

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS



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CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

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Acronyms

Ann Rep	Annual report
GBRMPA	Great Barrier Reef Marine Park Authority
IUCN	International Union for the Conservation of Nature
KPI	Key performance indicator
KRA	Key result area
NSW DECCW	NSW Department of Environment, Climate Change and Water
NT NRETA	Northern Territory Department of Natural Resources, Environment and the Arts
NT PWS	Northern Territory Parks and Wildlife Service
Parks Aus	Parks Australia
Parks Vic	Parks Victoria
PoM	Plan of Management
Q EPA	Queensland Environmental Protection Agency
QPWS	Queensland Parks and Wildlife Service
SA DEH	SA Department of Environment and Heritage
SoP	State of the Parks
STCRC	Sustainable Tourism Cooperative Research Centre
Tas DTAE	Department of Tourism, Arts and the Environment (Tas)
Tas PWS	Tasmanian Parks and Wildlife Service
WA CC	Conservation Commission of Western Australia
WA DEC	WA Department of Environment and Conservation
WA MPRA	WA Marine Parks and Reserves Authority
WCPA	World Commission for Protected Areas
WTMA	Wet Tropics Management Authority

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SUMMARY

A clear mandate and direction exists for Australian protected area managing agencies to give more attention to monitoring and evaluation and to develop coordinating systems through the Convention on Biological Diversity (CBD) Program of Work for protected areas (Goal 4.2 CBD 2004) and the joint policy statement on the National Reserve System (Direction 34, NRMCC 2005). This study reviews current monitoring and evaluation practice with respect to visitor use as input to guide the implementation of these commitments.

The study reviewed the monitoring and evaluation practices of Australia's protected area agencies, with regards to visitor use. Information was obtained from reviewing plans of management, annual reports, state of the parks reports and other policy and procedural documents relevant to monitoring and evaluating visitor use. A set of evaluation subjects and indicators based on the IUCN-WCPA management effectiveness framework (Hockings, Stolton, Courrau, Dudley, Parrish, James, Mathur Y Makombo 2007) and modified to suit visitor use, assisted in determining the information to be collected and organising it, once obtained. Supplementary information was sourced from interviews with key agency staff, to identify issues relating to the effectiveness and usefulness of monitoring and evaluation programs.

The study identified a considerable number of indicators monitored to evaluate visitor use, with an emphasis given to monitoring outcomes, process and inputs. While there was overlap in indicators used by agencies, there was also divergence, related to specific issues for individual parks or agencies. However, the level of convergence suggests that a suite of core indicators is possible to enable a general unified approach to monitoring visitor use across Australian park managing agencies. Quantitative measures were commonly adopted, supported by ordinal evaluations when synthesising monitoring data. However, for most state agencies, quantitative monitoring is prioritised to high visitation parks, where satisfaction surveys are particularly used to evaluate outcomes.

The development, of monitoring and evaluation systems, is currently unevenly developed across Australia, with some agencies restructuring management frameworks to better integrate and use monitoring information, improve adaptive management and develop more meaningful reports. Sharing this experience and expertise seems warranted, and needs to be supported.

Plans of management usually identified monitoring requirements to evaluate visitor use, but these often did not have clear targets or links to key performance objectives, although lying within key performance areas. The opportunity to shift annual reporting from a summary of activity and finances, towards a performance reporting document was identified in the interest of pre-empting stakeholder demand for greater transparency and accountability. Evaluations contained within state of the parks reporting were conducted for performance reporting by a few agencies, but the trend is increasingly towards such evaluations informing strategic decisions at regional levels and above. Evaluations were necessarily broad and usually based on expert assessment, informed by highly variable quality of supporting monitoring information. Importantly, agencies that have developed State of the Parks evaluation systems have identified the need for integrated monitoring and evaluation systems, and are currently developing more focussed and targeted approaches.

Comprehensive, park-specific, management effective evaluations based on monitoring information are confined largely to the Commonwealth estate or World Heritage Areas. However, these tend to focus on the pressure-state-response model and do not adequately assess management effectiveness. For state agencies involved in management effective evaluations, their current emphasis is on developing whole-of-estate monitoring systems or issue specific protocols. Given the Commonwealth and World Heritage experiences, it may be valuable to pilot existing whole-of-estate assessment tools in individual parks to test their usefulness.

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Costs, and associated opportunity costs, are issues constraining agencies from developing comprehensive monitoring and evaluation systems. While adaptive management and application of the precautionary principle remain the foundation of protected area management, many agencies appear not committed to improving the evidence base for management, relying on staff experience and informal monitoring to evaluate management, resource status and threats, and visitor use. While this will always be a major part of park management, the benefits of improving the evidence for decision making through targeted monitoring needs to be considered. Having staff whose sole duty is to develop and support monitoring and evaluation systems is essential. Assistance to agencies who are yet to develop monitoring and evaluation systems, especially providing information on contemporary approaches, seems warranted, and cost effective if evidence-based management is to be achieved for Australian protected areas.

Concern that monitoring and evaluation of park management is a surrogate for staff performance appraisal was identified as a concern and an impediment to implementing more comprehensive programs. Other impediments identified to the development of effective and comprehensive monitoring and evaluation programs included: the low level of priority given to helping staff analyse and use monitoring data; limited, capacity to analyse and evaluate monitoring data; and fear of reporting less than ideal results. Finally, the timely reporting of monitoring evaluations to field staff, and working with them to interpret the information and use it to facilitate adaptive management, are essential for developing a learning culture in agencies.

Recommendations

Twenty-one recommendations are proposed that address monitoring and reporting generally, and for visitor use of protected areas specifically

Recommendation 1

All protected area managing agencies reaffirm their commitment to developing integrated and comprehensive systems for monitoring and evaluation and the meeting of the Convention on Biological Diversity targets.

Recommendation 2

Agencies appoint staff whose prime responsibility is developing and managing monitoring and evaluation systems, and whose duties also include system development and effective and equitable sharing of national experience.

Recommendation 3

All protected area managing agencies collaborate to create a national monitoring and evaluation system that meets the needs of individual agencies and at the same time maximises compatibility and associated efficiencies and capacity for shared learning.

Recommendation 4

In developing a national system for monitoring and evaluation, identify opportunities for integrating and/or adopting current approaches, to minimise waste of existing effort.

Recommendation 5

Plans of management include prioritised monitoring actions (but not detailed methods) linked to clear objectives, with targets, appropriate indicators, and thresholds that will precipitate an adaptive response.

Recommendation 6

Agencies prepare monitoring protocols and methods suited to a variety of park issues that managers can draw upon in implementing monitoring actions prescribed in plans of management.

Recommendation 7

Agencies pre-empt increased accountability requirements by including in annual reports evaluation results based on monitoring and linked to key objectives.

Recommendation 8

Agencies collaborate, facilitated by the Commonwealth, in developing compatible SoP equivalent evaluation systems to meet existing CBD and NRS commitments.

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Recommendation 9

Agencies pilot the application of site-level management effectiveness evaluations using available methodologies.

Recommendation 10

Agencies collaborate, facilitated by the Commonwealth, in developing standardised approaches and methods, priority evaluation elements and indicators for monitoring and evaluating visitor use nation-wide. Special attention is to be given to approaches for monitoring visitor impact.

Recommendation 11

Agencies collaborate, facilitated by the Commonwealth, in defining a set of indicators for regular and consistent monitoring and evaluating visitor use in a large proportion of parks across all States.

Recommendation 12

In embarking on giving greater emphasis to monitoring and evaluation, agencies ensure that it is clear to field staff that the initiative is not related to or part of staff appraisal.

Recommendation 13

Agencies jointly fund a short-term research project to identify the strengths and weaknesses, and benefits and costs of adopting a more evidence-based approach to management.

Recommendation 14

Agencies jointly fund a short-term research project to identify and evaluate existing long-term monitoring programs in terms of cost and utility.

Recommendation 15

All agencies appoint at least one full-time staff member for the purpose of developing monitoring, evaluation and reporting systems.

Recommendation 16

- Agencies jointly fund a review (and preparation of a tool-kit) of national and international frameworks for monitoring, evaluation and reporting on visitors in protected areas in the interests of ensuring all agencies are fully briefed on contemporary thought, issues and approaches.
-
- Agencies, facilitated by the Commonwealth, use this review to work towards a compatible nation-wide system for monitoring, evaluation and reporting on visitor use in protected areas.

Recommendation 17

Agencies acknowledge the role of informal monitoring and, facilitated by the Commonwealth, develop principles and guidelines for such monitoring and gather case study examples of how this type of monitoring influenced a change in management. Edited case studies can then be distributed to field staff.

Recommendation 18

Before any monitoring is undertaken, agencies must be assured that resources and capacity exist to appropriately analyse the collected data and responsibly interpret the analysis and act on the monitoring findings.

Recommendation 19

Agencies allow work time for staff to reflect on monitoring results and determine how the findings might be used to adapt management. This may involve group workshops and adjustment of budget allocations.

Recommendation 20

Where analysis of monitoring data are conducted centrally, agencies provide early feedback to field staff, or work with them in evaluating analyses and determining how management might be adapted.

Recommendation 21

Agencies recognise that monitoring may sometimes reveal management failure and develop strategies for managing the political and community response to lack of success. This may include working towards a corporate image of a transparent learning institution striving for continual improvement in its management.

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Key Definitions and Concepts

Adaptive management	A cyclical, continuous improvement of the management process that allows information concerning the past to feed back into and improve the way management is conducted in the future (CNPPAM 2002). In the context of this report, adaptive management is based on feedback obtained from monitoring and evaluation. Its goal is to improve management effectiveness (Foundations of Success n.d.).
Assessment	The measurement or estimation of an aspect of management (Hockings, Stolton, Leverington, Dudley & Courrau 2006a).
Baseline data	The benchmark to which project monitoring activities refer to determine change in measured attributes over time (CMP 2004a).
Benchmarking	The continuous, systematic process of measuring and assessing products, services and practices of recognised leaders in the field to determine the extent to which they might be adapted to achieve superior performance (ANZECC-WGNPP 1997). By sharing best practice case studies between agencies, it is intended that program effectiveness can be enhanced. A process of measuring (environmental) performance against a recognised, acceptable standard of performance (McNicol Worboys & Shone 2002).
Effectiveness (of protected area program)	How well a program is being managed; primarily the extent to which it is protecting values and achieving goals (cf. Hockings et al. 2006a). This includes consideration of design issues, adequacy and appropriateness of management systems and processes, and delivery of policy and other objectives. The focus of evaluation can be effectiveness, efficiency (outputs—in relation to inputs), economy (how program resources are used in program implementation) or appropriateness (assessment of suitability of program objectives and impacts). Appropriateness, efficiency (in converting inputs to outputs) and effectiveness (in achieving objectives or desired outcomes) are seen as important, but the latter is the emphasis (Caulley 1992).
Evaluation	The judgement of status/condition or performance of some aspect of management against predetermined criteria (Hockings et al. 2006a) based on systematic collection of data (Patton 1997). It may include judgements about the nature or magnitude of threats and their impacts, the adequacy or efficiency of various aspects of management, whether objectives have been achieved, and what trends are occurring ¹ .
	<i>Management effectiveness evaluation</i> is the specific assessment of how management action contributes to achieving desired management outcomes. The evaluation requires consideration of all elements of the management cycle to inform adaptation of management.
	<i>Performance evaluation</i> refers to how individuals or groups in an agency contribute to the achievement of corporate objectives, often assessed in terms of quality, quantity, cost, and time undertaken to achieve prescribed outputs ² .
Evaluation method	Approaches or tools used to conduct evaluations (Stem, Margoluis, Salafsky & Brown 2005). Examples are state of the park reporting, visitor monitoring systems, evaluation prescribed by park plans of management and annual reporting. For each evaluation method, there may be one or more of the following: an associated planning document, guidelines or instructions on methods or protocols, and/or reporting document(s).
Evaluation subject	Categorisation title for attributes evaluated at a relatively detailed level, and according to the WCPA framework. This is the level at which evaluation is most often discussed by practitioners (Worboys 2007). To define an evaluation subject, one needs to first define its evaluation element, evaluation criteria, and evaluation area. An example from the original WCPA framework is ‘Outcome-change in condition-social phenomena-customer satisfaction’.

¹ Since very little reporting by Australian protected area agencies includes definition of predetermined criteria for making such judgments, in this project the term ‘evaluation’ is used to include situations where no criteria are stated.

² This project does not address performance evaluation, other than from the institutional level.

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Indicator	A quantitative or qualitative variable that provides useful information about an attribute or evaluation subject. Because it is not possible to measure all program attributes, a limited number of indicators, representative or indicative of the state of the system, are used (Hockings 2002) ³ .
Management cycle	Public sector approaches to evaluation are typically built on the management cycle approach, which considers <i>inputs</i> into the management system, allowing the carrying out of various management <i>processes</i> , which in turn lead to (or influence) various <i>outputs</i> (e.g. revenue generated, visitor numbers) and <i>outcomes</i> (Hockings 2002). This conceptualisation is closely aligned with quality assurance approaches (Tonge, Moore, Hockings, Worboys & Bridle 2005).
Management effectiveness evaluation (for protected areas)	Assessment of how well a protected area (or set of protected areas) is being managed: primarily the extent to which it is protecting values and achieving goals and objectives (Hockings et al. 2006a). Management effectiveness evaluation is the goal of most program evaluations (Hockings et al. 2006a). Over the last decade, different methodologies have been developed, most based on the IUCN-WCPA Management Effectiveness Evaluation Framework (see Hockings, Stolton, & Dudley. 2000).
Monitoring	The process of repeated observation, for specified purposes, of one or more elements of the environment, according to prearranged schedules in space and time and using comparable data collection methods (CNPPAM 2002).
Performance evaluation (of programs)	Evaluation of whether a program is having its intended impact (Foundations of Success n.d.). This is synonymous with effectiveness evaluation (Caulley 1992).
Performance reporting	Reporting on achievement of specified management objectives (Moore, Smith & Newsome 2003).
Program logic	How a program is logically designed to achieve its objectives (Hamburger 1992) It involves a chain of objectives, linking inputs-activities-immediate outputs-intermediate outcomes-ultimate goals. Any pair is action-reaction and hypothesised cause and effect. Program logic can be used to decide where to focus evaluation. The program 'management cycle' is one kind of approach to program logic (Hockings et al. 2006a).
Project management cycle	The stages of any project which include conceptualisation of what is to be achieved by the program, planning (including actions, monitoring and evaluation), implementing, analysing (evaluating effectiveness of the program), adapting, communicating the results to key stakeholders, then iteration (adjustment of relevant stages of the project cycle) (CMP 2004b).
Target	The specific intended results to be achieved within explicit timeframes, against which actual results are compared and assessed (Owen & Lambert 1998) (also known as standard, acceptable ranges, or expressed as a threshold).
Threat (to protected areas)	Any human activity or related process that has (or has the foreseeable potential to have) a negative impact on key biodiversity features, ecological processes or cultural assets (values) within protected areas. Assessments include risks and pressures and can be broadly focussed across a landscape, a system-wide analysis within the protected area network, and site-level within a protected area (The Nature Conservancy n.d.).
Values (protected area)	<p>Values are those qualities regarded by a person, group or community as important and desirable. They may be natural, cultural, social or economic and can relate to many things including a species, a community, an ecosystem, the landscape, a place, a story or an event. Intrinsic values are those that inherently exist in a resource and do not require modification for the value to be realised. These can often be assessed objectively and hence the significance level attributed to them can gain widespread agreement.</p> <p>Extrinsic values are those that rely on human perception of the resource and often require modification or use of the resource for its value to be realised. Extrinsic values are judged by personal, social and cultural perspectives and are, therefore, inherently subjective. Thus, the significance level attributed to extrinsic values is always subject to conjecture (Carter & Bramley 2002)</p> <p>The principle management goal for protected areas is to preserve and enhance values.</p>

³ For the purposes of this project, it is assumed that indicators are defined prior to any reporting process, and identified as indicators (or equivalent) within planning and reporting documents.

Chapter 1

MONITORING AND REPORTING VISITOR USE: AN INTRODUCTION

Monitoring and Reporting on Sustainability of Visitor Use

Many protected areas, especially national parks, have a dual function of preserving valued resources and realising the recreational values inherent within the area. The outcome of this duality can be difficult for protected area managers to reconcile when satisfying visitor use experiences threatens other values, especially biodiversity values. Understanding visitor use and its effect on biophysical resources is an important part of effective management. Monitoring of use and its effects, therefore, becomes vital to an adaptive management approach to address this sometimes conflicting management duality. Of concern though is the development and use of indicators to report on the sustainability of visitor use and management in protected areas (McCool & Stankey 2004).

While protected area managing agencies in Australia have long been concerned with monitoring visitor impacts and experiences, the efforts have largely been site and activity specific, with no consistent methodological approach to enable confident application beyond the site and issue of the specific monitoring. This project sought to describe current approaches to the monitoring and evaluation of visitor use of protected areas and make recommendations regarding an integrated approach.

Aims and Objectives of this Report

- This report presents the results of a study of Australian protected area agencies in terms of:
- current practices for monitoring, evaluating and reporting on performance in relation to visitor use of protected areas; and,
- future approaches to enhance the usefulness of these practices in meeting agency goals.

Specifically, for monitoring and evaluation relating to visitor use, the study sought to:

- determine the scope and emphasis of ‘evaluation subjects’ used in the various ‘evaluation methods’;
- analyse the relationship between evaluation subjects and indicators used for different evaluation methods within each agency (to determine use of, and potential for, aggregation and use of common indicators);
- describe monitoring, evaluation and reporting systems driven by park-level planning (e.g. predominantly plans of management), and those feeding into State of the Parks (SoP) reporting and annual reporting, and evaluate the extent to which these meet established good practice guidelines for monitoring and evaluation;
- describe the constraints on, and opportunities provided by current approaches;
- compare key aspects of 1.to 4. between agencies to identify common themes, purposes and differences; and
- based on the above, recommend realistic steps to improve the effectiveness of monitoring, evaluation and reporting systems for visitor use of protected areas.

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Scope of the report

This report addresses monitoring and evaluation of sustainable visitor use in Australian protected areas. For the purposes of this project, *evaluation* was defined as the judgement of status/condition or performance based on systematic collection of data. The scope of the project is restricted to 'evaluation methods' based on data collected on a planned, repeated basis over time (monitoring), thus excluding one-off or ad hoc evaluations. The focus of the report is on evaluation methods that:

- are applied to the agency as a whole, or to a number of parks/sites (as opposed to one off, site specific evaluations)
- are designed for repeated application over time (i.e. linked to monitoring).

Visitor use issues include the full scope of issues relating to visitor use that are of potential interest to protected area agencies. These include:

- characteristics of the visitors themselves (e.g. numbers, profiles);
- their responses to park experiences (e.g. satisfaction, attitudes, safety);
- issues relating to operation of tours, adequacy of planning or specified management practices associated with visitor use, adequacy of facilities and services supplied to visitors (e.g. interpretation programs, campsites);
- impacts of visitors on natural and cultural heritage;
- impacts of visitation/tourism on neighbouring communities (social and economic); and,
- evaluation of values or threats associated with visitor use.

Institutional evaluation and performance

There are a vast range of evaluation and corporate and strategic planning tools used by agencies to approach the challenge of assessing organisational or corporate sustainability performance and learning structures (Pillora et al. 2009) (e.g. *Sustainability Health Check*⁴, *Global Reporting Initiative Framework*⁵, *Balanced Scorecard*⁶). While the importance and challenges related to institutional sustainability performance and accountability reporting is acknowledged, this area is not addressed in this project. Key performance indicators for evaluating agency internal processes and progress in relation to *Corporate Plan* outcomes are being developed independently of this project by almost all protected area agencies. It is recommended, nonetheless, that alignment and integration be assessed. The outcomes approach used within the *Sustainability Health Check* tool is one method by which alignment and integration might be achieved.

Management effectiveness evaluation and monitoring and reporting sustainable visitor use

Management effectiveness evaluation was first identified as a concern during the 3rd World Congress on National Parks (Bali). Between the 3rd and 4th congresses, methodologies were developed to assess management effectiveness; however, none were widely implemented (Hockings, Stolton, Courrau, Dudley & Parrish. 2004). Impetus for developing a widely applicable methodology developed after the 4th congress in Caracas, 1992, resulting in the development of the IUCN-WCPA management effectiveness assessment framework (Hockings et al. 2004; Hockings et al. 2000) (Box 1). Management effectiveness evaluation aims to ensure that values conserved in protected areas are maintained through effective management practice.

⁴ The NSW Local Government Sustainability Health Check is a tool designed for local government strategic planning and reporting, and evaluation of their organisational systems and relationships. The Sustainability Health Check includes two main parts to the tool—one looks at councils systems and processes, the other takes an outcomes approach across the five bottom lines of economy, ecology, community, governance and infrastructure (human habitat) (<http://www.sustainablefutures.com.au/>)

⁵ The GRI Framework provides guidance on how organisations can disclose their sustainability (economic, environmental and social) performance through public reporting (<http://www.globalreporting.org/ReportingFramework/G3Guidelines/>)

⁶ The Queensland government recommends this to Councils in their councils' toolbox resource (<http://www.balancedscorecard.org/>)

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Box 1: IUCN-WCPA management effectiveness evaluation framework

(henceforth abbreviated as the 'WCPA framework')

Development of the 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. The framework is not a methodology, but a guide to developing assessment systems.

This framework involves monitoring and evaluating the following :

- Context—the circumstances within which management takes place: information that helps put management decisions into context (e.g. values, threats, opportunities, political environment, legislative framework);
- Planning—appropriateness of policies, plans and protected area design;
- Inputs—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—adequacy and appropriate of management systems related to the achievement of management objectives;
- Outputs—products or services resulting from management activity (e.g. number of patrols undertaken, hectares of degraded areas restored); and,
- Outcomes—the degree to which objectives have been achieved (Hockings et al. 2006a).

A basic principle of the framework is that to understand management effectiveness requires evaluation of all elements. While assessment of ecological integrity may give insight to the status, without links to the other elements it cannot be determined the level of influence management action (or inaction) has on this outcome.

Support for management effectiveness evaluation exists in the Convention on Biological Diversity program of work on protected areas (UNEP 2009), which calls on signatory countries to develop and implement systems for assessing management effectiveness (UNEP 2004). This was endorsed by the Australian Government and included in the National Reserve System Direction Statement (NRMMC 2005), and Theme of the revised National Reserve System strategy (NRSTG 2009). The latter requires protected area managers to 'apply adaptive management strategies that incorporate lessons learnt into ongoing management' (Action 4.4) and 'develop and apply a national management effectiveness framework ... to evaluate the management of protected areas' (Action 4.6).

Within Australia, protected area managing agencies in New South Wales and Victoria have been at the forefront of developing comprehensive, system-wide management effectiveness evaluations under their State of the Parks (SoP) programs. However, all Australian agencies are assessing management effectiveness of protected areas, through a variety of systems, including detailed site based assessments and more simplified network assessments (Jacobsen, Carter & Hockings 2008).

Fundamental to these assessments is the principle of learning by doing, or the more formalised process of adaptive management. Adaptive management seeks to ensure that managers learn from their actions in robust ways. For the diversity of protected areas in Australia, the practice of adaptive management accepts that a range of approaches to management exist, the appropriateness of which depends on the context, issue and capacity of an agency (Jacobson, Allen, Veltman, Ramsey, Forsyth, Simon, Allen, Todd & Barker 2009a). In this project, management effectiveness evaluation is used alongside specific monitoring programs, some of which may be akin to the experiment model of adaptive management, so that adaptive management is envisaged to be managers using evaluation information, alongside other sources of information, to reflect on assumptions about how best to proceed towards a particular goal, and adapt their actions accordingly.

Potential purposes of evaluation of protected areas

Essentially, evaluation has three purposes:

- reporting,
- fostering
- understanding, and learning.

Reporting

Management effectiveness evaluation can provide the data for reporting performance to the public and funders (Hockings et al. 2006a), especially with regard to the achievement of goals and the status of valued resources. It also addresses legislative requirements for reporting and requirements of the insurance industry relating to risk assessment (Worboys 2007).

Transparent accountability for performance is being increasingly demanded of all government sectors, including protected area management, and is seen as part of a professional approach to management (Worboys 2007). Governments wish to know whether outcomes are commensurate with the resources being expended and whether they are in line with policy objectives, and for assessing compliance with international reporting requirements (Hockings et al. 2006a).

Understanding and incentive

An holistic approach to management effectiveness evaluation requires clear identification of protected area values and threats to these (Worboys 2007). These are often ill-defined or assumed; with the result that management action is wasted on issues that are irrelevant to specific reserves. Evaluation can also give insight to the systems being managed (Worboys 2007) and social or political barriers to effective management (Jones 2000). This insight can provide a basis for reducing conflict and controversy in management decision-making (Jones 2000).

Evaluation provides incentive to staff to carry out management actions as planned and prescribed, since they know implementation is being monitored (Jones 2000). If there is disagreement in the prescription of actions, evaluation provides the basis for clarification and, if necessary, adjustment.

Learning

The evaluation process itself provides management performance feedback to staff (Worboys 2007), and encourages reflection on management action, desired outcomes and the effectiveness of action. Without this, learning is not possible. Management effectiveness evaluation has the potential to:

- facilitate adaptive management, thus strengthening management capacity (Hockings et al. 2006a; Jones 2000; Worboys 2007)
- improve project planning (Hockings 2002) and decision making (Worboys 2007)
- help involve and build support from the community—accountability and transparency is likely to promote greater community support and trust (Hockings et al. 2006a)
- assist in effective resource allocation; in particular
- areas of greatest need can be identified in terms of the extent of discrepancy between desired and actual outcomes, and,
- proposals for additional resources are more likely to be supported if built on evaluation results that show inadequate resources are impeding effective management ⁷
- enhance management procedures, such as encouraging a learning culture, and providing positive reinforcement when management is effective (Hockings et al. 2006a; Jones 2000)

A survey of Australian protected area management agencies by the Committee on National Parks and Protected Area Management (CNPPAM 2002) showed that performance measurement information is frequently used in all of the following activities: planning, budgeting, reporting, evaluation, implementation, and making recommendations.

⁷ A large proportion of park resources go into catering for and managing visitors, so it is important to do this effectively (Hornback & Eagles 1999).

International and national context for evaluation of protected areas

International

Recent years have seen growing concern among protected area professionals that many protected areas are not achieving their objectives, and are even losing values for which they were established (Hockings et al. 2004). If the values of protected areas are to be maintained, managers need to monitor the effectiveness of management actions so that they can identify problems, and direct resources and effort to address these problems (Hockings 2002). An IUCN-WCPA delegate survey conducted at the 5th World Parks Congress 2003 identified inadequate monitoring and inadequate evaluation systems as key barriers to effective management (cited in Hockings et al. 2006a). In a survey of senior staff of protected area management agencies around the world, Worboys (2007) found that 94 percent believed that evaluation was an essential part of management.

In response to such concerns, international initiatives are helping drive greater adoption of performance effectiveness evaluation by protected area management agencies. The Convention on Biological Diversity (UNEP 2009), to which Australia is a signatory, requires members to implement management effectiveness evaluations for at least 30 percent of each party's terrestrial protected areas by 2010 and 2012 for marine areas, and of national protected area systems (Hockings et al. 2006a). The 5th World Parks Congress 2003 calls on states and protected area managers to adopt, as a routine component of protected area management, systems for evaluation of management effectiveness (Hockings et al. 2006a). Further, evaluation reports are required for all World Heritage Areas and sites covered by the RAMSAR convention.

Australia

Conservation of protected areas is a central mandate of each territory and state government management agency. In Australia, management agencies not only aim to conserve the natural environment but, under many protected area designations, also provide opportunities for recreation and tourism (Ryan & Sterling 2001). Protected areas in Australia receive up to 100 million visitors each year, highlighting the importance of sustainably managing these areas to ensure the conservation of natural and cultural heritage is achieved (CGC 2006; Newsome, Moore & Dowling 2002; Ryan & Sterling 2001). Managers are faced with dual obligations—protection of the environmental values of protected areas along with providing opportunities for recreation and tourism.

Monitoring of the natural environment and visitors is vital for effective protected area management. In the past, protected area managers have focused monitoring on the physical and biological aspects of the environment with limited attention given to the systematic collection of visitor data (ANZECC 1996; Archer, Griffin & Hayes 2001; Muhar, Arnberger & Brandenburg 2002; Wardell & Moore 2004). In turn, performance reporting undertaken by protected area agencies has also been predisposed to having a biological and physical focus. The focus of this report is data on visitor use of protected areas and specifically the systems (and methods) in place to collect and analyse such data to inform management.

The National Reserve System includes more than 9,000 protected areas covering nearly 12 percent of the country (Table 1; Appendix A). It is made up Commonwealth, state and territory reserves, Indigenous lands and protected areas run by non-profit conservation organisations, through to ecosystems protected by farmers on their private working properties. This system is seen as being critical to biodiversity conservation, as well as to education and recreation.

Table 1: Protected areas in Australia by IUCN category

IUCN category	nature		II National park	III National monument	IV Habitat/species management area	V Protected landscape/seascape	VI Protected areas with sustainable use	Total
	IA Strict reserve	IB Wilderness area						
Number	2367	61	941	2328	2176	227	1033	9133
Area (ha)	18468054	5559380	32451394	1085119	2694602	1082837	29992067	91333452
% of PA	25.9%	0.7%	10.3%	25.5%	23.8%	2.5%	11.3%	100.0%
% of Aus	2.4%	0.7%	4.2%	0.1%	0.4%	0.1%	3.9%	11.9%

Source CAPAD (2004)

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These protected areas are managed by 11 different management agencies. All have a primary objective of conservation and protection of natural and cultural heritage, but also aim to provide a diverse range of high quality recreation experiences (see Chapter 2). Thus, effectively managing visitation to protected areas in a way that provides these recreational benefits but does not damage natural and cultural values is critical. Monitoring and evaluation is an essential part of effective management.

The number of visitors to protected areas in Australia is difficult to determine due to incomplete monitoring and inconsistent methods for data collection. The Commonwealth Grants Commission (CGC 2006) estimated 100 million visitors per year, generating around \$6bn to the economy. In contrast, The Department of Environment and Heritage (Aus DEH 2007) estimate around 6 million overnight visitors to national or state parks generating, again, around \$6bn (Table 2). Parks Victoria estimates 88.5m (Figure 1) to their protected area estate in 2008–09, while NSW estimates 38m visitors to their protected areas.

Table 2: Overnight trips (000) to national or state parks and expenditure (\$000)

Year	1998	1999	2000	2001	2002	2003	2004
Visitors	10646	9507	4723	4652	4293	5032	5617
\$	6 720 406	6 747 962	4 294 715	4 225 242	4 060 386	4 803 580	5 431 796

Source: Extracted from Department of Environment and Heritage web site, State of the Environment 2006: Indicator: LD-13 Value of and numbers participating in landscape-based tourism and recreation, <http://www.deh.gov.au/soe/2006/publications/drs/indicator/155/index.html>, accessed 18 January 2007.

