framework

The degree to which a protected area can sustain tourism and recreation is dependent on the physical environment, the behaviour of visitors and appropriate management and resourcing.

A number of planning concepts and frameworks have been developed over the last 30 years to assist park managers in providing quality experiences for visitors while at the same time minimising their impacts. The Recreation Opportunity Spectrum (ROS) is a widely accepted system for providing a range of recreational experiences, based on the precept that a range of different settings offering different experiences is integral to good park management (see [Managing Protected Areas: A Global Guide](#)).

Other related frameworks such as the Limits of Acceptable Change (LAC), the Visitor Impact Model (VIM) and the Tourism Optimization Management Model (TOMM) identify the desired social and environmental conditions, ideally in consultation with stakeholders, and establish indicators as part of the process. While these three frameworks focus mostly on visitors, the Visitor Experience and Resource Protection (VERP) planning framework places visitor planning in the broader context of management planning and considers, as well as visitors, the area's natural resources and associated values and threats.

The LAC, ROS and VIM planning frameworks are all based on answering the question: "how much change is acceptable?" rather than the impossible-to-answer question – "how much use is too much?" Pursuing the latter question often leads to the unsuccessful pursuit of a single number or numbers for recreation carrying capacity. Research over 20 years has shown that it is very difficult if not impossible to determine recreation carrying capacity. In contrast, a focus on monitoring change and then acting when it becomes unacceptable (to managers/stakeholders) has a much better chance of success (see [Natural Area Tourism](#)).

These types of frameworks contribute to Experience Based Management (EBM). Rather than focusing on what people do EBM techniques seek to understand the relationship between how, why and where visitors recreate. Therefore management focuses on providing a mix of recreation opportunities targeting desired experiences, rather than providing opportunities for specific activities.

An extension of ROS and LAC is the concept of Levels of Service (LOS) adopted by Parks Victoria. For Parks Victoria this strategic approach underpins the provision and management of visitor facilities and services. The LOS approach determines the most appropriate level of visitor facility or service to be provided in a particular location or park based a range of considerations including visitor type, site uniqueness, visitation levels and visitation growth, economic contribution to the park, local and regional economy, length of stay and the cost/benefit of site development. LOS allows all parks to be rated according to 3 levels: state/national, regional or local importance. A similar approach to LOS is the Tasmanian Parks and Wildlife Service's Reserves Standards Framework (RSF) that recognises the need to integrate four essential elements of visitor planning; visitor needs, visitor risk management, asset management and resource allocation. Once data are collected and analysed and a level of service assigned, this information can be communicated to visitors who can make informed choices about recreation venues that align with the type of experience they seek.

Figure 1: Supply and demand visitor experience matrix

Visitor Markets		Recreation Opportunity Spectrum						
Clark & Stankey (1979)		Modern		Semi-Modern		Semi-Primitive		Primitive
Eagles & McCool (2002)		Urban		Rural	Roaded Natural	Semi-Primitive Motorised	Semi-Primitive Non-Motorised	Primitive
NZ Department of Conservation (1996)		Urban	Urban Fringe	Rural	Back Country Drive-In	Back Country 4x4 Drive-In	Back Country Walk-In	Remote Wilderness
Worboys, Lockwood & De Lacy (2005)	QLD	Urban		Intensive	Natural	Semi-Remote Motorised	Semi-Remote Non-Motorised	Remote
	VIC	Developed		Semi-Developed Class 5	Roaded Natural Class 4	Semi-Remote Class 3		Remote Class 1
	NSW							
Parks Victoria	Department of Conservation	Urban		Front Country			Back Country	
Urban Socials		*	*					
Trail Users		*	*					
Access Made Easy								
Nature Admirers	Short-Stop Travellers		*	*	*			
Passive and Other Users	Day Visitors			*	*	*	*	
Country Vacationers	Over Nighters			*	*			
	Back Country Comfort Seekers					*	*	
	Back Country Adventurers						*	*
	Remoteness Seekers						*	*
Activity Centrics^	Thrill Seekers*	^	*^	*^	*^	*	*	*

Source: Mike Reid, Stephen Wearing and Glen Croy 2008 Marketing of Protected Areas as a Tool to Influence Visitors' Pre-Visit Decisions, Sustainable Tourism Cooperative Research Centre

At the site or destination level, good tourism planning considers and plans for the destination with an explicit acknowledgment of the status and potential of the broader tourism region and other external factors and influences likely to affect the destination's tourism opportunities. The 5 A's of tourism planning is a widely known approach for evaluating the ingredients essential for successfully developing a tourism destination.

These are:

- Access
- Attractions
- Accommodation
- Amenities
- Awareness

A brief description of these attributes and why they are important follows (see [Designing Tourism Naturally: A Review of the World's Best Practice in Wilderness Lodges and Tented Safari Camps](#) and [Tourism WA's Successful Accommodation Design](#)).

Access: This includes moving visitors from their origin to and within the destination. Access also includes having suitable transport services and infrastructure to meet market needs, including airstrips and airports, wharfs and ports and appropriate forms of ground transport.

Attractions: These are things of value that motivate people to travel to another location. Attractions can be natural, cultural, scenic or events related. They also include activities that can be undertaken including walking, snorkelling or relaxing. On the reverse side, if a destination has negative features these need to be minimised or removed. For example, unsightly rubbish, polluted beaches or poor environmental management are likely to deter visitors.

Accommodation: Most destinations require a range of accommodation needs (styles, quality and prices) to meet different market needs, experiences and preferences. Building the right facility to match the dominant markets is important. Accommodation types include hotels, backpacker hotels, bed and breakfast, camping grounds, resorts, lodges and safari camps.

Amenities: This includes any other service that is required to meet the needs of the visitor including signs, retail shopping, restaurants and cafes, tourist information centres, government services (e.g. customs and immigration), telecommunications (e.g. internet, mobile phone) public toilets and emergency services (e.g. medical centres and hospitals).

Awareness: Strong and effective marketing campaigns are essential for building destination awareness and branding. The local destination community must also have an awareness of the value of tourism, be positive about what it has to offer and train its frontline tourism staff and industry employers to have a positive attitude to tourists. A perceived lack of community support for tourism can have severe consequences for a tourism destination.

Tourism Modelling

The development of tourism models is a recent phenomenon. The aims of such models are prediction, with the ability to predict depending on the quality of both the model and the data used to make the predictions. *Tourism models* with the capacity to predict or evaluate particular actions or events gives park and tourism managers a useful management tool to test management scenarios. The Ningaloo Destination Model is a *scenario-planning tool* for assessing the social, environmental and economic impacts of

tourism planning strategies to assist tourism planning in a region reliant on its unique natural attractions ([Visit http://cstc.curtin.edu.au/ningaloo/ningaloo.swf to view the interactive application of the model](http://cstc.curtin.edu.au/ningaloo/ningaloo.swf)).

Protected areas are often established on the basis of a few key sites possessing exceptional biological and/or physical attributes. These sites tend to become the focus of visitor activities, with the natural and built features around them serving to funnel visitors to these special areas within parks.

As a result, visitors are not evenly spread throughout a protected area. Within a protected area, there is typically very little information available on which sites receive the highest visitor numbers and why. A preliminary predictive model of the spatial distribution of visitors within a protected area, the *Tourism Pressure Index*, has been developed. Its aim is to develop a user-friendly model for assessing the relative importance of numerous sites within a protected area. Ultimately, the model should provide protected area managers with a standardised, semi-quantitative basis for decision making with respect to the management of their visitors.

Modelling has also been done to predict the different impacts of different visitor numbers and patterns of use. The best known is the *Recreation Behaviour Simulator (RBSim)*, applied in Australia by Parks Victoria and affiliated researchers. RBSim simulates the behaviour of visitors in a high use park (in Victoria it was applied to Port Campbell National Park and the Bay of Islands Coastal Park). It allows managers to explore different management options, such as increasing visitor numbers, providing new facilities and then determining the impacts on the natural environment and other visitors.

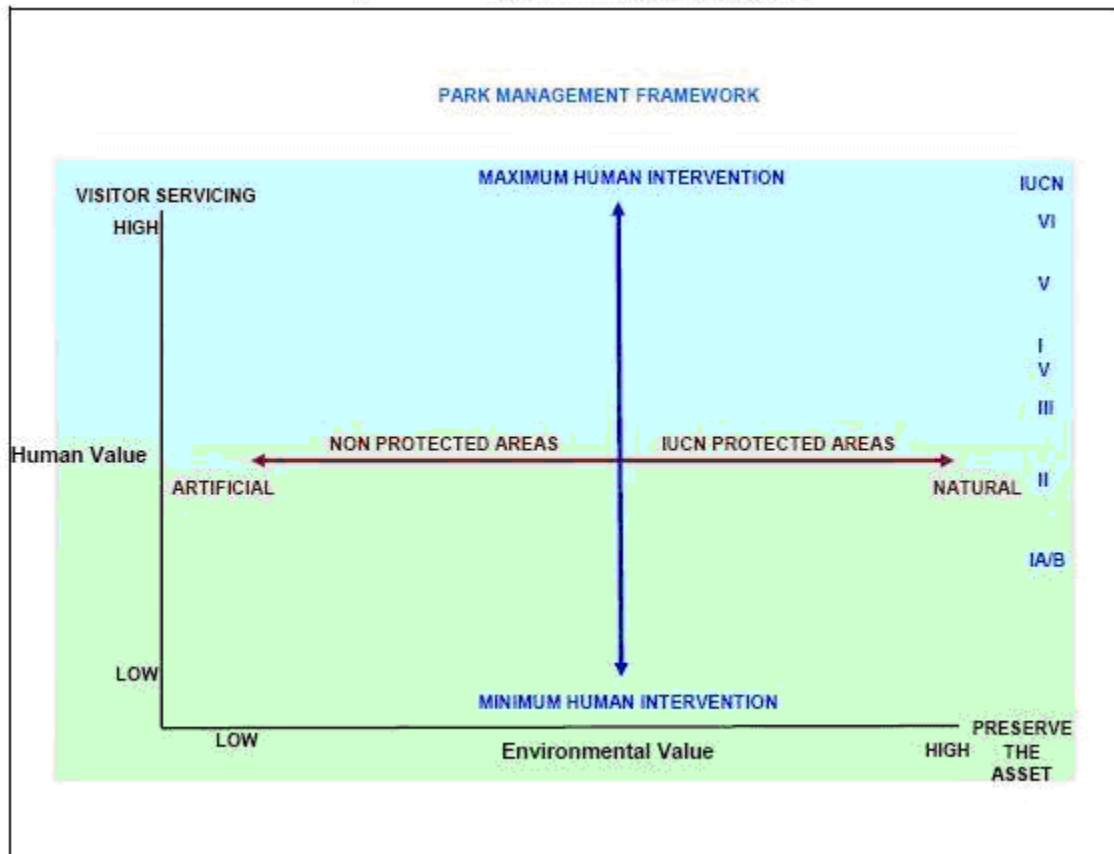
Management Frameworks and Settings

Park agencies worldwide are faced with increasing demands for their facilities and services coupled with declining finances and human resources, which poses many management challenges. The ability to develop more comprehensive, relevant park management and decision making systems to facilitate efficient, effective allocation of resource has become increasingly important. Recent research by the Sustainable Tourism CRC on strategic park management has focused on:

- evaluating best practice and management benchmarks for the strategic management of protected areas, and
- developing a framework guiding park management agencies in the strategic management of protected areas.