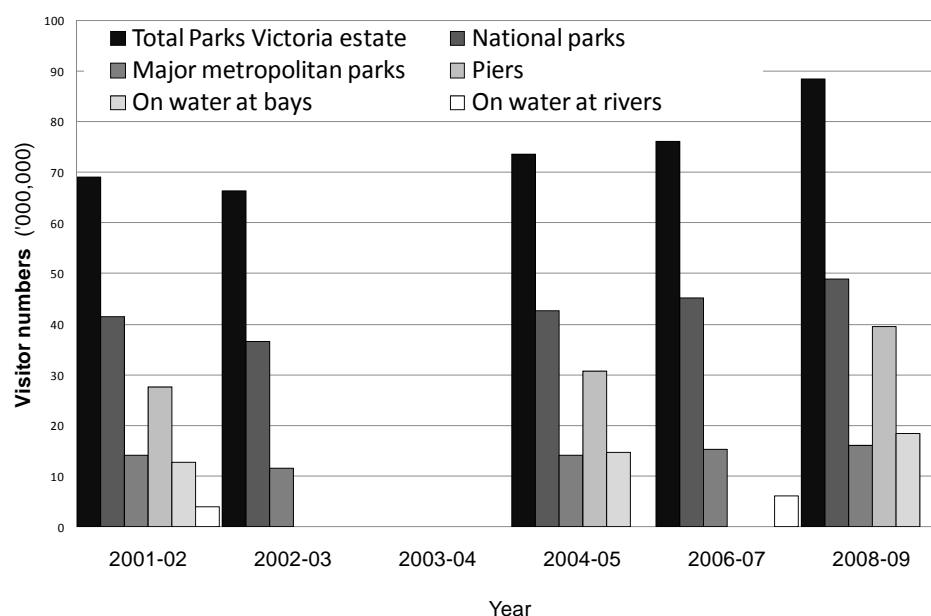


Figure 1: Visitors to Parks Victoria's protected area estate

Despite the incomplete and inconsistent nature of visitor data, the trend is that visitor numbers are growing considerably (Wardell & Moore 2004), increasing the pressure on natural and cultural resources (Shafer & Inglis 2000). Public sector reform in Australia since the late 1980s has led to increased pressure (driven by central government and treasuries) on government agencies to be effective and to be seen to be so, with performance effectiveness evaluation seen as a key component of this (O'Faircheallaigh & Ryan 1992).

Increasing adoption of evaluation and performance reporting by Australian government departments, particularly with regard to outputs and outcomes (i.e. performance), is in general driven by a requirement for greater transparency and accountability (Caulley 1992; CNPPAM 2002; Moore, Smith & Newsome 2003). This applies especially in relation to statutory reporting requirements, but also through requirements or expectations for reporting to community stakeholders, and for internal reporting (CNPPAM 2002). Evaluation can be seen as acting as a substitute for market forces for government departments—a mechanism for 'consumers' (the general public) to judge the quality of a service (Caulley 1992). The predominant approach used in program evaluation is based on systems management, which is based on the concept of a management cycle.

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For Australian protected area management, the ANZECC best practice report (ANZECC-WGNPP 1997) and a review of performance measurement by Australian protected area agencies through its successor, the Committee on National Parks and Protected Area Management (CNPPAM 2002) identified best practice as involving the use of monitoring and evaluation programs, using performance indicators and targets, at both agency and park level. However, Australian protected area agencies are still in the early stages of developing standardised approaches to performance evaluation and reporting, and tend to have an emphasis on outcome-based evaluation (ANZECC-WGNPP 1997; CNPPAM 2002; Jacobson, Carter & Hockings 2008). At the time of this study, most agencies were actively developing evaluation methods and seeking to refine their reporting processes. This report is therefore expected to provide timely input into these processes.

The need for further development of visitor use components of performance evaluation

The need for better visitor data on protected areas and management performance evaluation of visitor service is well recognised (Archer, Griffin & Hayes 2001; Crilley 2005; Darcy, Griffin, Craig, Moore & Crilley 2007; Tonge et al. 2005). Absence of good and consistent visitor use data for protected areas results in tourism in protected areas being undervalued in public policy (Hornback & Eagles 1999). However, social and economic indicators are not as well developed, or as often used, as biological indicators in protected area management.

Visitor management seeks to protect and conserve natural and cultural values, assist visitors in enjoyment of their visit, and improve the economic benefits of tourism (Edwards 1996) towards triple bottom line sustainability (Elkington 1997). While sustainability is widely agreed to comprise ‘balancing the complex relationships between current economic, environmental and social needs in a manner that does not compromise future needs; (GRI 2002, p. 9), how this balance is to be translated into practice is more problematic.

Inherent in considerations of sustainability is the issue of impacts of visitor use. Impacts however, can be positive and negative (Table 3). Such impacts can provide a structure for monitoring and evaluation of visitor use.

Table 3: Generic impacts of visitor use of protected areas

Object of impacts				
Parks agency	Visitors	Community	Natural environment	
Benefits/opportunities	Revenue	Educational (knowledge, awareness etc.)	Economic benefits from park-related tourism	Political and other support for parks and conservation activities
	Enhanced public and political support for agency	Satisfaction/enjoyment with visit	Social impacts of park-related tourism	Participation in conservation activities
		Enhanced support for parks	Health benefits of recreation in parks	
Costs/risks	Financial and labour costs of visitor management and facilities	Safety	Social impacts of park-related tourism	Direct damage to environment by visitor activity
				Direct damage to environment by visitor infrastructure
				Indirect damage to environment through ecological processes.

Issues common in sustainability assessment and reporting

Sustainability defined

The definition used for sustainability provides the fundamental value statement for an organisation. Because clarifying values is the first step in any evaluation process by a protected area managing agency, this definition should be agreed upon and stated plainly. For these agencies, this is usually mandated in legislation and explicit in corporate planning documents. Many definitions for sustainability exist; most stem from the Brundtland Report *Our Common Future*, which defines sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland 1987)

Implied in the definition is the concept commonly called the sustainability 'triple bottom line', where sustainable development requires economic, social and environmental sustainability. Also implied are the concepts of intergenerational equity and the precautionary principle. The former particularly influences the process of developing indicators, while the latter guides defining actions in response to indicator measures.

Intergenerational equity: weak and strong sustainability

Intergenerational equity considers the need to manage all aspects of human endeavour, but especially the cultural and natural environment, in a way that recognises the connections to future generations as well as current and past. There are two ways of perceiving the needs of future generations. One emphasises the transformation of wealth (economic capital), where, for example, loss of environmental amenity can be compensated through generating alternative sources of wealth (e.g. conversion of values inherent in biodiversity to wealth that flows from production agriculture). This is termed 'weak sustainability' because one form of sustainability is substituted for another. The other views the environment as being more than just latent economic potential and so cannot be converted simply for financial wealth. Therefore, future generations should not inherit a totally modified environment, no matter how many alternative forms of wealth are generated in the modification. This is termed 'strong sustainability' (Beder 1996).

Strong sustainability recognises that stability and resilience are required across all system elements to arrive at a truly sustainability outcome. It is also widely accepted that sustainability should be adequately representative of all community values. For the management of protected areas, 'strong sustainability' is a widely accepted principle.

The precautionary principle

The precautionary principle is essentially about the management of scientific risk. It is a fundamental component of the concept of ecologically sustainable development (ESD). The United Nations Conference on Environment and Development (The Rio Declaration) discusses the precautionary principle in terms of lack of full scientific certainty should not be used to postponing measures to prevent environmental degradation where there are threats of serious or irreversible environmental damage (UNCED 1992). Measures are commonly inferred as meaning the use of statutory powers.

Interpreting sustainability indicators

Underpinning any indicator is the desire for it to reflect the state of something of interest. However, once the indicator is measured, the question arises 'what does the measure mean?'

Monitoring

Monitoring relates to measuring indicators on a consistent basis and being able to identify change. Assessment can then be made based on a decline, no change or improvement in the state of the indicator. While target levels of improvement can be set, 'continual improvement' is recommended as the appropriate basis on which to assess monitoring data.

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Standards

The question of what a measure of a sustainability indicator means can be addressed by having standards against which the measure is assessed. Standards can be mandated through regulation (minimum standards), or set based on values as acceptable, appropriate or desirable, or assessed against the achievement of others with similar interests (benchmarking and best practice). The standard to apply when assessing a measure of a sustainability indicator becomes a political decision best informed by community aspirations. However, the urgency of biodiversity conservation (UNEP 2004) suggests that best practice should be the standard for protected area management. In the absence of recognised best practice, protected area managing agencies need to determine 'desirable' standards for each indicator so that achievement can be assessed.

Evaluation

Evaluation of sustainability indicators is the process of forming an opinion on:

- what the state of an indicator (against a standard) and the change in state (from monitoring) mean for the achievement of desired values; and,
- what response is necessary to sustain positive change towards desired standards, maintain a desirable status quo or address negative change.

If the purpose of sustainability indicators is simply to report on their state and then make an experience-based judgement on future action, then the indicators of state are sufficient. However, if a more evidence-based approach to determining responsive action is required, then assessment of the causes of change in state (pressures) is necessary. This means that indicators of the status of pressures also need to be measured.

Sustainability learning: institutionalising evaluation

Just as indicators of both pressures and states are required to understand sustainability changes, so too are indicators of response to allow an adaptive management approach to continually learn from and improve those changes. The implementation of an adaptive management approach through utilising a pressure-state-response framework (United Nations 1996) occurs through a process of social learning (Milbrath 1989; Smith & Smith 2006) and is best achieved when management initiatives are treated as experiments (Lee 1993). This is the foundation tenet of the WCPA Framework (Hockings et al. 2000).

Adaptive management: evaluation to action

The process of monitoring and evaluating pressures and state in response to management action is called adaptive management (Gunderson, Holling & S.S. Light Editors 1995; Jacobson, Hughey, Allen, Rixecker & Carter 2009c; Lee 1993; Smith & Lazarow 2006). It is a formalised process of learning by doing, applied when knowledge is incomplete and uncertainty is high in the relationship between pressure, state and response. As opposed to more traditional evaluation models of inputs and outputs, emerging approaches to evaluation focus on a systems perspective, which tends to be characterised by nonlinearity, uncertainty, emergence, scale and self-organisation (Bellamy, Smith, McDonald, Taylor, Walker, Jones & Pero 2005).

From a complex systems outlook, there is no single correct level to study. Rather, complex systems can best be understood by the use of a multiplicity of perspectives (e.g. nested hierarchies). This approach to evaluation has the potential to identify a wider variety of outcomes (e.g. social, political, economic, environmental, and institutional) and to develop a more robust understanding of management processes. Other than simply determining success and failure, evaluation and monitoring is used to identify, describe and monitor problems; increase public awareness of the current and likely future impacts of these problems; and develop and comparatively assess proposed solutions, in context. So, evaluation is not only a means of assessing impact but also a critical process tool for improving an initiative, providing a basis for assessing accountability, fostering learning, improving the body of knowledge, and improving the implementation of policy objectives (Bellamy et al. 2005).

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Learning institutions

A key aspect of learning institutions, in terms of monitoring and evaluation, is their ability to move beyond a simple reporting or auditing cycle to an active learning process (Smith & Smith 2006). Critical to this is the creation of an open and accountable environment where reporting and learning from apparent failure is as essential as reporting and learning from success. Effective learning processes ideally are structured such that learning is embedded and integrated into the institutional framework in a way that leads to genuine change (Box 2)

Box 2: Embedding and integrating sustainability learning at the institutional level

From the institutional perspective, the key challenge is to ensure sustainable development indicators are integrated into mainstream policy mechanisms, instead of being an environmental ‘add-on’ to already existing and used statistical, measurement and reporting systems. SDIs are still often assigned to environmental agencies without the sufficient mandate, capacity and influence to ensure indicators are brought to bear on key policy decisions, such as the development of government budgets, sectoral policy frameworks, or long-term plans and sustainable development strategies. (Pintér, Hardi & Bartelmus 2005)

Indicators in practice

Selecting a framework

Organising indicators into a framework is a way of evaluating the effectiveness of an entire set of indicators in meeting the purpose for which they were chosen. Frameworks also help in the process of keeping indicators to a manageable number, while still maintaining representativeness. There are numerous ways of organising indicators, and no particular method is inherently better than others are. However, most fall into one, or a combination, of the frameworks described in Table 1.4.

Table 4: Common indicator frameworks

Framework	Description	Strengths	Limitations
Category, theme or issue based framework	Organises indicators into exclusive categories (social, environmental, economic themes are common).	Provides an immediate assessment of the overall balance of the indicator set and emphasises the importance of all areas.	Indicators tend not to fit neatly into a single category and encourage the idea that categories are disconnected.
Goal—indicator matrix	Organising matrix where identified goals and indicators intersect.	Again, provides an overall view of balance and emphasises importance, but also highlights the links between the different goals.	Can have trouble when reporting because of indicators fitting under multiple goals.
Pressure-State-Response (P-S-R)	Originally developed to assist with environmental assessment, specifically cause and effect relationships.	Provides a view of the balance of the indicator set. Highlights links between social, economic and environmental issues. Encourages institutional adaptive management and learning.	Can be difficult to apply to economic and social issues where causal factors are not always simple or clearly understood.

Adapted from (Hart 2006)

In this project, we have adopted the WCPA framework (Hockings, Stolton & Dudley 2000), a categorical framework developed specifically for management effectiveness evaluation of protected areas, that identifies and links with the process of management (Box 1). However, for specific issues relating to visitor experiences and impacts, the P-S-R framework, and its inherent strength in clarifying causal links, underpins indicator selection.

Establishing selection criteria

Establishing criteria for selecting sustainability indicators can be approached in many ways and will be dependent on the particular needs of those creating the indicator framework (Box 3).

Box 3: Selecting headline sustainability indicators in Australia

Department of the Environment, Water, Heritage & the Arts

The purpose of developing the set of National Headline Sustainability Indicators was to measure performance against the objectives of the National Strategy for Ecological Sustainable Development (NSES). The framework for the indicator set is therefore based around the three core objectives of the NSES, which commits all Australian governments:

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- to provide for equity within and between generations; and
- to protect biological diversity and maintain essential ecological processes and life-support systems

(Environment Australia 1992).

A set of 21 values or aspirations were then identified for the key aspects within each of the objectives. The intended audience for the indicators is international in scope and includes policy makers, NGOs, the scientific community, industry and the public.

Against this framework and set of values, 24 indicators (excluding supplementary and context related indicators) were then chosen as the most representative, significant or comprehensible from a more extensive parent set already reported through other initiatives and programs such as State of the Environment (SoE) Reporting, Australian Bureau of Statistics publications, or National Land and Water Resources Audit. The parent set provides the data source and the context for the data collected. The general criteria chosen therefore require that the indicators are:

- relevant to NSES objectives,
- scientifically and statistically credible,
- sensitive to change,
- reliant on data which are already available in other contexts, and
- relatively easy to understand.

(Environment Australia 2002)

Generally, criteria for effective indicators commonly include relevance, reliability and validity, simple and understandable; ability to measure, data availability, and cost effectiveness. These criteria align closely with the widely documented **SMART** criteria that require that indicators be:

- **Simple**—easily understood;
- **Measurable**—reproducible, unambiguous and able to show trends over time;
- **Accessible**—data available at a reasonable cost;
- **Relevant**—relevant to the users and allow general agreement over interpretation of the results; and
- **Timely**—data collected frequently enough to inform progress and influence decisions.

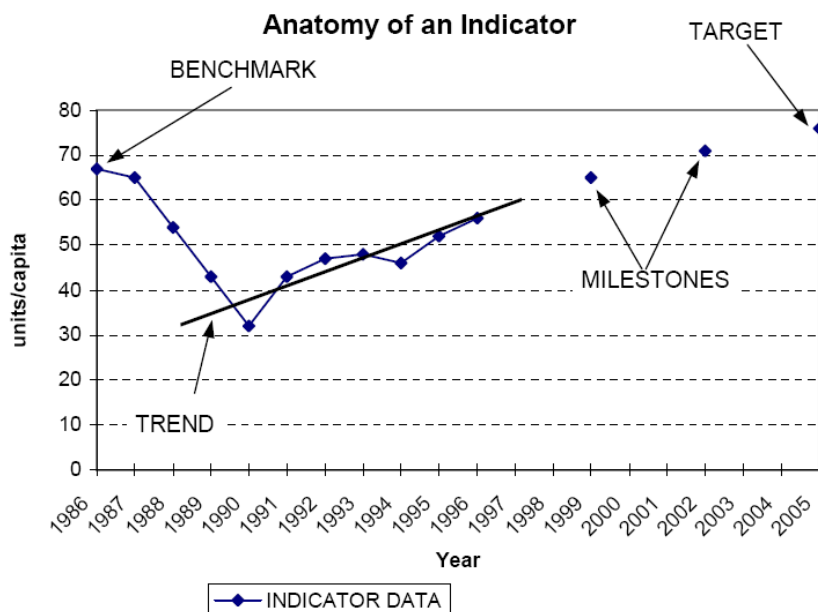
While these criteria can be applied to indicators of any type, sustainability indicators are unique in that they are attempting to measure progress in a holistic way. This has led to additional criteria such as the effectiveness of the indicators in highlighting economic, environmental and social links, the ability to measure carrying capacity, the accommodation of a long-term view, and the degree to which they represent the values of the communities being measured (Hart 2006). In addition, because of the variety of indicators that could potentially be chosen to measure aspects of sustainability, criteria are often included that attempt to limit numbers such as the ability to aggregate indicators on broader issues⁸.

⁸ See <http://www.iisd.org/casl/CASLGuide/Criteria.htm>

Measurement, data and reporting

Indicators and measurement

Once indicators have been selected and an appropriate and timely data source established, the process of measurement needs to be considered. There can be some confusion over terms used around indicators and indicator measurement. Sustainable Seattle (1998) provides an illustration of the ‘anatomy of an indicator’, which is useful in clarifying some of these points (Figure 1). A benchmark, which is most often confused with an indicator, is usually a data point used as a point of reference. This is often, but not always, a reference point in time (Sustainable Seattle 1998). Trends show the general movement of time series indicator data either toward or away from a series of milestones leading to an established target.



(Sustainable Seattle 1998)

Figure 2: Clarification of terms when referring to indicators

Realistic targets are a common component of indicator reporting systems. Once set, targets allow the status and trend of each indicator to be established against set standards and/or benchmarks.

The Problems of Standards and Benchmarking

There are several considerations related to standards and benchmarking that fall under the categories of availability, methods, and context. The initial consideration is simply that standards and benchmarks often do not exist, particularly in relation to areas of sustainability where measurement is, in some cases, in its infancy.

What, for example, is the standard or benchmark for community volunteerism or recreational facility use? One solution is to establish an agreed standard, determine current statistics for the attribute being measured, and create agreed and realistic targets to measure ongoing performance.

A significant and wide-ranging limitation of standards and benchmarking relates to the alignment of data collection methods within and between organisations (a rationale for this project). Data collection and analysis methods are often developed for specific reporting purposes that can be as diverse as the organisations themselves. Standardisation of methods is notoriously poor for this reason. Aligning of indicators and priorities within an accepted framework is an initial step. Aligning of data collection and analysis methods requires a more measured and thorough approach.

Another consideration is one of context. For example, comparing water quality parameters in the wet tropics with those in western NSW may not be particularly meaningful. Variables such as geography, climate, demographics, and social and cultural factors all influence the effectiveness of applying particular standards and benchmarks. Altering the presentation of data, such as with a per capita measure, is one way of addressing a particular context issue.

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Data considerations

Generally, indicator and data considerations tend to overlap and arise in the indicator selection phase (e.g. data availability, measurability, cost effectiveness). Table 5 explores issues related to the practicality of data collection, the suitability of data for defined purposes, and the appropriateness of data for informing decision-making.

Table 5: Data considerations and rationale

Data consideration	Rationale
Are data already collected?	Collecting data can be time consuming, costly and logistically difficult; this requires consideration of the following questions: Are the data already collected internally? Are the data collected by others, and are they available and accessible? Is time-series data already available to begin measuring progress and to assist in establishing targets? What degree of effort is required to collect the data if not currently available?
What is the format of available data?	Data come in a range of formats that may or may not suit the required use in terms of target audience and/or reporting and presentation of assessments. Particular formats may also have accessibility issues.
Can data be adequately analysed?	Unprocessed data can be time consuming, costly and difficult to analyse. Independently analysing an external data source can also be problematic; ideally external data is best analysed by those collecting the data due to the intricacies involved.
Are data verifiable, reliable and valid?	This requires consideration of: the credibility of the data source and methods of data collection; the reliability of the data source over time (e.g. time series data can be reliant on funding or prioritisation issues, making sources potentially unreliable).
Can data be reported effectively in a timely manner?	How does data availability align with the desired reporting frequency? How does the data align and integrate with other key reporting requirements?
Do the data inform decision-making and strategic action?	Data should achieve more than simply reporting a trend. It should inform or determine a particular action. In the context of sustainability, data would ideally inform when resilience and thresholds were being approached. This requires thorough knowledge of the attribute being measured.
Can data be aggregated to inform a 'bigger picture'?	The degree of effort and cost involved in collecting data dictates that optimal value be an aim. One way of accomplishing this is through nested assessments or 'data roll-up.' For example, data from an operational level may be 'nested' with wider organisational, community and/or regional data to inform on a larger scale while still allowing fine-scale adjustments if necessary.
Does standardisation of data collection and analysis methods allow comparison with other areas?	The ability to benchmark or compare indicator performance or trends requires data collection and analysis methods to align.
Is it cost effective?	Considers overall cost effectiveness of collecting data against benefits (use of the data to adapt management).

Status reporting

Government legislation and policy are increasingly requiring agencies to consider sustainability in decision-making and management. Pressure from local communities is also demanding that sustainability be a central component of planning. In this context, status reporting has a number of features that require consideration.

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The target audience and purpose is a primary concern. Using information to inform both external and internal mandatory reporting requirements and voluntary reporting initiatives is a beneficial practice, particularly from the viewpoint of practicality and optimal use of data. This broad view of audience and purpose brings presentation of data, or data format, under scrutiny. Reports prepared for communities tend to have the following features:

- a summary 'one-page' report card for indicators and measures, invariably using a simple scorecard approach of 'traffic light' indicators, directional arrows, 'stars,' or other symbols to demonstrate the sustainability trend;
- a more detailed assessment for each indicator under the associated categories, themes or goals. These expanded assessments commonly feature:
 - a visual representation of trends for the indicator;
 - a brief comment on the data trend;
 - an explanation of the actual measure (or measures) and why it is important;
 - a simple graphical display of results (including comparative data);
 - the data source; and
 - a broader interpretation, evaluation and/or summary of the result (including making explicit all judgements, assumptions and uncertainties in data and interpretations).

Some formats also include an explanation of how the indicator links across selected categories inherent in the selected framework. A description of what is being done in response to indicator trends is also featured in some status reporting. Where targets are used, they are also included.

Principles for indicator selection suggest that a limited number of indicators should be a common feature of status reporting using sustainability indicator. This is not always reflected in practice, and anecdotal evidence suggests that users and communities are not concerned as much about the number of indicators as they are about relevance and representativeness of indicators across their needs and values.

Spatial aspects of reporting are governed by the value being measured and what is being communicated. For example, where a particular social trend can be linked geographically, spatial reporting may help to better define the issue and necessary action. The same logic can apply to environmental trends, such as habitat loss.

Institutionalising indicators

A key consideration for protected area agencies is how to move beyond using indicators as an auditing tool towards being a catalyst for action and on-going improvement. The effective institutionalisation of sustainability indicators is a complex process and requires understanding of, and commitment to, a range of factors, including:

- mainstreaming collection, analysis, action and reflection within and between agency hierarchies;
- embedding a culture of adaptive management and social learning within and between agencies;
- understanding the relationships between indicators;
- comprehensively assessing causal relationships by committing to monitoring and evaluation of pressure, state, and response indicators;
- addressing capacity issues within the organisation to both monitor and evaluate the indicators, and to design and implement management responses (e.g. within and external to lead agencies, such as through strategic partnerships);
- rationalising roles and responsibilities to effectively respond to the evaluation of sustainability issues; and
- using the indicator framework to set budgetary processes, structures and priorities for the organisation.

Good practice guidelines for evaluation relating to visitor use of protected areas

The committee on National Parks and Protected Area Management concluded that it was not appropriate to put forward any particular best practice model for performance measurement in protected area management ‘because of the diversity inherent in any evaluation of performance measurement’ (CNPPAM 2002, p. 4). This perspective became apparent also in discussions with the Industry Reference Group for this project, which identified that each agency was committed to particular evaluation methods, and that these had often been developed to deal with specific issues and contexts applicable to their agency. As such, prescribing a single unified approach across Australia was not regarded as appropriate.

At the same time, a wealth of experience has accumulated on the criteria that need to be fulfilled to maximise the chances that program evaluations will be used, particularly in informing planning and future management. While not a blueprint for how evaluation should be done, such criteria provide useful guidelines.

The principles in Box 4 are proposed for the purpose of this report to represent ‘good practice principles’ for the conduct of evaluation by protected area agencies. The proposal to use these particular principles was supported by the project’s Industry Reference Group members following email and/or phone correspondence early in the course of the project (see also Darcy, Griffin, Craig, Moore & Crilley 2007). Additional proposed guidelines are presented in Appendix A.

Box 4: Good practice principles for evaluation

These principles are taken from a national (with New Zealand) review of current approaches to performance measurement in protected area management (CNPPAM 2002) conducted as part of a national benchmarking and best practice program, and supported by the majority of Australian protected area agencies. This document was chosen as the primary source of such principles because it is the most recent and has received general support by Australian agencies, and because they reflect key, broad criteria recommended within the broader literature on evaluation, in general and with respect to protected areas. While the CNPPAM (2002) report relates to ‘performance measurement’, this is equivalent to ‘evaluation’ as interpreted for the purposes of the present report.

The following is a combination of principles listed by this document as ‘strategic principles’, ‘project principles’ and ‘characteristics of good practice’. Principles derived from the former two categories have been quoted directly, while the good practice characteristics have been paraphrased to present them in comparable dot point format.

- There is a clearly defined and documented purpose statement and objectives for measuring performance of protected area management.
- The findings of measuring performance of protected area management have a formal and meaningful link to ongoing management and decision-making.
- The aims of the project are aligned strategically with the Agency’s corporate strategy, goals and culture.
- Senior management and operational staff demonstrate a strong commitment to measuring performance of protected area management.
- There is a strong commitment to and continuity in the resourcing, accountabilities and outputs over the life of the project.
- Resource allocation (quantity and duration elements) for measuring performance of protected area management is sufficient to enable the purpose and objectives of the project to be achieved.

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- The findings and recommendations of performance measurement provide a valuable resource that is used to guide ongoing decision-making and management.
- Stakeholders are kept well informed of the findings and recommendations of performance measurement.
- Internal and external stakeholder groups (including managers, operational staff, community groups) are informed about and/or involved in the project to achieve greater acceptance, ownership and commitment to the performance measurement process. The use of marketing tools can assist in some circumstances.
- Performance measurement objectives are priorities (based on factors such as importance to ongoing management, validity, specificity and cost-effectiveness) and reviewed at appropriate intervals to ensure relevance and usefulness.
- An adaptive management culture is established. Cycles of reflection and learning from performance measurement are established to achieve continuous improvement in management performance.
- The project has clearly defined management objectives.
- Performance targets for outcomes, results and actions are identified where appropriate.
- Performance indicators are selected to be valid and cost-effective in terms of data collection and analysis.
- All stages of the project are well planned. This applies to data collection, data analysis, reporting, review and use. Timely information for management decision-making is a critical consideration.
- Development of data management systems is incorporated in the project planning stage.
- Projects are designed and conducted with appropriate scientific rigor in methodology, data analysis and interpretation. Spatial and temporal scales of the project are appropriate to the objectives.
- Baseline data about performance indicators are collected early so that changes over time (e.g. because of management actions) can be clearly documented.
- There is consistency over time in monitoring methodology, data collection procedures and continuity of staff involvement.
- Experts are engaged as necessary to meet identified gaps in knowledge or expertise. Peer review of the project is sought when necessary.
- Consideration is given to identifying the causes of any changes detected in performance management results (e.g. are the changes due to management effort or another cause?)
- Consideration is given to linkages with other projects that may allow data capture to meet multiple purposes for performance management.
- The findings of the project and any recommendations for improving ongoing management are documented and clearly reported to managers and other stakeholders.
- Evaluations are designed to operate in the long term, with secure resourcing.
- Evaluations are planned such that they begin with a very limited scope, but trigger more comprehensive monitoring in areas where significant problems emerge (for cost efficiency).
- Appropriate and efficient data management systems are used (for efficiency and reducing costs).

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- The generally lower cost of indirect indicators is weighed against the generally greater rigour (reliability and validity) of direct indicators. Generally, given limited resources for monitoring, indicators are used that provide 'just enough' information for the purpose required.
- Monitoring information is gathered through 'piggybacking' on other projects where possible.
- Pilot projects are undertaken to test monitoring indicators and protocols.
- Public volunteers and other stakeholders (e.g. tourism operators) are used where appropriate (to decrease costs, provide a perception of increased transparency and accountability, and ease the process of implementation).
- Baseline information is collected prior to commencement or during start up phases.
- A few things are monitored well rather than many things poorly.
- Indicators are used for multiple purposes, where possible.
- Sets of indicators, rather than single indicators are used (to increase evaluation effectiveness) if possible.
- Standardised indicators that facilitate comparative analysis of performance within and across agencies, and across time, are used if possible.
- Indicators are relevant and appropriate to the objectives, size and characteristics of the site/unit.

Report outline

The report is structured into seven chapters with related appendices (Figure 3).

Chapter 1 (Monitoring and reporting visitor use: an introduction) introduces issues relating to monitoring and reporting of visitor use. Aims and objectives of the study and report are presented before placing monitoring in the context of management effectiveness evaluation. Potential purposes for evaluation are identified for later confirmation by the study. The international and Australian context for evaluation and issues common in sustainability assessment are identified. From the literature, good practice guidelines are proposed for monitoring and reporting of visitor use.

Chapter 2 (Methods) gives detail of methods used in the study. The chapter covers how agencies were engaged and protocols for collecting data from documents and interviews. A framework for monitoring visitor use is presented that forms the basis for analysis. The chapter concludes with a brief introduction to the participating protected area agencies.

Chapters 3 (Plans of Management), 4 (Annual Reports) and 5 (State of the Parks reporting) explore plans of management, annual reports and state of the parks reports respectively and represent the major data chapters. They follow a similar structure. They introduce the context for the reports, briefly cover method issues specific to data collection and analysis, present results of the document analysis and interviews, and discuss the implications of these.

Chapter 6 (Overall approach to performance reporting) is largely a synthesis, providing an analysis across all evaluation methods. It also explores a number of overarching themes evident from the interviews.

Chapter 7 (Discussion and recommendations) gives a mandate for increased attention to evaluation and provides final insights from the document reviews and interviews.

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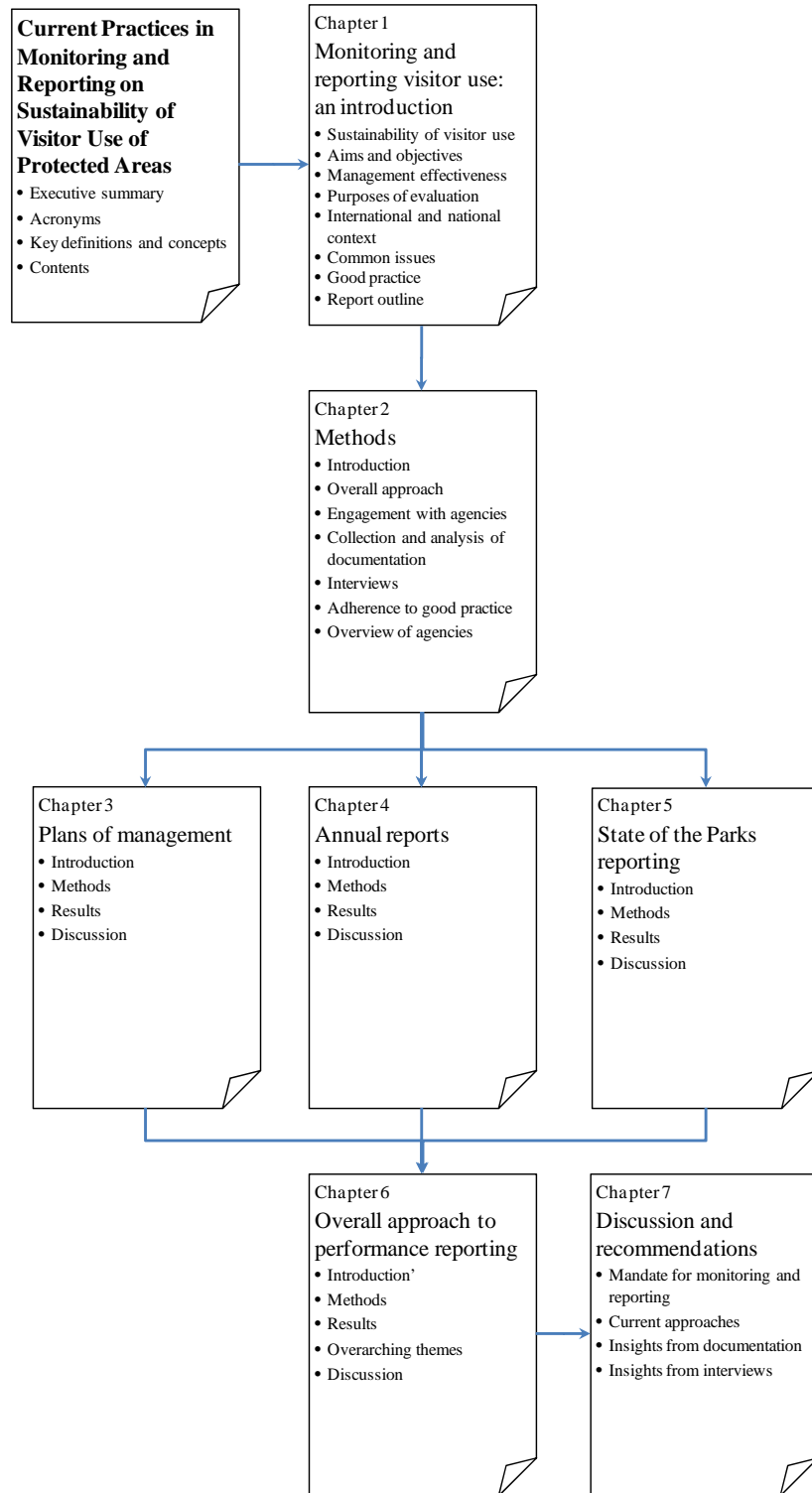


Figure 3: Structure of this report

Chapter 2

METHODS

Introduction

This chapter describes generic methods applicable to this report. Methods specific to individual chapters are described in those chapters. This chapter outlines how stakeholders were engaged to collect relevant documentation and key informants accessed to explore monitoring efforts. The collected data were then analysed to develop perspectives and principles to guide future monitoring of visitor experiences and impacts in protected areas.

Overall approach

Two principle methods of data collection were used:

- collection and analysis of agency documentation relating to evaluation of visitor use issues, and
- interviews with key informants.

Analysis of the documentation was used to describe objectively what agencies are evaluating for reporting purposes and how this is undertaken. Interviews with agency staff were conducted to provide additional information on agency approaches to evaluation, to understand the reasons for practices, and to obtain staff views on opportunities and constraints regarding future practices.

For both the documentation analysis and the interviews, we explored:

- evaluation driven by park-level planning, especially park plans of management,
- State of Parks or equivalent reporting, and
- annual reporting.

These three evaluation outputs were selected following informal consultation with members of the Industry Reference Group, because they are adopted (in some form) by all or many Australian protected area managing agencies, and, in principle, are important mechanisms for driving or reporting on evaluation for most agencies. As part of the analysis of agency documentation and interview process, the identified evaluation practices were compared with established good practice principles and reasons for lack of adherence were explored. The intention was to gain an understanding of the constraints that limit such adherence, and to explore what realistic opportunities exist for achieving greater adherence. Finally, good practice case studies were identified by a combination of asking agency contacts to identify these, and our own assessment in relation to the good practice principles and guidelines (Chapter 1, Box 3).

Engagement with protected area agencies

Engagement with Industry Reference Group

Members of the STCRC Sustainable Resources Steering Committee, who represented STCRC protected area agencies partners, were asked to identify an appropriate Industry Reference Group member for this project. These individuals were all involved, at head office level, with policy and/or planning issues relating to monitoring and evaluation, and none worked specifically in visitor related areas (Appendix B). The Industry Reference Group carried out the following roles:

- provided feedback on the initial project plans, including approval of these plans;
- participated in teleconferences through the course of the project (including approval of any amendments to plans);
- acted as the central liaison person for an agency for data collection; and
- provided feedback on sections of this draft report, particularly verification of information for their own agency.

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Liaison with individual protected area agencies

Every Australian protected area agency was approached by telephone and follow-up email to invite participation in the project and sent an information sheet on the project (Appendix B). All agencies, except one, agreed to participate (Table 6).

Table 6: Protected area agencies participating in this project

Agency name
Great Barrier Reef Marine Park Authority (GBRMPA)
New South Wales Department of Environment, Climate Change and Water (NSW DECCW)
Northern Territory Department of Natural Resources, Environment and the Arts (NT NRETA)
Northern Territory Parks and Wildlife Service (NT PWS)
Parks Australia (Parks Aus)
Parks Victoria (Parks Vic)
Queensland Environmental Protection Agency (Q EPA)
Queensland Parks and Wildlife Service (QPWS)
South Australia Department of Environment and Heritage (SA DEH)
Tasmanian Department of Tourism, Arts and the Environment (Tas DTAE)
Tasmanian Parks and Wildlife Service (Tas PWS)
Conservation Commission of Western Australia (WA CC)
WA Marine Parks and Reserves Authority (WA MPRA)
Western Australia Department of Environment and Conservation (WA DEC)
Wet Tropics Management Authority (WTMA)

Each agency was asked to identify a central contact person for liaison with the research team (Appendix B). Where agencies were part of the Industry Reference Group, the Industry Reference Group member became the contact. The central contact person was asked to coordinate the provision of relevant documentation (or advising us on how to obtain this) and to facilitate nomination of appropriate staff to be interviewed. Central contact people served as the central person for dissemination of information on the project to other staff.

Individuals who were identified for interviews were contacted by phone or email to confirm their willingness to participate. They were advised that the central contact person would be provided with a copy of the section(s) of the draft report of relevance to their agency and asked for feedback.

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Collection and analysis of agency documentation

Collection of documentation

The central contact person in each agency was sent a standard letter requesting documentation that met specified criteria to be sent to the Research Team (led by the first author of this report), or information on how to access this documentation (Appendix B). In all cases, the most recent version of the relevant document was requested.

Annual reports were obtained for every agency (Table 7). Documentation relating to State of the Parks (SoPs) or equivalent reporting (see Chapter 6) was obtained from all agencies that employed this form of reporting. A selected sample of park plans of management (PoMs) (or other park level planning documents that included monitoring requirements) was obtained from agencies that produced these (see Chapter 4 for criteria used to guide selection of these plans).

Table 7: Agencies whose documents were reviewed for parts of this study

Agency name	Plans of management (Chapter 4)	Annual reports (Chapter 5)	State of the Parks reports (Chapter 6)
GBRMPA	✓	✓	✓
NSW DECCW	✓	✓	✓
NT NRETA		✓	
NT PWS	✓	✓	
Parks Aus	✓	✓	✓
Parks Vic	✓	✓	✓
Q EPA	✓	✓	✓
QPWS		✓	
SA DEH	✓	✓	
Tas DTAE		✓	
Tas PWS	✓	✓	
WA CC	✓	✓	
WA MPRA		✓	
WA DEC	✓	✓	
WTMA		✓	✓

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In addition, agencies were asked to provide copies of the most recent documents (2001 or later), issued on a repeated basis, that included reporting on visitor use issues across the whole jurisdiction, or at least in relation to a wide range of parks. They were also asked for documents that contained methodologies used for collecting this information, and to identify any of these that their agency considers to represent world or Australian best practice in some respect, and to explain why this was so. These documents were then screened and only those that contained evaluation subjects relating to visitor use⁹ and/or monitoring protocols were considered in this report. In addition, we requested up to three planning, policy or strategy documents considered most significant in relation to inclusion of requirements for visitor monitoring.

Because many agencies only partially responded to the requests, we also searched the websites of each agency to fill gaps. A list of all documents obtained by these means was then sent for the agency representative to check whether they believed any significant documents were missing (these were subsequently obtained). In practice, it was found that relevant documents needed to be drawn from several different parts of the agency concerned, and a number of people consulted to find out about these.

As this process was not exhaustive, our coverage cannot be considered complete, or equally comprehensive for each agency, although we believe we obtained the key documents for all participating agencies. All agency documents reviewed in this report were the latest version available at February 2007, and sometimes later.

Analysis of documentation

For the purposes of this report, 'evaluation' was considered to have occurred as part of an agency reporting document if it was stated, implied, or clear from the context that specified variable(s) were measured on a pre-planned and repeated basis. We refer to the broad variables thus measured or reported as 'evaluation subjects'. Where reference to indicators or monitoring was made directly, determining that evaluation had occurred was straightforward. However, in some cases, particularly annual reports, it was apparent only from the context that a reported variable had been pre-defined for reporting (such as certain budgetary figures). Variables included in descriptive listings of outputs (e.g. construction of specified new visitor facilities) were not considered to have been evaluated.

Background information on protected area agencies

Relevant background information on each agency was collected to provide context for this study, and to assist in providing a descriptive overview of the agencies' approaches to evaluation, and evaluation relating to visitor use. The following information was collected, based on a combination of web searching, perusal of agency documentation, and informal discussion with agency staff, either at face-to-face meetings or through phone and email discussion:

- visitor related goals of the agency,
- evaluation subjects that stem from the goals, and
- approaches to monitoring and evaluation.

Classification of evaluation elements and subjects

As part of this project, we developed a new system for classifying visitor-related evaluation subjects, at the level of individual protected areas (Table 8) and also system wide (Table 9), consistent with the latest developments within the WCPA Framework (see Chapter 1). Initially, Worboys' (2007) modification of the framework was attempted to be used, but a lack of specificity to visitor use and useable definitions relating to visitor issues, made this impractical. However, we have adopted Worboys' term 'evaluation subjects' in place of 'common reporting field' because we deemed the former term to be more readily understandable.

⁹ In our request, as well as elsewhere in this report, 'visitor use' is interpreted widely to cover all aspects of visitor management, including:

- levels (e.g. visitor numbers) and patterns of use (e.g. visitor activities, spatial distribution, seasonal distribution),
- visitor services provided (e.g. interpretation programs, infrastructure),
- visitor profiles, expectations, satisfaction levels,
- visitor safety issues,
- visitor impacts on the natural environment,
- impacts of park visitation on neighbouring communities or the region.

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The methodology used to develop evaluation subjects relevant to visitor management issues was as follows.

- The IUCN-WCPA management effectiveness framework (Appendix B) was used as a starting point for classifications.
- Each of the common reporting fields was redefined to focus on visitor-related aspects, where possible and where they were considered to be of potential interest to agencies. In this process, some of the common reporting fields were not used (e.g. ‘park gazettal and tenure security’), as this did not have any clear visitor-related dimension.
- Indicators used by protected area agencies for reporting on visitor issues were examined from the following sources:
 - those identified as relating to recreation or visitor management uncovered in an international review of indicators (Leverington 2007; Leverington et al. 2008b),
 - those encountered in our own review of Australian protected area agency documentation for this report.

All of these indicators could be classified as fitting within the WCPA evaluation elements and criteria, but many did not fit within any of the common reporting fields developed by the IUCN-WCPA team. Thus, new evaluation subjects were added to cover the scope of these indicators. For example, ‘adequacy of interpretation programs’ was added under the element ‘process’.

Finally, we subdivided some of the common reporting fields into more than one evaluation subject, where it was judged that these constituted important and distinct topics (e.g. under outputs, ‘results/outputs’ was split into five different evaluation subjects). Because of particular interest by a number of Australian protected area agencies in outcome-related evaluation subjects, we also subdivided the existing categories to cover each of the types of visitor-related outcome types encountered in the objectives given in the agency planning documents analysed as part of this project.

Table 8: Visitor related evaluation subjects - park level

Elements and criteria	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)

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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

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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 the next six 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 (especially regarding 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

Table 9: Visitor related evaluation subjects—system level

In the column ‘roll up from park level’, ‘Yes’ indicates that indicators can be developed by ‘rolling up’ data collected across individual protected areas. ‘New’ indicates that different data collection targeted at the system level would be needed to develop indicators.

Elements and criteria	Visitor related ‘evaluation subject’	Definition/scope of visitor related evaluation subject	Roll-up from park level?
Context			
Values and significance	Values	Identification of key visitor/tourism related values/opportunities for park system as a whole (based on some kind of considered analysis/evaluation)	Yes
Threats/issues/pressures	Threat identification	Identification of key visitor-related threats to park system	Yes
	Threat severity	Severity of key visitor-related threats to park system	Yes
	Threat trend	Trend in visitor-related threats	Yes
Opportunities for enhanced conservation, presentation and community well-being	Opportunities to enhance	Opportunities for enhanced presentation (based on analysis/evaluation)	Yes, new
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	Yes, new
	Community attitudes	community perceptions/attitudes regarding visitation to parks	Yes, new

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Planning			
System design	Legal	Adequacy of legislation, policy, mechanisms in relation visitor and commercial tourism management for parks system	New
	Design	Appropriateness of agency-level design of visitor facilities etc. in relation to visitor needs	New
Management planning	Planning	Adequacy of agency planning documents in addressing visitor issues	New
Inputs			
Staff	Staff numbers	Adequacy of agency staff allocation for tourism, visitor management, interpretation	Yes, new
Funding	Funding	Adequacy of agency funding allocation for tourism, visitor management, interpretation	Yes, new
Funding security	Funding security	Security of visitor-related funding allocation	Yes, new
Equipment and facilities	Infrastructure	Adequacy of visitor, tourism and interpretation infrastructure, equipment and facilities	Yes
Information	Information	Adequacy of agency level systems for collecting and managing visitor-related information, including monitoring programs (including of impacts etc.) and their utilisation for adaptive management	Yes, new
Process			
Capacity			
Governance, high-level management and leadership	Administration	Effectiveness of administration of visitor management and tour operator permit systems at agency level	New
Building and maintenance of infrastructure, facilities and equipment	Facility maintenance	Adequacy of maintenance of visitor facilities	Yes
Human resource management	Staff training	Adequacy of staff training in interpretation, visitor management, tour operator management across agency	New
	Staff skills	Adequacy of skill level in interpretation, visitor management, tour operator management across agency	Yes, new
Relating to people	Law enforcement adequacy	Adequacy of law enforcement in relation to visitors and tour operators	Yes
Law enforcement	Law enforcement issues	Identification of visitor/tour operator related law enforcement issue(s)	Yes
Community involvement and relationships	Relationship appropriateness	Appropriateness of relationships with tourism industry, especially cooperation towards mutual goals	New
Communication, education and interpretation	Interpretation	Adequacy or appropriateness of interpretation program(s) across agency	Yes, new
	Communication	Adequacy of communication with tourism industry	Yes, new
Community development assistance	Tourism/visitor involvement	Adequacy of involvement of tourism industry in planning and management at agency level	Yes, new
Visitor management	Visitor services	Adequacy of visitor services in general or other than interpretation and communication	Yes
	Impact management	Adequacy of management of visitor impacts	Yes
	Visitor fee management	Adequacy of systems for collecting entrance fees and managing these funds across agency.	Yes, new
	Tourism management	Adequacy of agency level systems for managing tour operators e.g. permitting, marketing etc.	Yes, new
Managing the resource			
Research and values monitoring	Impact monitoring	Adequacy of agency wide system of monitoring of visitor threats/impacts	Yes, new
	Performance standards	To what extent do agency processes meet agreed performance standards?	New
Outputs			
Achieving work program	Actions achieved	Achievement of actions specified in key agency visitor-related planning docs	New

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Results/outputs	Visitor use	Visitor numbers, seasonal/spatial distribution across all parks	Yes
	Visitor characteristics	Visitor demographics and other characteristics e.g. income (excludes attitudes).	Yes
	Operator use	Tourism operator numbers, distribution, characteristics	Yes
	Revenue	\$ from visitor-related fees	Yes
	Rec opportunities	Appropriateness of range of recreational opportunities provided to visitors across the parks system	New
Outcomes			
Achieve objectives	Achieving visitor objectives	achievement of visitor use/management objectives in general as specified in agency planning docs	Yes, new
	Visitor satisfaction	Extent of visitor satisfaction/meeting of expectations etc. (even if no explicit objectives in this document)	Yes and/or new
	Visitor safety	Visitor safety/incident levels (even if no explicit objectives in this document)	Yes
	Visitor access	Extent to which appropriate/equitable access to park by visitors/tourism industry is provided (even if no explicit objectives in this document)	Yes
State of Park	Presentation values trend	Trend—are the presentation/recreational values improving or decreasing in quality?	Yes
	Presentation values condition	Extent to which the recreational values have been maintained	Yes
	Conservation values condition	Extent to which conservation values impacted by visitors have been maintained	Yes
	Economic impacts	Economic impacts of park-related visitation on community	Yes, new
	Social impacts	Social impacts/perceptions of community as a whole re park-related visitation, including health	Yes, new
	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	Yes

Our visitor-specific adaptation of the IUCN-WCPA reporting framework serves both as a framework for our analyses, and use by protected area agencies as a guide to the full scope of visitor-related evaluation subjects that they may consider including, according to their own priority needs and data collection opportunities.

Spreadsheet design

Excel spreadsheets were designed to facilitate systematic recording of descriptive information regarding what agencies were monitoring or evaluating, and various aspects of how this was done. These were designed as a descriptive overview of practices, and enabled assessment of good practice (see Chapter 1, Box 3) based on information extracted from the source documents.

Different spreadsheets (with many common elements) were used for annual reports and State of the Parks reporting (common spreadsheet), park plans of management, and other evaluation related documents. The following information was recorded for all documents:

- identifying details of document (document citation, jurisdiction, agency name, other identifying details),
- whether indicators were included (yes/no), and
- list of all evaluation elements and subjects with their associated indicators (if given).

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Greater detail was recorded for annual reports, state of parks reports (or equivalent) and park plans of management than for 'all other evaluation methods'. Additional information recorded was:

- description of general approach to monitoring and evaluation (text),
- whether visitor monitoring is specified (yes/no),
- whether visitor indicators are specified (yes/no),
- whether visitor indicators are linked to objectives (yes/no/text),
- details of visitor monitoring (text),
- whether adaptive management mechanisms are specified (yes/no/text),
- objective (with associated evaluation subjects) (text),
- list of targets (with associated indicators) (text),
- other points relating to adherence to good practice principles.
-

Additional information collected for particular types of document only is described in the relevant chapter.

Interviews

Selection of interviewees

A strategy of purposeful sampling (see Patton 1990) was used for selection of interviewees. This was considered the most time-efficient way of obtaining the required information. The central contact person for each agency was asked to identify suitable interviewees, based on specified selection criteria (Appendix B) and informed of the generic interview questions (Appendix B). The key selection criteria were the most senior person responsible for the area/document under consideration, and/or the person most familiar with the area/document. The central contact person was asked to first make contact with potential interviewees to inform them of the project and ask them if they would be willing to participate. The central contact person for each participating agency was asked to send a copy of the project information sheet and the generic questions to the identified interviewees (Appendix B).

At least one person was requested to be nominated for each of the four broad categories around which interviews were to be conducted (Table 10). The agency liaison person determined whether multiple interviewees would be conducted together or separately. Interviews were conducted from May 2007 through to July 2008.

Table 10: Agencies interviewed for parts of this study

Agency name	Plans of management (Chapter 4)	Annual reports (Chapter 5)	State of the Parks reports (Chapter 6)	Overall approach (Chapter 7)
GBRMPA	✓	✓	✓	✓
NSW DECCW	✓	✓	✓	✓
NT NRETA				
NT PWS	✓	✓		
Parks Aus	✓	✓	✓	✓
Parks Vic	✓	✓	✓	✓
Q EPA	✓		✓	
QPWS		✓		✓
SA DEH	✓			
Tas DTAE				

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Tas PWS	✓	✓		✓
WA CC				
WA MPRA				
WA DEC	✓	✓		
WTMA		✓	✓	✓

Interview design

A semi-structured interview process was chosen because it allowed the collection of comparable answers to standard questions across all agencies, but provided sufficient flexibility to explore agency-specific issues. This approach allowed interviewees the freedom to give their responses based on their knowledge, while still retaining a focussed interview structure (Frankfort-Nachmias & Nachmias 1992; Sarantankos 1993). Respondents had considerable freedom in responding to questions and the interviewer participated actively by providing clarification or explanation where needed.

Generic questions were developed for PoMs, SoPs, annual reports and overall performance reporting to be answered by all agencies (Appendix B). The questions were designed to:

- provide information about key descriptive aspects of the agency’s approach or key background information not evident from perusal of documentation;
- explore reasons for adopting current practices, including key deviations from the established good practice principles (Chapter 1, Section 1.7) (the latter was not covered for PoMs as the research team considered this impracticable for their purposes);
- obtain opinions on constraints, opportunities and requirements in relation to future practices.

To explore reasons for adopting particular good practice principles (see Chapter 2), questions were tailored for individual agencies after consideration of provided documentation (see example of tailored questions in Appendix B).

Draft interview questions were piloted with two agencies, and minor changes in wording or ordering made subsequently to improve ease of the question-answer process. These did not change the interpretation of responses. In cases where more than one interview was conducted with an agency answers were amalgamated in analysis of responses.

Interview methods

At least several days before each interview, the interviewee was sent a copy of the tailored interview questions.

All interviews were conducted by phone, except in Western Australia where face-to-face interviews were convenient. Interviews were either tape or digitally recorded. For interviews conducted with agencies from the Commonwealth, Queensland, New South Wales, Victoria and Tasmania (by Griffith University), written notes were also taken during interviews and used as the primary source of interview data. For interviews conducted with agencies from Western Australia, Northern Territory and South Australia, written notes were not taken and interview recordings were fully transcribed and used as the primary source of interview data.

Each interview began with a standard preamble providing background information introducing the research and covering ethics requirements and feedback mechanisms (Appendix B). Each interview took between 30 minutes and 1 hr 15 mins, depending on the interviewee’s willingness to provide detail.

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Recording and processing of interview data

For each interview type, a standard spreadsheet with columns corresponding to each interview question (or sub-component) was prepared. After completion of the interviews, response categories were developed that would cover the key points across the range of responses given. These categories were both emergent from the interviews and influenced by best practice concepts (ANZECC 2000; CNPPAM 2002). For example, for Question 1 from the interviews: why monitoring is not being done—one of the categories was ‘not enough flexibility in management plans (to allow for changes)’.

Adherence to good practice principles

The good practice principles (see Chapter 1, Box 3) were used as the source of principles for comparison against actual practices adopted by protected area agencies. Not all of these principles were amenable to objective assessment, or exploration with the study methods used (analysis of documentation and a relatively small sample of interviewees from each agency), and time constraints precluded use of additional methods. The principles used in this study are given in Table 11.

Where feasible, adherence to good practice principles was assessed by perusal of agency documentation. This was done separately and, as applicable, for the overall performance reporting documents assessed. In the case of all except park management plans, reasons for lack of (full) adherence were further explored where possible as part of the interviews. Because of constraints on length of interviews, it often was not possible to explore all relevant principles. Where this was the case, the three non-applicable principles occurring highest on the list given in Table 11 for the particular interviewee/agency were explored. Thus, the questions were tailored to the agency concerned based on analysis of agency documentation. However, information on adherence to some of the principles, and reasons for non-adherence did emerge indirectly from answers to some of the interview questions.

Table 11: Good practice principles used for comparison with agency practices

Relationship to good practice principle (see Chapter 1, Box 3)	Good practice principle as interpreted for this study	Assessed from documents	Explored directly in interviews.	Explored indirectly in interviews
Not stated in principles but necessary pre-condition for other principles	Evaluation of visitor issues is included (for reports)	Ann Rep, SoP	Ann Rep, SoP	N/A
	Requirement for monitoring or evaluation of visitor use included (for plans)	PoM		PoM
Not stated but necessary pre-condition implied by other principles and within associated text	(Visitor related) performance indicators are used	Ann Rep, SoP, PoM	Ann Rep, SoP	PoM
Principle 1	Objectives for measuring performance stated (for reports)	Ann Rep, SoP	Ann Rep, SoP	N/A
	Objectives for monitoring or evaluation stated (for plans)	PoM	N/A	N/A
Principle 3, 12	Includes reporting on achievement of specified (visitor related) objectives (for reports)	Ann Rep, SoP,	Ann Rep, SoP,	N/A
	Monitoring requirements linked to clearly defined (visitor related) objectives (for plans)	PoM, overall	N/A	N/A
	For agency wide (overall): Achievement of the key agency objectives relating to visitor use are evaluated across the range of evaluations) and evaluation subjects correspond to key agency goals These objectives are more specific than the overarching agency goal(s) relating to visitors	Overall	Overall	N/A
Principle 13	(Visitor related) performance targets are identified	Ann Rep, SoP, PoM	Ann Rep, SoP	N/A

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Principle 35	Standardised visitor related indicators are adopted that facilitate comparison across agencies	Ann SoP, overall	Rep, PoM,	Ann Rep, SoP, overall	PoM
	Standardised indicators are adopted that facilitate comparison across protected areas	PoM		N/A	N/A
Principle 34	Sets of rather than single visitor-related indicators are used for each evaluation subject	Ann SoP, PoM	Rep,	Ann Rep, SoP	N/A
Principles 2, 9, 11, 23	(Visitor related) evaluation is designed to feed into, and used to help guide, decision making and management A culture of adaptive management is established, with cycles of reflection and learning from evaluation. This includes reporting on findings and recommendations to managers.	N/A		N/A	PoM, Ann Rep, SoP, PR
Principles 5, 24	(Visitor related) evaluations are planned and designed to operate over the long term, with secure resourcing	N/A		N/A	Overall
Principles 4, 6, 7, 8, 10, 14, 15, 16, 17, 18, 19, 20, 21, 25, 28, 29, 30, 31, 32, 36		Not amenable to assessment through methodology of this project and/or not amenable to any objective assessment			

An overview of participating Australian protected area agencies

Background on Australian protected areas and agencies

In the *Commonwealth of Australia Constitution Act 1900* powers to administer and manage lands were retained by the states. Hence, the management of national parks and other protected areas over state lands remains a state responsibility. However, decisions of the high court have endorsed the power of the Commonwealth, under its 'external powers' provisions, to become involved in the management of protected areas when the area is subject to the provisions of an international agreement (e.g. World Heritage Areas, RAMSAR sites). This has resulted in a variety of state and Commonwealth agencies responsible in whole or in part for management of Australia's protected area estate.

Park managing agencies often fall within government departments charged with responsibilities towards the environment generally. Despite the diversity of administrative arrangements, there is convergence in the roles of agencies towards protected areas. Role statements in legislation or corporate document emphasise conservation and management of natural and cultural heritage, but within a human use context (see Appendix B). The human dimension is emphasised however in agency goal or mission statements when recurring themes are enjoyment and understanding of areas conserved (see Appendix B).

Categories of protected areas managed by Australian agencies vary between jurisdictions, but all include national parks with their protection and visitor use dualism, and strict nature reserves (see Appendix A and B). Some states also include a considerable area under a wilderness (IUCN category IB) or sustainable use (IUCN category VI) categorisation. Management of these reserve types tend to based on similar principles and approaches, but emphasis, systems and day-to-day management arrangements vary considerably. Most states apply a regional approach to management (see Appendix B) and with the differences in state funding levels, the result is varying state and regional emphasis and administrative arrangements for all key performance areas of park management. For example, the south-eastern states of Australia give considerable attention to fire management, while park management with traditional owners is an emphasis of the central and western states.

Agencies, visitor use and evaluation

Goals and related evaluation subjects for visitor use

The emphasis that agencies give to managing visitor use of protected areas depends, of course, primarily on the level of visitation. However, all have a strong mandate to manage visitor and tourism use through legislation. An analysis of agency legislation and key planning documents for goals relating to visitor use identify a number of evaluation subjects that are expected to reflect attainment of goals (Table 12). The provision of recreation opportunities in the context of protection of conservation values predominates, while visitor satisfaction and safety are also common to all agencies. Most agencies also have goals related to information, appreciation or

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interpretive services (visitor cognitive outcomes).

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Table 12: Protected area agency goals relating to visitor-related outputs and outcomes for protected areas

(Categorised by output and outcome related evaluation subjects from our modified WCPA framework)

Agency	Goals stated in legislation and corresponding evaluation subjects	Evaluation subjects corresponding to goals stated in key planning documents
QPWS	Conservation values condition (implied elsewhere) No objective specified in relation to visitors Nature Conservation Act 1992	Recreational opportunities Visitor satisfaction Visitor cognitive outcomes Visitor safety EPA 2001—master plan for Queensland’s Parks System
NSW DECCW	Visitor cognitive outcomes Visitor satisfaction Conservation values condition (implied elsewhere) ‘fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation’ National Parks and Wildlife Act 1974	Recreational opportunities Visitor satisfaction Visitor cognitive outcomes Conservation values condition Economic impacts NSWDEC 2006—Living Parks Sydney NSW
Tas PWS	Recreational opportunities Operator use Visitor satisfaction Conservation values condition ‘... to encourage and provide for tourism, recreational use and enjoyment consistent with the conservation of the [type of protected area’s] natural and cultural values..’ National Parks and Reserves Management Act 2002	Recreational opportunities Visitor safety Visitor satisfaction Tas PWS Strategic framework for visitor services in Tasmania’s parks and reserves
Parks Vic	Recreational opportunities Visitor satisfaction Visitor cognitive outcomes Conservation values condition (implied elsewhere) [Depending on the type of protected area] ‘to make provision for the use and enjoyment of those parks by the public for inspiration, solitude and appropriate self-reliant recreation ... for the use of parks by the public for the purposes of enjoyment, recreation or education and for the encouragement and control of that use’ <i>National Parks Act 1975</i>	Recreational opportunities Operator use Social impacts Visitor cognitive outcomes Visitor satisfaction Visitor safety Parks Victoria 2007 Summary Corporate Plan (Healthy Parks Healthy People) http://www.parkweb.vic.gov.au/resources/14_2107.pdf
GBRMPA	Recreational opportunities Conservation values condition (implied elsewhere) No general objectives specified in relation to visitors ‘The objects of plans of management are ...to enable people using the Marine Park to participate in a range of recreational activities’ GBRMP Act 1975	Recreational opportunities Conservation values condition Australian Government GBRMPA Corporate Plan 2004–2009 Recreational opportunities Conservation values condition

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Visitor cognitive outcomes

GBRMPA Annual Report 2006–2007

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NT NRETA	<p>Visitor cognitive outcomes</p> <p>Visitor satisfaction</p> <p>Conservation values condition (implied elsewhere) ‘The objective of joint management of a joint management park or reserve is to jointly establish an equitable partnership to manage and maintain the park or reserve ... and for the following purposes: ... serving visitor and community needs for education and enjoyment’ Territory Parks and Wildlife Conservation Act</p>	<p>Visitor cognitive outcomes</p> <p>Recreational opportunities</p> <p>NT NRETA Strategic Objectives 2007–2014</p>
WA CC/WA DEC	<p>Recreational opportunities</p> <p>Conservation values condition</p> <p>Visitor satisfaction</p> <p>Visitor cognitive outcomes</p> <p>‘The functions of the Conservation Commission are... to develop policies ... for ... the provision of facilities for the enjoyment of that environment by the community; ... for promoting the appreciation of flora and fauna and the natural environment’</p> <p>‘...management plans shall be designed...in the case of national parks and conservation parks, to fulfil so much of the demand for recreation by members of the public as is consistent with the proper maintenance and restoration of the natural environment, the protection of indigenous flora and fauna and the preservation of any feature of archaeological, historic or scientific interest’ Conservation and Land Management Act 1984</p>	<p>Recreational opportunities</p> <p>Conservation values condition</p> <p>Visitor cognitive outcomes</p> <p>WA CC strategic plan</p> <p>Recreational opportunities</p> <p>Conservation values condition</p> <p>Visitor satisfaction</p> <p>Visitor cognitive outcomes</p> <p>Visitor safety</p> <p>Social impacts</p> <p>WA DEC Corporate Plan 2007–2009</p>
WTMA	<p>Conservation values condition (implied elsewhere)</p> <p>No objectives specified in relation to visitors</p> <p>Wet Tropics World Heritage Protection and Management Act 1993</p>	<p>Recreational opportunities</p> <p>Conservation values condition</p> <p>Economic impacts</p> <p>Social impacts</p> <p>Visitor cognitive outcomes</p> <p>Visitor satisfaction</p> <p>WTMA ‘Wet tropics nature based tourism strategy’ Aug 2000</p> <p>Conservation values condition</p> <p>Visitor cognitive outcomes</p> <p>WTMA Strategic Plan 2008–2013</p>
Parks Aus	<p>Conservation values condition (implied elsewhere)</p> <p>No objective specified in relation to visitors</p> <p>EPBC Act 1999</p>	<p>Operator use</p> <p>Visitor satisfaction</p> <p>Visitor safety</p> <p>Conservation values condition</p> <p>Visitor cognitive outcomes</p>

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SA DEH	Recreational opportunities	Parks Australia Divisional Plan 2003–06
	Visitor satisfaction	Visitor safety
	Visitor cognitive outcomes	Visitor satisfaction
	Conservation values condition (implied elsewhere).	Department for Environment and Heritage Corporate Plan 2007–2010
	‘An Act to provide for the establishment and management of reserves for public benefit and enjoyment ...’ ‘ objectives in managing reserves: ...encouragement of public use and enjoyment of reserves and education in, and a proper understanding and recognition of, their purpose and significance’	
National Parks and Wildlife Act 1972		

Reporting on visitor use goal achievement

So, all Australian park managing agencies have legislated goals, corporate policies and evaluation subjects related to visitor use of parks. These were found to be identified or reported mainly in plans of management, State of the Parks reports and annual reports, although all agencies had informal (rarely public documents) reports on visitor use (Table 13). It is clear that for visitor use, there is a considerable amount of attention given to monitoring, at least some aspects of visitor use. While all agencies report monitoring of visitor use, the magnitude and comprehensiveness of this is highly variable and researched further in following chapters.