The following protected area matrix provides one possible framework for guiding park agencies in the strategic management of protected areas. It is labelled as an 'integrated park management model' and describes the conceptual relationship between managing tourism/recreation (a service orientation) and managing the conservation values of parks. In the matrix (see below), the X axis measures environmental value where the higher the environmental value, the greater the need to protect natural assets. The Y axis measures human value where higher human value implies a greater emphasis on servicing visitor needs.

Figure 2: Park Management Framework



Source: Inglis et al, 2005, Best Practice in Strategic Park Management, Sustainable Cooperative Research Centre

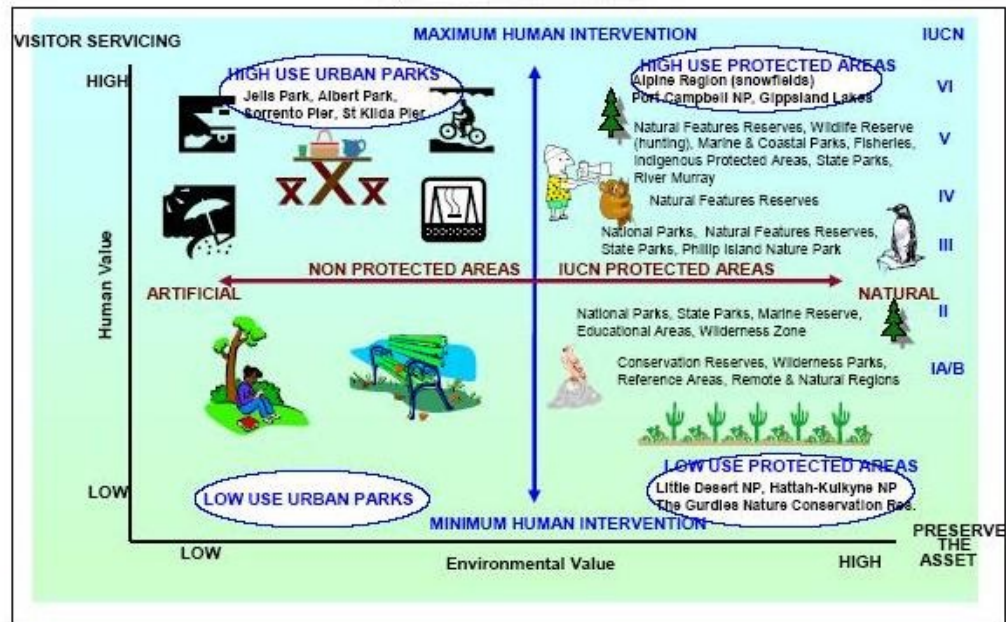
It draws on the IUCN (International Union for Conservation of Nature) classification of parks, which takes into account both environmental significance and the volume of human visitation. The IUCN provides a 6 level global protected area management categories. Recreation and tourism are purposes that are accommodated in all except one of the IUCN categories. There are 56 different types of terrestrial protected area and 17 types of marine protected area across Australia reflecting the diversity of purposes for their establishment. While most park agencies in Australia use the IUCN 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. A consistent classification system across all park types, based on sound scientific research, would help ensure a sustainable park system.

As such, these IUCN categories underpin the proposed integrated park management model. Four quadrants are apparent from the matrix suggesting a 'prototype' classification system for parks in Australia:

- High Use Urban Parks, with a strong emphasis on servicing visitors and less emphasis on ecological integrity. Examples in Victoria include Kings Park and Albert Park.

- Low Use Urban Parks, with a limited emphasis on both servicing visitors and ecological integrity. For example, low-grade regional parks and reserves.
- High Use Protected Areas, with a strong emphasis on both ecological integrity and servicing visitors. Examples in Victoria include Phillip Island Nature Park and the Victorian Alps.
- 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 3: Park Classification



Source: Inglis et al, 2005, Best Practice in Strategic Park Management, Sustainable Cooperative Research Centre

At a destination or site level in Western Australia, park managers develop visitor management settings. These are based on the ROS (Recreation Opportunity Spectrum) and combine an understanding of visitors and their needs (i.e. the needs and wants of visitors that use these settings) with the biophysical capabilities of the site to classify and then manage recreation sites as setting classes. These setting classes then determine the appropriate level of site development.

An example of visitor management settings and classes can be found in the [Western Australian Walpole Wilderness Management Plan 2008](#).

Visitor Management

Visitor management plays an essential role in protecting the ecological sustainability of protected areas, providing funding and business opportunities, and enabling visitors to obtain worthwhile experiences from their visit. Visitor management can be achieved in two main ways:

- by a park agency managing destinations (i.e. parks and their sites) and by directly managing visitors (e.g. through user fees). Or it can be indirectly achieved by
- a park agency working with the tourism industry to both protect the park and offer quality experiences for visitors, as well as generating revenue for the park. This chapter covers both.

For the first point, a range of visitor management strategies can be used including zoning, user pays, managing access and development, campsite planning and management, risk management, and spatial separation and removal of certain activities. Very often the difficulty is knowing, and then choosing which to employ (see [Natural Area Tourism](#)).

Zoning Schemes

Zoning schemes provide a spatial differentiation of protected areas based on different *objectives of management*. In Western Australia, four different zones are widely applied in national parks: special conservation, wilderness, natural environment and recreation. Special conservation zones have high nature conservation values and may be closed to public use. Recreation zones are generally limited in extent and accommodate a broad range of outdoor recreation opportunities and related facilities in ways that do not compromise natural and landscape values and are safe and convenient for visitors. Recreation is also facilitated in *wilderness zones* and *natural environment zones* but at much lower intensities and level of facilities.

User Pays Schemes

Virtually all protected area agencies in Australia have adopted some form of user-pays system. Park agencies are becoming increasingly reliant on visitor fees as the demand for recreation and tourism in parks rises and the cost of providing facilities and services exceeds the level of government funding.

Recent research in Australia and worldwide suggests that:

- A one-size fits all (nationally consistent) approach to user pays in Australia is not a viable option, due to differences in legislation, social and political contexts and management structures between Australian States and Territories;
- 'Good practice' user pays methods should be employed to ensure the objectives of park agencies can be met on a long term basis, these include:
 - conduct pre-emptive positive public relations exercises prior to fees introduction or increases;
 - ensure timely notification to operators regarding irregular or large fee variations;

- ensure staff are competent in financial management and motivated to actively manage the system; this may require training or hiring of appropriately skilled staff;
- retain revenue for parks or districts where fees are collected
- adopt a simple user fees structure and easy access to related passes and payment of fees
- employ a business management approach to user-pays systems
- use a discretionary approach to enforcement of compliance with acceptance of a certain level of non-compliance
- use technology where possible to improve efficiency of user-pays systems, including online reporting by regional staff, EFTPOS and credit card payment systems and online fully automated payment systems.
- few park managers keep accurate records of the cost of operating their user-pays systems, and
- there is still a limited understanding of the costs and benefits (both tangible and intangible) of user-pays systems.

Site Management

Successful site management involve a complexity of tasks including asset management, setting appropriate limits of use, managing visitor risk and providing the appropriate level of access and which incorporate universal access requirements.

Asset Management

Recent Australian research suggests that:

- The level and nature of investment in infrastructure and services is closely related to visitor use, visitor satisfaction and the underlying objectives/purpose of management for the park.
- Visitor and asset management are inextricably linked as both impact on 'risks to visitors' and the sustainability of a park's natural and cultural values;
- Knowledge of the conditions of assets is the cornerstone to developing an effective visitor risk management system;
- The provision of assets should be considered a key priority during planning phases to allow parks to provide the correct infrastructure in the right place for the main market/visitor segment;
- Parks must monitor and assess the state of assets and their use to ensure they remain relevant, safe and environmental damage is not occurring (see [Benchmarking Best Practice in Asset Management](#)).

Design

Sustainable tourism design and development need to consider environmental, social, economic, cultural and experiential factors.

Recent research undertaken by the STCRC indicates that any development, at any scale, must be informed by the natural and cultural environment in which it is situated. A sustainable tourism facility, in terms of design, is therefore location and site specific.

These site-specific considerations are inextricably linked to creating an authentic sense of place, in both the destination and product.

The sustainable design process generally follows a cyclical process of gathering knowledge, developing concepts and proposals and testing these proposals. This process accommodates the complex interactions between designers/architects, engineers, builders and managers.

Recent Australian publications relating to the design of nature based accommodation and related developments suggest several factors play a fundamental role in achieving a successful development concept/outcome (see [Design Guidelines for Sustainable Tourism Development](#)). These include meeting market demand, uniqueness of place, nature of the experience, access to financial resources, feasibility analysis, environmental responsibility, community support, cultural sensitivity, and control of construction and associated costs.

From a design perspective the three most important factors are:

The visitor – the concept must meet market demand. The more the target market is understood the more likely the product will meet customer needs;

The desired experience – supplying visitors with experiences they want. Visitors are looking for experiences that are different, authentic and compelling and that evoke an emotional response.