Table 13: Forms of performance reporting that include visitor monitoring by protected area managing agencies

State/Jurisdiction	Agency name	State-of-the-Park reporting	Plans of management	Annual reports	Other approaches
Western Australia	Department of Environment and Conservation	x	✓	✓	
	Conservation Commission	x	✓	✓	✓
	Marine Parks and Reserves Authority	x	✓	✓	✓
New South Wales	Parks and Wildlife Group of the NSW DECCW	✓	✓	✓	✓
Victoria	Parks Victoria	✓	✓	✓	✓
Queensland	Queensland Parks and Wildlife Service of Q EPA	✓ x	✓	✓	✓
Northern Territory	Parks and Wildlife Service of NT NRETA	x	✓	✓	✓
Tasmania	Parks and Wildlife Service - Tas DTAE	x	✓	✓	✓
South Australia	Department of Environment and Heritage	x	✓	✓	✓
Commonwealth	Great Barrier Reef Marine Park Authority	✓	✓	✓	✓
Commonwealth	Parks Australia	✓ x	✓	✓	✓
Commonwealth	Wet Tropics Management Authority	✓	✓	✓	✓

Agency emphasis on evaluation

While emphasis on implementing Goal 4 of the Convention on Biological Diversity Program of Work on protected areas (UNEP 2009) and Direction 34 of the policy statement on the National Reserve System (NRMMC 2005), which call for systems for assessing management effectiveness, has not been fully realised, the states are making considerable, though highly variable progress. The CBD Program of Work set a target for management effectiveness evaluation of 30 percent of reserves in each signatory jurisdiction by 2010. Two Australian state agencies (NSW and Victoria) currently contribute substantially to this target, evaluating and reporting on management effectiveness of 1125 of 7675 publicly managed protected areas (14.7% ¹⁰).

A review of the status of management evaluation in Australia’s state protected area managing agencies found

¹⁰ These figures were provided in September, 2007 by state and territory agencies (except data from the ACT which came from the Collaborative Australian Protected Area Database (CAPAD 2004) and Parks Australia, which came from the 2005–06 annual report of the director of National Parks).

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considerable variability in effort applied, with emphasis being given to context, planning and outcomes of management as it affects valued resources (Jacobson, Carter & Hockings 2008). The review found that agencies have largely adopted best practice principles in making assessments, but many are not comprehensively addressing all parts of the management cycle. While this may serve reporting requirements, it does not provide information and links to assist in identifying factors that affect achievement (or otherwise) of desired management outcomes. This constrains capacity to adopt an adaptive management approach to park management based on management effectiveness evaluations (Jacobson, Carter & Hockings 2008). This parallels the work of Worboys (2007) who found least interest in the evaluation elements of inputs, process and outputs.

The lack of emphasis on inputs limits the ability to conduct cost benefit types of analyses. Without park specific records of staff time and expenditure in relation to operation areas, managers are unable to determine the comparative efficacy of management action and efficiency in achieving outcomes, and are, therefore, unable to plan allocation of resources accordingly. Such limitations are at the heart of auditor criticisms made in New South Wales and Victoria (see Chapter 6 and Auditor General of Victoria 1995; NSW Audit Office (AO 2004).

In some agencies, quantitative monitoring is deemed essential, while in others, a combination of qualitative and quantitative monitoring is used. Agencies emphasising quantitative monitoring tend to be the least comprehensive in their evaluations partly because of the level of resourcing needed and the difficulty of identifying indicators that can be monitored across the network. This study seeks to clarify the emphasis given to visitor use monitoring and evaluation and identify indicators used for evaluation subjects towards developing Australia-wide standards.

Chapter 3

PLANS OF MANAGEMENT

Introduction

For about thirty years, protected area agencies in Australia have been preparing management plans for their estate in accordance with the legislation in place to establish and manage these areas. All protected area agencies in Australia are required by legislation to produce management plans for at least some of their lands and waters. Such plans are a tool to indicate how each protected area is to be used (ANZECC 2000). They normally contain details on the current and desired condition and state of the area. Included are specific goals and objectives, often but not always including tourism development, as well as ways in which these goals will be achieved.

In 2000, the Australian and New Zealand Environment and Conservation Council published a report on *Best Practice in Protected Area Management Planning*. In this, they highlighted four purposes of these plans:

- to ensure reserves are managed to achieve the objectives of legislation, stakeholder expectations, corporate goals and conservation management;
- to involve the public in reserve management;
- to develop and foster a shared understanding of and vision for reserves; and
- to provide public accountability.

(ANZECC 2000).

The process of developing management plans varies from state to state in Australia, due to differing legislative requirements. However, generally the process follows a similar sequence. It starts with the decision to prepare a management plan, proceeds through development of a draft, progresses to plan approval and the cycle begins again with plan review (Figure 4). Most stages are accompanied by public consultation, in particular the release of the draft for public comment. Public submissions on the draft are taken into account in developing the final plan.

Once the final plan has been approved by the appropriate authority, which may include traditional owners, the minister, and in some cases the parliament or governor, the plan is implemented (ANZECC 2000; Eagles, McCool & Haynes 2002; Worboys, Lockwood & De Lacy 2005). In their review of protected area management planning, ANZECC (2000) found limited information was available on how implementation is achieved, and on monitoring and evaluation (Steps 7 and 8 of the plan development process, Figure 4).

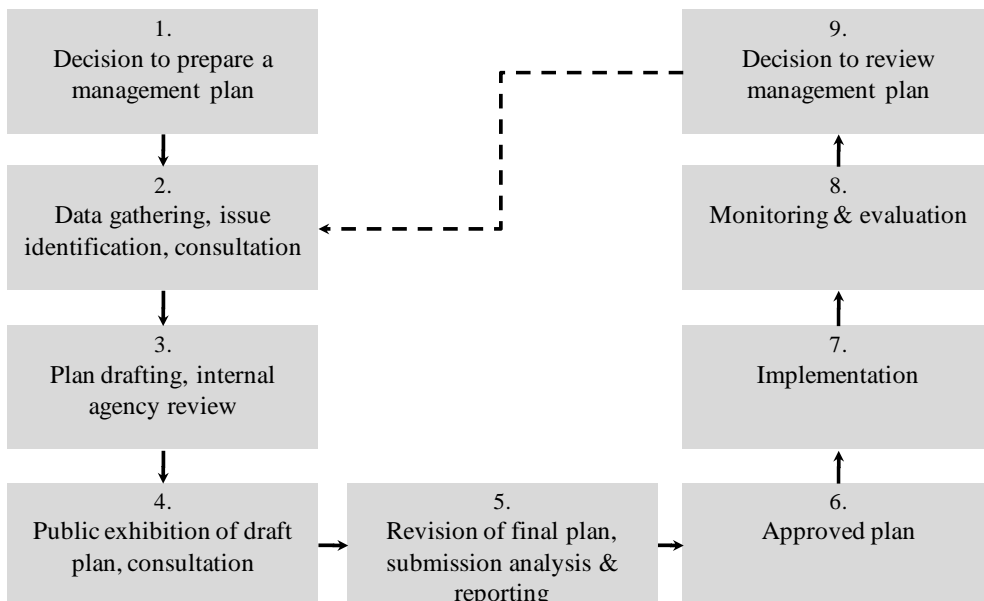


Figure 4: The process of developing management plans (adapted from ANZECC 2000)

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Over recent years there has been a trend towards more concise plans, focusing on significant values and issues with little background resource information now included (ANZECC 2000). Management plans generally address a variety of issues including managing ecological communities, controlling pests and weeds, protecting wildlife, managing water quality, and in more recent years managing visitors and the tourism industry (Newsome, Moore & Dowling 2002). Some plans have included a performance-oriented approach where specific outcomes are detailed and sought for a number of key management areas, such as resource protection, access and tourism (ANZECC 2000).

Historically, monitoring in management plans has focused on the physical and biological aspects of the environment, while generally overlooking the systematic collection of visitor data. Instead, managers have relied on ad hoc approaches (ANZECC 1996; Muhar, Arnberger & Brandenburg 2002; Wardell & Moore 2004). There has been an over-reliance on 'best available' data, frequently by obtaining the views of rangers on visitor profiles, expectations and facility requirements. The lack of systematic visitor data collection has had a twofold result: little to no emphasis on visitor monitoring when implementing management plans and a paucity of data when visitor information has been required for management plan preparation and review.

Methods

The broader project, of which this chapter forms part, aims to review existing practices, needs and opportunities of Australian protected area agencies with respect to monitoring, evaluating and reporting on visitor use in protected areas. To contribute to the overall aim of the project, this chapter explores the use of visitor monitoring in management plans prepared by Australian government protected area agencies. As such, the objectives of the chapter are:

- to describe the scope and emphasis of visitor monitoring in management plans, especially the use of indicators and evaluation subjects;
- to describe the monitoring, evaluation and reporting systems associated with management planning and to evaluate the extent to which they align with established good practice principles for the conduct of evaluation by protected area agencies;
- to describe the constraints on and opportunities provided by current approaches; and
- to compare key aspects of 1–3 between agencies to draw out common themes and purposes and key differences.

Data collection

Data collection included the sourcing of management plans from protected area agencies (see Chapter 2, Table 7) and follow up interviews. Only plans that included visitor use monitoring were recorded. For the purpose of PoMs, monitoring was considered to include anything that involved repeated assessment or evaluation of variables relating to visitor use. This also included where indicators or targets were listed even in the absence of details of monitoring (as it was considered that monitoring would have to take place for indicators to be measured).

Sourcing management plans

Management plans were obtained from Australian protected area agencies using the contact procedures detailed in Chapter 2. Agencies were asked to supply management plans (draft or final) that were completed after 2001. The plans could cover marine and/or terrestrial protected areas. The request included providing up to three management plans that the agency considered *best practice* in terms of monitoring of visitor use in protected areas. Also requested were plans with a priority for *servicing visitors* and another sample of plans with priority for managing visitors' *ecological impacts*.

For servicing visitors, such a priority might be based on high visitor numbers, proximity to a major city, high tourism income generation, and/or high visitor expectations. For managing visitors' ecological impacts, the priority might reflect high biodiversity conservation values or a high risk of detrimental ecological impacts from visitor use (e.g. because of significant visitor use in fragile ecosystems, high current impacts, high impact visitor activities). Collectively, these plans were sourced to provide the broadest possible insight into management planning by protected area agencies.

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Interviews with protected area agency staff

Interviews were conducted with key staff from the participating agencies (see Chapter 2, Table 10). All those interviewed had a working knowledge of management planning for protected areas in their state/territory. The following questions guided the interviews (see Appendix B for complete interview protocol).

- Why is visitor monitoring not included in some management plans (if this was the case)? What were the associated barriers? What might be the solutions?
- How are the categories for visitor monitoring chosen from all the possibilities? Which of these categories stand out as the highest priorities?
- To what extent is the visitor monitoring prescribed in management plans carried out? What are the reasons if it is not carried out? What form does the monitoring take?
- What opportunities are there for improving management plans with respect to evaluating visitor use?
- What future trends are likely to affect what is needed in relation to evaluation of visitor use through management plans?

Data analysis

The collected management plans were reviewed to extract information on visitor monitoring including administrative details for each management plan (e.g. agency, plan name), plus details of visitor monitoring including indicators, targets and the focus of evaluation, described using a modified version of the IUCN-WCPA management effectiveness framework (see Chapter 2 Hockings, Stolton & Dudley 2000, and ; Worboys 2007). This information was entered in Excel files and then summarised in the following results tables.

Information was similarly extracted from the interview transcripts and entered in Excel files. Interviewee responses were entered according to question number. Responses to each question were then organised into categories determined as part of the analysis (see Chapter 2). Similarly, the interview results are summarised in the results tables that follow.

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Results

Overview

A total of 49 management plans was reviewed from nine protected area agencies: NSWDEC (now NSW DECCW), WA DEC (and WA CC and WA MPRA), Parks Victoria, Tasmania PWS, SA DEH, NT PWS, Queensland EPA, GBRMPA and Parks Australia (Table 14, Appendix C). Of these, 18 were provided by the agencies as examples of best practice in terms of monitoring of visitor use in protected areas. Interviews were conducted with 17 staff. One of the interviews included three staff so the total number of interviews was 14.

Table 14: Overview of plans and interviews for protected area agencies

Agency	NSW DECCW	WA DEC	Parks Vic	Tas PWS	SA DEH	NT PWS	Q EPA	GBR MPA	Parks Aus	Total
No. of plans	10	9	6	7	6	5	2	2	2	49
No. of best practice plans	3	4	3	2	2	2	1	0	1	18
No. of interviews	1	3	1	1	1	1	4	1	1	14

Visitor monitoring, indicators and targets

The extent to which these plans included visitor monitoring, and associated indicators and targets, is summarised in Table 15. Details for best practice plans only are given in Table 16. The information in these tables was obtained from reviewing the plans as well as the interview transcripts. Around three quarters of the plans reviewed (76%) included visitor monitoring. A smaller number (29%) included indicators and a smaller number again included targets (14%). In contrast, for the ‘best practice’ plans, almost all included visitor monitoring (94%), half included indicators (50%) and a quarter included targets (28%) (Table 17).

Table 15: Inclusion of visitor monitoring, and associated indicators and targets in management plans

Agency	NSW DEC	WA DEC	Parks Vic	Tas PWS	SA DEH	NT PWS	Q EPA	GBR MPA	Parks Aus	Total
Visitor monitoring	(n=10)	(n=9)	(n=6)	(n=7)	(n=6)	(n=5)	(n=2)	(n=2)	(n=2)	(n=49)
Visitor monitoring included in plan	5	7	6	6	4	5	2	0	2	37 (76%)
Indicators included in plan	0	8	0	2	0	1	2	0	1	14 (29%)
Targets included in plan	0	6	0	0	0	1	0	0	0	7 (14%)
Indicators linked to objectives	0	4	0	2	0	0	0	0	1	7 (14%)

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Table 16: Visitor monitoring and indicators and targets included in ‘best practice’ PoMs *

	NSW DEC (n=3)	WA DEC (n=4)	Parks Vic (n=3)	Tas PWS (n=2)	SA DEH (n=2)	NT PWS (n=2)	Q EPA (n=1)	Parks Aus (n=1)	Total (n=18)
Visitor monitoring									
Visitor monitoring included in plan	2	4	3	2	2	2	1	1	17 (94%)
Indicators included in plan	0	4	0	2	0	1		1	9 (50%)
Targets included in plan	0	4	0	0	0	1	0	0	5 (28%)

* GMRMPA not included, as they did not provide a best practice example.

Table 17: Comparison of visitor monitoring in all versus ‘best practice’ management plans

Visitor monitoring/plans	Visitor monitoring included in plan	Indicators included in plan	Targets included in plan
All management plans (n=49)	37 (76%)	14 (29%)	7 (14%)
‘Best practice’ management plans (n=18)	17 (94%)	9 (50%)	5 (28%)

Reporting and adaptive management

Only one protected area agency had management plans that explicitly required periodic reporting on performance of the plan and/or the strategies in the plan (Table 18). Other agencies may have had periodic reporting requirements but these were not evident from a review of the plans themselves. Two thirds of the agencies showed evidence of using adaptive management, when this approach was discussed during interviews.

Table 18: Frequency of reporting and presence of adaptive management

Agency	NSW DEC (n=10)	WA DEC (n=9)	Parks Vic (n=6)	Tas PWS (n=7)	SA DEH (n=6)	NT PWS (n=5)	Q EPA (n=2)	GBR MPA (n=2)	Parks Aus (n=2)	Total (n=49)
Management										
Periodic reporting on performance	0	6	0	0	0	0	0	0	0	6 (12%)
Adaptive management/feedback loops	2	8	5	2	0	1	0	0	1	19 (39%)

Evaluation elements covered by visitor monitoring

The evaluation elements of the IUCN/WCPA management effectiveness evaluation framework (see Chapter 2)—context, planning, inputs, process, outputs and outcomes—provide a basis for analysing how visitor monitoring has been included in management plans. This is used to provide an overview for all plans and a basis for comparing best practice plans with others, and present a detailed description, for each element, of the subjects contributing to it. This detailed description also includes information on relevant indicators from the reviewed management plans. Appendix b provides details on the elements and related subjects.

Evaluation elements

Collectively, the management plans reviewed included all the evaluation elements (Table 19). For all plans and the best practice sub-set, more plans monitored to obtain information on the context (68%), processes (74%) and outcomes (72%), than they did for planning (32%), inputs (21%) and outputs (19%). A similar allocation of attention was apparent for the best practice plans (Table 20). A comparison of all plans versus best practice shows similarities in results for all six elements (Table 21).

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Table 19: Evaluation elements covered by visitor monitoring in management plans*

Agency	NSW DEC	WA DEC	Parks Vic	Tas PWS	SA DEH	NT PWS	Q EPA	Parks Aus	Total
Evaluation element	(n=10)	(n=9)	(n=6)	(n=7)	(n=6)	(n=5)	(n=2)	(n=2)	(n=47)
Context	2	8	5	4	6	5	0	2	32 (68%)
Planning	2	3	2	3	4	0	1	0	15 (32%)
Inputs	2	1	0	0	6	0	0	1	10 (21%)
Process	3	9	4	4	6	5	2	2	35 (74%)
Outputs	0	1	0	1	1	4	2	0	9 (19%)
Outcomes	1	9	5	4	6	5	2	2	34 (72%)

Table 20: Evaluation elements covered by visitor monitoring in ‘best practice’ management plans only*

Agency	NSW DEC	WA DEC	Parks Vic	Tas PWS	SA DEH	NT PWS	Q EPA	Parks Aus	Total
Evaluation element	(n=3)	(n=4)	(n=3)	(n=2)	(n=2)	(n=2)	(n=1)	(n=1)	(n=18)
Context	1	4	2	2	2	2	0	0	13 (72%)
Planning	1	0	1	0	0	0	0	0	2 (11%)
Inputs	1	0	0	0	1	0	0	0	2 (11%)
Process	1	4	1	2	2	1	1	0	12 (67%)
Outputs	1	0	0	0	0	1	1	0	3 (17%)
Outcomes	1	4	2	2	2	2	1	0	14 (78%)

* GMRMPA is not included in this table, as they did not provide a best practice example.

Table 21: Comparison of evaluation elements apparent in all versus ‘best practice’ management plans

Evaluation element Plans	Context	Planning	Inputs	Process	Outputs	Outcomes
All management plans (n=47)	32 (68%)	15 (32%)	10 (21%)	35 (74%)	9 (19%)	34 (72%)
‘Best practice’ management plans (n=18)	13 (72%)	2 (11%)	2 (11%)	12 (67%)	3 (17%)	14 (78%)

Evaluation subjects and examples of indicators

In the modified WCPA framework, each element contains or is described by a number of subjects. For example, the element ‘context’ is described by the associated subjects of values, priority, threat id, threat rating, threat trend, visitor attitudes, community attitudes and/or external constraints (Appendix B). Similarly, all other elements can be described in similar detail. Tables 22–25 summarise the evaluation elements apparent from reviewing the management plans provided. Also included are summaries of the indicators associated with these subjects. Full lists of these indicators similarly ordered according to evaluation subjects and the agencies reporting on each subject are given in tables in Appendices to Chapter 3 (Appendix C).

Context evaluation is dominated by two evaluation subjects—identification of key visitor/tourism-related values, including recreation opportunities, and to a lesser extent key visitor-related threats. Indicators for values coalesced around an interest in the identification and conservation of valued cultural and natural features (Table 22). For planning, as an evaluation element, only design received any real level of attention as an evaluation

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subject (Table 22). Design refers to the appropriateness of the design when planning to meet visitor needs (Appendix B). The related indicators focused on monitoring recreation developments. For evaluation subjects related to inputs, infrastructure received the most mention for monitoring but no indicators were provided (Table 22). Infrastructure includes facilities and equipment used by visitors.

Table 22: Visitor-related evaluation subjects and indicators for monitoring of context, planning and inputs

Evaluation subject	Number of plans	Indicator
Context (evaluation element)		
Values	25	Identification and conservation of valued features
Threat id	7	Nature of threats and extent of threats and adverse impacts on natural and cultural values
Threat severity	1	As above
Threat trend	1	Change in threat following management actions
Opportunities to enhance	0	None
Visitor attitudes)	0	None
Community attitudes	0	None
Planning (evaluation element)		
Legal	0	None
Design	16	Approved recreation development
Planning	2	None
Inputs (evaluation element)		
Staff numbers	0	None
Funding	0	None
Funding security	0	None
Infrastructure	7	None
Information	0	None

Of all of the evaluation elements, ‘process’ was covered in the most management plans, but only slightly ahead of ‘outcomes’. Within the process group, the most widely mentioned evaluation subjects were impact management and interpretation (Table 23). Indicators for impact management were very diverse and included compliance with laws and accident reporting as well as the more widely known approaches such as monitoring the impacts of visitors on ecological and cultural values. Several indicators very specifically drew attention to the need to monitor to see if acceptable levels of impacts had been exceeded. The impact management evaluation element seeks to explore the adequacy of visitor impact management processes. For interpretation, adequacy is also explored and the indicators include the range, quantity, type and effectiveness of interpretation programs, as well as visitor participation levels and any safety issues.

Table 23: Visitor-related evaluation subjects and indicators for monitoring of process

Evaluation subject	Number of plans	Indicator
Administration	0	None
Facility maintenance	1	None
Staff training	1	Extent of interpretation training
Staff skills	0	None
Law enforcement adequacy	0	None
Law enforcement issues	0	None
Relationship appropriateness	0	None
Interpretation	15	Popularity and effectiveness of approaches to interpretation Safety issues addressed in interpretation Interpretation of valued features Visitor participation in interpretation programs Range, quantity and type of interpretive materials and activities

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Communication	9	Popularity and effectiveness of approaches to communication Level of development and communication of codes of use for high impact activities (e.g. horse and mountain bike riding)
Involvement	2	Number of and feedback from visitors involved in activities
Impact management	21	Change in threat following management actions Level of compliance with policies, guidelines, specified standards, etc established to prevent or control impacts Number of incidents of accidental damage to natural or cultural values Extent of effects of visitors on natural and cultural values (including wilderness) Changes in the nature of environmental impact associated with visitor use Level of protection of environmental quality and recreation opportunities Level of damage from recreational activities (e.g. track erosion, expansion of campsites, vegetation trampling, erosion from boating activities, diver impacts, recreational clubs) Distribution (and abundance) of valued ecological communities and species Extent to which visitor impacts (e.g. from camping, walking, water-based activities) are within acceptable levels
Visitor services	4	Compliance of facilities with reserve and precinct (zone) standards
Visitor fee management	0	None
Tourism management	2	Level of tourism industry satisfaction with site access and management Extent to which impacts, including cumulative impacts, from commercial tourism (e.g. accommodation, tours) are within acceptable levels Level of tourism industry satisfaction with commercial tour opportunities Lease or license status of recreational clubs Ecological sustainability and impacts of activities of recreational clubs
Impact monitoring	4	Change in threat following management actions Change in the area of disturbance around campsites
Performance standards	0	None

For 'output', the penultimate evaluation element, recreation opportunities was the most obvious evaluation subject (Table 24). Satisfaction with the visit, and especially the activities available, seemed to be a widespread indicator.

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Table 24: Visitor-related evaluation subjects and indicators for monitoring of output

Evaluation subject	Number of plans	Indicator
Actions achieved	0	None
Visitor use	4	Number of visitors Number of repeat visitors Number of 'camper nights'
Visitor characteristics	1	None
Operator use	0	None
Revenue	0	None
Recreation opportunities	21	Level of satisfaction with visit (specifically camping, range of day and overnight walking, and fishing and boating opportunities) Visitor and tour operator satisfaction with the range of recreational activities available

The last evaluation element from the modified IUCN-WCPA framework is outcomes. Here, the evaluation subjects of conservation values condition, visitor access and visitor cognitive outcomes were the most widely used (Table 25). Conservation values condition refers to the extent to which conservation values impacted by visitors have been maintained (Appendix B). Associated indicators include the distribution and condition of values, the level of disturbance and the rate of deterioration. Visitor access as an evaluation subject is self-explanatory. It includes access for visitors and the tourism industry. Indicators are provision of access and its condition, and associated satisfaction expressed by visitors. Visitor cognitive outcomes refer to the perceptions of visitors and the knowledge gained. The associated indicators reflect these intentions (Table 25, last row).

Table 25: Visitor-related evaluation subjects and indicators for monitoring of outcome

Evaluation subject	Number of plans	Indicator
Achieving visitor objectives	1	None
Visitor satisfaction	10	Level (and changes in level) of visitor satisfaction (with visit, opportunities, commercial tours) Number of complaints from public (e.g. about introduced species, noise or air pollution) Level of satisfaction by local community about balance between local community and tourism recreation
Visitor safety	10	Number of rescues, number of safety related incidents involving staff or visitors Severity/seriousness of safety incidents involving staff and visitors Number and seriousness of compliance related incidents Number of reports of poor visitor health (e.g. in relation to water consumption) Degree to which safety issues are addressed in interpretive materials Number of risk assessments completed for key visitor destinations
Visitor access	16	Provision of formalised access in the park Level of satisfaction that visitors express with their visit in relation to park access Condition of roads within the park and their capacity to meet existing and forecast use

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Visitor use outcome	2	Number of hits on park web page Number of completions of the visitor survey program
Presentation values trend	0	None
Presentation values condition	2	Condition score for each of several presentation values (e.g. waterfalls, rainforests, views, glow-worms, walks, barbecue/picnic areas and campgrounds)
Conservation values condition	24	Condition of natural and cultural sites Presence/absence of disturbance to artefacts Distribution (and abundance) of valued ecological communities and species (e.g. frogs, moss) Rate of deterioration at track monitoring points Level of trampling of valued vegetation communities (e.g. <i>Sphagnum cuspidatum</i> moss) Condition score for specific landscapes and ecosystems
Economic impacts	0	None
Visitor compliance	4	Level of compliance with: <ul style="list-style-type: none"> • zoning and access controls and management guidelines (especially related to wilderness) • regulations, minimal impact practices and other promoted management protocols • requirements of integrated track and sign system • requirements regarding dogs • number and seriousness of compliance and safety related incidents
Social impacts	4	Extent to which local community benefits from tourism opportunities
Visitor cognitive outcomes	11	Level of visitor awareness and understanding of the park values (natural and cultural) and management issues

Extent and efficacy of visitor monitoring

Interviewees were asked a number of questions centring on the extent and efficacy of visitor monitoring. Their responses have been organised in the following sections using a series of categories that were developed by the Research Team to provide a simplified interpretation of the results. Very similar categories (see Chapter 2) are used across the analyses for management plans (this chapter) and the chapters dealing with annual reporting and state of the park reporting, plus other forms of performance evaluation. A few categories, in addition to those applying across the report, appear in the tables below, but only when there was no suitable pre-existing category. They emerged as the analysis was underway.

Benefits and barriers to visitor monitoring

Interviewees were asked if visitor use monitoring would be worthwhile including in management plans given that a number of plans do not currently include it. Slightly more responded yes than no (Table 26). The reasons accompanying 'no' included the lack of flexibility in management plans, a long and complicated approval process, visitor monitoring being contained in other documents, and not being a high priority unless visitor numbers are high.

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Table 26: Benefits or otherwise of including visitor monitoring in management plans

Beneficial (n=14) (no. of interviewees)	Reasons (and no. interviewees)
Yes (7)	Need more visitor monitoring in some management plans (3) Being done already (2)
No (5)	Not enough flexibility in management plans (to allow for changes) (3) Approval process too long and complicated (3) Monitoring should be contained in attachments/other documents rather than in management plans (4) Visitor monitoring is not high enough priority unless visitor numbers are high (2) Lack of good/useful indicators available (1) Management plans are too resource intensive to produce (1) Need to use a realistic level of detail (1)
Not discussed (2)	

Interviewees were also asked about the barriers to including visitor monitoring in management plans (Table 27). Common responses included limited resources (time, money, staff), lack of clear objectives for what they were trying to achieve, and data that have been previously collected were not perceived as useful. For ways of overcoming these barriers, clearer objectives for the information to be collected and more resources were mentioned.

Table 27: Barriers to including visitor monitoring in PoMs and suggested actions to overcome these

Barriers (No. of interviewees)	(n=14)	Reasons (No. of interviewees)
Yes (8)		Limited resources (time, money, staff) (6) Not sure how to use data once obtained (1) Data previously collected on this seems to be of minimal usefulness (2) Need to overcome agency cultural issues (1) Lack of clear objectives/what trying to achieve (3)
Not discussed (6)		
Actions to overcome these barriers (n=14) (No. interviewees)		Reasons (No. of interviewees)
Yes (7)		More resources needed (2) Clearer objectives for information to be collected (3) Need to be realistic regarding staff limitations (1) Through development of new information management system for agency, other internal communication mechanisms and working plan prescriptions into regional programs (1)
Not clear/not applicable (6)		
Not discussed (1)		

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Extent of use of information from visitor monitoring

When asked about accountability of the visitor monitoring prescribed in management plans to external parties, two thirds of the interviewees said there was none (Table 28). However if there was, it was used to report to the public and other stakeholders and the government and its ministers. Not being useful and lack of resources were reasons given for lack of use of monitoring data in reporting to external parties. For agency-level use, almost a half noted such use, and directed towards preparing new management plans and amending existing ones, and influencing resource distribution. At this level, the most popular response regarding lack of use was data ‘not being used currently’ but with an intention to use them later.

Table 28: Use of information from visitor monitoring prescribed in PoMs by external parties and agency at the policy level

Information used (No. of interviewees) (n=14)	Yes (No. of interviewees)	No (No. of interviewees)
Accountability reporting to external parties (yes=4, no=10)	Used to report to public/stakeholders (5)	Not generally useful (2)
	Used to report to politicians/ministers (State) (1)	Lack of resources (1)
	Used to report to politicians/ministers (Commonwealth) (1)	Programme recommended in the plan was out of date or not sustainable (1)
		Information mostly about particular parks, not relevant for accountability (1)
		Not available to Head Office (1)
		Not currently used, but intention to use it later (1)
		Not applicable (2)
Informing planning or policy at agency level (yes=6, no=5, not clear/not applicable=3)	To direct policy (2)	Limited parks planning conducted at Head Office level (1)
	Influence resource distribution (funding and works) (3)	Influence from the park level unlikely (1)
	Funding applications (1)	Prefer to plan intuitively (1)
	Planning and preparing amendments to and new plans (4)	Not currently used but intention to use it later (3)
	Regional planning for operational plans (2)	Very little use (1)
	To identify research priorities (1)	

The park level had the most diverse set of applications, from determining carrying capacities through to managing access/use of park by different users (Table 29). At this level, half of the interviewees said they used visitor monitoring data. Similar to the agency level, the most popular response regarding lack of use was data not being used currently but an intention for later use. Information from visitor monitoring was also used for other purposes (Table 29, last row) including State of the Parks reporting, managing commercial activities associated with tourism, and facility design. Reasons for lack of use again included a hope for future use.

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Table 29: Use of information from the visitor monitoring prescribed in PoMs at the park level and by others

Information used (No. interviewees) (n=14)	Yes (No. of interviewees)	No (No. of interviewees)
Used in adaptive management at the park level (yes=7, no=4, not clear/not applicable=1, not discussed=2)	Determining carrying capacities (1)	Visitor monitoring information is not useful (1)
	Management of changes (4)	Adaptive management not used (1)
	Management of facilities and services (4)	Don't update management style unless management plan is updated (1)
	Management of visitor use and behaviours (1)	Act intuitively as issues arise (1)
	Preparing and making amendments to plans (3)	Not currently used but likely in the future (2) Very little use (2)
	Information for operational planning (implementation plans) (2)	
	Management of access/use of park by different users (1)	
Used at other levels (yes=4, no=1, partially used=2, not applicable=6, not discussed=1)	Commercial activity returns go to the permit section (1)	Partially used: Some Shires use them; others do not (1)
	Statewide reporting (SoP report) (1)	Monitoring likely to happen under adaptive management anyway (1)
	Marketing section (1)	Not used: Hope to soon use them (1)
	Developing leases and licences for external operators (1)	
	Facility design (1)	
	Rolling up of information from different parks to inform at the Statewide level (1) Provide strategic planning for most of the management plans (1)	

Choosing what to monitor and priorities

The choices about what to monitor were based on staff observations and associated inputs, needs identified through the process of preparing management plans, community input, monitoring and legislation (Table 30). Half of those interviewed described how these choices were made, the remainder either gave unclear responses or did not offer a point of view. When asked about categories that stood out as being of higher priority than others, a number were mentioned including outcomes and processes, with the comment made that the priority depends on the park (Table 30). Again, just over half of those interviewed responded with priorities, the remainder either gave no response or it was unclear.

Table 30: Choices about visitor monitoring undertaken and associated priorities

Choices based on (n=14):	Influence on choice
Choices given (7)	Staff observation/input (3)
Not clear/not applicable (5)	Identified through planning processes (2)
Not discussed (2)	Community input (2)
	Monitoring (2)
	Legislation (2)
	They are things that relate to outcomes (1)
	Visitor surveys (1)
	Choices of categories not deliberate at planning level (1)
Higher priority categories (n=14):	Categories

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Priorities (7)	Threat identification and values from the legislation (1)
Not clear/not applicable (6)	Process (2)
Not discussed (1)	Inputs (1)
	Outputs (1)
	Outcomes (2)
	Varies depending on park (2)
	Visitor levels (1)
	Visitor satisfaction (1)
	Biological and ecological (1)

Extent of visitor monitoring

The first part of the interview asked if management plans are *useful* for visitor monitoring and about barriers to this usefulness (see Tables 26 and 27). In the later stages of the interview, staff were asked several questions related to these earlier ones, specifically the *extent* to which visitor monitoring in management plans is carried out and the associated barriers (i.e. if not done, the reasons why). Most responses suggested that some to no monitoring is most usual. The reasons for its absence or partial absence include a lack of resources and being a low priority (Table 31).

Table 31: Extent to which visitor monitoring has been undertaken and reasons

Extent of monitoring (n=14)	Reasons if monitoring not done (n=14)
All done but some only partially (1)	Lack of resources (low budget; management plans are more of a wish-list because they are not budgeted for when they are envisioned; no resources for partnerships or research; gets put off until next year because of a lack of resources) (7)
Only some done at all (4)	
Mostly not done (4)	Not high priority (activities and research project unlikely to happen) (5)
Not done in full (1)	
Unsure (2)	Not considered worthwhile if not high visitor numbers (visitor management in this case can be non-existent/low because it is not a priority (this is determined on a park-by-park basis) (2)
Not discussed (2)	No expectation by agency to do it (more emphasis on capital structure, pests and infrastructure maintenance; no strong expectation to do it if visitor numbers are low) (2)
	Lack of strategy to support (no full monitoring evaluation strategy available; no partnerships for research; no assistance, often done by external consultants) (2)

Opportunities for visitor monitoring and influential trends

A large number of suggestions were made by interviewees regarding how to improve the usefulness of management plans as part of evaluating visitor use (Table 32). Suggestions receiving the most attention were better planning of monitoring and improving information use from future monitoring, plus monitoring at lower visitation parks. The last interview question asked about future trends or requirements that are likely to affect what is needed in relation to the evaluation of visitor use in management plans (Table 33). Again, a broad range of suggestions was made. Increasing population and access to parks were identified as important, as were increasing pressures for better information and better management, both from within the agency and by the community.

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Table 32: Opportunities for improving the usefulness of PoMs as part of evaluating visitor use

Categories (n=14) (No. of interviewees)
Need to better understand relationship between qualitative and quantitative data (1)
Better planning of monitoring (3)
Improved usefulness of data from monitoring (2)
Monitoring at lower visitation parks (2)
Better use of community in developing management plans so can monitor what they want monitored (1)
Clear objectives (1)
More monitoring programs at park level (1)
More detailed monitoring of visitor use issues included in management plans (1)
Better staff expertise re developing and/or applying monitoring programs (1)
Improving communication within agency (1)
Improving information use for future monitoring (1)
Improving emphasis of monitoring programs at HO level (1)
Management plans need to be generic and flexible (1)
More resources (1)
Surveying visitors (1)
Unclear (3)

Table 33: Trends likely to affect the inclusion and approaches to visitor monitoring in PoMs

Categories (n=14) (no. of interviewees)	Additional detail from interviews
Increasing population and access to parks (5)	NSW State Plan has an agenda to increase Statewide visitation by 20% Probably will be more demand for visitor management to become more relevant
Increasing pressure for better information and better management (agency level) (3)	No real push for visitor monitoring, capital management is considered more important
Increased activity towards more comprehensive monitoring framework at Head Office level (1)	The emphasis is more on covering ‘science’
Public/govt push for better information available (2)	Need more research and information
Visitor use impacts are not an issue (1)	Even ‘hardened’ visitor parks are not threatened by visitor use, and other parks that have spent large amounts to attract visitors continue to report low visitor entry
Economic worth of parks needed for better management (1)	Important to determine economic worth of visitors to parks and generally, e.g. Noosa NP study showed worth \$50 million which led to better community and government support and leads to better management overall
In our agency adoption of our own unique system for doing this (1)	Site visitor capacities to set visitation limits and drive capital works—visitor monitoring is a key input
Increasing age of general population may affect provision of services/facilities (3)	Elderly visitors may require a change of facilities Increased pressure for built accommodation on-site but this is not compatible with parks plans and management plans
Other (1)	Smaller backyards at home may lead to more people visiting national parks
Future potential (1)	New technology to be used for visitor surveys Climate change - need to monitor how it is affecting park visitation?

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Categories (n=14) (no. of interviewees)	Additional detail from interviews
	Monitor outcomes from new tour guide training program For Kakadu and Uluru, need to better monitor the market (in relation to re-branding and Kakadu and Uluru becoming a National Landscape)—and therefore both seen as critical to tourism.
Not discussed/unknown (6)	

Overarching themes evident from the interviews

Reading across the responses to all the interview questions, five themes were apparent. These were the importance of adaptability, seeking clarity in objectives and outcomes, essentiality of adequate resources, extent of use of monitoring data, and ambivalence about the value and importance of visitor monitoring. The importance of *adaptability* and concerns regarding the inflexibility of management plans was a clear theme. The idea of a universal approach to visitor monitoring across all parks was critiqued. One interviewee noted that because parks have different levels of visitor use and varying ecological and biological attractions and vulnerabilities, different levels of visitor monitoring were warranted. Decisions on a ‘park by park basis’ were suggested.

‘On the ground’ application of management plans may have to be different from the visionary intentions of the plans, because there is a practical need for plans to be adaptive in order for them to be effective. Another interviewee suggested that adaptability would come from an agency-wide visitor monitoring system, not from management plans:

We are going to do visitor monitoring, we’re going to do this and that, counting visitors religiously every day and calibrating counters every year and doing qualitative sampling of visitors every second year, etc., etc., [is] locking us in to something that we may not actually achieve because the service-wide visitor monitoring system will be adaptive and open to change for the life of the plan.

This theme of adaptive visitor monitoring was also closely related concerns about clarity in the objectives and outcomes to be achieved from visitor monitoring prescribed in management plans. Concerns regarding a lack of clarity seem to stem from the disconnect between the statutory ambitions of the plans and the daily management requirements of the agencies. In addition, some interviewees expressed uncertainty about how to meaningfully use visitor monitoring data, since management plans do not currently provide the flexibility for local interpretation and adaptation as new data becomes available. A few interviewees, interestingly, noted that visitor monitoring should be attached to documents other than management plans if it was to be implemented since the latter are ‘not a high priority’ and as such do not merit diversion of staff and other resources.

The responses to the interview questions about barriers and improvements coalesced around the third theme, the need for *adequate resources* to undertake visitor monitoring. Lack of adequate financial resources underpinned this concern. Some respondents believed that while they managed to ‘meet basic requirements, there [was] a range of different things we could do to improve what we are doing [if] there was greater resource and budget available’. Interviewees noted that inadequate financial resources make it difficult to employ the numbers of staff required to do a comprehensive head-count of visitors, as well as being able to employ staff for the required number of hours. Lack of resources leads to other barriers as well, for instance, being unable to set up sophisticated data management systems and information technologies, which would assist considerably in visitor monitoring, as well as in conducting visitor surveys. One interviewee explained, ‘there are trends in technology that are out there, which we need to be using in terms of visitor survey’.

The limited extent of monitoring and *limited use of associated data* provided the fourth theme. Only half of those who responded to the question about the extent of monitoring were doing visitor monitoring (Table 31). At the park level, about two thirds of the interviewees were using information from visitor monitoring (Table 29). Some interviewees confirmed that they did not use the information from visitor monitoring. One interviewee clarified that for their agency it was not possible to use the information at an agency level, since much of the planning was not done at the agency/head office level. Another interviewee noted that the data obtained from visitor monitoring were rarely considered, and rather staff made intuitive judgments about visitor numbers and use. Some interviewees were more ambiguous—saying that data from visitor monitoring had not been used in the past but might be in the future. The reluctance to use visitor monitoring information at the park level included a lack of conviction about the usefulness of the knowledge, and the need to revise management plans in order to be able to use the information. As one interviewee put it, ‘to be perfectly honest we don’t really change our management style until we update the management plan’.

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An ambivalence regarding the value and importance of visitor monitoring in management plans, the last of the five themes, was evident from across the interviews. Table 26 illustrates that only slightly more interviewees regarded visitor monitoring as beneficial rather than not. For those who supported monitoring, comments centred on monitoring as a necessary part of 'a broad level management of all our parks' and that it was a useful supplement to an agency's 'management effectiveness program'

The actual use (or lack thereof) of protected areas was one reason for questioning the value of monitoring. For example, explained one interviewee, a park agency may spend a large amount of money on infrastructure, such as walk trails and accommodation, and the park may remain empty. In addition, parks may be sufficiently hardened and developed that even high visitor numbers have little impact. For these interviewees there was no good rationale for visitor monitoring, either the visitors are not there in sufficient numbers to demand attention or the impacts are too negligible to warrant monitoring. This response, however, ignores the management benefits that an agency might gain through better understanding visitors' expectations, information obtainable through monitoring. Another reason underpinning this ambivalence was an acknowledgment that some protected area agencies had other priorities, not visitor monitoring:

'At present there is no real push for visitor use monitoring; more emphasis on capital works, pest, infrastructure maintenance and so there is not enough time left to do visitor monitoring. Over the next three years and into the future, [there will be] increased activity in central office towards a more comprehensive framework to cover 'science'.'

Discussion

In some ways, applying good practice principles for performance measurement to PoMs is unreasonable because facilitating such measurement has never been central to the purpose of management plans, although this is changing. However, the ANZECC (2000) report did suggest that management plans were important for agencies in assisting with public accountability and performance reporting can contribute to this. As such, the analysis provided in Table 34 provides a snapshot of the current extent to which management plans contribute to performance measurement, and where, if it became desirable, performance could improve.

Three quarters of the plans reviewed required the monitoring of visitor use, although lack of resources meant that such monitoring was reported as absent by half of those interviewed. Indicators were present in almost a third of plans, with targets in fewer plans again. A similarly small number of plans (14%) had the indicators, if present, linked to clearly defined visitor objectives. Although two thirds of agencies reported practising some form of adaptive management (Table 18), this number is likely to be much lower given the absence of indicators and/or targets necessary to provide feedback on management success or otherwise, and the very small number of plans that linked indicators to objectives. Again, the associated information is essential if the success or otherwise of management (in terms of achieving the desired objectives) is to be determined.

Recent reviews of management planning for NSW DECCW (Hockings, Wardrop, Carter & Briggs 2008) and the Conservation Commission of Western Australia (Moore & Rodger 2009) identified monitoring and management reporting (across all responsibilities including visitor use) as needing attention. Both reviews recommended development of a basic monitoring system to give 'managers vital information on how the protected area is performing, thus helping them to make adjustments in management if problems occur' (Hockings et al. 2008, p. 31). Additionally, if adaptive management is to be achieved, monitoring is essential (Leverington, Hockings, Pavese, Costa & Courrau 2008b).

The finding in this study that the most commonly included evaluation element (in 74% of plans, Table 3.6) was processes, is different to the findings from previous research on management effectiveness systems. Hockings (2003) in a review of 27 management effectiveness systems for protected areas noted that the most widely assessed element, in 78% of assessments, was outcomes. Dahl-Tacconi (2005), in her survey of Indonesian protected area stakeholders, found that for one of her parks respondents preferred to focus on contextual issues and outcomes as a priority for evaluation while for the other they were most concerned about inputs and outcomes. She concluded that preferences regarding the focus of evaluations were highly situation-dependent, although for both her parks outcomes were of particular concern, mirroring Hockings' (2003) findings.

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To put the results from this study in context, processes were only slightly ahead of outcomes (included in 72% of plans) and context (68%). One possible explanation is the use of management plans to establish processes for managing protected areas. In the plans reviewed, these processes included interpretation, communication, public involvement, tourism and impact management and monitoring, and visitor services (Table 23). Plans are as much about proposing and putting in place processes for managing the values and threats facing protected areas as they are for prescribing or recommending management actions.

Table 34: Good practice principles for performance measurement addressed by PoMs

(n=49 plans, 14 interviews)

Good practice principle as interpreted for this study	Percentage of plans addressing principle	Assessed from documents	Assessed from interviews
Requirement for monitoring or evaluation is included	Not assessed		
Requirement for monitoring or evaluation of visitor use included	76%	✓	✓
Objectives for monitoring or evaluation stated (for plans) For agency wide (overall): Clearly defined purpose statement and objectives for evaluation across the agency as a whole.	Not assessed		
Monitoring requirements linked to clearly defined visitor related objectives (assessed as indicators linked to objectives)	14%	✓	✓
For agency wide (overall): Achievement of the key agency objectives relating to visitor use are evaluated across the range of evaluations and	Not assessed		
Evaluation subjects correspond to key agency goals Visitor related performance indicators are used	29%	✓	✓
Visitor related performance targets are identified	14%	✓	✓
Standardised indicators are adopted that facilitate comparison across protected areas	Not assessed		
Sets of visitor-related indicators, rather than single indicators, are used for each evaluation subject	Not assessed		
Visitor use indicators are used for multiple evaluation purposes; monitoring information is gathered through 'piggybacking' other projects where possible	Not assessed		
Visitor related evaluation is designed to feed into, and help guide, decision-making and management. A culture of adaptive management.	39%	✓	✓
Visitor related evaluations are planned and designed to operate over the long term, with secure resourcing.	50% of those interviewed attributed no monitoring to lack of resources		✓

Chapter 4

ANNUAL REPORTS

Introduction

Generally, an annual report is a report on a business entity's activities throughout the preceding year. They are intended to give shareholders, and other interested people, information about the company's activities and financial performance. Typically, annual reports include mission statements, a summary of activity and achievements, and a statement of compliance with corporate governance and financial statements. Annual reports are required to be produced by all protected area agencies (or the larger department within which they sit) under specific legislation or that generally applying to public sector departments, and in some cases, under a State Environment Act. As with all annual reports, the intent of public sector annual reports is to provide accountability to stakeholders (e.g. government).

The Acts that define public sector reporting usually specify the need to report on activity, achievement and financial statements, but do not require formal performance evaluation, so each agency applies their own judgement in deciding what to include. Nevertheless, the elements presented in annual reports usually include context information and summaries of outputs and outcomes. With financial summaries (inputs), they provide insight to performance at an agency level. Annual reports of protected area agencies are increasingly including resource status and threats information based on monitoring and, where information is available, an assessment of performance on issues of key interest. Therefore, annual reports provide insights to monitoring activity relating to management of visitor use.

Methods

As part of this review of existing practices, needs and opportunities of Australian protected area agencies with respect to monitoring, evaluating and reporting on visitor use in protected areas, this chapter explores annual reports prepared by Australian government protected area agencies for insights to the use of visitor monitoring. As such, the objectives of the chapter are:

- to describe the scope and emphasis of visitor monitoring reported in annual reports, especially the use of indicators and evaluation subjects; and
- to describe the reported monitoring and evaluation systems and to evaluate the extent to which they align with established good practice principles for the conduct of evaluation by protected area agencies.

Methods used follow those discussed in Chapter 2.

Data collection

Data collection included the sourcing of annual reports from protected area agencies (see Chapter 2, Table 7) and follow up interviews. Monitoring was considered to include anything that involved repeated assessment or evaluation of variables relating to visitor use. This also included where indicators or targets were listed even in the absence of details of monitoring (as it was considered that monitoring would have to take place for indicators to be measured).

Sourcing annual reports

Annual reports were obtained from Australian protected area agencies using the contact procedures detailed in Chapter 2 or downloaded from the internet. Agencies were asked to supply annual reports (draft or final) that were completed in 2007.

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Interviews with protected area agency staff

Interviews were conducted with key staff from the participating agencies (see Chapter 2, Table 10). All interviewees had a working knowledge of annual reporting for protected areas in their state/territory. Details on how interviewees were selected and contacted and the interviews conducted are presented in Chapter 2. Questions that guided the interviews are presented in Table 35 (for complete interview protocol see Appendix B).

Table 35: Interview questions for annual reports

Question no.	Question
1	Your annual report comprises evaluation of the following categories relating to visitor use: [categories inserted here]
	a How were these categories chosen from all possibilities?
	b In practice, which, if any of these categories stand out as being of higher priority than others?
2	In practice, who is the primary audience(s) for the report?
3	Overall, how useful do you consider your agency's annual report relating to visitor use (currently and in relation to expected needs in the near future), for the purposes of:
	a. accountability reporting (to external parties);
	b. determining whether the agency is meeting its key objectives;
	c. informing planning or policy at agency level; and
	d. adaptive management at park level.
	For each of these (where applicable):
	i Do you see any significant value (in principle) in improving these evaluations (to make them more useful)?
	ii If no, why not?
	iii If yes, what are the key things that would need to be improved?
	iv If yes, what would need to be done to achieve this?
4	Based on our review of your annual report, we have identified the following possible 'opportunity for improvement' in relation to established good practice principles—[top 3 of the following included (see Chapter 2, Section 2.6)]:
	Performance evaluation is included
	Performance evaluation relating to visitor use is included
	Clearly defined purpose statement and objectives for measuring performance
	Includes reporting on achievement of specified objectives or goals
	Performance indicators are used
	Performance targets are identified
	Standardised indicators are adopted that facilitate comparative analysis of performance across agencies
	Sets of indicators are used, rather than single indicators
	For each of these (where applicable):
	i Do you agree with our assessment that this principle was not followed?
	ii Do you see any significant value (in principle) in addressing this?
	iii If not, why not?
	iv If yes, what would need to be done to achieve this?

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5	Are there any trends or requirements that you expect to emerge soon that are likely to affect what is needed in relation to evaluation of visitor use in annual reporting?
6	Do you have any other comments about what you see as the way forward for evaluation of visitor use as part of your annual reporting?
7	Do you see any other opportunities for improving the usefulness of your agency's annual reports (and use of these reports) in relation to evaluation of visitor use?

Data analysis

The annual reports were reviewed to extract information on visitor monitoring including administrative details for each report (e.g. agency name), purpose of report, plus details of visitor monitoring including indicators, targets and the focus of evaluation, described using a modified version of the WCPA/IUCN evaluation effectiveness framework (see Chapter 2 and Hockings et al. 2000; Worboys 2007). This information was entered in Excel files and then summarised in the following results tables.

Information was similarly extracted from the interviews and researcher notes and entered in Excel files. Interviewee responses were entered according to question number. Responses to each question were then organised into categories determined as part of the analysis (see Chapter 2). Similarly, the interview results are summarised in the results tables that follow.

Results

Description of agency approaches

Annual reports are produced each financial year by all Australian protected area agencies or within the report of the larger department into which they fall (Table 35). More than half of the protected area managing agencies report through larger organisational units.

Table 36: Annual reports produced by protected area agencies or park issues reported within a larger organisational unit

Independent annual report	Parks report within a larger annual report
Conservation Commission of Western Australia	Department of Environment, Climate Change and Water
Great Barrier Reef Marine Park Authority	Northern Territory Department of Natural Resources, Environment and the Arts
Parks Australia	Queensland Environmental Protection Agency
Parks Victoria	SA Department for Environment and Heritage
Wet Tropics Management Authority	Tasmanian Department of Tourism, Arts and the Environment
	WA Department of Environment and Conservation

Additional detail on how park issues are reported in annual reports is given in Table 37.

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Table 37: Focus of annual reports regarding park issues and performance

Organisation producing annual report	How reporting relating to protected areas is included in report
Queensland Environmental Protection Agency	Includes section specific to QPWS
NSW Department of Environment, Climate Change and Water	Information relating to Parks and Wildlife Division integrated throughout the report.
Department of Tourism, Arts and the Environment	Includes a section specific to Tasmania Parks and Wildlife Service.
Parks Victoria	Entire annual report devoted to protected areas.
Great Barrier Reef Marine Park Authority	Entire annual report devoted to the marine protected area.
Northern Territory Department of Natural Resources, Environment and the Arts	Includes section on performance reporting for parks and reserves.
Organisation producing annual report	How reporting relating to protected areas is included in report
Conservation Commission of Western Australia	Entire annual report devoted to protected areas.
WA Department of Environment and Conservation	Includes a section specific to parks and visitor services.
Wet Tropics Management Authority	Entire annual report devoted to protected areas.
Parks Australia	Entire annual report devoted to protected areas.
SA Department for Environment and Heritage	Information relating to parks and visitor services integrated throughout the report.

Annual reports are organised in a variety of ways, and largely focus on biodiversity issues. For most agencies, the majority of the report comprises a descriptive list of specific ‘achievements’ of the agency for that financial year, which generally fall under the management cycle stages of ‘processes’ and ‘outputs’. To varying degrees, the reports also include formal evaluation in the form of indicators related to objectives, often described as key performance indicators.

The annual reports reviewed often did not indicate purpose other than what could be inferred from the forewords by the CEO and/or minister indicating the report was for consideration by parliament (Table 38). This reporting purpose was underpinned by legislated requirements. A few reports acknowledged their function as informing the public of activity and performance.

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Table 38: Stated purpose of annual reports in relation to performance evaluation or reporting

Agency	Stated purpose
Conservation Commission of Western Australia	Not given
Great Barrier Reef Marine Park Authority	Not given
Northern Territory Department of Natural Resources, Environment and the Arts	The annual report provides a record of the WA DNRETA and the Territory Wildlife Parks Government—business division’s achievements for the 2005–2006 financial year The report aims to inform parliament, Territorians and other stakeholders of: the primary functions and responsibilities of the agency Significant activities undertaken during the year highlighting specific achievements against budgeted outputs The Agency’s fiscal management and performance
NSW Department of Environment, Climate Change and Water	To fulfil requirements of legislation; and ‘outlines progress...’ (p. 12), but a specific purpose is not given.
Parks Australia	Not given
Parks Victoria	Not given
Queensland Environmental Protection Agency	Prepared primarily to allow the Queensland Parliament, through the agency’s minister, to assess the agency’s financial and operational performance. It also plays an important role in informing the Queensland community, and the agency’s clients and stakeholders, about their work so the value and effectiveness of their work can be judged.
SA Department for Environment and Heritage	Not given
Tasmanian Department of Tourism, Arts and the Environment	To fulfil requirements of legislation (no details given)
WA Department of Environment and Conservation	Not given
Wet Tropics Management Authority	To fulfil requirements of legislation (no details given)

Evaluation elements included in annual reports

While evaluation of resource status, threats to values and performance was addressed in most annual reports (80%), visitor-related evaluations were less comprehensively addressed (60%) (Tables 39 and 40). Some agencies reported but made no evaluative comments (20%). In most cases, the overall objectives for measuring performance were not stated (80%), although it was more common to report achievement against specific objectives (50%) (Table 39). Specific indicators of performance were often identified (80%), including visitor related indicators (50%), although how to interpret these for performance was not explicit. Only three of the annual reports reviewed linked indicators to objectives, leaving readers to infer the contribution by indicators to achieving these objectives. No visitor use indicators were standardised to allow cross agency comparison. Nevertheless, 50% of agencies reported performance targets, including 40% reporting on visitor related issues (Table 38), although these were often not linked to indicators. Clearly, annual reports are largely used to report agency activity rather than performance against standards, targets and associated indicators.

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Table 39: Inclusion of evaluation and visitor-related evaluation in Australian protected area managing agency annual reports

	NSW DECCW	WA DEC	Parks Vic	Tas DTAE	SA DEH	NT NRETA
Evaluation included?	✓	✓	✓	✓ not specific to protected areas	✓	✓
Evaluation of protected area visitor use issues included?	✓	✓	✓	✗	✗	✓
Objectives for measuring performance stated?	✗ except legal	✗ except legal	✗	✗ except legal	✗ except legal	✗
Reporting on achievement of specified objectives (general and visitor related)?	✓	✓	✗	✓ though not specific to protected areas	✗	✗
Performance indicators included (in general and visitor related)?	✓	✓	✓	✓ though not specific to protected areas	✓ not for visitors	✓
Visitor related indicators in sets? (✓ means at least in one case)	✓	✓	✗	✗	NA	✓
Indicators clearly linked to stated objectives (general and visitor related)?	✗	✗	✗	✓	NA	✓ loosely
Standardised visitor indicators for comparison between agencies?	✗	✗	✗	✗	✗/NA	✗
Performance targets identified?	✗	✓	✓	✗	✓	✓
Visitor related targets included?	✗	✓	✓	✗	✗	✓

	Q EPA	GBR MPA	WTMA	Parks Aus	% Ann Reps
Evaluation included?	✗ description of inputs, processes, outputs without judgement	✓	✗ description of inputs, processes, outputs, outcomes without judgement	✓	80
Evaluation of protected area visitor use issues included?	✗ description of processes, outputs without judgement	✓	✗ description of outputs, outcomes without judgement	✓	60
Objectives for measuring performance stated?	✓ briefly plus legal	✗ except legal	✗ except legal	✓ briefly plus legal	20
Reporting on achievement of specified objectives (general and visitor related)?	✗	✓	✗	✓	50
Performance indicators included (in general and visitor related)?	✗	✓	✗	✓	80
Visitor related indicators in sets? (✓ means at least in one case)	N/A	✓	N/A	✓	50
Indicators clearly linked to	N/A	✓	N/A	✗	30

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	Q EPA	GBR MPA	WTMA	Parks Aus	% Ann Reps
stated objectives (general and visitor related)?					
Standardised visitor indicators for comparison between agencies?	× NA	×	×N/A	×	0
Performance targets identified?	×	✓	×	×	50
Visitor related targets included?	×	✓	×	×	40

The following table (Table 40) describes how the evaluation process is organised and presented within annual reports.

Table 40: Details of evaluation within annual reports

Agency	Evaluation process	How visitor evaluation fits in
NSW DECCW	Corporate priorities and performance indicators given. Some reporting/interpretation on achievement of performance against indicators is given, but is generally implied. Some outputs and outcomes reported but usually with no clear link to a specific objectives.	Only one performance indicator is visitor related, with no clear link to a specific objective, but does feed in to a broader objective.
WA DEC	Agency performance reporting contains a section for 'Report on Services' and each service contains reporting mostly on outputs and outcomes with some indicators given.	Parks and Visitor Services reports in eight key areas, with some indicators listed as a 'key effectiveness indicators' and reported on in a separate section.
WA CC	Generally descriptions of progress of management plans, with nothing specific to visitors.	N/A
Parks Vic	Gives objectives and highlights for each of the 5 program areas, including 'caring for the natural environment', and 'enhancing the visitor experience', but no explicit mention of monitoring of visitor use or environment. Descriptive detail is provided for each program area, but without links to original objectives. Corporate performance measures are given with indicators, targets and results against targets (missed, met or exceeded), but no environmental indicators and limited visitor related indicators.	'Enhancing the visitor experience' identifies the visitor number monitor survey that reports on number of park visitors.
Tas DTAE	Each business unit reports on general achievements and refers to 'Tasmania Together' goals, standards and indicators given at the start of the report. No targets are given or indicators of achieving targets. The section 'Our Contribution to Tasmania Together' gives goals and initiatives undertaken. Each goal has supporting standards and details activity to reach each standard/benchmark. None of these appears to relate to visitor use/impacts of use in parks.	N/A
SA DEH	Basic reporting on outputs and outcomes, no monitoring specified.	N/A
NT NRETA	Gives overall objective for section, then outputs listed in groupings with each section containing a table of indicators (performance measures) and targets (estimates and actual figures), but only for 3-4 items covered in that section. Also gives future priorities and estimates for next financial year report.	N/A
Q EPA	Description of outputs only; no formal evaluation framework given. Gives an overview of 'our performance', which includes list of goals and what was done to achieve them, but no indication of the extent to which goals have been achieved.	N/A

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GBRMPA	Section B, Corporate Overview, lists 7 key performance indicators (2 relating to visitor use, neither related to visitor impacts).	Two are relevant to visitor use: KPI 4 Trends in the number of tourists to the Great Barrier Reef Marine Park, and KPI 7 Satisfaction with their experience. The section of the Report on 'Public understanding of the main threats to the Great Barrier Reef' includes details on the outcome, outputs (under quality, quantity and price) and performance (i.e. achieved or not) for Operations, and Tourism and Recreation. No clear targets are given.
WTMA	Some mention of visitor related management actions, but not relating to monitoring.	N/A
Parks Aus	Gives key result areas (KRAs) for Parks Australia division.	KRA4 Visitor management and park use gives performance indicators but they are not clearly linked to outcomes or actions. Does however include results for some outcomes within KRA4.

Visitor-related evaluation subjects covered in annual reports

Of the 48 visitor-related evaluation subjects used as a framework for this project, only 18 were addressed with indicators in annual reports (Table 41) and most were 'presence/absence' measures. None existed for context or planning. Scalar measures were largely confined to visitor numbers or percentages based on survey results relating to satisfaction. Comprehensive reporting of visitor-related evaluations was very limited, and accompanied by simplistic assessment.

Table 41: Visitor-related evaluation subjects covered in annual reports

Only evaluation subjects with indicators are listed. A list of all indicators is given in Appendix D.

Evaluation subjects	Number of annual reports evaluating this subject	Agencies that include this evaluation subject in their annual reports	Nature/type of indicators
Context			
Planning			
Inputs			
Funding	1	WA DEC	Scale related measures (cost ratios).
Infrastructure	1	Parks Vic	
Information	1	GBRMPA	Largely binary measure (yes/no) for provision of information and training to stakeholders.
Process			
Administration	1	GBRMPA	Binary measure (yes/no) for review of expiring permits.
Facility maintenance	1	GBRMPA	Binary measure (yes/no) for achievement of facility maintenance standards.
Communication	1	GBRMPA	Binary measure (yes/no) for continued involvement of tourism and recreation stakeholders.
Tourism/visitor involvement	1	GBRMPA	Binary measure (yes/no) for involvement of stakeholders and standard of relationships.
Visitor services	1	GBRMPA	Binary measure (yes/no) for efficient and equitable delivery, based on industry satisfaction.
Impact management	1	Parks Vic	
Tourism management	1	GBRMPA	Binary measure (yes/no), see above, plus system to acknowledge high standard operators.
Outputs			
Visitor use	3	Parks Aus, NSW DECCW, GBRMPA, NT PWS, WA DEC	Scalar measures, usually numbers, but also descriptive trends.