A sense of place – the unique characteristics of a setting or place that give it value and make it a place worth visiting.

Setting Limits

Increasing levels of recreational use of national parks can lead to deterioration in the natural conditions of an area and the experiences that visitors have. Carrying capacity is a term adopted to define the maximum level of use (numerical limit) an area can sustain (see [Tourism in National Parks and Protected Areas](#)). In reality, the use levels an area can sustain will depend on a multitude of environmental, social and management factors and these factors will vary over time. The carrying capacity concept assumes the intrinsic character of the land base will determine how many people are too many. This approach has not been successful in solving the problem through setting visitor limits and has led to other approaches based on achieving a set of desired social and environmental conditions for a park/location rather than one based on the question: “how many visitors is too many?”. Models based on desired outcomes like Limits of Acceptable Change (LAC), VERP and VAMP (See '[Tourism Planning Framework](#)') have more popular application with park managers than chasing elusive carrying capacity numbers.

Visitor Risk Management and Public Liability

Parks agencies are responsible for the care, control and management of national parks and other protected areas, and are viewed in legal terms as the occupiers of these areas, even though they do not hold any estate or interest in real property. National parks and other natural areas contain inherent risks. Many of the associated recreational activities increase the level of exposure to risk for visitors. Parks agencies, as occupiers of these lands and waters, have a duty to take reasonable care to avoid

foreseeable risks of injury to visitors and as occupiers, they may be liable for injuries suffered by visitors if they breach their duty of care.

A best practice approach to visitor risk management includes risk identification; the prioritisation of risk; implementation of control measures to minimise risk; monitoring of control measures to evaluate their effectiveness; and the follow-up response of risk assessment to gauge the degree of risk experienced (see Chapter 6 of [Nature-Based Tourism, Environment and Land Management](#)).

Universal Access

Globally there are over 600 million people with disabilities, equating to about 10% of humanity. Approximately 20% of the Australian population, or four million people, identify as having a disability. Of these people 520,000 have a mobility disability, 480,000 are blind or vision impaired, and 1 million are deaf or hearing impaired (see [ABS Cat No. 4430.0](#)). Worldwide, the numbers of people with disabilities are set to increase due to the ageing of the population. By 2020 there will be 1.2 billion people over 60 years of age. In Australia, the 'greying' of the population has been well documented by the Australian Bureau of Statistics, and identified by Tourism Research Australia as a market opportunity (see [Mature-Aged Travellers in Australia: Snapshot](#)). This phenomenon will affect all of our major inbound markets.

Recent research completed by the STCRC on access issues for visitors in the tourism sector indicates that:

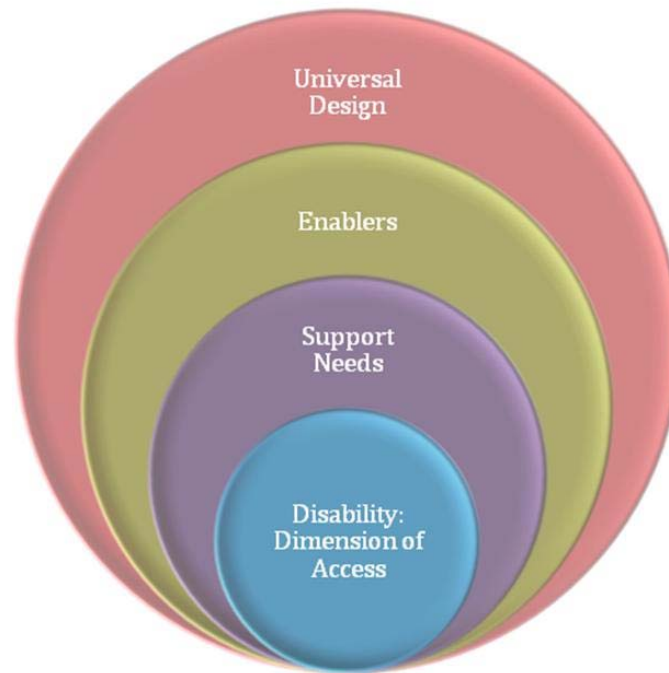
- The relationship between disability and ageing is clearly evident and both present a challenge for the tourism industry;
- Some 88% of people with a disability take a holiday each year, accounting for over 8.2 million overnight trips

Current research suggests that developing inclusive industry practices to people with disabilities and seniors requires a knowledge of four concepts:

- types or dimensions of disability (refers to the range of disabilities that are catered for in a particular location or circumstance) – mobility, hearing, vision, cognitive and other dimensions;
- levels of support needs – whether a person can interact independently or whether they have low, medium, high or very high support needs;
- access enablers – personal aides, communication and assistive technologies used by individuals to maximise participation; and
- universal design – where environments are designed to universally include people of all ages, genders, sizes and abilities.

As shown in Figure 4 (below), these four interdependent and overlapping concepts form the basis of a comprehensive understanding of how to accommodate visitors to protected areas and in outdoor recreation activities and indeed apply to all forms of tourism. There is a complex interplay between the individual and the environment. At one or more of these interfaces, people can become marginalised through a series of structural constraints that may require a management response to provide universal solutions.

Figure 4: Four Independent Market Concepts



Source: Small, J., & Darcy, S. (2010). *Tourism, Disability and Mobility*. In S. Cole & N. Morgan (Eds.), *Tourism and Inequality: Problems and Prospects* (pp. 11-31). Wallingford: CABI

Other Australian research on universal access to outdoor settings in an urban environment suggests that (based on a case study of major tourist destinations in Sydney, Australia):

- Most of the main experiences (popular accessible destination experiences) are only suitable for one dimension of disability access with some being appropriate for two and a small number of experiences being appropriate for all dimensions of access;
- Most visitors seek information before they travel to a major city or before they visit an attraction. The internet is identified as a growing source of information;
- Information availability, detail and accuracy can be a significant constraint to travel. It is the way in which information is conveyed, which can present a constraint, and
- Website accessibility is critical to inclusive organisational practice. For example, font sizes, font colours, contrast, page backgrounds and page design can all present a barrier to people with a vision impairment.

An important component of designing pedestrian access in protected areas involves meeting the Australian standards for [Walking Track Classification \(AS2156\)](#). Class 1 walking trails are wheelchair accessible and conform to Australian Standard AS1428 (design for access and mobility series, provides design requirements for buildings encompassing the specific needs of people with disabilities).

Various guides and manuals for the development of universal access facilities and services in outdoor settings are available.

Tourism Operations, Operators and Partnerships

Tour operators provide important services to visitors and protected area managers including the delivery of visitors, the collection of fees and the communication of conservation messages through interpretation. Research indicates that many tour operators are small businesses that face a multitude of barriers and thus require support to grow and develop. Partnerships between protected area managers and tourism operators can improve communication, reduce barriers and foster mutual understanding, respect and cooperation. Tourism certification is an example of a partnership that has enabled many operators to make social and economic contributions to local communities through employment, training and the purchase of local goods and services.

Operator Sustainability

In the past three decades the popularity of nature-based activities has increased (see Chapter 15 in [Quality Assurance and Certification in Ecotourism](#)). Due to today's urbanised society there is a growing tendency to access outdoor experiences through commercial providers. This demand has generated massive growth in the establishment of tour operations in most Australian states and territories.

A number of factors influence the sustainability of this sector. One of the key factors is the characteristic of the nature-based operator. Recent research completed by the STCRC indicates these businesses are typified by a number of features that suggest firms in this sector need help. These features include:

- Largely micro businesses (average size is 6 FTE staff);
- Inadequate resources (particularly marketing);
- Owner-operators with little or no formal business or tourism training;
- Many businesses are marginal and seek a second income to keep their business operational;
- Motivation for being in business is often 'lifestyle' reasons;
- Drop out rate for failed businesses is high (100s enter and leave each year and average lifespan is 10 years);
- Feelings of isolation; and
- Led by individuals who are fiercely independent.

Leasing and Licensing

Permits, licences and leases (collectively referred to as concessions) when used in conjunction with 'planning' and 'management frameworks' can be effective in reducing visitor impacts in high use and sensitive areas, providing satisfying experiences for visitors, separating potentially conflicting activities, encouraging responsible behaviour, and providing assistance in collection of visitor and management data (see [Managing Protected Areas](#)).

Recent research into some of the issues affecting licensed nature tour operations in Australian protected areas indicate:

The frustrations of the nature tourism industry with state licensing requirements, while present, are not extreme;

- The licensing framework for nature tour operators within each state involves multiple state government agencies each with their own set of licensing procedures;
- Due to the fragmented nature of the current licensing system, compliance costs on those being regulated is high. While the compliance costs associated with each individual licence may be small, cumulatively they are an impediment to business especially when added to the other forms of regulation impacting businesses;
- Many tour operators are small businesses. This may contribute to some tour operators not appreciating the reasons behind the licensing framework or lacking the business skills to efficiently address compliance with government regulation;
- A shift from a one-way communication dominated model to a more collaborative problem solving approach would contribute to tour operators being regarded as partners rather than adversaries or problem makers. A requirement of collaborative approaches is that all parties (e.g. agencies and tour operators) are willing to invest time and energy in building and maintaining strong working relationships. Some of the licensing agencies have already started to embrace two-way communication and relationship building with nature tour operators;
- Over time, a greater focus on agency-industry relationship building will aid in breaking down barriers arising from any negative stereotypes held by agencies or operators. A mutual understanding of the different costs and benefits licensing creates for each party will help build these relationships; and
- Licensing can play an important role in ensuring that increased pressure from nature tourism does not unacceptably impact on conservation values. If conflict is to be minimised, decisions regarding the number of licences and how they will be allocated will need to be transparent, equitable, and supported by good science.

Tourism Certification

Tourism business certification is a voluntary procedure that assesses, monitors, and gives written assurance that a business, product, process, service, or management system conforms to specific requirements. It establishes the extent to which a business offering tourism experiences meets industry nominated standards. A marketable logo or seal is awarded to those meeting or exceeding the baseline standards.

There are a number of certification schemes relating to environmental performance in the tourism industry. These are commonly referred to as 'ecolabels', which are schemes relating principally to the environment.