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Evaluation subjects	Number of annual reports evaluating this subject	Agencies that include this evaluation subject in their annual reports	Nature/type of indicators
Visitor characteristics	2	Parks Aus, NSW DECCW	Ordinal measures of demographics.
Recreation opportunities	1	GBRMPA	Binary measure (yes/no) for provision of efficient and equitable recreation opportunities.
Outcomes			
Visitor satisfaction	4	Parks Aus, NSW DECCW, GBRMPA, NT PWS, WA DEC	Scalar measures of percent satisfaction or ordinal measures.
Visitor use outcome	1	NT PWS	Binary measure (yes/no) for new experiences created.
Conservation values condition	1	Parks Vic	
Economic impacts	1	NSW DECCW	Scalar measure of \$ contribution to economy.
Visitor cognitive outcomes	1	GBRMPA	Scalar measure for improved understanding.

A list of all indicators is given in Appendix D.

Good practice

If good practice for annual reports includes reporting performance against evaluation subjects with indicators, then no clear case exists, although the annual report of the GBRMPA comes closest. However, good examples exist in many reports for some subjects. This suggests that evaluation of visitor-related issues remains poorly considered, at least in a measurable way. This lack of consideration has at least two possible causes: (1) annual reports are an inappropriate place to evaluate visitor use in detail; and (2) protected area agencies have insufficiently acknowledged the value of visitors to protected areas and hence under-represented visitor management benefits and concerns in annual reports.

Interviews of agency staff

Choosing what to report or evaluate

Interviewees were asked how the categories (evaluation subjects) that were evaluated and reported were chosen (Table 42). The choices about what to monitor were most commonly governed by formal agency requirements as specified in other agency documents or legislation. Other considerations were practical issues about what data could readily be obtained, and demonstrating the agency's main outputs and achievements.

When asked about categories that stood out as being of higher priority than others, visitor characteristics, such as visitor numbers and demographics, and specific visitor-related outcomes, such as visitor satisfaction and environmental and economic impacts of visitors were mentioned. Also mentioned were community attitudes and legislative requirements (Table 41). Two respondents were unable to identify any category as being of higher priority. Priority appears to relate to what data are available rather than appropriate reporting of performance.

While what is reported in annual reports does not necessarily reflect what is monitored and evaluated in agencies more broadly, the absence of visitor reporting and simplistic indicators in annual reports possibly reflects an institutional lack of emphasis on formally evaluating visitor-related issues.

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Table 42: Choices about visitor monitoring undertaken and associated priorities

Choices based on (Question 1a) (n=9)	Influence on choice
Choices given (n=9)	<p>Determined by formal agency requirements:</p> <ul style="list-style-type: none"> • legislative requirements for annual reports(4) • taken from another planning document (4) • they relate to desired outcomes (4) • correspond to broad areas (not visitor specific) identified for reporting (1) • determined by results that need to be shown (1) <p>Practical considerations:</p> <ul style="list-style-type: none"> • easiest to measure (2) • based on what data are available (1) <p>Other:</p> <ul style="list-style-type: none"> • they describe key agency outputs or achievements (3) • considered by staff to be highest priorities (1) • determined by audience (1)
Higher priority categories (Question 1b) (n=9)	Categories
Priorities (7)	Visitor characteristics
No clear priorities (2)	Visitor numbers (4)
Not discussed (0)	Visitor demographics (1)
	Visitor demand (1)
	Visitor-related outcomes
	Visitor satisfaction (4)
	Economic contribution of visitors (3)
	Visitor environmental impacts (1)
	General outcomes (1)
	Other
	Community attitudes (1)
	Determined by legislative requirements for annual reports (1)
	No clear priorities (2)

Primary audience of annual reports

Interviewees were asked who, in practice, were the primary audiences for annual reports. This was to determine if the choice of audience reflected the level of attention given to reporting visitor-related evaluation subjects. All but one of the interviewees stated that Parliament was the primary audience, while two-thirds nominated the public and the same number nominated stakeholders (Table 42). Other primary audiences were staff within the agency, other members of government, researchers and media.

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Table 43: Primary audience of annual reports

Categories (n=9) (no. of interviewees)
Parliament (8)
Stakeholders (6)
General public (6)
Staff within the agency (3)
Other members of government (3)
Researchers (1)
Media (1)

Use of visitor evaluation information

Interviewees were asked questions regarding the usefulness of their agency's annual report as an evaluation document. Interviewees commonly considered their annual reports to be useful in some areas only, and these perceived strengths and weaknesses differed between agencies (Table 44). Annual reports were most often considered useful for accountability reporting to external parties and for informing planning or policy, although 56 percent of interviewees considered them at best adequate for this purpose. The majority of interviewees considered annual reports to be of relatively little or limited use for determining whether the agency was meeting its key objectives and for adaptive management at the park level.

When asked whether they considered there would be significant value in improving the annual report with regard to each of these purposes, interviewees were roughly split amongst those who answered yes and no. The area in which there was most commonly considered room for improvement was in relation to determining whether the agency was meeting its key objectives. The most common reasons given to explain why 'improvements' would not be worthwhile were that the report was either already good enough, or because it was not intended to be used for that particular purpose.

Where interviewees felt that improvement would be worthwhile, they were asked what would need to be done to achieve this. Some of the recurring suggestions were to improve the monitoring framework, to increase utilisation of existing data, and to better coordinate staff, particularly by appointing a central staff member to oversee monitoring and evaluation. In a number of instances, it was reported that the agency was already in the process of making some of these improvements.

The level of scepticism about the usefulness of information in annual reports suggests improvements could be made; however, without incentives and information to broaden the usefulness, it appears unlikely that change will occur. Additional suitable information requires system-wide evaluations that are currently largely confined to NSW and Victoria. Some other protected area agencies are, however, improving their annual reports by including SoP information, with some evaluation subjects assessed annually.

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Table 44: Usefulness of visitor evaluation information in annual reports

Purpose	How useful?	Value in improving?	If not, why not?
	Very useful.	Yes.	Already good enough.
	Useful.	No.	Other mechanisms are more appropriate.
	Adequate.	No, but could be minor improvements.	Not a purpose of the annual report.
	Limited.	Unsure.	
	Useful for some objectives, but not others.		Not worth the effort.
	Not useful.		
Accountability reporting to external parties (n=9)	Very useful	(2) Yes	(2) Already good enough (3)
	Useful	(2) No	(3) (n=3)
	Adequate	(2) No, but could be with minor improvements (1)	
	Limited	(2) (n=6)	
	Not useful (1) (n=9)		
Determining whether the agency is meeting its key objectives	Useful (1)	Yes (4)	Already good enough (1)
	Adequate	(2) No	(1) Not worth the effort (1)
	Limited	(4) No, but could be with minor improvements (1)	(n=2)
	Useful for some objectives, but not others (1) (n=8)	(n=6)	
Informing planning or policy at agency level	Useful	(2) Yes (3)	Already good enough (1)
	Adequate	(4) No (2)	Other mechanisms are more appropriate (1)
	Useful for some objectives, but not others (1) (n=9)	Unsure (1) (n=6)	(n=2)
	Not useful (2)		
Adaptive management at park level	Very useful	(1) Yes (2)	Already good enough (1)
	Adequate	(3) No (2)	Other mechanisms are more appropriate (1)
	Not useful (5) (n=9)	(n=4)	Not a purpose of annual reports (1)
			(n=3)

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Purpose	If yes, what improve?	If yes, what would need to be done to achieve this?
Accountability reporting external parties (n=9)	Make planning more proactive (1)	Planning already underway to do this (1)
	Add input from tourism industry (1)	Appoint a central staff member to coordinate and oversee monitoring and evaluation (1)
	Revise key result areas, with full framework for monitoring and indicators (1)	Improve monitoring framework (1)
	Make it more specific and detailed (1)	(n=2)
	(n = 3)	
Determining whether the agency is meeting its key objectives	Include identification of trends (1)	Planning already underway to do this (3)
	Improve understanding of visitor issues to allow refinement of objectives (1)	Increase internal political will (1)
	Revise key result areas, with full framework for monitoring and indicators (1)	Increase organisational culture of evaluation (1)
	Develop useful indicators (1)	Improve monitoring framework (2)
	Design of data collection (1)	Internal clarification of park benefits and positioning (1)
	Design of evaluation approach (1)	Increase utilisation of existing data (1)
	Make it more specific and detailed (1)	Appoint a central staff member to coordinate and oversee monitoring and evaluation (1)
	(n=5)	Develop useful indicators (1)
		(n=5)
Informing planning or policy at agency level	Improve community appreciation of services provided by parks, to feed into improved policy (1)	Planning already underway to do this
	Design of data collection (1)	Increase utilisation of existing data (1)
	Design of evaluation approach (1)	Ensure policy-makers are kept informed of best available information (1)
		Increase internal political will (1)
		Increase organisational culture of evaluation (1)
	(n=2)	Improve monitoring framework (1)
		n=2
Adaptive management at park level	Determine factors that enhance visitor experience (1)	Reschedule/redesign visitor surveys to allow for input into annual report (1)
	Change timing of data collection to allow for incorporation into annual report (1)	Planning already underway to do this (1)
	Design of data collection (1)	Increase internal political will (1)
	Design of evaluation approach (1)	Increase organisational culture of evaluation
		Improve monitoring framework (1)
	(n=3)	(n=2)

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Applying good practice principles to annual reports

Based on the results in Table 39 (and Table 41), good practice principles that were not met (or only partially so) were further explored. Interviewees were asked whether they considered there would be significant value in improving the annual report with regard to each of the good practice principles that were not adhered to, or only partially so. More commonly, interviewees felt that there was no value in making improvements and the main reason given was that the principle was addressed in another report. The only area in which the majority of respondents felt that it was worth making improvements was in including reporting on achievement of specified objectives or goals. Half of the respondents felt that the use of performance indicators was another area that would be worth improving. Where interviewees did see the value of making improvements, they were asked what needed to be done to achieve this. Common suggestions included internal review, executive endorsement and the development of useful indicators.

Table 45: Opinions regarding application of good practice principles

Good practice principle (number not adhering or only partially)	Value in addressing?	If no, why not?	If yes, what would need to be done to achieve this?	
Evaluation is included (2)	Yes (1)	Addressed in another report (1)	Planning already underway to do this (1)	
	No (1)			
	Yes but don't know if the annual report is the place for it (1)			Change in requirements from parliament (1)
Evaluation relating to visitor use is included (4)	Yes (0)	Addressed in another report (1)		
	No (4)			
Clearly defined purpose statement and objectives for evaluation (6)	Yes (1)	Addressed in another report (2)	Internal review (1)	
	No (3)		Executive endorsement (2)	
	In principle yes, but only after agency's evaluation system as a whole improved (1)		Limit to expanding explanation of legal requirements for annual reports (1)	
	Maybe, but not important (1)			
Includes reporting on achievement of specified objectives or goals (3)	Yes (2)	Addressed in another report (1)	Develop useful indicators (2)	
	No (1)		Link annual reports more closely to strategic/corporate plan to reflect agency objectives (2)	
			Planning already underway to do this (1)	
Indicators are used (6)	Yes (3)	Addressed in another report (2)	Develop useful indicators (1)	
	No (3)		Staff coordination (1)	
			Already good enough (1)	Internal review (1)
				Executive endorsement (1)
				Approval and commitment by senior management (1)
Targets are identified (5)	Yes (1)	Addressed in another report (1)	Develop useful indicators (1)	
	No (2)		Internal review (1)	
	No, although we usually aim to maintain or beat levels from previous year (1)		Executive endorsement (1)	
	Not clear (1)		Premature given need to refine indicators (1)	
	Difficult with so many qualitative indicators (1)			

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Good practice principle (number not adhering or only partially)	Value in addressing?	If no, why not?	If yes, what would need to be done to achieve this?
Standardised indicators are adopted that facilitate comparative analysis of performance across agencies (2)	Yes (0)	Indicators should be agency specific to reflect needs of agency (1)	
	No (1)		
	Not for reported indicators, but yes for monitoring data and protocols (1)		
Sets of indicators are used, rather than single indicators (1)	Yes (0)		
	No (1)		

Opportunities for improvement, influential trends and other comments on the way forward for visitor evaluation in annual reports

Interviewees were asked about future trends or requirements that are likely to affect what is needed in relation to the evaluation of visitor use in annual reports. The issue of climate change received the most attention, followed by increasing visitor numbers (as both a trend and a requirement), issues relating to tour guide impacts and economic issues, including funding cuts and requirements to raise revenue (Table 46).

Table 46: Trends likely to affect the inclusion and approaches to visitor monitoring in annual reports

Categories (n=5) (no. of interviewees)	Additional detail from interviews (where given)
Visitation trends Increasing visitor numbers (2)	NSW State Plan requires an increase in visitor numbers, therefore we need to get systems in place to accurately evaluate this.
Require increased understanding of visitor use (1)	Re-branding is taking place in Kakadu, while Uluru is being selected as a national landscape, therefore there is a need to understand the target market - visitor numbers, level of satisfaction, market segmentation etc.
Monetary trends Required to raise revenue (1)	We need to raise revenue, but also consider whether that has any negative impacts on conservation.
Reduction in funding (1)	Major reduction in funding to our agency so we anticipate not being able to do as much.
External trends Climate change (3)	Climate change is an important emerging issue, which affects visitor use too. We have not really considered how we will be addressing it, maybe in the future we will do.
Tour guide impacts (2)	Evaluate impact of tour operators in parks in response to public concern. Tour guide training outcomes - is it affecting service delivery and safety standards?
Community engagement and support (1)	

The next interview question asked for further comments about the way forward for evaluation of visitor use as part of annual reporting; here each interviewee tended to have unique comments specific to their agency's annual report (Table 47).

Table 47: Further comments about the way forward for evaluation of visitor use as part of annual reporting

Categories (n= 8) (no. of interviewees)	Additional detail from interviews (where given)
Specific visitor characteristics Excessive visitor numbers in some parks requires improved visitor-related monitoring and evaluation (1)	For very popular sites, there are too many people and there needs to be a system for management of maximum capacity, which is not easy to do. For example, in Hinchinbrook we are setting limits to retain the experience for people.
Collect data on visitation rates and include it in future Ann Reps (1)	Separate to the annual report, visitor data surveys are underway using counters on trail sites to determine visitation rates. Rangers are already getting feedback and head office need to pool these data and make them centralised to probably be included in future annual reports.
Conduct visitor surveys (2)	Visitor data surveys are needed to determine changes in motivations of

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Categories (n= 8) (no. of interviewees)	Additional detail from interviews (where given)
	visitors and benefits of the natural experience.
Evaluate visitor education (1)	Would be good to look at whether an increase in visitor numbers results in an increase in education and awareness of conservation, or is it just a case of visitors using the parks as an 'extended back yard'? Hard to quantify, but need to look at how to evaluate this.
General agency methodology More holistic approach to visitor use considering economic outcomes, conservation issues etc (1)	We are interested in combining visitor service evaluation (visitation rates, visitor expectation, motivation, satisfaction) with other areas (biodiversity conservation, economic outcomes, etc.) to produce an approach that gives a more balanced park outcome evaluation, as there has been some concern that the agency continues to strive for perfection in each area without a deeper appreciation of each of the components.
Agency needs to be transparent and keep public informed (1)	Reporting activities, measures and information are not readily transparent to the public and therefore decisions made by the agency are not clearly apparent.
More sensitive indicators (1)	We use mainly binary indicators in our annual report (i.e. is x being achieved or not) and these are not very useful in telling us how we are doing - we need more sensitive indicators.
Need to improve accessibility and digestibility of information for general staff (1)	
More coordination and alignment in general (1)	
More rigour in our process (1)	
On the tourism industry	
Add reporting on tourism industry (1)	Good to add reporting on tourism industry (e.g. number of accredited operators).
Involve tourism operators with monitoring (1)	If possible, involve tourism operators (with agency) in monitoring—they did work to plan for this, but it has not been implemented due to insufficient support available from agency field staff - may be able to implement with further work.

The final interview question asked interviewees to identify opportunities they see for improving the usefulness of their agency's annual reports (and use of these reports) in relation to evaluation of visitor use. A range of different suggestions was made by interviewees (Table 48); the most common being to make the annual report more user friendly for staff and to use the annual report to help achieve agency objectives in relation to communication with the public.

Table 48: Opportunities for improving the usefulness of annual reports as part of evaluating visitor use

Categories (n = 9) (number of interviewees)	Additional detail from interviews (where given)
Making the annual report more relevant and user-friendly Make more relevant and user friendly for staff (2)	Could be more user-friendly as it is currently 'too heavy going' to be used by most people for most things in the agency. Could include an appendix containing staff information to be use as 'headlines'.
Make more relevant for stakeholders (1)	Improve the relevance, readability and acceptance of the report at the agency level. Adoption of annual report and its use in informing stakeholders could be improved.
Increase usefulness of annual report (1)	Annual report document in general is not used to a great extent, so maybe opportunity to use it more.
Use annual report to help achieve agency objectives (2)	Given that NSW State Plan priority is to increase visitor numbers, annual report could be used more to promote visitation to parks, including types and opportunities.

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Improving evaluation methods More comprehensive evaluation of visitor use (1)	Once our new monitoring framework system is in place, this will create an opportunity to make the annual report more comprehensive in relation to evaluation if we decide that is appropriate.
Develop useful short term indicators (1)	Develop new indicator: number of tour guides that have completed their tour guide training, and consider other similar short-term indicators.
Develop key performance indicators that are specifically responsive to management performance (1)	
Incorporate external factors that affect outcomes (1)	Outcomes can be influenced by factors other than management performance (e.g. oil crisis leads to reduction in visitor numbers) and these need to be considered in evaluations.
Increasing incorporation of existing data and/or reports	
Link annual report more closely to strategic/corporate plan (1)	
Include data from other reports (1)	Coordinate timing so that our State of the Parks data is incorporated into annual report.
Include case studies (1)	Put more case studies (such as the one on e-learning for tour guides for Parks Australia) into annual report.

Overarching themes evident from the interviews

Reading across the responses to all the interview questions for all interviewees, the following themes were apparent: developing better indicators; increasing the utilisation of existing data; calling for the annual report to be more user friendly; improving understanding of visitor use; and an ambivalence about improving certain aspects of the annual report.

The **development of better indicators** was frequently recommended by interviewees as a means of improving visitor evaluation in annual reports. Interviewees expressed the need to develop suitable indicators to meet good practice principles such as identifying performance targets and including reporting on achievement of specified objectives or goals. Use of performance indicators was the principle that the greatest number of interviewees considered worth improving, suggesting the development of a realistic indicator to correspond to each of the agency's desired outcomes.

When discussing the need for 'better' indicators, interviewees generally had different requirements based on their agency's annual report. For example, one interviewee stated that the annual report contained mainly binary indicators but felt that these were not very useful for informing management and expressed the need for more sensitive indicators. Another interviewee proposed that it would be useful to develop indicators that apply on a range of scales - at the site level, park level, district, regional and state level. Other suggestions included the development of short-term indicators (such as number of tour guides that have completed their tour guide training), development of indicators to provide trend-based information and development of indicators linking to their agency's corporate plan.

Increased utilisation of existing data was commonly proposed to improve annual reports and provide substance to what was being reported. Interviewees expressed concerns that data were being collected but were not being used i.e., they were not being included in annual reports. Similarly, it was felt that resources were being used for the unnecessary development of purpose-built research when it would be more efficient to utilise data from research already conducted by other departments or for other reports such as the State of Parks report. Policy work, in particular, was identified as an area in which it is very important to address this issue, due to the isolation of policy writers from areas of the agency that hold the best available information. The tourism industry was suggested as having the potential to provide agencies with information they need in regards to visitation.

The desire to make the annual report more **user-friendly** and to increase its usefulness was a clear theme. Interviewees felt that annual reports were not being used to their full potential and could be made more useful and relevant both within agencies and in informing stakeholders. Interviewees felt that the annual report is too heavy going to be used by most people in the agency and expressed a need to improve the accessibility and digestibility of information for general staff so that annual reports could be used at an agency level.

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A number of interviewees felt that visitor evaluation needed to include an **improved understanding of visitor use**. This would involve the collection of more meaningful visitor data, beyond numbers of users: hence increased resources to acquire these data. Rather than simply counting visitor numbers, surveys should aim to discover why visitors come to protected areas, what expectations they have, and whether visiting protected areas helps to increase education and awareness of conservation.

Though these concerns were raised by interviewees, there was some **ambivalence** regarding the perceived value of improving annual reports in areas addressed in these interviews. It was emphasised that the annual report may be not be the appropriate document in which to address topics raised in the interviews, as it is not considered to be the purpose of the annual report. For some agencies, visitor use issues were addressed in reports other than the annual report, such as the agency's strategic plan. Some interviewees believed their agency's annual report to be very limited in terms of monitoring and visitor use, stating that the annual report is considered a summary of the achievements of the agency and a storehouse of information on things such as the financial position of the department and the divisions. In terms of improvements suggested in the interviews, many interviewees believed that the annual report was not really used for these things and was therefore already 'good enough'. Also, given that the annual report was not considered useful in a practical sense and that it is not used for informing planning or policy at an agency level, some interviewees concluded that there is little value in improving it in some of the areas covered in the interviews.

Discussion

Neither the content analysis nor the interviews suggested that annual reports are currently seen as a place to report on or evaluate visitor use of protected areas. Few annual reports included such information and rarely was it beyond descriptive statistics with minimal interpretation of their implications for attainment of agency objectives (if defined). Poorly or narrowly defined purposes for annual reports (a legislative requirement to report to Parliament) suggests little impetus to enhance annual reports as an evaluative document including targets, beyond their current function as a descriptive document of activity and costs. While critiques of the ability to report performance by Auditors' General in Victoria and NSW has led to development of State of the Parks programs in these states (see Chapter 6), given the irregular nature of these reports, it is foreseeable that more detailed performance reporting will soon be required.

From a visitor use perspective, reporting remains largely superficial (visitor numbers) as an indicator of pressure on valued resources and worth of the protected area system. This also reflects the absence of data, indicators, measures and targets, or the linking of visitor use to the attainment of corporate objectives. The lack of criticism of these failings suggests that annual reports are regarded as a task that must be completed for an undiscerning audience(s). Given the corporate effort that goes into annual reporting, it seems appropriate that the document move from simply reporting activity and expenditure to more of an evaluative report on performance and attainment of objectives/targets. Such a purpose would improve the usefulness of these reports and proactively address likely demands for increased accountability.

From the analysis of annual reports and interviews, most agencies adopt the good practice principles (see Table 49), although this is not done comprehensively for all management issues and particularly not for visitor use related issues. The role of annual reports in providing impetus for improved evaluation of visitor use requires a change in the purpose for annual reports and parliamentary and/or executive leadership. Additional resourcing or a shift in corporate priorities and budget allocations will be needed.

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Table 49: Good practice principles and agency practices from document analysis and interviews

Based on good practice principles summarised in Table 11.

Good practice principle	% of agencies adhering	Issues relating to future addressing of this principle
Evaluation is included	80%	Limited use for key performance areas, but efforts underway to increase. A change in reporting requirements of parliaments would precipitate change of emphasis from activity reporting to performance reporting.
Evaluation of protected area visitor issues included	60%	Poorly reported, and largely addressed in other reports (e.g. SoP). Would probably need a change in parliamentary expectations.
Objectives for measuring performance stated	20%	Poorly reported. Will require a shift in the purpose of Ann Reps beyond legislated requirements.
Reporting on achievement of specified visitor objectives	50%	Poorly reported because of lack of useful indicators and executive endorsement. Links needed between annual report and corporate planning.
Visitor related performance indicators included	80%	Poorly reported because of lack of useful indicators and executive endorsement, and resources to collect data. Will require a shift in resource allocations.
Visitor related performance targets identified	20%	Poorly reported because of lack of useful indicators and executive endorsement. A shift in management emphasis would be required.
Standardised visitor related indicators are adopted that facilitate comparison across agencies	0%	Not reported. Clarifying context may be an issue to avoid inappropriate comparisons. Agreement of agencies needed to facilitate comparisons.
Visitor indicators in sets	50%	Not reported. Needs greater consideration of indicators and appropriate approaches for reporting.
Visitor-related evaluation is designed to feed into, and used to help guide, decision making and management. A culture of adaptive management is established, with cycles of reflection and learning. This includes reporting on evaluation findings and recommendations to on-the-ground managers.	40%	Note: indirectly explored in interview through ‘how useful is evaluation for planning, policy, adaptive management plus question on way forward. Developing in some States more than others; especially those where system-wide assessments have been undertaken and systems exist that incorporate evidence based management. Requires a shift in corporate culture, executive leadership and resourcing for on-going evaluation.
Visitor related evaluations are planned and designed to operate over the long term, with secure resourcing.	0%	Superficial only. See above.

Chapter 5

STATE OF THE PARKS REPORTING

Introduction

In 1995, the Auditor-General of Victoria identified a long-standing lack of critical state-wide consolidated information relating to environmental assets, and found that it was not possible to determine whether management of these assets was satisfying the objects of the National Parks Act 1975 (Vic) with respect to the preservation and protection of parks. Further, the report identified the need to ensure that the environmental state of the parks system is clearly documented for national purposes, as well as to develop a clear basis for allocating resources to the core responsibility of natural resource management (Auditor General of Victoria 1995). In response, Parks Victoria commenced the compilation of information on park assets and their condition based on state of the environment reporting pressure-state-response framework (see DEST 1994). This resulted in the first State of the Parks (SoP) report (Parks Victoria 2000). This was followed by an equivalent NSW initiative (NSW NPWS 2001). Both reports were largely qualitative inventories of park assets and threats, supported by a variety of quantitative monitoring studies.

While in the process of collating information for a second SoP Report, the NSW Audit Office found that ‘managing reserves requires that judgements be made about the condition of natural and cultural heritage and decisions taken as to what is, at least, an acceptable standard. Reliable information is fundamental to these tasks and for monitoring success, continuous improvement and accountability.

It was the Audit Office’s view that the Service has yet to:

- clarify what constitutes success in reserve management, and
- develop an adequate information base to measure its success.

Consequently, the Service cannot reliably determine how well it conserves and protects our natural and cultural heritage. This is a common situation for like agencies (NSW AO 2004, p. 1).

While collecting quantitative data on a sample of reserves, the now New South Wales Parks and Wildlife Group of the Department of Environment, Climate Change and Water (NSW DECCW) embarked on a system-wide evaluation of management effectiveness (see Hockings, Cook, Carter & James 2009). This paralleled world-wide emphasis on protected area management effectiveness evaluation driven by work of the IUCN-WCPA (World Commission for Protected Areas) (see Leverington et al. 2008a) and the Program of Works on Protected Areas adopted as part of the Convention on Biological Diversity (SCBD 2004) as well as work in all states of Australia (see Jacobson, Carter & Hockings 2008). The result was the second NSW SoP report (NSW DEC 2005) Parks Victoria adopted a related approach, which built on their existing pressure-state-response framework (Parks Victoria 2007b). By 2009, after three assessment iterations in NSW, almost 800 parks and reserves covering an area of 6.7 million hectares or 8.4 percent of the state had been assessed (Growcock, Sutherland & Stathis. 2009). A similar level of coverage now applies for the Parks Victoria estate. The questions on management effectiveness in the SoP proformas were linked to management themes, such as weeds, pest animals, fire, threatened taxa, cultural heritage, visitors and asset management. The result is a massive database of information on management effectiveness (at least 30000 bits of information per iteration) with the potential to track progress and provide insight to what management approaches are effective, or otherwise.

Methods

As for the previous two chapters, this chapter explores State of the Parks or system-wide assessments prepared by protected area agencies in Australia to gain insights to the use of visitor monitoring. The objectives of the chapter are:

- to describe the scope and emphasis of visitor monitoring reported in SoP reports, especially the use of indicators and evaluation subjects; and
- to describe the reported monitoring and evaluation systems and to evaluate the extent to which they align with established good practice principles for the conduct of evaluation by protected area agencies.

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Methods used follow those discussed in Chapter 2, but with additional informal interviews with those who have been involved with SoP development, especially in NSW and Victoria.

Data collection

Data collection included the sourcing of SoP reports from protected area agencies (see Chapter 2, Table 7) and follow up interviews. Monitoring was considered to include anything that involved repeated assessment or evaluation of variables relating to visitor use.

Sourcing SoP reports

SoP reports were obtained from Australian protected area agencies using the contact procedures detailed in Chapter 2 or downloaded from the internet. Agencies were asked to supply copies of the most recent SoP. State of the Parks or equivalent reports are produced by the following agencies:

- Queensland Environmental Protection Agency—Park Profiles and Rapid Assessment (Integrity)
- NSW Department of Environment, Climate Change and Water—State of the Parks Report
- Parks Victoria—State of the Parks Report
- Wet Tropics Management Authority—State of Wet Tropics Report (part of the Annual Report) and Wet Tropics Periodic Report to UNESCO
- Parks Australia
- Great Barrier Reef Marine Park Authority—Outlook Report

Interviews with protected area agency staff

Interviews were conducted with key staff from six of the participating agencies (see Chapter 2, Table 10). All interviewees had a working knowledge of SoP reporting for protected areas in their state/territory. Details on how interviewees were selected and contacted and the interviews conducted are presented in Chapter 2. Questions that guided the interviews are presented in Table 49 (for complete interview protocol see Appendix B).

Table 50: Interview questions for State of the Parks reports

Question no.	Question
1	Your SoP report comprises evaluation of the following categories relating to visitor use: [<i>categories inserted here</i>] a. How were these categories chosen from all possibilities? b. In practice, which, if any of these categories stand out as being of higher priority than others?
2	In practice, who is the primary audience(s) for the report?
3	In practice, to what extent and how (where applicable) is visitor-related information in State of the Parks reports used for the purposes of: a. accountability reporting (to external parties); b. determining whether the agency is meeting its key objectives; c. informing planning or policy at agency level; d. adaptive management at park level; and Other use(s) (please describe). For each of these (where applicable):
I	How useful is this information for this purpose?
Ii	Do you see any significant value (in principle) in improving these evaluations (to make them more useful)?
Ii	If no, why not?
Iii	If yes, what are the key things that would need to be improved?
Iv	If yes, what would need to be done to achieve this?

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Question no.	Question
4	<p>Based on our review of your SoP report, we have identified the following possible ‘opportunity for improvement’ in relation to established good practice principles—[top 3 of the following included (see Chapter 2)]</p> <p>Performance evaluation relating to visitor use is included</p> <p>Clearly defined purpose statement and objectives for measuring performance</p> <p>Includes reporting on achievement of specified objectives or goals</p> <p>Performance indicators are used</p> <p>Performance targets are identified</p> <p>Standardised indicators are adopted that facilitate comparative analysis of performance across agencies</p> <p>Sets of indicators are used, rather than single indicators</p> <p>For each of these (where applicable):</p> <p>I Do you agree with our assessment that this principle was not followed?</p> <p>Ii Do you see any significant value (in principle) in addressing this?</p> <p>Iii If not, why not?</p> <p>Iv If yes, what would need to be done to achieve this?</p>
5	Are there any trends or requirements that you expect to emerge soon that are likely to affect what is needed in relation to evaluation of visitor use in SoP reporting?
6	Do you have any other comments about what you see as the way forward for evaluation of visitor use as part of your SoP reporting?
7 a	In practice, to what extent is the visitor use monitoring and evaluation relating to visitor use, as specified in the agency’s formal requirements for this report, carried out?
b	If not done in full, what are the reasons for this?

Data analysis

The SoP reports were reviewed to extract information on visitor monitoring including administrative details for each report (e.g. agency name), purpose of report, plus details of visitor monitoring including indicators, targets and the focus of evaluation, described using a modified version of the WCPA-IUCN evaluation effectiveness framework (see Chapter 2 and Hockings, Stolton & Dudley 2000; Worboys 2007). This information was entered in Excel files and then summarised in the following results tables.

Information was similarly extracted from the interviews and researcher notes and entered in Excel files. Interviewee responses were entered according to question number. Responses to each question were then organised into categories determined as part of the analysis (see Chapter 2). Similarly, the interview results are summarised in the results tables that follow.

Results

Description of agency approaches

Parks Vic, NSW DECCW and QPWS have formal SoP or equivalent programs; that is, pre-planned indicators and protocols for collection of data to enable evaluation of key aspects of the protected area system. The GBRMPA, Parks Aus and the WTMA (along with other World Heritage Areas) have reporting systems either called ‘State of Parks’ or are equivalent in that they are periodic but differ in that they are generally post hoc presentations of data, akin to the annual reports of most agencies. The other factor that distinguishes the two groups is the adaptive management rationale which is evident in most communications regarding the NSW, Victoria and Queensland monitoring and reporting frameworks. In all cases, the SoP report tends to be a broad assessment of performance across the protected area system, although based on individual park areas.

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NSW DECCW State of the Parks program

The NSW Parks and Wildlife Group of NSW DECCW manage the SoP program that has at its foundation a qualitative assessment of management performance for key performance areas based on the WCPA framework (see Growcock, Sutherland & Stathis 2009; Hockings et al. 2009). The questions on management effectiveness are linked to management themes, such as weeds, pest animals, fire, threatened taxa, cultural heritage, visitors and asset management (NSW DEC 2005). Assessments are supported by identification of supporting information and reviewed by upper levels of management.

The indicators of performance are collective statements that represent standards to be achieved. The largely qualitative and expert-based assessments (staff experience, specialist and community opinion, planning documents) of the SoP program are underpinned by integrating science (corporate databases, research and monitoring studies) with management to inform and triangulate the assessments. The qualitative assessment approach is complemented by detailed quantitative monitoring of key indicators for issues and locations of concern, especially threatening processes to valued resources. In areas of management characterised by incomplete knowledge, use and recording of the best available knowledge is essential.

Growcock, Sutherland & Stathis (2009) based on their experiences with the NSW SoPs propose four key challenges in collecting information to inform adaptive management at a system-wide scale: fostering ownership of the program, ensuring reliable and defensible data, developing a system for information sharing (products and tools that facilitate the access and use of assessment results) (c.f. Stathis & Jacobson 2009), and acknowledging negative assessments.

Parks Victoria State of the Parks program

The Parks Victoria SoP program is similar to that of NSW, using a qualitative assessment of many key performance areas for all parks (Parks Victoria 2007a). This is supplemented by the Signs of Healthy Parks monitoring program currently under development. This program is seeking to ensure systematic, robust and integrated ecological monitoring across the range of the State's ecosystems. While the desire is to monitor all of the major values and threats to them, monitoring programs will need to focus on the most important indicators of ecosystem health. To assist with management and assessments, Parks Victoria defines 'Levels of Service' and 'Protection' for its reserve system. These prescribe management thresholds based on reserve characteristics.

QPWS Park Profiles and Rapid Assessment Program

Queensland's Park Profiles system has characteristics related to Victoria's Levels of Protection and Service approach. All parks and forests are categorised according to their relative values, threats and management opportunities. Complementing this is the Rapid Assessment Program (of resource integrity) based on a questionnaire that is completed every two years for each protected area. The questionnaire explores three areas fundamental to good park management:

- are adequate management tools in place ?
- to what extent are they being implemented ?
- is management effective ?

The methodology is based on the 'ecological integrity' approach taken in Canada, which has at its heart defining reserve values. Since its development from 2001, further ideas from a range of sources including The Nature Conservancy (Parrish, Braun & Unnasch 2003) and the Enhancing our Heritage toolkit (Hockings et al. 2007) have been incorporated, with the system now able to define monitoring and management priorities. Completion of integrity assessments for the reserve system will give a comprehensive picture of the status of park resources, but the system does not address the entire management cycle. This is acknowledged but emphasis remains on implementing the existing system with consideration of a NSW-Victorian SoP approach for the future.

GBRMPA Outlook Report

The GBRMPA is required by legislation to produce an 'Outlook Report' every five years. The first *Great Barrier Reef Outlook Report 2009* (GBRMPA 2009) is a summary of the past and present condition of the environmental, economic and social values of the Great Barrier Reef and presents its possible future. The report synthesises available data, which are provided in supplementary reports. The report is based on the pressure-state-response framework typical of state of the environment (SoE) reports (see DEST 1994), but state focuses on values and pressures are defined by a number of indicators with data from one-off studies. The report evaluates and interprets data, including for visitor use, to define the 'outlook' for the Great Barrier Reef. It

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includes a management effectiveness assessment based on the WCPA framework. The evaluation is for the whole of the GBR so it is necessarily non-site specific although supporting information details geographic variation, but associated assessment is not provided.

Parks Australia PoM auditing

Parks managed by the Commonwealth do not have a system-wide approach to reporting and monitoring management performance, although a SoP approach similar to that adopted by NSW and Victoria is being considered. Each Commonwealth Park is managed almost independently based on a legislated plan of management. Reports are prepared on the status of plan implementation, reporting on indicators that reflect the achievement of desired outcomes. The reports are largely process, output and outcome assessments with outcome focused on the status of resources and threats.

WTMA—State of Wet Tropics report and periodic reports

The State of the Wet Tropics report forms part of the WTMA’s annual report and is required by legislation. Similarly, Periodic Reports are an obligation to UNESCO for reporting, every six years, on the state of the World Heritage Area. The approach adopted draws on the SoE model defining the status of values, threats to them and proposed responses. The reports are based on best available knowledge, but not a regular program of monitoring, with some notable exceptions relating to visitor use and community perception of the work of the WTMA. It is not planned to adopt a management effectiveness evaluation akin to that used in NSW and Victoria because of the perceived cost, nor is it proposed to adopt QPWS’s approach to integrity assessment because it is seen to be simplistic.

Purpose of SoP reporting

The Convention on Biological Diversity program of work on protected areas (UNEP 2009) calls for the development and implementation of systems for assessing management effectiveness (UNEP 2004). This is reflected in Theme 4 of the revised National Reserve System strategy (NRSTG 2009) which requires protected area managers to ‘apply adaptive management strategies that incorporate lessons learnt into ongoing management’ (Action 4.4) and ‘develop and apply a national management effectiveness framework ... to evaluate the management of protected areas’ (Action 4.6). While these international and national requirements provide a purpose for SoP initiatives, recent emphasis on SoP reporting has been driven by concern for being able to account for expenditure on parks (see Chapter 5) and to develop a more evidence-based approach to adaptive management.

The stated purposes for SoP programs fall into four broad areas: public accountability and reporting, understanding condition and threats, understanding the effectiveness of management, and informing the direction of future management and resource allocation (Table 51). While these purposes are not always clearly stated in SoP documents, associated communications certainly imply these.

Table 51: Stated purpose of State of Parks reports in relation to performance evaluation

Agency	Stated purpose
NSW DECCW State of the Parks Program	The SoP program is recognised as a significant and ambitious initiative to measure and evaluate the management performance of the NPWS against defined objectives in an open and accountable manner. To date, it is one of the largest attempts to measure park management effectiveness in the world. However, to build on the gains that have already been made, the NPWS is building a larger and more comprehensive Park Management Framework.
Parks Vic State of the Parks Program	The SoP program is an assessment of the condition of Victoria’s parks network as well as the outcomes of Parks Victoria’s management of that network. The objectives of the program are to: <ul style="list-style-type: none"> • contribute to a better understanding of the condition of parks and the current and emerging threatening processes and impacts on parks; • evaluate the effectiveness of management processes and activities as a means to deliver long-term objectives; • inform planning and decision making at a range of scales, from corporate and network to park level; and • improve communication to the public about Victoria’s parks and outcomes of Parks Victoria’s management of them.

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Q EPA Rapid Assessment Program (Integrity)	<p>The purpose of the Rapid Assessment Program (RAP) is to develop a system to rapidly assess how well Queensland's parks are being managed. It provides:</p> <ul style="list-style-type: none"> • a system to guide the setting of park management priorities, budgets and work programs; • improved decision support for setting strategic directions; • a regular picture of management performance and trends in park management over time; and • improved accountability and transparency in the management process. <p>The RAP is a required output under the Government's Ministerial Portfolio Statements and the QPWS Master Plan. RAP has many organisational benefits and is a useful tool for improved planning and decision-making. Results of the assessment can be used to:</p> <ul style="list-style-type: none"> • provide a snapshot of park management performance at any given point in time; • provide a baseline against which future management performance can be compared; • identify areas of excellence in park management; • identify aspects of park management requiring additional attention; and • help prepare a 'State of the Parks' report.
GBRMPA Outlook Report	To provide a regular and reliable means of assessing performance in an accountable and transparent manner and a key input for any future changes to zoning plans and the consideration of broader issues by government. Required by law every five years.
Parks Aus	No stated purpose.
WTMA State of the Park Report	No stated purpose, included in the Annual Report, required by law.
WTMA Periodic Report	No stated purpose. Required every six years by UNESCO

Evaluation elements included in SoP reports

Evaluation of resource status, threats to values and performance is inherent in the concept of undertaking a SoP assessment. The emphasis placed on these elements varies between agencies, with some focusing on the status of values and threats. These agencies tend to be less explicit in defining objectives for the assessment (Tables 52 and 53). They also tend to simply identify status without evaluating the reason for, or management's contribution to, the defined outcome. Most SoPs do not include clear goals (Table 52), although these are implied by presentation of data and the wording of questions used in the assessments. All SoP reports include an evaluation of visitor use issues (Table 52). The WTMA SoP focuses on resource status which forms part of its annual report, wherein visitor issues are addressed. Indicators, including those that are visitor related, are included or are implied in SoP reports, although these are not always comprehensively defined and are usually not clearly linked to objectives. However, reporting is usually based on 'service' themes that imply objectives, including visitor management, which are stated in other strategic documents.

While there is considerable overlap in indicators, there is no explicit attempt to standardise them for inter-agency comparison (Table 52). Nevertheless, NSW DECCW and Parks Vic are currently working towards developing a compatible set of indicators. However, caution must be exercised here. While there is benefit in have a uniform set of indicators, comparison must be undertaken mindful of context. In addition, a fundamental principle of SoP programs is improvement in management; use of SoP programs to create 'league tables' can be detrimental to this principle. Targets are rarely defined in SoP reports (Table 52), although these can be inferred from assessment criteria for the whole system, but may not necessarily be appropriate for all reserves, because of context issues. Parks Victoria are moving to address this through its Levels of Service and Protection programs.

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Table 52: Inclusion of visitor-related evaluation in State of Parks reports

	NSW DECCW	Parks Vic	Q EPA	WTMA SoP	WTMA Periodic report	Parks Aus	GBRMP A
Objectives for evaluation stated in report documentation?	✓	✓	✓	✗	✗	✗	✓
Evaluation included?	✓	✓	✓	✗	✓	✓	✓
Evaluation includes reporting on achievement of specified goals	✓✗ partially	✗	✗	✗	✗	✗	✓
Evaluation of visitor use issues included?	✓	✓	✓	✗	✓	✓	✓
Indicators included?	✓ throughout	✓ throughout	✓ throughout	✗	✓ for selected objectives only	✓ for selected objectives only	✓
Indicators clearly linked to stated objectives?	No only broad overall objective given for SoP program	Yes broad objectives given at start of each chapter but not clearly linked to indicators	No objectives given	-	✗	✗	✗
Visitor related indicators included?	✓	✓	✓	✗	✓	✓	✓
Visitor indicators single or in sets?	Sets ✗✓	Sets ✗✓	Sets ✗	Single ✗	Single ✗	Single ✗	Sets ✗
Standardised visitor indicators for comparison between agencies?	Being achieved with Parks Vic	Being achieved with NSW DECCW					
Targets included?	✗	✗	✓	✗	✗	✗	✗
Visitor related targets included?	✗	✗	✗	✗	✗	✗	✗

Table 53 Details of evaluation process within State of Parks reports

Agency	Evaluation process	How visitor evaluation fits in
NSW DECCW SoP	SoP questions all relate to monitoring; specific questions relate to monitoring visitors.	Included in assessment proformas.
Parks SoP	Vic SoP questions all relate to monitoring; specific questions relate to monitoring visitors, but no clear links with objectives.	Included in assessment proformas.
Q RAP	EPA Uses Good Practice Indicators (GPIs) or targets tailored to the individual characteristics and management needs of each park aggregation (groupings of parks). Evaluates state-wide management performance by comparing all aggregations against desired GPIs and previous RAP results (2003). Gives GPIs, targets and an indication of whether the target has been missed, met or exceeded for each survey item. Requires park staff to report in survey and uses their answers to derive an overall picture for the	Included in assessment proformas.

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Agency	Evaluation process	How visitor evaluation fits in
	park aggregation and for the state.	
WTMA SoP WTMA Periodic Report	Focuses on reporting the status of heritage resources and threats to these. Monitoring is implied by data included. Basic reporting on outputs and outcomes, limited information on monitoring.	Nothing specific to visitors and no details of monitoring included. Included as threats to World Heritage values and as part of presentation objectives.
Parks Aus	Gives case studies of parks and performance against key reporting areas (see Table 40).	KRA4 includes a very brief section and only a mention to do visitor surveys (no detail); no indicators given in main section. Case studies report limited monitoring of visitor use; no clear indicators; and issues; actions; and performance are not clearly linked.
GBRMPA Outlook Report	Comprehensively addresses resource status, threats and management performance for the whole of the GBR. Detail is contained in supporting documents.	Visitor related issues are addressed in a number of chapters as threats to marine resources and in terms of recreation opportunities. Data on visitor related issues is far less than that for natural resource.

Visitor-related evaluation subjects covered in annual reports

Of the 48 visitor-related evaluation subjects used as a framework for this project, 31 were addressed in SoPs with indicators (Table 54), with many being based on ordinal scales. Scalar measures were largely confined to visitor numbers or percentages based on survey results relating to satisfaction. In contrast with annual reports, SoPs reported visitor-related evaluations across the whole of the managed area.

Table 54: Visitor-related evaluation subjects covered in State of Parks reports

Only evaluation subjects with indicators are listed. A list of all indicators is given in Appendix E.

Evaluation subjects	Number of SoPs evaluating this subject	Agencies that include this evaluation subject in their SoPs	Nature/type of indicators
Context Values	3	NSW DECCW, Parks Vic., GBRMPA	Descriptive.
Threat identification	3	NSW DECCW, Parks Vic., GBRMPA	Descriptive or scalar for a number of indicators
Threat severity	3	NSW DECCW, Parks Vic., GBRMPA	Scalar and ordinal indicators.
Opportunities to enhance	1	Parks Vic.	Descriptive
Visitor attitudes	3	Parks Vic., WTMA, GBRMPA	Scalar from surveys
Community attitudes	2	WTMA, GBRMPA	Scalar from surveys
Planning			
Legal	0	GBRMPA	Descriptive
Design	1	Parks Vic	Descriptive
Planning	2	NSW DECCW, Q EPA	Ordinal and descriptive
Inputs			
Staff numbers	1	NSW DECCW	Scalar
Funding	2	NSW DECCW, GBRMPA	Scalar
Infrastructure	3	NSW DECCW, Parks Vic, Q EPA	Ordinal, descriptive
Information	1	NSW DECCW, GBRMPA	Scalar, descriptive

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Evaluation subjects	Number of SoPs evaluating this subject	Agencies that include this evaluation subject in their SoPs	Nature/type of indicators
Process			
Interpretation	4	NSW DECCW, Parks Vic, Q EPA, GBRMPA	Ordinal, descriptive
Communication	1	GBRMPA	Ordinal, descriptive
Tourism/visitor involvement	1	GBRMPA	Descriptive
Visitor services Impact management	1	Parks Vic	Ordinal, descriptive
Tourism management	2	NSW DECCW, Q EPA	Descriptive
Impact monitoring	2	Parks Vic, Q EPA	Descriptive, ordinal
Impact monitoring	2	NSW DECCW, Q EPA, Parks Vic	Descriptive
Outputs			
Visitor use	6	NSW DECCW, Parks Vic, Q EPA, WTMA, Parks Aus, GBRMPA	Scalar
Visitor characteristics	2	Parks Vic, WTMA	Scalar and descriptive
Operator use	1	GBRMPA	Scalar
Revenue	1	NSW DECCW	Scaler
Recreation opportunities	2	Parks Vic., Q EPA	Descriptive
Outcomes			
Visitor satisfaction	3	Parks Vic., WTMA, Parks Aus.	Scalar
Visitor access	1	Parks Vic.	Descriptive
Visitor use outcome	2	NSW DECCW, Parks Vic	Ordinal
Presentation values condition	1	Q EPA	Ordinal
Conservation values condition	4	NSW DECCW, Q EPA, Parks Vic., GBRMPA	Ordinal, descriptive
Economic impacts	2	Parks Vic., WTMA	Ordinal, scalar

Interviews of agency staff

Primary audience of SoP

Interviewees were asked who were, in practice, the primary audiences for SoP reports. Two-thirds nominated the public, agency decision makers and general staff within the agency (Table 55). Stakeholders, parliament, and government in general/other government departments were each nominated by half of the interviewees. Other primary audiences nominated were policy makers, researchers and media.

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Table 55: Primary audience of SoP reports

Categories (n=6) (no. of interviewees)
General public (4)
Staff within the agency (4)
Agency decision makers (4)
Stakeholders (3)
Parliament (3)
Government in general/Other government departments (3)
Policy makers (2)
Researchers (2)
Media (1)

Choosing what to report or evaluate

Interviewees were asked how the categories (evaluation subjects) that were evaluated were chosen (Table 56). Half of those interviewed stated that their agency had used WCPA framework as a guide, adapting it as necessary according to agency priorities. Choices about what to monitor were also governed by agency requirements (e.g. management requirements, legislative requirements and requirements set out in agency planning documents). Other evaluation subjects were chosen based on the values of the protected area, staff consideration and the agency’s main outputs. When asked about categories that stood out as being of higher priority than others, common priorities were visitor-related outcomes, such as visitor satisfaction and environmental and economic impacts of visitors. Half of those who identified priority categories deemed visitor numbers to be of importance, mainly for economic reasons. Also mentioned were outputs and community attitudes (Table 56). Two respondents were unable to identify any category as being of higher priority.

Table 56: Choices about visitor monitoring undertaken and associated priorities

Choices based on Influence on choice (Question 1a) (n=6)	
Choices given (n=6)	Used and adapted WCPA framework (3). Considered by staff to be highest priorities (2). Pressure-state-response model used for assessing condition (1). To cover a cross-section of management issues (1). Taken from a key planning document (1). They describe key agency outputs or achievements (1). Determined by legislative requirements for SoPs (1). Based on values of protected area (1).
Higher priority categories (Question 1b) (n=6)	Categories
Priorities (4)	Visitor characteristics
No clear priorities (2)	Visitor numbers (2)
Not discussed (0)	<i>Visitor-related outcomes</i>
	Visitor satisfaction (1)
	Visitor environmental impacts (not currently assessed) (1)
	Economic contribution of visitors (1)
	Outcomes (2)
	<i>Other</i>
	Outputs (1)
	Community attitudes to tourism, reasons for visiting parks and awareness of management of World Heritage Areas (1)
	No clear priorities (2)

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Use of visitor evaluation information

Interviewees were asked questions about the usefulness of their agency's SoP report. Interviewees commonly considered their SoP reports to be useful in some areas and not in others, and these perceived strengths and weaknesses often differed between agencies (Table 57). The areas in which SoP reports were considered useful included:

- accountability reporting to external parties (four of the six interviewees considered their agency's report useful to very useful for this purpose); and
- informing planning or policy at agency level (two of the six interviewees classified SoP as useful, with the remaining four declaring their agency's SoP report partly useful).

SoP reports were considered least useful for adaptive management at the park level.

When asked whether they considered there would be significant value in improving the SoP report with regard to each of these purposes, interviewees were commonly in favour of making improvements in every area, particularly in determining whether the agency is meeting its key objectives, with 100 percent of respondents in favour. Suggested improvements differed for each of the purposes discussed, but general themes included monitoring more aspects of visitor use, improving indicators and improving the quality and quantity of data collected.

Where interviewees felt that improvement would be worthwhile, they were asked what would need to be done to achieve this. Some of the recurring suggestions were appropriate internal planning, increasing agency staff understanding of the value of SoP reporting and improving or developing new objectives relating to visitor use. In a number of instances, it was reported that the agency was already in the process of making some of these improvements.

Table 57: Usefulness of visitor evaluation information for various purposes

Purpose	How useful?	Value in	If not, why?	If yes, what improve?	If yes, what would need to be done to achieve this?
	Very useful Useful Partly useful Not useful	improving? Yes No			
Accountability reporting to external parties (n=6)	Very useful (1) Useful (3) Not useful (2) (n=6)	Yes (3) No (2) (n=5)	N/A	Report at a landscape/regional level, rather than reporting an average for the entire network (1) Better hard measurement and more indicators (1) Better aligned with other research (1) Predict future risks and trends to guide management (1) (n = 3)	Planning already underway to do this (1) Develop objectives specific to landscapes/regions (1) Appropriate internal planning (1) (n=3)
Determining whether the agency is meeting its key objectives (n=4)	Useful (2) Partly useful (1) Not useful (1) (n=4)	Yes (4) (n=4)	N/A	Better aligned with other research (1) Use indicators that show trend-based information (1) More formal evaluation using indicators that reflect agency objectives (1) Increase reliability of information gathered (1) Develop clear objectives regarding recreation opportunities and park benefits (1) Collect data at finer scale for use by local managers (1) Collect data on expectations and behaviours to inform risk management (1) (n=4)	Appropriate internal planning (1) Develop new indicators (1) Use SoP data to drive visitor and research agenda (1) Increase sample sizes (1) Planning already underway to do this (2) Improve objectives (1) Accurate collection of data (1) Liaise with local staff as part of adaptive management (1) (n=4)
Informing	Useful (1)	Yes (3)	Other	Assess risks and trends and	Appropriate internal

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Purpose	How useful?	Value in	If not, why?	If yes, what improve?	If yes, what would need to be done to achieve this?
	Very useful	improving?			
	Useful	Yes			
	Partly useful	No			
	Not useful				
planning or policy at agency level (n=4)	Partly useful (2) (n=3)	No (1) (n=4)	mechanisms are more appropriate (1) (n=1)	make future predictions to guide management (1) Increase agency staff understanding of value of SoP reporting (1) Increase focus on qualitative issues like visitor experiences and opportunities (1) Improve visitor impact monitoring (1) Cover more IUCN-WCPA evaluation subjects (1) (n=3)	planning already underway to do this Increase agency staff understanding of value of SoP reporting (n=3)
Adaptive management at park level (n=6)	Very useful (1) Partly useful (1) Not useful (4) (n=6)	Yes No (1) (n=5)	(4) Other mechanisms are more appropriate (1) (n=1)	More formal evaluation (1) Monitor more aspects of visitor use (1) Improve desktop tools (1) Make more accessible and understandable for staff (2) Faster turnover of data (1) Balance quantitative data with opinions of parks staff to obtain best information (1) Broader application of process (1) Beware of generalising results from a few sites across entire network (1) (n=4)	Increase agency staff understanding of value of SoP reporting (1) Increase resources allocated to monitoring (2) Improve desktop tools (1) Increase sample sizes (1) Planning already underway to do this (1) (n=4)

- Four other uses for State of the Parks reports were suggested.
- Informing the public (n=1). Visitor-related information was considered partly useful for this purpose and worth improving. The improvement suggested was to monitor more aspects of visitor use although it was acknowledged that more resources would be required.
- Visitor numbers and/or revenue used to determine internal revenue distribution (n=1). Visitor-related information was considered useful for this purpose, and the existing SoP report was already suited for this purpose.
- Has potential to rationalise data collection (n=1). Visitor-related information was considered very useful for this purpose.
- Field managers - backing up priorities, etc. and to refute myths/incorrect facts (e.g. 'locked up' areas and also as a key document for funding submissions) (n=1).

Visitor-related information was considered to be very useful for this purpose but still worth improving. It was suggested that this be improved by finding the right balance in terms of information for audience (e.g. park level vs network level) and range of uses. Achieving this would require the development of reliable data management systems and increased assistance from staff for adaptive management and management effectiveness.

Applying good practice principles to SoP reporting

Based on the results in Table 54 (and 52), good practice principles that were not adhered to (or only partially so) were further explored. Interviewees were asked whether they considered there would be significant value in improving the SoP report with regard to each of the good practice principles. All respondents felt that it was worth making improvements to two of the good practice principles: including reporting on achievement of specified objectives or goals, and using performance indicators (Table 58). Where interviewees did see the value of making improvements, they were asked what would need to be done to achieve this. Developing useful indicators was suggested for both principles. Additional suggestions relating to reporting on achievement of specified objectives or goals were developing more appropriate methodologies, specifying management goals and evaluating their effectiveness, and providing more resources to achieve this. Other good practice principles

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that received support for improvement were the adoption of standardised indicators that facilitate comparative analysis of performance across agencies and having clearly defined purpose statements and objectives for measuring performance. Interviewees felt that there was no value in making improvements in identifying performance targets, and the reasons given were that it was not appropriate for the SoP report or it was not required by legislation.

Table 58: Opportunities for improvement in relation to established good practice principles

Good practice principle (number not adhering or only partially)	Value in addressing?	If no, why not?	If yes, what would need to be done to achieve this?
Performance evaluation relating to visitor use is included	N/A	N/A	N/A
Clearly defined purpose statement and objectives for measuring performance	Yes (3) No (1)	Would make the report too large and cumbersome (1).	Create new style of report which would include an appropriate statement of purpose (1). Planning already underway to do this (1).
Includes reporting on achievement of specified objectives or goals	Yes (4) No (0)		Develop useful indicators (1). Develop more appropriate methodologies (1). More resources (1). Specify management goals and evaluate their effectiveness (1). Planning already underway to do this (1).
Performance indicators are used	Yes (3) No (0)	N/A	Develop useful indicators (1). Planning already underway to do this (1).
Performance targets are identified	Yes (0) No (3)	Not required by legislation (1). Not appropriate for SoP (2).	N/A
Standardised indicators are adopted that facilitate comparative analysis of performance across agencies	Yes (0) No (0) Yes, in part (1)	N/A	N/A
Sets of indicators are used, rather than single indicators	N/A	N/A	N/A

Opportunities for improvement, influential trends and other comments on the way forward for visitor evaluation in annual reports

Interviewees were asked to identify trends or requirements that are likely to affect what is needed in relation to the evaluation of visitor use in SoP reports. Trends identified included increasing focus on performance evaluation, especially visitor experiences (Table 59). Concerns were expressed over the trends of climate change and how it might affect visitor use and infrastructure, and funding cuts to the agency, which would mean reduced capacity to undertake visitor use monitoring and evaluation. Interviewees identified the need to quantify social and health benefits of parks and the need to determine what infrastructure, information and interpretation needs to be provided to achieve agency objectives. Concern over rising fuel costs requires investigation of how this might affect visitor use, particularly in more remote parks, while another agency proposed additional monitoring due to the rapid increase in independent recreational use of protected areas.

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Table 59: Trends likely to affect the inclusion and approaches to visitor monitoring in State of Parks reports

Trends/requirements identified (Question 6) (n=6)	Categories
Trends/requirements (4)	<i>Trends</i>
No trends/requirements (2)	Climate change (2).
Not discussed (0)	Reduction in funding for agency (1). Trend to increase performance evaluation within our agency (1). Increased focus on visitor experiences within our agency (1)
	<i>Requirements</i>
	Need to quantify social and health benefits of parks (1). Determine what needs to be provided in terms of infrastructure, information and interpretation in order to achieve agency objectives (1). Rising fuel costs—need to determine whether this affects visitor use particularly in the more distant parks (1). Rapid increase in independent recreational use of the protected area may require additional monitoring (1).
	<i>Opportunities</i>
	Indicators will be provided by researchers for potential use in SoP reporting (1)

Interviewees were asked for comments about the way forward for evaluation of visitor use as part of SoP reporting (Table 60). There was a perceived need for improved uptake and acceptance of the SoP by staff at all levels. It was suggested that the SoP report could be made more useful by increasing the relevance of information, making the SoP available to all levels of the agency, ensuring that field staff are familiar and comfortable with indicators used in SoP reporting, and by appointing senior staff to interpret SoP results and provide information and recommendations to field staff. Interviewees expressed a need for more relevant and clear data, particularly baseline data to enable agencies to evaluate success or otherwise of management strategies. Some agencies felt that SoP reporting needs to include more visitor satisfaction measures and capture more reliable quantitative information relating to visitor experiences, recreation opportunities, and social and health benefits of parks. SoP reporting was also considered deficient in assessing threatening impacts that visitors have on park values. Suggested improvements included more on-ground monitoring and collection of quantitative data. One interviewee felt that their agency would benefit from inclusion of the tourism industry in monitoring and SoP reporting.

Table 60: Additional comments on the way forward for evaluation of visitor use as part of State of the Parks reporting

Categories (n= 6) (no. of interviewees)	Additional detail from interviews (where given)
Need for improved uptake and acceptance of SoP by staff at all levels of the agency (1)	Agency accepting and adopting RAP (i.e. marketing of RAP to other people in agency), making it available to all levels of agency, usability of information, etc.
Agency is looking at producing a separate, more user friendly document to focus public attention on key issues such as climate change (1)	Thinking of not proceeding with State of Wet Tropics World Heritage Area report but instead producing a document focusing on climate change and other specific issues, due to resource constraints and the need to focus public attention on key issues. This would be more user friendly and could be more useful to the tourism industry and politicians
Need SoP to report clear visitor data and statistics (1)	NSW State Plan requires an increase in visitor numbers, therefore we need to get systems in place to accurately evaluate this, including collection of baseline data
Need to capture more reliable quantitative information relating to potentially threatening impacts that visitors have on park values (1)	One thing missing is impacts that visitors have on park values (no quantitative data). Currently we ask staff to comment on and identify categories of values and comment on threat categories (visitor impacts came up frequently), but these are related to perceptions of staff, some anecdotal evidence, and some on monitoring data (but very little) and comes back to objective about providing services and facilities. There is not much on-ground monitoring. Need for balancing visitor use and protection of park values
Need to capture more reliable quantitative information relating to visitor experiences (1)	
Need to quantify social and health benefits of parks (2)	Visitor satisfaction measures would be good to include, as none are included now. Need to assess visitor experience, recreation opportunities, and social health benefits of parks.

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Categories (n= 6) (no. of interviewees)	Additional detail from interviews (where given)
Involve tourism operators with monitoring (1)	If possible, involve tourism operators (with agency) in monitoring. They did work to plan for this, but it has not been implemented due to insufficient support available from agency field staff. May be able to implement with further work.
Add reporting on tourism industry (1)	It would be good to add reporting on tourism industry (e.g. number of accredited operators), but QPWS would have to do this.
Appoint senior staff to interpret SoP results and provide information and recommendations to field staff (1)	We have no senior staff available to play an audit role in feeding back interpretation of SoP results to field staff in terms of interpretation and recommendations. It is just fed back to regions to interpret as they wish, which gives it less punch. This step is important for field staff to see the benefits of SoP and therefore collect the data more fully.
Ensure field staff are familiar and comfortable with indicators (1)	Staff have limited trust in the indicators. We are deliberately taking (recent) introduction of SoP slowly, to give staff time to get comfortable with it.
Make SoP methodologies more quantitative (1)	Ensure SoP methodologies are not too subjective and heavily based on staff opinion. Suggest getting periodic independent reviews instead and/or establishing more quantitative methods.

Execution of visitor use monitoring and evaluation relating to visitor use

Respondents from the three agencies with a formal SoP process or equivalent reporting approach (QNPWS, NSW DECCWW, Parks Victoria) were asked to what extent visitor use monitoring and evaluation, as formally required by their agency, are carried out in practice. All respondents stated that these were carried out to the full extent currently required by their agency.