The idea of certification is consumers can use the information or good practice implied by the label to assist their purchasing decisions. On behalf of consumers, certification labels set out to define, compile, test and summarize the environmental performance of competing products in a readily recognisable symbol (see [Nature-Based Tourism, Environment and Land Management](#)).

Certification may also be used as a criterion by regulatory agencies to determine the granting of permits, by promotion agencies for inclusion in marketing campaigns, and by insurance underwriters to issue policies and set premiums. Indeed, many certification and award schemes are not aimed at the consumer at all, and act rather as a management process to improve quality and productivity as well as environmental management processes.

The most well-known environmental certification programs in Australian tourism include Earthcheck, Ecotourism Australia's Eco Certification, and the Blue Flag (a European scheme measuring the quality of swimming water at beaches). Green Globe 21, the precursor to Earthcheck, was one of the first schemes to create an ecolabel applicable to all forms of tourism. It focuses on management issues such as water conservation, recycling, energy consumption and waste minimisation. The strength of the program is its benchmarking capability, individualised for a number of industry sectors, allowing a business to compare its environmental performance with others in the same sector.

Recent Australian research undertaken by the STCRC indicates that:

- consumer awareness of tourism certification programs is low;
- the most well known program is the National Tourism Accreditation Program;
- poor recognition of certification and associated labelling indicates that tourists are not greatly influenced by them;
- few tourists consider ecolabeling in their tourism product choice nor believe that they mean the product is worthy of receiving higher payments.

The Eco Certification Program is based on the principles of 'eco-tourism' and was developed to address the needs of genuine nature and ecotourism operators. Many of the principles of eco certification are consistent with the management objectives of protected areas. Certification programs do not meet all the standards required of tour operators by protected area managers. To assist managers develop certification programs relevant to the needs of protected areas, a set of principles have been developed by protected area managers for managing commercial tour operators in protected areas(see Chapter 15 in [Quality Assurance and Certification in Ecotourism](#)).

Partnerships

In Australia, the value of and need for park/tourism partnerships and their potential contribution to sustainable tourism have been identified in a number of recent reports (see [Natural Tourism Partnerships Action Plan](#) and the [Tourism White Paper - Plus](#)).

Australian research undertaken by the STCRC has found that:

- The last decade has seen increasing recognition of the importance of national parks (See [Value of Parks](#)) and protected areas to tourism in Australia and elsewhere.
- At the same time the resources available to provide and manage tourism in relative terms has declined.
- Consequently, partnerships between the tourism industry and protected area agencies have developed with mutual benefits to park agencies, the private sector and local communities; enhanced tourism opportunities; and increased resources for protected area management.
- The most important outcomes from partnerships were improved understanding of protected area values, biodiversity conservation, greater respect for culture, and increased social benefits to local communities.
- Partners were satisfied with the economic gains from the partnership and the improved competitiveness of the protected area as a tourism destination.
- There is clear evidence of the ability of partnerships to value-add to protected area tourism.

- Although partners were generally satisfied with other outcomes, they expected more from the partnerships than they were currently getting.

Visitor Impacts

The growth in tourist numbers in many parts of Australia and worldwide is putting significant pressure on national parks. Care is required in planning for tourism and recreation to minimise environmental impacts, provide desired experiences for visitors, achieve sustainable use and secure *economic benefits for protected areas* and local people (see [Natural Area Tourism](#) and [Managing Protected Areas](#)).

The environmental impacts of tourism and recreation fall into three main types: those related to transport, accommodation and shelter, and recreational activities (see [Protected Area Management](#)). 'Planning', active management, 'monitoring' and rapid response to unsustainable actions are the four basic elements of effective visitor management. A number of *tourism and recreation planning models* address these elements (see [Recreation and Tourism as a Key Value of Parks](#)).

Biophysical Impacts of Visitors

Biophysical threats and impacts to protected areas from visitation include those to entire ecosystems (e.g. coastal ecosystems), soil, water, geology, vegetation, air and wildlife (see [Protected Area Management](#)).

Understanding visitors and visitor behaviours is a fundamental component of effective impact management. Many park visitors are first time visitors and so education and information and strategic communication are important tools for eliciting appropriate behaviours.

In recent years visitor impact research in Australia has moved from studies of individual sites and their management challenges to a broader view and systematic management requirements. New science and tools, such as the Tourism Pressure Index, can give early an warning that management actions are needed and offer more systematic and forward thinking views of park visitation and associated impacts.

Australian research, particularly by the STCRC, has focussed on high impact activities such as 'horse riding', 'mountain biking', 'off road vehicles' and 'rock climbing'. Other activities such as 'hiking', 'camping', skiing, rafting and kayaking, sailing and boating, fishing and swimming have also been analysed for their environmental impacts.

Hiking and Walking Tracks

Many of the impacts on vegetation, soils and trails are similar for hiking, ['mountain biking'](#) and ['horse riding'](#) but there are also differences in severity.

Hiking is an immensely popular activity in protected areas. Walking tracks are a fundamental part of park infrastructure providing recreation opportunities and concentrating use.

Recent research in Australia undertaken by the STCRC indicates that:

- Degradation of tracks is widespread and this is of major concern to both managers and users.
- A first step in managing tracks is initial assessment of their condition.
- Three common methods for determining the condition of walking tracks:
 - Condition class surveys.
 - Track problem surveys.
 - Point sampling techniques.
- Track management is a challenging task for park managers. The sharing of track management and walking track research and knowledge is important tool in improving management practices (see [Mountain Walking Track Management](#)).

Mountain Biking

Recent research in Australia undertaken by the STCRC indicates that:

- Mountain biking is a rapidly growing activity in Australia.
- Four different categories of mountain biking exist
 - Cross-country.
 - Downhill.
 - Free.
 - Dirt jumping.
- Social conflict between hikers and mountain bikers is a potentially serious issue.
- Three biophysical impacts are critical in understanding effects including
 - Trail erosion.
 - Creation of informal trails.
 - Creation of informal trail features.
- A combined GPS and GIS assessment is the best way to quantify impacts.

Horse Riding

Australia has a long, controversial history of recreational horse riding in protected areas.

- Impacts are primarily biophysical however social impacts such as user conflicts are also evident.
- Horses can cause considerable damage including soil erosion and compaction, vegetation trampling and loss of vegetative cover, alteration to plant species composition, tree damage and the introduction of foreign material.

Recommendations for bridle trails development include:

- purpose-build trails to suit the characteristics of the location (e.g. wider trails designed for horse riders, use of trail hardening material);
- manage trail impacts or degradation problems (e.g. management of erosion);
- use monitoring programs and key performance indicators (such as trail surface soils, slope degrees, incision depths, and management features) to identify management issues and sections in need of maintenance;

- use a targeted maintenance program to repair any problem sections and to prevent degradation; and
- involve the local horse riding community in designing, maintaining and managing the trail.

Rock Climbing

Recent research in Australia undertaken by the STCRC indicates that the main impacts are on rocks, plants and animals.

Recommended management strategies include:

- Conduct baseline studies at sites to help monitor impacts;
- Identify suitable sites for climbing and their associated carrying capacity;
- Designate and clearly advertise climbing sites in protected areas (if permitted);
- Signpost and well mark tracks to cliffs;
- Monitor cliff, vegetation and soil impacts;
- Monitor nest bird activity, rock wallaby numbers, and
- Use zoning systems to regulate particular types of climbing to limit environmental and social impacts.

Bird Watching

Recent STCRC research suggests that:

- While seemingly low impact, bird watching has been shown to negatively impact on wildlife populations;
- The mean number of species in undisturbed sites was significantly greater than in semi disturbed and disturbed sites in both rainforest and eucalypt areas;
- Compared to those living in completely undisturbed locations, birds living in areas of higher disturbance were characterised by:
 - Lower species richness;
 - Lower numbers of individuals; and
 - Greater disturbance distances.
- Some species appear unaffected by disturbance levels.
- Long-term studies of the impacts of bird watching on bird reproductive and foraging ecology is required.

Camping – Waste Disposal

Recent research in Australia on waste disposal at huts and campsites indicates that:

- Many people did not abide by minimal impact bushwalking (MIB) guidelines.
- The decay rates of toilet paper and faeces depended on the environment in which they were buried.
- The decay rate did not correspond with the rate of pathogen survival; after fast decay, pathogens were still present in the soil.
- There was little evidence of faecal contamination around campsites, however elevated nutrient levels were present.

- Sites that are perceived as health risks should be monitored, and social surveys undertaken.

Recent research in Australia on waste disposal in backcountry areas indicates that:

- The presence of human wastes and the products that help dispose of them, (e.g., tissues, toilet paper and tampons) are unpleasant for tourists and present possible health and environmental hazards;
- Different products decay at differing rates, with unbleached toilet paper decaying most rapidly;
- Decay rates depended on the climate and soil characteristics, with coastal eucalypt forest having the fastest rate of decay.
- Enforceable regulations for waste disposal are proposed as an alternative to the current non-enforceable guidelines.
- Disposal of faeces, toilet paper and tissues in treeless vegetation above 800m should be restricted.

Cruise Ships

Recent research in Australia on the turbulence associated with cruise ships indicates that:

- Cruise ship turbulence can have negative impacts on benthic communities;
- A predicted model for calculating the turbulence pocket created by specific ships has been developed, and
- The wake generated by vessels at low speeds (less than seven knots) was small and unlikely to be problematic.

Other research in Australia on ship-sourced pollutants indicates that:

- The release of anti-fouling agents was and still is of major concern to local communities and agencies responsible for ecosystem health.
- The general presence of boats at anchor sites affected copper concentrations in waterways to some degree, but other factors (e.g., season) had a stronger influence.
- Large numbers of small recreational vessels contribute significantly to copper levels in the water column and in sediments even in well-flushed coastal estuaries and lagoon systems.
- As copper is unlikely to be replaced as a major constituent of anti-fouling paints, ongoing monitoring is required to determine the impacts.

Roads, Traffic and Off-Road Vehicles

Roads, traffic and off road vehicles (ORVs) can have significant negative impacts including loss of habitat through clearing for road construction, sediment, pollutant runoff, weed invasion, disturbance to wildlife due to noise and traffic and road kills. ORVs are often the only means of accessing natural areas for management and facilitating recreation. ORV driving has been found to impact on soils, vegetation wildlife and social conditions (see [Natural Area Tourism](#)).

Impact Creep

Impact creep can be defined as a sequence of changes that lead to a site being more developed over time. These changes confer both negative and positive impacts. Each impact creep situation may be deemed unique according to different tourism situations and attractions. Case study research in Australia undertaken by the STCRC suggests that while visitors prefer natural settings, management intervention through the development or extension of visitor facilities may be positively regarded because of improved convenience and increased attractiveness, and a reduction in negative environmental impacts.

Social and Economic Impacts of Protected Areas / Visitors

The social and economic effects of protected areas on local communities can be perceived as both positive and negative. For this reason and because impacts are often relative, such impacts are best described as 'change'.

In terms of social concerns, six types of changes typify the effects of protected areas on communities: (from Fortin & Gagnon, 1999, *Environmental Conservation* 26, pp. 200-211)

- Resource management - such as changes to zoning and control limits, access restrictions
- Local economy - park expenditure by government, tourism infrastructure, job creation
- Tourism - changes to economic and political conditions favourable or unfavourable to tourism
- Living Conditions - changes in community orientation to tourism, changes in living standards and cost of living;
- Social mobilisation - mobilisation of local players and changes in the involvement of the community in park management, and
- Social organisation and dynamics - arrival of new families and influx of casual workers

Recent research undertaken by the STCRC on the economic 'value of parks' has found that:

- national parks and other protected areas can:
 - make significant contributions to local businesses and economies through tourism revenue and park management expenditure;
 - make significant contributions to local State government revenue through park fees;
 - contribute to social outcomes such as local employment and training;
- effective 'community involvement in planning' can improve the positive impacts and mitigate negative impacts by helping inform management practices and directions for tourism development;
- many factors influence the economic contribution of a particular park to an economy including the inherent values of the area and its accessibility, the market profile of visitors (age, place of origin, occupation) and visit characteristics (length of stay, accommodation options, activities undertaken).

Other Impacts

The tourism industry is particularly susceptible to short and long term climatic events. Climate change and natural events such as floods and fire have the potential to have severe economic and social impacts on tourism destinations.

Natural Disasters and Events

Extreme natural events (ENE) have occurred at considerable frequency in Australia over the past 150 years and many have caused significant damage and impacts on tourism. Such events include cyclones, storms, floods, bushfires, droughts and earthquakes. The often-widespread nature of these ENE means that national parks and other protected areas are also subject to the impacts of these events. ENEs are predicted to increase in frequency and intensity along the east coast of Australia as global climate change continues.

Recent research into the impacts of bushfires on visitation to alpine national parks indicates that:

- Tour operators experience significant negative financial impacts;
- The negative nature of media coverage is not balanced with positive stories on recovery;
- Operators are well informed about emergency response plans;
- Direct financial assistance to operators is very rare;
- The impacts of fires are not a barrier to future visitation for existing and potential visitors, and
- Clearer communication and more proactive media liaison is required post fire.

Climate Change

Climate change is a long-term significant change in 'average weather' that a given region experiences. It has the potential to have severe economic and non-economic impacts on Australian tourism destinations. Six major Australian tourism destinations have been reviewed to determine their degree of vulnerability, with four of these including protected areas; tropical North Queensland, Kakadu, the Victorian Alps, the Blue Mountains and the Margaret River region of south west Western Australia.

Potential impacts include increased frequency and intensity of ENEs, and environmental, economic, social and infrastructure impacts. Environmental impacts include ecosystem, and fire impacts, changes to hydrological systems, and alterations to the distribution and abundance of indigenous and invasive species (see [Protected Areas: Buffering Nature Against Climate Change](#)).

Visitor Communication

Visitor communication includes all forms of information provided to visitors prior to, during and after a visit, which can be either personal or non-personal and includes signs, brochures, fact sheets, newsletters, presentations and talks, websites,

interpretation, guided tours, visitor centres, museums and displays, marketing and advertising material. Interpretation is broad term given to the educational activity that seeks to bring about meaning and enriching visitor experiences (see [Natural Area Tourism](#)).

Recent research undertaken by the STCRC has focused on developing interpretation strategies to aid in the sustainability of tourism in Australia's national parks and protected areas, including research on interpretation to:

- mitigate visitor impacts;
- enhance tourist's experiences and satisfaction;
- encourage positive attitudes towards nature conservation, and
- link outcomes to corporate/strategic objectives.

Key findings include:

- interpretation and communication can be a powerful tool to mitigate the effects of visitor use on the natural environment and support management goals;
- interpretation and communication programs should be included as an important part of management goals, and
- research, monitoring and evaluation of interpretation programs is necessary for effective management.

As a result of the increasing influence of tourism, protected area management is evolving from one primarily focused around onsite management and conservation to one that more broadly encompasses a greater range of holistic recreation and tourism experiences. In dealing with this evolution, national parks and protected area managers are now required to balance onsite interpretation activities with broader marketing and demand management activities.

Pre-Visit Communication

Pre-visit communication has become an essential part of visitor demand management and managing visitor expectations of national parks and protected areas.

Managers need to consider how tourism and recreation opportunities in national parks should be communicated to people. This requires managers to consider changing recreation demands and visitor expectations upfront and integrating marketing strategies into communication and interpretation to promote parks effectively and to achieve more realistic expectations of what visitors can expect.

Marketing, as visitor and stakeholder communication, especially pre-visit communication, can be influential in a visitor's decision regarding where to go and what to do. Strategic and tactical communication can also influence how visitors behave by providing information in a manner that reinforces desired onsite behaviours.

Establishing experience and behavioural expectations prior to visiting a protected area is central to ultimate visitor satisfaction as well as environmental protection. In designing pre-visit communication that promotes park and protected area visitation, as well as shapes behavioural expectations, managers must have a framework with which to both plan and implement effective pre-visit communication strategies. A visitor

communication framework should be based on the Recreation Opportunity Spectrum (ROS) so that interpretation and communication material is relevant to the management settings and experiences being sought by the visitor.

Recent research by the STCRC highlights the importance of using a robust segmentation strategy in order to understand visitors and potential visitors and the experiences they seek. Visitor segmentation using a ROS based approach enables managers to better manage demand for parks and better manage visitor expectations about the experiences they can have. It is suggested that protected area managers would benefit from the development of a more robust approach to segmentation and to adopt a ROS based approach to understanding the interaction between visitor segments and available parks and park related experiences.

This research provides a number of recommendations for integrated pre-visit communication management (IPCM) including:

- Institute a regular IPCM audit;
- Refine pre-visit communication roles and responsibilities within the organisation and refine and clarify the roles and responsibilities of individuals and departmental groups within protected area agencies with regard to planning and implementing a pre-visit communication strategy and activities;
- Strengthen relationships with state and regional tourism organisations and develop a clear brand vision and brand identity;
- Improve the integration of visitor data into strategy development and campaign planning;
- Improve the clarity of objectives regarding which visitor segments to target and products (parks and protected areas) to market;
- Institute a more systematic and data driven pre-visit communication planning process;
- Improve the resourcing of pre-visit communication management and activities.
- Utilise the supply and demand visitor experience segment matrix to develop a product/segment portfolio matrix based on experiences sought by visitors.
- Undertake specific visitor segment level pre-visit decision-making research.
- Include information source and experience sought questions in visitor surveys.
- Determine the usefulness and effectiveness of park websites in facilitating visitor decision-making.

Marketing

Park managers have traditionally treated marketing of national parks with some scepticism because of the perceived fears of commercial interest overwhelming national parks and consequently marketing expertise within Australian park management agencies at the planning and policy levels has been largely non-existent. Recently, marketing has been recognised as a tool for achieving park management aims including developing broad public support for parks, developing strategic partnerships and actively promoting outdoor recreation and tourism opportunities.

Recent research by the STCRC suggests a number of opportunities exist for partnerships between protected area agencies and the tourism industry for marketing of protected areas in alignment with the following five guiding principles:

- **Responsible:** Sustainable marketing of protected areas should be designed and undertaken in a responsible, ethical manner.
- **Realistic:** To be sustainable, marketing of protected areas should be done in a manner that disseminates realistic images and information to existing and potential visitors.
- **Regional:** Sustainable marketing of protected areas should be designed and used in a regional context.
- **Research:** Research is a fundamental building block of sustainable marketing and should be carried out and integrated into marketing planning and strategies.
- **Relationships:** Cooperative relationships between relevant land management, industry and community stakeholders can benefit all.

Strategic Communication

Recent research by the STCRC in the area of strategic communication has been aimed at fostering recognition among protected area managers and tour operators that communication backed by good research can be used strategically and effectively to address onsite visitor management problems.

This research uses the Theory of Planned Behaviour (TPB) to guide the development of effective messages that can:

- Identifying the salient beliefs of visitors underlying a particular target behaviour (e.g., littering);
- Isolating a sub-set of these beliefs with optimal persuasion potential and
- Targeting these beliefs in messages designed to increase compliance with the target behaviour.

The research indicates that interventions containing those messages can be effective in increasing compliance with the target behaviours.

Measuring Effectiveness of Interpretation

Research by the STCRC has focussed on evaluating the effectiveness of interpretation including the development of an evaluation toolkit for **assessing effectiveness of face-to-face interpretive programs**. The toolkit lists **11 indicators for the evaluation of face-to-face interpretation**. The toolkit also includes three evaluation packages, each consisting of a visitor survey and a form for observing visitor behaviour.

Visitor Monitoring and Research

Visitor monitoring and associated performance reporting have emerged as a response to a strong trend in public accountability, whereby objectives for management are developed and the progress of agencies in achieving these objectives is documented and reported. Monitoring, and the accompanying use of indicators, assesses the extent to which these objectives have been achieved. Reporting is increasingly being directed towards achieving sustainability and its triple bottom line of environmental, social and economic outcomes.

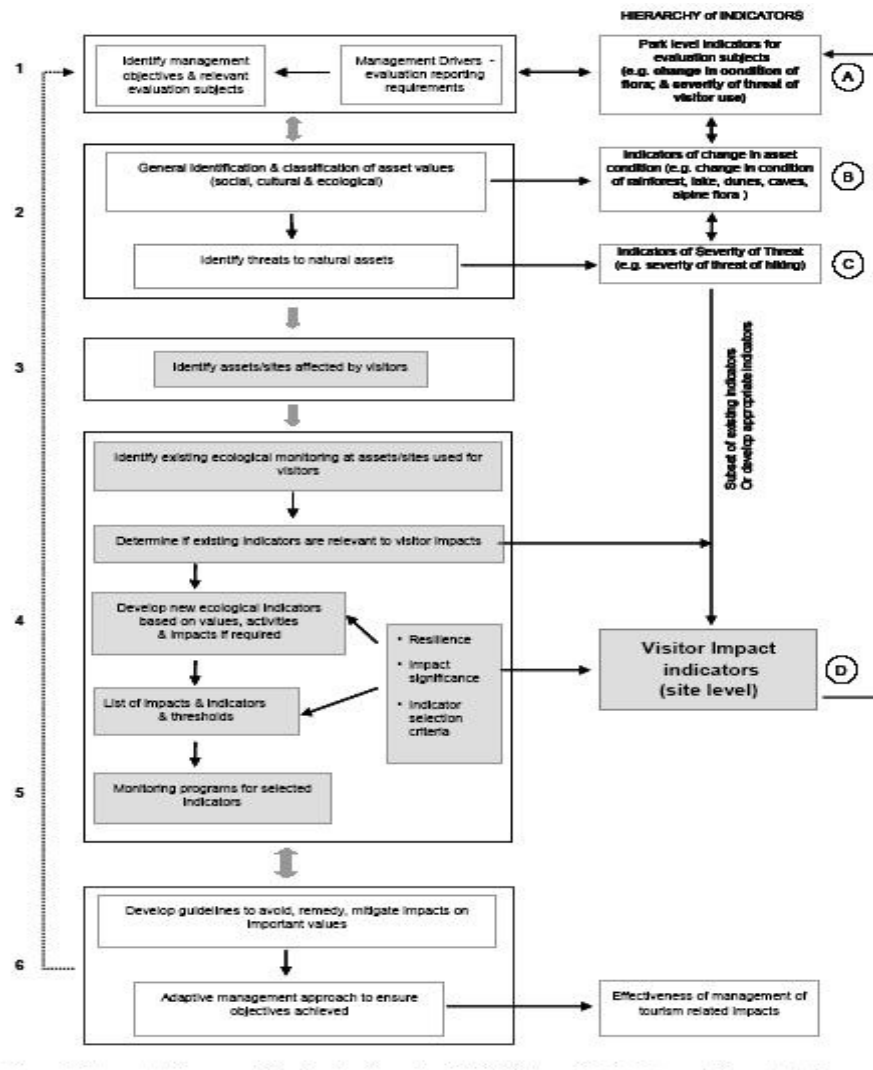
Monitoring is the systematic gathering and analysis of data over time. For protected area tourism and recreation this involves developing monitoring programs that can collect data on both the natural environment and its visitors. Monitoring should occur at three levels; site, park and corporate. Monitoring is important for the following reasons (see [Natural Area Tourism](#)):

- Managing the natural environment - it provides information needed to mitigate impacts and assess management effectiveness;
- Planning - it provides information needed for management planning, recreation and tourism planning frameworks and site design activities;
- Resource allocation - it provides managers with a systematic basis for allocating funds and resources;
- Public accountability - it provides information to the corporate levels of park agencies to assist with accountability and transparency;
- Marketing and interpretation - it provides information needed to successfully market and interpret natural areas; and
- Legislative and legal requirements - it may be a legal requirement in some jurisdictions.

Monitoring of local communities and beyond is also critical to gauge the level of engagement with and support for protected areas.

Management effectiveness evaluation provides a means by which managers can evaluate their performance in achieving sustainable visitor use. "Management effectiveness evaluation measures the degree to which a protected area is protecting its values and achieving its goals and objectives" (see [Managing Protected Areas](#)). Such evaluation is dependent on monitoring to generate the information needed to assess performance. The management effectiveness framework developed for the IUCN-WCPA in 2000 and recently revised enables managers to report on a park's context, planning, inputs, processes, outputs and outcomes (see [Evaluating Effectiveness](#) and [Management Effectiveness Evaluation in Protected Areas](#)). An adaptive approach to management is the ultimate goal. The IUCN-WCPA framework has been comprehensively applied in NSW, and to a lesser extent in other states and territories of Australia.

Figure 5: Integrated framework for developing ecological indicators of visitor impacts in protected areas.

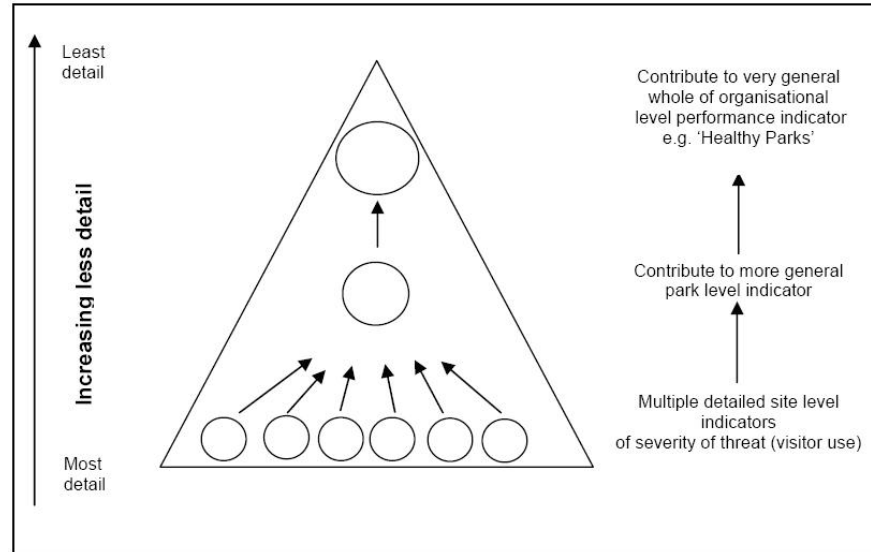


Source: Castley, et al., 2008 An Integrated Framework for Developing Ecological Indicators of Visitor Use of Protected Areas, Sustainable Tourism Cooperative Research Centre

Assessment of visitor use is only one component of the IUCN-WCPA evaluation framework, which is concerned with all aspects of park management (e.g. biodiversity conservation, pest and weed control, fire management). Research by the STCRC in Australia supports the value of the IUCN-WCPA framework, with this research emphasising the importance of a framework that integrates monitoring and evaluation into the cycle of management. Also important is generating feedback that enables managers to learn from and progressively improve management. The effectiveness of overall management evaluation, however, is limited by:

- lack of corporate coordination, direction and strategic planning in developing monitoring programs;
- inconsistent data records and reporting formats;

- inadequate, inefficient data collection, storage and management systems;
- low priority afforded by protected area agencies to performance evaluation and reporting; and
- lack of consistency in purpose and design of visitor surveys.



Source: Castley, et al., 2008 An Integrated Framework for Developing Ecological Indicators of Visitor Use of Protected Areas, Sustainable Tourism Cooperative Research Centre

The effectiveness of monitoring and then managing visitor use in protected areas has also been analysed by the STCRC with the following issues identified:

- lack of baseline data for priority visitor threats and pressures;
- lack of knowledge of walker impacts;
- lack of research into the long term impacts of plant diseases such as dieback (from *Phytophthora* sp.)
- inadequate understanding of visitor impacts and visitor management; and
- inadequate methodology for monitoring subtle changes in high quality wilderness areas.

Recent research by the STCRC has also focused on developing an integrated framework delivering a range of indicators appropriate at a variety of park management levels. This integrated framework focuses on the ecological impacts of visitors. It does not address the visitor experience or consequences for local communities. Key findings include:

- Visitor monitoring should be integrated into a general framework for evaluating the effectiveness of park management;
- When using an integrated framework it will be possible to prioritise sites for visitor monitoring and identify appropriate indicators for use in protected areas;
- Four groups of indicators have been identified as necessary for measuring the ecological impacts resulting from visitor use: (1) vegetation e.g., changes to vegetation composition and community structure; (2) soil e.g., soil compaction, track duplication, area of bare ground; (3) wildlife e.g., displacement of wildlife and

- behavioural changes; and (4) species diversity e.g., changes in biodiversity indices and numbers of invasive species;
- There is a clear need for more research in different ecosystems to identify/quantify/understand the range and intensity of visitor impacts both direct and indirect; and
- Monitoring programs need to be localised to detect visitor use impacts.

There are six steps to the application of this ecologically-focused integrated framework: (1) identifying management objectives and relevant evaluation subjects, (2) classifying natural assets and threats to those assets, (3) prioritising sites for visitor monitoring, (4) selecting ecological indicators of visitor impacts, (5) developing monitoring programs for indicators and (6) using results to improve future management (adaptive management).

Recent visitor monitoring research in Australia supported by the STCRC has focused on three broad areas:

- Ecological – mainly concerned with physical site alteration, removal and redistribution of materials, disturbance to plants and animals, harvesting of plants and animals and pollution of water via human waste;
- Social (visitors and local communities) – mainly concerned with visitor experiences, such as crowding, satisfaction, over-use, safety, impacts on local communities and indigenous heritage; and
- Economic – mainly concerned with the sources and levels of visitor revenue generated, the costs of providing services and facilities in parks and the economic impacts of parks on regional economies.

Ecological

The main focus of this research has been developing indicators for ecological communities including their condition, structure and function and perceptions of naturalness i.e., the extent of human modification to the environment. The ecologically focused integrated framework (and drawing on the IUCN-WCPA framework described previously) has also been a central part of this research.

Specific research has focused on developing indicators for aquatic systems in protected areas. This research assesses the range of activities generally undertaken in and around aquatic sites and the potential indicators that may assist in detecting the effects of these activities. A suite of indicators is potentially useful for monitoring and assessing visitor impacts in and around aquatic ecosystems within protected areas:

- Potential ecological indicators include filamentous algae counts, coliform counts, benthic metabolism, presence of exotic species, pins for measuring erosion, nutrient concentrations, turbidity; and
- Potential social indicators include human waste, track widening, visitor noise, campsite capacity and management, visitor numbers, litter, modification of substrate and water flow.

The selection of indicators to assess visitor impacts in aquatic ecosystems is a complex and challenging task for managers of all natural areas with heavily visited aquatic ecosystems. Traditional water quality indicators may not be appropriate in the assessment of visitor impacts due to their spatial and temporal extent and anticipated

lack of response to visitor activities and disturbances. On the basis of research by the STCRC it is recommended that protected area managers follow a six-step process to develop and implement monitoring programs assessing visitor impacts in and around aquatic ecosystems:

- Assess visitor activities and perceptions.
- Assess the physical and chemical and biological characteristics of sites.
- Propose indicators for use in a monitoring program using the approach detailed by Hadwen et al. (2008) and in relation to the findings of 1) and 2) above.
- With the assistance of aquatic ecologists, design indicator performance trials.
- On the basis of indicator trials, select a suite of appropriate indicators for the specific site and visitor activities and design a spatially and temporally defensible monitoring program around these indicators.
- Examine spatial and temporal trends in all indicators (social and environmental indicators) to examine the spatial extent and temporal persistence of visitor-mediated changes.

Other specific research has focused on Australia's World Heritage Areas developing a framework, guidelines and tools to enhance the reporting and evaluation of visitor use. Key findings and conclusions include:

- Recreation and tourism are recognised as appropriate uses of World Heritage Areas, with many of Australia's World Heritage Areas having very high levels of visitation;
- World Heritage Areas are generally better resourced than for other protected areas and therefore how these agencies research, assess and evaluate the pressures and threats associated with visitor management should represent Australian best practice;
- While park agencies recognise the need to implement monitoring programs, systems and approaches vary between agencies; and
- Only a few park agencies have formal systems in place to implement adaptive management.

Social – Visitors

Visitor monitoring is vital for effective protected area management and requires the systematic gathering, analysis and integration into management systems of data relating to both the natural environment and visitors over time. Park monitoring has historically focussed on the physical and biological aspects of the environment, with the systematic collection of visitor data being generally overlooked, and managers relying on ad hoc approaches. To address this shortcoming the STCRC, in partnership with Australia's protected area agencies and tourism organisations, has undertaken a range of research on visitor monitoring.

Research into visitor use of protected areas initially focused on:

- exploring key elements affecting the quality of visitor experiences in national parks and other protected areas in Australia;
- examining levels and patterns of visitation to Australian national parks and other protected areas, as well as tourism industry involvement in these areas through commercial tour operations and facility provision; and

- identifying the main reasons why tourists visit national parks and other protected areas and factors that affect the quality of experiences sought.

A key finding was the lack of good quality time series data in all jurisdictions, making it difficult to discern any clear trends and patterns in visitation levels. Subsequent research has focused on improving the collection, storage and application of visitor data for the planning and management of protected areas. A set of simple guiding principles for visitor monitoring are providing covering overall system design, data collection, data storage and data application.

The most recent research has focused on developing a systematic, nationally consistent approach to collecting and managing visitor data across Australian protected areas jurisdictions to inform protected area management, planning and decision-making processes. The information collected is most relevant to the park level of management, but is also of central interest for corporate reporting.

There are three important areas of focus for visitor information:

- The types of data collected;
- The use of data;
- The storage and management of data.

Data that should be collected by protected area agencies fall into two broad categories: core and supplementary.

A recommended survey instrument (questionnaire) has been developed (which can accommodate both core and supplementary data collection) for the collection of information on visitor use of protected areas. Key recommendations for visitor surveys include:

- Keep questionnaires short and limited to information required for management decisions;
- Continue including questions in visitor surveys about the importance of and satisfaction with key services and facilities;
- Always ask about overall satisfaction (used for corporate performance reporting) in surveys;
- Choose a sampling approach that provides the best possible data for decision making; and
- Provide training for staff administering surveys and where possible rely on direct contact for questionnaire distribution and return.

This survey instrument readily lends itself to software-based approaches to data collection, aggregation, dissemination and reporting of park-based activity across Australian protected area agencies.

In addition to this strategic research, a number of site-specific studies at key Australian nature-based tourism destinations have been undertaken (see reports listed below). These focus on visitor use, satisfaction, visitor experience and visitor patterns. Survey destinations include: in NSW – Barrington Tops National Park, Mungo National Park, northern NSW national parks and Kosciuszko National Park; in Victoria – Brambuk-Grampians National Park and Aboriginal Cultural Centre, Melbourne and its Metropolitan parks, and Mt Buffalo National Park. Other related research has investigated the factors associated visitor experience and track usage in national parks.

Social (local communities) and Economic

Recent research by the STCRC recommends the following for measuring the socio-economic changes in local communities where protected areas are a dominant social and economic force:

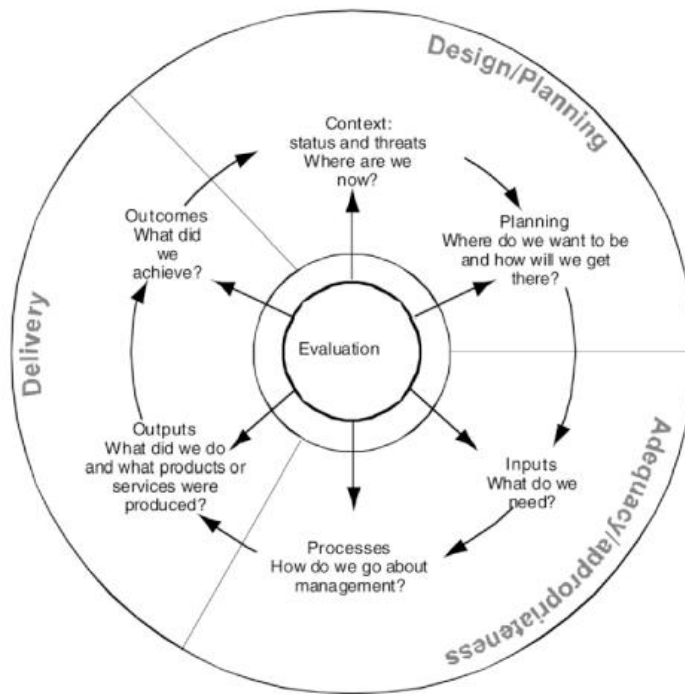
- Robust and regular visitor surveys, including different market segments;
- Collection of expenditure details from visitors as part of visitor surveys
- Initiating effective interagency collaboration and establishing closer community partnerships in planning and management;
- A coordinated and systematic approach to data collection across regions including park agency financial (revenue and expenditure) data and visitor centre accommodation and tour bookings;
- Periodic residential surveys regarding park use, perceptions and attitudes of park management and visitors, and
- Tourism satellite accounts at the regional level.

Other research by the STCRC has focused on identifying a set of social indicators for tourism communities and to advance techniques in the field of social impact assessment. STCRC research has produced an instrument for assessing and tracking a host community's perceptions of the impact of tourism on their quality of life.

Economic research by the STCRC in Australia has determined the economic and social values of parks and natural areas by assessing direct economic expenditure and developing practical and cost efficient methods of data collection including rapid assessment toolkits.

Guide to developing an integrated Monitoring Program for visitor management in protected areas

Developing a monitoring program for visitor management in protected areas can be daunting task. The widely adopted IUCN-WCPA framework for evaluating management effectiveness provides a useful, practical starting point. The framework has six main parts: context, planning, inputs, processes, outputs and outcomes. Managers are asked to monitor each of these parts to get a complete picture of where they are being effective and where more work is needed (see [Evaluating Effectiveness](#)).



Source: Hockings, M., Stolton, S. & Dudley, N. (2004) Management effectiveness: assessing management of protected areas? *Journal of Environmental Policy & Planning*, 6(2), pp. 157–174.

Many monitoring programs focus only on outputs and outcomes. This management cycle approach (as shown above) emphasises the importance of looking at all stages of management as all are likely to influence the delivery of desired outcomes and hence achievement of an agency's management objectives.

IUCN-WCPA Management Effectiveness Evaluation Framework (see [Evaluating Effectiveness](#))

Development of this IUCN-WCPA framework was based on a worldwide review of evaluation systems already in use for protected areas, combined with an extensive consultation process. It provides a system and associated indicators for evaluating management effectiveness, building on the management cycle approach. In order to develop an effective monitoring system monitoring needs to occur for each of the six components.

This framework involves monitoring and evaluating components of the **evaluation elements** below:

- Context – not an analysis of management, but provides information that helps put management decisions into context, e.g. values, threats, opportunities, political environment;
- Planning – evaluation of appropriateness of policies, plans and design;
- Inputs – evaluation of adequacy of resources (staff, funds, facilities) employed for management
- In the context of visitor use, this relates to inputs targeted at visitor management and servicing;
- Processes – evaluates adequacy and appropriate of management systems relative to management objectives;
- Outputs – evaluates products or services provided as a result of management, e.g. number of patrols run, restoration activities achieved – whether these have been delivered as planned and to some extent the quantities delivered; and
- Outcomes – evaluates whether objectives have been achieved.

From a synthesis of STCRC research the following steps guide the development of an integrated monitoring program for visitor management in protected areas.

Step 1. Selection and application of an evaluation framework

STCRC research recommends the IUCN-WCPA management effectiveness evaluation framework. The framework elements and evaluation subjects for visitor management given in the table below provide detailed guidance at the park level. They are derived from and closely relate to the elements and subjects widely used and applied through the IUCN-WCPA framework (see [Evaluating Effectiveness](#)). A similar table (see below) is available for the agency (corporate) level. The elements in these tables are also consistent with ecological monitoring allowing integration of results.

The approach relies heavily on the adoption of a values-based approach. Using key values to drive management has advantages. A reliance on values rather than threats is less time-bound and gives a more holistic perspective. Also, values have much greater political currency than threats as they let politicians and other key stakeholders know what is important and should be protected. Selecting key values also enables managers to and monitor and manage what is important.

Visitor related evaluation elements and subjects - park level

	Visitor related 'evaluation subject'	Definition/ scope of visitor related evaluation subject
Context		
Values and significance	Values	Identification of key visitor/tourism related values, including recreation opportunities
	Priority	Priority rating or category with regard to visitor-related importance
Threats/issues/pressures	Threat identification	Identification of key visitor-related threats
	Threat rating	Rating of visitor-related threat or impact level (may be existing and/or potential)
	Threat trend	Trend in visitor-related threats
Stakeholder attitudes and relations	Visitor attitudes	Visitor or tourism industry attitudes, visitor reasons for visiting parks, relationship between visitors/ tourism industry and parks - collected as context for planning
	Community attitudes	Community perceptions/attitudes regarding visitation to parks
Influence of external environment	External constraints	Availability of alternative recreational opportunities in region, marketing pressures etc
Planning		
System design	Legal	Adequacy of legislation in relation visitor and commercial tourism management
Management planning	Design	Appropriateness of design in relation to visitor needs
	Management planning	How well management planning addresses visitor issues
Inputs		
Staff	Staff numbers/time	Adequacy of staff allocation for tourism, visitor management, interpretation (including time allocated by staff; i.e. staff hours)

Funding	Funding	Adequacy of funding allocation for tourism, visitor management, interpretation
Funding security	Funding security	Security of visitor-related funding allocation
Equipment and facilities	Infrastructure	Adequacy of visitor, tourism and interpretation infrastructure, equipment and facilities
Information	Information	Adequacy of visitor-related information, including monitoring programs (including of impacts etc.) and their utilisation for adaptive management
Process		
Capacity		
Governance, high-level management and leadership	Administration	Effectiveness of administration of visitor management and tour operator permit systems
Building and maintenance of infrastructure, facilities and equipment	Facility maintenance	Adequacy of maintenance of visitor facilities
Human resource management	Staff training	Adequacy of staff training in interpretation, visitor management, tour operator management
	Staff skills	Adequacy of skill level in interpretation, visitor management, tour operator management
Relating to people	Law enforcement adequacy	Adequacy of law enforcement in relation to visitors and tour operators
Law enforcement	Law enforcement issues	Identification of visitor/ tour operator related law enforcement issue(s)
Community involvement and relationships	Relationship appropriateness	Appropriateness of relationships with visitors or tour operators
Communication, education and interpretation	Relationship description	Descriptive field for above programs
	Interpretation	Adequacy or appropriateness of interpretation program(s)
Community development assistance	Communication	Adequacy of communication with visitors and tourism operators
Sustainable resource use - management and audit	Tourism/visitor involvement	Adequacy of involvement of tourism industry/ park visitors (not community in general) in planning and management
Visitor management	Recreation opportunities	Descriptive field for types of visitor opportunities/ character of facilities and services
	Visitor services	Adequacy of visitor services in general or other than interpretation and communication
	Impact management	Adequacy of management of visitor impacts
	Visitor fee management	Adequacy of systems for collecting entrance fees etc.
	Tourism management	Adequacy of systems for managing tour operators e.g. permitting, marketing etc.
Managing the resource		
Research and values monitoring	Impact monitoring	Adequacy of monitoring of visitor threats/ impacts
Outputs		
Achieving work program	Work program achieved	Achievement of work program relating to visitors/ tourism
Results/outputs	Services provided	Provision of specified visitor-related services (e.g. interpretation services).

	Visitor use	Visitor numbers, seasonal/spatial distribution
	Visitor characteristics	Visitor demographics and other characteristics e.g. income (excludes attitudes).
	Operator use	Tourism operator numbers, distribution, characteristics
	Revenue	\$ from visitor-related fees
Outcomes		
Achieve objectives	Achieving visitor objectives	Achievement of visitor use/ management objectives in general (not specific to any of next 6 rows)
	Visitor satisfaction	Extent of visitor satisfaction/ meeting of expectations etc. (even if no explicit objectives in this document)
	Visitor safety	Visitor safety/ incident levels (even if no explicit objectives in this document)
	Visitor access	Extent to which appropriate/ equitable access to park by visitors/ tourism industry is provided (even if no explicit objectives in this document)
	Visitor cognitive outcomes	Attitudes/perceptions of visitors to park/conservation/natural or cultural values or new knowledge gained in response to visiting park/ interpretation programs
	Visitor compliance	Extent to which visitors comply with rules (esp. re impact management)
State of park	Presentation values trend	Trend - are the presentation/ recreational values improving or decreasing in quality?
	Presentation values condition	Extent to which the recreational values have been maintained
	Conservation values condition	Extent to which conservation values impacted by visitors have been maintained
	Economic impacts	Economic impacts of park-related visitation on community
	Social impacts	Social impacts (attitudes, perceptions, objective measures) of park-related visitation on community, including health

Source: Higginbottom et al., (2010). Current Practices in Monitoring and Reporting on Sustainability of Visitor Use of Protected Areas, STCRC.

Step 2. Develop indicators for relevant evaluation subjects

The STCRC has a number of research reports providing guidelines to help identify indicators for evaluating the effectiveness of visitor management in protected areas. These reports also explain how to collect, store, analyse and then use (in management) the information obtained from these indicators. Details follow.

Visitors

[PROTECTED AREA MANAGEMENT: COLLECTION AND USE OF VISITOR DATA. Volume 1: Summary and recommendations](#)

[DESIGNING AND TESTING A PARK-BASED VISITOR SURVEY](#)

Community

[DEVELOPMENT OF A SCALE TO ASSESS THE SOCIAL IMPACT OF TOURISM WITHIN COMMUNITIES](#)

Economic

[ECONOMIC EVALUATION OF TOURISM FOR NATURAL AREAS: development of a toolkit approach](#)

Ecological

[AN INTEGRATED FRAMEWORK FOR DEVELOPING ECOLOGICAL INDICATORS OF VISITOR USE OF PROTECTED AREAS](#)

Ecological – Aquatic

[GUIDELINES FOR DESIGN AND IMPLEMENTATION OF MONITORING PROGRAMS TO ASSESS VISITOR IMPACTS IN AND AROUND AQUATIC ECOSYSTEMS WITHIN PROTECTED AREAS](#)

Step 3. Set priorities for monitoring

Protected areas are managed in a resource-poor environment. As such, setting priorities for what will and won't be monitored (and then managed in response to the findings from monitoring) is critical because there are never enough resources to do everything. First, monitoring should only be undertaken if it will improve protected area management. Second, the choice of what to monitor must be based on priority setting. Priorities are influenced by how monitoring can contribute to protected area management. Contributions are usually to one or more of the following (from [Evaluating Effectiveness](#)):

- Better management under changing circumstances;
- Effective resource allocation;
- Accountability and transparency; and
- Involving the community and promoting protected areas.

Priorities must also be based on:

- Whether the benefits of monitoring (e.g. to biodiversity, visitors, communities) and follow-up management exceed the costs; and
- The likelihood of:
 - Monitoring being able to measure what matters.
 - Management actions subsequent to monitoring being undertaken.
 - Management actions subsequent to monitoring being successful in moving a protected area towards desired outcomes.

Such priority setting has received rapidly increasing attention in conservation management, where an analysis of the values at risk, biodiversity/community/visitor benefit, probability of success and cost is being used to guide resource allocation decisions. The term 'triage' (taken from emergency medicine) has been proposed to describe this process of prioritising the allocation of limited resources to maximise the benefits to conservation.

Elements of risk management are also evident in these priority setting processes, with the consequences of action (or inaction) and the likelihood of success (or otherwise) being used to decide where they allocate scarce resources. There are two tiers in considering the 'risk' associated with monitoring visitor management: the risks associated with monitoring itself and those associated with follow-up management. The 'consequences x likelihood' analysis needs to be applied to both.

Step 4. Implementing the monitoring program

Some tips for implementing a monitoring program:

Conduct of monitoring and evaluation

- Get baseline information as early as possible;
- Use pilot studies when developing new monitoring systems to ensure the system is suitable before instituting on a wide scale;
- Build flexibility into systems for collecting and storing data for monitoring and evaluation;
- Provide adequate training and support for on ground staff who will conduct monitoring;
- Repeat monitoring and evaluation at regular time intervals, with appropriate interval depending on what is being evaluated; and
- Agency staff conduct monitoring and evaluation, with review by external facilitators every 3 to 5 years.

The following tips relate to data collection and storage and their application in management:

Data collection

- Explore simple, innovative data collection techniques;
- Use an adequate, representative sample;
- Undertake systematic, regular collection of visitor data;
- Ensure data collected have spatial and temporal elements where possible;
- Use limited resources wisely;
- Use existing and secondary data;
- Regularly calibrate counters; and
- Aim for quality not quantity of data.

Data storage

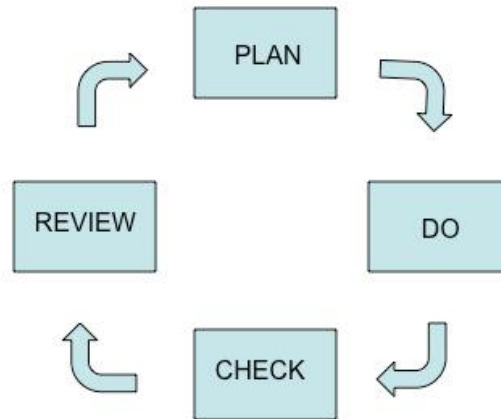
- Verify data to ensure they are error-free before storage and use;
- Geo-reference data so they can be used in spatial databases and associated applications;
- Design and maintain databases that are user-friendly;
- Guarantee the confidentiality of data;
- Display and provide data outputs in ways that readily inform decision-making; and
- Transfer data efficiently and accurately to storage databases.

Data application in management

- Use the available visitor data for numerous applications;
- Collect data to enhance understanding of visitor perceptions, motivations and values; and
- Establish and maintain strong links between data collection and application.

Step 5. Adaptive management

Monitoring is the 'check' part of the adaptive management cycle (see the figure below). Adaptive management relies on collecting information (monitoring) to determine what has been achieved (outputs) and how this has contributed to desired outcomes (e.g. values protection).



Source: Susan A. Moore and Kate Rodger (2009) Recommendations: Reforming management planning for national parks, conservation parks and nature reserves in Western Australia – 2010 and onwards. Report prepared for the Conservation Commission of Western Australia, by Murdoch University.



What is Sustainable Tourism Online?

Sustainable Tourism Online is a comprehensive online information resource to support sustainable policy, planning and practice.

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