Overarching themes evident from the interviews

Themes to emerge from the interview responses were: the problem of limited resources; the importance of collecting more reliable data; the need for SoP reports to be as useful and practical as possible for field staff; and the need to address visitors' experiences in parks, recreation opportunities presented by parks and the social and health benefits visitors gain from parks.

Resourcing monitoring and evaluation

Throughout the interviews, concerns were raised about resource limitations. Many interviewees felt that resource constraints affected their SoP reporting. For example, WTMA are unable to implement a formal SoP report as it is beyond their means, and are considering abandoning the WTWHA report due to limited resources. Another interviewee stated that they do not have the resources to assess environmental impacts of visitors on protected areas, despite considering this a high priority issue. Interviewees felt that resource limitations affect the ability of the agency to undertake sufficient surveys and monitoring.

For the purposes of improving adaptive management at park level, informing the public and determining whether the agency is meeting its key objectives, interviewees believed it to be important to increase monitoring of visitor use and undertake surveys at more parks. It was argued that the key action needed was to increase resources allocated to monitoring. However, it was also suggested that existing resources could be used more effectively and efficiently. Similarly, when asked what was needed to improve the good practice principle of including reporting on achievement of specified objectives or goals, it was stated that more resources were required but the agency was struggling to convince 'people at the top' to allocate sufficient resources and field staff to undertake the tasks. One interviewee suggested that the problem of resource limitations could be helped by aligning the SoP report with other research to increase the amount of available data.

Reliability of data

Interviewees emphasised the importance of collecting more reliable data to improve visitor-related evaluation in SoP reports. Increasing the reliability of information gathered was suggested as a way to help agencies meet key objectives. For one agency for which a stated objective is to increase visitor numbers, the collection of reliable data was seen as particularly important. This agency was aiming to collect accurate baseline data that would enable the SoP report to present clear statistics. For the purpose of accountability reporting to external parties, it was suggested that the agency improve measurement and adopt indicators that are available in corporate data sets but are not currently utilised for the SoP reports. This alignment of SoP research with other research and administrative data collection in other parts of agencies (e.g. number and distribution of commercial tourism operator permits) would provide additional relevant data.

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Several interviewees reported a deficit of reliable data relating to visitors' experiences in parks and felt that more reliable quantitative information needed to be gathered, as visitor experiences comprise an important part of visitor monitoring and evaluation. Several interviewees gave examples of what they believe to be unreliable data and expressed the desire for improvement of these in SoP reporting. One interviewee reported that visitor satisfaction is currently reported as one result for the whole network, which is a misrepresentation as it is only measured at a limited number of sites. Another interviewee expressed the concern that the constant adaptation and review of the system resulted in decreased comparability of results between years. Another concern was that some SoP methodologies are based heavily on staff opinions and hence too subjective—more reliable data could be collected by establishing more quantitative methods or by using periodic independent reviews.

Usefulness to field staff

Interviewees spoke of the need for SoP reports to be as useful and practical as possible for field staff. SoP reports were seen to be extremely useful tools, but needed to be simplified and made more meaningful and not create a large amount of extra work for staff. Interviewees commented on the importance of ensuring SoP reports are easily accessible and understandable for field staff. Setting too many indicators, imposing goals and strict targets for already stretched field staff was undesirable and considered too complicated, expensive and not conducive to adaptive management. Staff also need to be comfortable with the reports and have confidence in the indicators they are being asked to use.

Interviewees felt that an important step in ensuring SoP reports are useful for field staff would be for senior staff to return data, SoP results, interpretation and recommendations to field staff quickly and clearly. Engagement of field staff was seen as a key factor in improving useability of visitor-related information for the purpose of informing planning or policy at agency level and in improving the reliability of data collection. Staff that see the benefits of SoP reports are more likely to make the effort to accurately collect data. Opinions of field staff were considered important for adaptive management and ensuring the agency is meeting its key objectives, and one interviewee reported that the categories evaluated in the agency's SoP report were chosen after extensive consultation with field staff.

Underrepresented evaluation subjects

There was a consensus that visitors' experiences in parks, recreation opportunities presented by parks, and the social and health benefits visitors gain from parks are not sufficiently assessed in current SoP reporting. This insufficiency relates to the view that these evaluation subjects are becoming increasingly important and hence the need to regularly evaluate. One interviewee stated that their agency currently lacked objectives for the desired experiences of people and the recreation opportunities parks present. For this agency, it was a future requirement for SoP reporting to focus on visitor experiences and to determine what needs to be provided in terms of infrastructure, information and interpretation with clear objectives as a guide. Several interviewees expressed the need to capture reliable quantitative information on visitor experiences, recreation opportunities, and social and health benefits of parks. Focusing on experiences of visitors was suggested as an area needing improvement for the purposes of accountability reporting and informing planning or policy at the agency level.

Discussion

SoP programs in Australia are largely system-wide qualitative evaluations of resource status and management performance. A range of quantitative assessments that vary between park areas and jurisdictions also contribute to these system-wide evaluations. The resultant regional and state-wide evaluations have been 'rolled-up' from park assessments of performance based on indicators suitable for application across the managed estate. As such, these indicators are only superficially suited for assessing individual park status and performance. The increased attention over recent years given to management effective evaluation and associated SoP reporting has resulted in a greater awareness of the need to monitor the status of valued resources, threatening processes and the effectiveness of management. Resourcing to undertake the necessary quantitative monitoring will always be a constraint and prioritisation will be necessary. While in the past prioritisation has been largely responsive to political and community pressure, opportunity or interest, SoP assessments are providing information to assist with prioritisation. SoP has also highlighted the need for standardised indicators and methodologies. NSW, Queensland and Victorian park managing agencies have become acutely aware of these issues and are currently reviewing indicators and monitoring approaches.

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While the system-wide scale of SoP programs provides information useful for adaptive management at a regional level and higher, the approach can rightly be criticised for not providing park level assessments suited to informing management at that level. A more comprehensive system and methodology is required. One currently exists in the form of the IUCN-WCPA Enhancing our Heritage Management Effectiveness Evaluation Approach (see Hockings et al. 2004). This approach was designed for park level assessments and if applied to specific priority parks, would assist in identifying areas of major uncertainty for management and hence allow the prioritisation of monitoring and management efforts.

From the analysis of SoP reports and interviews, most agencies who prepare SoP reports adopt good practice principles (see Table 61), although this is not done comprehensively for all management issues, largely because of the whole-of-estate focus of these reports. Visitor use evaluations are supported with quantitative data for highly visited parks, but in-depth understanding of performance at the park level is not comprehensive.

Table 61: Good practice principles and agency practices from document analysis and interviews

Based on good practice principles summarised in Table 11.

Good practice principle	% of agencies adhering	Issues relating to future addressing of this principle
Evaluation is included	100%	Fundamental to SoP reporting.
Evaluation of protected area visitor issues included	70%	Reported to level of other key performance areas. Usually based on visitor surveys. Evaluation for all parks, but supporting evidence is variable.
Objectives for measuring performance stated	60%	Not specifically reported by most agencies, although inferred by report structure. Methodologies and indicators not particularly suited for this form of evaluation.
Reporting on achievement of specified visitor objectives	50%	Poorly reported because of lack of useful indicators and whole-of-estate purpose.
Visitor related performance indicators included	70%	Poorly reported but inferred by evaluation categories. Constrained by lack of useful indicators at the park level.
Visitor related performance targets used	20%	Poorly reported because of lack of useful indicators.
Standardised visitor related indicators are adopted that facilitate comparison across agencies	0%	Not reported. Clarifying context may be an issue to avoid inappropriate comparisons. Agreement of agencies needed to facilitate comparisons.
Visitor indicators in sets	0%	Not reported. Needs greater consideration of indicators and appropriate approaches for reporting.
Visitor-related evaluation is designed to feed into, and used to help guide, decision making and management. A culture of adaptive management exists, with cycles of reflection and learning, including reporting evaluation findings and recommendations to field managers.	40%	Purpose of SoP evaluations largely seen as for reporting. In some states, use as an adaptive management tool is increasing with improved analysis and confidence in the data. This mainly applies to agencies with completed system-wide assessments. have been undertaken and systems exist that incorporate evidence based management. Requires a shift in corporate culture towards stronger evidence-based management, executive leadership and resourcing for on-going evaluation.
Visitor related evaluations are planned and designed to operate over the long term, with secure resourcing.	80%	All agencies collect and evaluate basic visitor statistics, focusing on the parks with high visitation, supplemented with community surveys. Comprehensive park specific evaluation is not comprehensive due to cost (and appropriateness).

Chapter 6

OVERALL APPROACH TO PERFORMANCE REPORTING

Introduction

Chapters 4, 5 and 6 have reported on investigation of current practices in monitoring and evaluating the sustainability of visitor use of protected areas as reflected in plans of management, annual reports and state of the parks reports. This chapter consolidates the data from these parts and other informal or irregularly prepared reports to gain insight to the overall effort into monitoring and evaluating visitor use. Interviews are used to clarify direction and emphasis evident in the documentation. Specifically, the chapter provides an overview of what is monitored for performance evaluation and reporting, the evaluation subjects and indicators used, and the extent of adherence to best practice guidelines.

Methods

To understand the extent and approach and needs and opportunities of Australian protected area agencies with respect to monitoring, evaluating and reporting on visitor use in protected areas previous analyses are combined with analysis of other documentation to provide a consolidated appraisal of the current situation. As such, the objectives of the chapter are to:

- identify the scope and emphasis of visitor monitoring, especially the use of indicators and evaluation subjects;
- evaluate the extent to which these align with agency objectives and established good practice principles for the conduct of evaluation by protected area agencies; and
- describe the constraints on and opportunities provided by current approaches.

6.2.1 Data collection

Data collection included the sourcing of additional reports from protected area agencies (see Chapter 2, Table 7) and follow up interviews. Monitoring was considered to include anything that involved repeated assessment or evaluation of variables relating to visitor use. This also included where indicators or targets were listed even in the absence of details of monitoring (as it was considered that monitoring would have to take place for indicators to be measured).

Sourcing additional documentation on evaluations

Additional reports on visitor use evaluation were obtained from Australian protected area agencies using the contact procedures detailed in Chapter 2 or downloaded from the internet. Agencies were asked to supply all current (draft or final) documented approaches to performance evaluation applicable to visitor use.

Interviews with protected area agency staff

Interviews were conducted with key staff from the participating agencies (see Chapter 2, Table 10). All interviewees had a working knowledge of performance reporting for protected areas in their state/territory. Details on how interviewees were selected and contacted and the interviews conducted are presented in Chapter 2. Questions that guided the interviews are presented in Table 62 (for complete interview protocol see Appendix B).

Table 62: Interview questions for performance monitoring

Question no.	Question
1a	i Is there any planning or coordination of evaluation across the agency as a whole for evaluation in general?
	ii Is there any planning or coordination of evaluation across the agency as a whole for visitor related evaluation? If yes, does this include a deliberate effort to evaluate achievement of key agency objectives?
1b	
1c	If yes, is any guiding framework used (e.g. management cycle, IUCN-WCPA framework)?
2	Overall, how useful do you consider your agency’s various evaluations relating to visitor use (currently and in relation to expected needs in the near future), for the purposes of:

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Question no.	Question
a	accountability reporting (to external parties);
b	determining whether the agency is meeting its key objectives;
c	informing planning or policy at agency level; and
d	adaptive management at park level.
	For each of these (where applicable):
i	Do you see any significant value (in principle) in improving these evaluations (to make them more useful)? If no, why not?
ii	If yes, what are the key things that would need to be improved?
iv	If yes, what would need to be done to achieve this?
3	<p>Based on our review of your current evaluation and reporting practices, we have identified the following possible general opportunities for ‘improvement’ in relation to established good practice principles.</p> <ul style="list-style-type: none"> • Achievement of the key agency objectives relating to visitor use are evaluated across range of evaluations. • Visitor use indicators are used for multiple performance management purposes. • Standardised visitor-use indicators are adopted that facilitate comparative analysis of performance within and across agencies, and across time. • Agency has clearly defined purpose statement and objectives for measuring performance [covering the range of methods of evaluation] <p>For each of these (where applicable):</p>
i	Do you see any significant value (in principle) in addressing this?
ii	If not, why not?
iii	If yes, what would need to be done to achieve this?
4	Are there any trends or requirements that you expect to emerge soon that are likely to affect what is needed in relation to evaluation of visitor use? (Please describe)
5	Do you have any other comments about what you see as the way forward for evaluation of visitor use as part of your reporting of visitor impacts and services?
6	Do you see any other opportunities for improving the usefulness of your agency’s evaluation of issues relating to visitor use (or their application to planning and/or management)? (Describe in full)

Data analysis

Documents, other than those analysed in Chapters 4, 5 and 6, were reviewed as defined in Chapter 2. However, most of these were internal and not formally published reports, so do not always include context information such a purpose or detail on the process applied. Hence, the emphasis of analysis was places on evaluation subjects assessed and indicators used. This information was entered in Excel files already containing consolidated results from the other parts of the study and then summarised in the following results tables.

Information was similarly extracted from the interview transcripts and entered in Excel files. Interviewee responses were entered according to question number. Reponses to each question were then organised into categories determined as part of the analysis (see Chapter 2). Similarly, the interview results are summarised in the results tables that follow.

Results

Evaluation subjects, indicators and targets across all evaluation methods

Overview

The consolidated list of evaluation subjects and indicators used by participating protected area agencies to monitor performance is extensive (352) (Table 63, a full list of indicators is provided in Appendix F). However, this is probably far from exhaustive, because it relies on the knowledge of informants and may not include specific approaches applied regionally or on specific parks. Hence, in Table 63 it is appropriate to provide summary values for each evaluation subject rather than individually reporting on all the indicators (Table 61).

Table 63: Evaluation subject areas for visitor use and the form of measure applied.

Evaluation subject	Measure form used (% of indicators)				Total
	Ordinal	Scale	Binary	Descriptive and nominal	
Context	9 (2.6%)	1 (0.3%)	2 (0.6%)	8 (2.3%)	20 (5.7%)
Planning	5 (1.4%)	0 (0.0%)	8 (2.3%)	0 (0.0%)	13 (3.7%)
Inputs	11 (3.1%)	21 (6.0%)	1 (0.3%)	3 (0.9%)	16 (10.2%)
Process	55 (15.6%)	19 (5.4%)	24 (6.8%)	14 (4.0%)	112 (31.8%)
Output	17 (4.8%)	34 (9.7%)	4 (1.1%)	7 (2.0%)	62 (17.6%)
Outcome	41 (11.6%)	52 (14.8%)	5 (1.4%)	11 (3.1%)	109 (31.0%)
Total	138 (39.2%)	127 (36.1%)	44 (12.5%)	43 (12.2%)	352 (100%)

From the documents reviewed, the use of ordinal (39%), and interval and ratio scales (36%) dominate indicators used to measure performance for visitor use (Table 63). The common use of ordinal scales suggests the need to either synthesise data or make an informed ordinal categorisation, which is used commonly in SoP evaluations. It is to be expected that interval and ratio scale data would inform ordinal categorisation.

In contrast to Worboys (2007) and Jacobson, Carter & Hockings (2009b) who found that context, planning and outcomes were given most emphasis in evaluation; for visitor use, based on the number of indicators, process, outcome and output are given most attention (Table 63). Several explanations are possible. The differences may be because visitor use issues do not parallel other issues that are monitored and evaluated (e.g. resource integrity). Or, the nature of the documents reviewed, with PoMs in particular emphasising the processes of management, may have led to an emphasis on this category. Alternatively, there may be wide variability in how planning, processes and outputs are defined and in the identification of associated indicators. The boundaries between and allocations to these categories may be fuzzy at best. It is clear, however, from all efforts to date, that outcomes are of great interest, supported by the findings of Worboys (2007) and Jacobsen, Carter & Hockings (2009b), and reflected by the large number of indicators in this category from this study.

For monitoring and evaluating visitor use issues relating to context, ordinal and descriptive indicators predominate (Table 63). The emphasis is on defining visitor use values and threats (see Appendix F), which are evaluation subjects that are inherently subjective and less able to be quantified. Similarly, evaluation of planning for visitor use relies on determining if plans exist and the degree of plan implementation (binary, or ordinal in terms of degree of implementation, Table 63 and Appendix F), with assessment of efficacy of these plans determined by monitoring of process, outputs and outcomes.

Ratio scales dominate assessment of inputs to the management of visitor use (Table 63), which reflects the ready availability of financial, and staff and volunteer-time data, or information that can be gathered from asset management systems.

Ordinal scales dominate assessment of process and, with the binary and descriptive indicators used (Table 63), indicates that this evaluation subject relies on informed judgement more than any other. In contrast, ratio scales are commonly used for assessing outputs (Table 63). This dominance stems from indicators that relate to user numbers. The commonly referred to lack of visitor data across systems suggests that while indicators may be available, coverage of their application is low and restricted to 'iconic' popular parks.

Outcomes of visitor management are commonly measured and reported with ratio scale indicators (numbers and percentages) and ordinal scales (Table 63), largely based on survey of visitors. Again, the indicators and measures appear to be defined, but coverage across the park estate may not be comprehensive.

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Evaluation subjects and indicators for monitoring of context, planning and inputs

Context

The context evaluation subject with the most indicators is visitor attitudes due to the emphasis given to this indicator in PoMs and SoPs (Table 64), although this is not the case across all agencies. Many agencies do not appear to assess visitor attitudes. Assessment in all agencies is confined and prioritised to parks with the highest visitor levels.

The most commonly assessed context evaluation subjects are values and threats, and reported in SoPs and PoMs (Table 64), with a high degree of similarity in indicators used. Given the incomplete coverage of PoMs in Australia and system-wide SoP assessments only exist for the eastern states, it is possible that park values relating to visitor use remain poorly defined for many Australian protected areas, so management may not be focused on key issues and corporate objectives.

Table 64: Summary of visitor-related evaluation subjects and indicators for monitoring of context, planning and inputs

Only evaluation subjects with indicators are listed. A list of all indicators is given in Appendix F.

Evaluation subjects	Report referring to this subject	Agencies that include this subject	Indicator example—measure form used
Context			
Values	PoM, Other	WA DEC, NSW DECCW, Parks Vic, Parks Aus, NT NRETA, Tas PWS, SA DEH, QPWS	Presence/absence of park values—binary (1), descriptive (1).
Threat identification	SoP, PoM	NSW DECCW, Parks Vic, WA DEC, NT NRETA, Tas PWS, SA DEH	Nature of threats and adverse impacts on natural and cultural values—descriptive (3). Extent of threats—ordinal (1)
Threat severity	PoM, SoP	Tas PWS, NSW DECCW, Parks Vic,	Nature of threat—descriptive (1). Extent and magnitude of threats and adverse impacts on natural and cultural values—ordinal (1).
Threat trend	PoM	WA DEC	Change in sites sampled for specific issues—scale (1)
Opportunities to enhance	SoP	Parks Vic	Whether research is conducted to improve understanding of visitors—binary (1)
Visitor attitudes	SoP, Other	Parks Vic, WTMA, Tas PWS, QPWS, GBRMPA	Visitor attitudes to a park visit—ordinal (7). Visitor expectations and preferences—descriptive (3). Whether visitors are likely to visit the area again—binary (1).
Planning			
Design	SoP, Other	Parks Vic, WA DEC, NSW DECCW, Parks Aus, NT NRETA, Tas PWS, QPWS, SA DEH, WTMA	Whether planning for specific outcomes is conducted—binary (2)
Planning	Ann Rep, SoP, PoM, Other	GBRMPA, QPWS, Tas PWS, Parks Vic	Whether plans at all levels clearly identify actions for responding to culture and linguistic diversity—binary (6) Extent to which sustainable visitor capacities have been determined for key visitor nodes—ordinal (5)
Inputs			
Staff numbers	SoP	NSW DECCW	Volunteer time allocated to visitor services—scale (6)
Funding	SoP, Other	NSW DECCW, Parks Vic	Budget allocations to specific work or target outcome areas—scale (10)
Infrastructure	Ann Rep, SoP, PoM, Other	Parks Vic, NSW DECCW, QPWS, SA DEH, WTMA, Tas PWS	Condition of park assets—ordinal (7) Percentage of park assets with a life expectancy > 5 years—scale (3) Diversity of park assets—descriptive (1)
Information	Ann Rep, SoP, Other	GBRMPA, NSW DECCW, QPWS, WTMA, Tas PWS	Accuracy and suitability of walk information—ordinal (4) Information needs of visitors as identified by survey—descriptive (2) Percentage popularity of different sources of information—scale (2) Whether information and training for industry and other

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Evaluation subjects	Report referring to this subject	Agencies that include this subject	Indicator example—measure (Number of indicators identified)	form used
			stakeholders is provided—binary (1)	

Planning

Most agencies in Australia consider and evaluate design issues in planning (Table 64, Appendix F). More indicators exist for assessing planning for visitor use, but only used by a small number of agencies (Table 64). The indicators for planning tend not to be comprehensive and reflect particular local or agency priorities (see Appendix F)

Inputs

Almost all park agencies assess infrastructure and information provided for visitors (Table 64). Indicators for infrastructure performance appear to stem from asset management initiatives and assessments of adequacy (Appendix F). Assessment of the provision of information tends to focus on accuracy, suitability and availability, determined by survey (Appendix F). The coverage of assessment may not be comprehensive.

Despite the relative availability of staff time and financial inputs, many agencies do not appear to use these data to evaluate the adequacy of visitor use management. Where used, a number of indicators (all ratio scales) are employed. A probable constraint to greater assessment of these evaluation subjects is accounting procedures that aggregate staff time and expenditure to cost centres rather than work areas or key performance areas.

Evaluation subjects and indicators for monitoring of process

Despite the large number of indicators identified for assessing the evaluation element of process, coverage of the subjects varies widely between agencies (Table 65). Almost all agencies evaluate interpretation, communication, visitor services and visitor impact management largely relying on ordinal scales of adequacy and appropriateness and probably expert opinion. Impact management has the highest number of indicators, with ordinal measures dominating. Of concern is the limited attention given (Australia-wide) to evaluating staff skills and training. Where indicators are given, they tend to focus on site or contemporary issues of significance to individual agencies (Appendix F).

Table 65: Summary visitor-related evaluation subjects and indicators for monitoring of process

Only evaluation subjects with indicators are listed. A list of all indicators is given in Appendix F.

Evaluation subjects	Report referring to this subject	Agencies that include this subject	Indicator example—measure (Number of indicators identified)	form used
Administration	Ann Rep	GBRMPA	Whether expiring permits reviewed for latency—binary (1)	
Facility maintenance	Ann Rep, PoM, Other	GBRMPA, QPWS, Parks Vic, WTMA	Number or percentage of infrastructure items damaged—scale (3) Adequacy of maintenance as reported by visitors—ordinal (2) Whether visitor facilities maintained to relevant standards for health and safety and to ensure protection of the environment—binary (1)	
Staff training	PoM, Other	Tas PWS, Parks Vic	Number of staff who have attended cultural diversity training—scale (3)	
Staff skills	Other	Parks Vic	Whether a staff audit has been completed of language and cultural diversity skills—binary (3) Number of staff who have cross-cultural communication competence—scale (1)	
Interpretation	SoP, Other	PoM, NSW DECCW, Parks Vic, QPWS, NT NRETA, Tas PWS, Parks Aus, SA DEH, GBRMPA	Adequacy of interpretation program—ordinal (11) Number of visitors participating in educational and interpretive programs—scale (3) Range and type of interpretive materials and activities provided—descriptive (1) Presence/absence of identification, conservation, interpretation of built components—binary (1)	
Communication	PoM, Other	NT NRETA, Tas PWS, QPWS, SA DEH, Parks Vic, WTMA	Whether information is translated into appropriate languages as required—binary (8) Sources of information for visitors—descriptive (4) Level of development and communication of codes of use—ordinal (2)	
Tourism/visitor	PoM, Other	Tas PWS, Parks Aus,	Number of successful partnerships established—scale	

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Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Indicator example—measure form used (Number of indicators identified)
involvement		Parks Vic, GBRMPA	(4) Whether appropriate partners are identified—binary (3) Patterns of tourist activity participation—descriptive (2)
Visitor services	Ann Rep, PoM, Other	GBRMPA, NT NRETA, Tas PWS, SA DEH, NSW DECCW, WTMA	Whether tourism and recreation opportunities are provided in an efficient and equitable manner—binary (2) Meeting an appropriate level of service—ordinal (2)
Impact management	Ann Rep, SoP, PoM, Other	Parks Vic, NSW DECCW, QPWS, WA DEC, Parks Aus, NT NRETA, Tas PWS, SA DEH, WTMA	Extent of visitor impact monitoring program implementation—ordinal (30) Distribution of <i>Bryophyte</i> populations—descriptive (5) Number of incidents of accidental or unforeseen damage to park values—scale (3) Whether visitor impacts are within acceptable levels—binary (3)
Tourism management	Ann Rep, SoP, PoM, Other	GBRMPA, Parks Vic, Tas PWS, Parks Aus, SA DEH	Extent of commercial tourism management program implementation—ordinal (7) Whether there are systems in place to recognise and reward high standard operators—binary (2) Supporting tourism partnerships—descriptive (1) Lease or license status of recreational clubs—nominal (1).
Impact monitoring	SoP, PoM, Other	NSW DECCW, WA DEC, NT NRETA, Tas PWS	Change in the area of disturbance zone around campsites—scale (2) Extent to which a planned and comprehensive monitoring and evaluation strategy, appropriate to the needs of the reserve, is being implemented—ordinal (1)

Evaluation subjects and indicators for monitoring of outputs

Visitor use, characteristics and recreation opportunities are outputs monitored and evaluated by all agencies (Table 66), although coverage across the whole park estate may be low. When evaluation subjects are assessed, ratio scales related to visitor numbers are commonly used. The indicators used seem comprehensive and often common between agencies, so for this evaluation element, a standard set of indicators and means of measuring may be possible to coordinate across Australia.

Table 66: Summary visitor-related evaluation subjects and indicators for monitoring of outputs

Only evaluation subjects with indicators are listed. A list of all indicators is given in Appendix F.

Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Indicator example—measure form used (Number of indicators identified)
Visitor use	Ann Rep, SoP, PoM, Other	Parks Aus, NSW DECCW, GBRMPA, QPWS, WTMA, WA DEC, NT NRETA, Tas PWS, Parks Vic	Number of 'camper nights'—scale (28) Status of any programs to monitor visitor numbers—ordinal (7) Whether visitor is an independent traveller or with a commercial group—binary (2) Sites visited—descriptive (1)
Visitor characteristics	Ann Rep, SoP, PoM, Other	Parks Aus, NSW DECCW, Parks Vic, WTMA, NT NRETA, QPWS, GBRMPA, Tas PWS	Age of visitors—ordinal (8) Origin of park visitors—descriptive (3) Number of domestic/international visitors—scale (3) Types of vehicles entering sites—nominal (2). Gender of visitors—binary (1)
Operator use	Other	GBRMPA	Number of tour operators—scale (2)
Revenue	SoP, Other	NSW DECCW, GBRMPA	Revenue raised from park user fees—scale (1)
Recreation opportunities	Ann Rep, SoP, PoM, Other	GBRMPA, NSW DECCW, Parks Vic, QPWS, WA DEC, Parks Aus, NT NRETA, Tas PWS, SA DEH	Adequacy of management knowledge of the recreational opportunities available—ordinal (2) Range of opportunities provided for visitors—descriptive (2) Whether recreation opportunities are provided in an efficient and equitable manner—binary (1)

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Evaluation subjects and indicators for monitoring of outcomes

Despite the difficulty often experienced in evaluating outcomes, this evaluation element has associated with it the second highest number of indicators, with a strong emphasis on using ratio scale data (Table 63). All agencies evaluate visitor satisfaction, safety, access, related conservation values condition and cognitive outcomes based on visitor and/or community surveys (Table 67). The strong quantitative approach would appear to be able to inform the ordinal assessments. Evaluation subjects apparently poorly assessed are the achievement of visitor objectives, social and economic impacts, and presentation of values condition. These evaluation subjects tend to require intensive study of individual parks for quantification, so appropriate surrogate indicators may be needed. Again the coverage of evaluations across the park estate is probably low, with emphasis given to more highly visited parks.

Table 67: Summary visitor-related evaluation subjects and indicators for monitoring of outcomes

Only evaluation subjects with indicators are listed. A list of all indicators is given in Appendix F.

Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Indicator example—measure (Number of indicators identified)	form used
Outcomes				
Achieving visitor objectives	PoM	Tas PWS	No indicators	
Visitor satisfaction	Ann Rep, SoP, PoM, Other	PA, NSW DECCW, GBRMPA, Parks Vic, WTMA, WA DEC, NT NRETA, Tas PWS, QPWS, SA DEH	Percentage of participants in education programs satisfied—scale (13) Levels of satisfaction of park users—ordinal (11) Trend in satisfaction of website users—descriptive (5) Whether the level of satisfaction of tourists is maintained or increased—binary (1)	
Visitor safety	PoM, Other	WA DEC, NT NRETA, Tas PWS, QPWS, Parks Aus, SA DEH, NSW DECCW, WTMA	Number of incidents involving park users—scale (11) Severity of incidents involving park users—ordinal (7)	
Visitor access	PoM, Other	WA DEC, NSW DECCW, Parks Vic, Parks Aus, NT NRETA, Tas PWS, QPWS, SA DEH, WTMA	Provision of formalised access in the park—binary (3) Conditions of roads within the park and their capacity to meet existing and forecast use—ordinal (2) Number of sites that provide access for people with a living disability—scale (1) What route was taken by visitors to access the site and why—descriptive (1)	
Presentation values condition	SoP, PoM	QPWS	Condition score for each of several presentation values (e.g. waterfalls, rainforests, views, glow-worms, walks, barbecue/picnic areas and campgrounds)—ordinal (2)	
Conservation values condition	Ann Rep, SoP, PoM, Other	NSW DECCW, WA DEC, Parks Vic, Parks Aus, NT NRETA, Tas PWS, QPWS, SA DEH, WTMA	Number of broken shrubs—scale (13) Qualitative index of asset condition based on site inspection—ordinal (9) Distribution of bryophyte populations—descriptive (3) Presence/absence of disturbance to artefacts—binary (1)	
Economic impacts	Ann Rep, SoP	NSW DECCW, Parks Vic, WTMA	\$ contributed to regional economy by visitors to parks—scale (6)	
Visitor compliance	PoM, Other	Tas PWS, QPWS, Parks Aus, WTMA	Number of people involved or number of incidents observed or evidence of feeding wildlife—scale (6) Level of compliance with regulations, minimal impact practices and other promoted management protocols—ordinal (4)	
Social impacts	PoM, Other	Parks Vic, Parks Aus, SA DEH, WTMA	Extent to which local community benefits from tourism opportunities—ordinal (2)	
Visitor cognitive outcomes	Ann Rep, PoM, Other	GBRMPA, NSW DECCW, NT NRETA, Tas PWS, SA DEH, QPWS, Parks Vic, WTMA	Level of visitor awareness of the management issues—ordinal (4) Percentage of visitors surveyed that rate an improved understanding of reef related issues—scale (2) What the visitor liked most/least about their visit—descriptive (2)	

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Alignment of agency goals and evaluation

To assess whether evaluation efforts might inform achievement of agency goals, for each agency, a comparison was made between stated objectives (from legislation, see Chapter 1, Table 14) and evaluation subjects covered by the agencies (Table 68). On this basis, all agencies except one appear to have evaluation programs that should inform the achievement of objectives. While evaluation subjects relevant to objectives exist and are assessed, it appears that coverage of all park areas is far from complete. So, while agencies may be able to report on performance against objectives for some parks, it is unlikely that they can do so for all parks or even provide a reliable appraisal of the whole of the estate being managed. This is at the heart of criticisms by the Auditors' General of Victoria (Victoria Auditor General 1995) and New South Wales (NSW AO 2004) that prompted the development of their SoP programs.

Table 68: Alignment between stated agency goals and content of current evaluations (i.e. evaluation subjects covered)

This uses goals specified (see Chapter 1, Table 14) and matches them with evaluation subjects found.

Agency	Goals stated in legislation and corresponding subjects	evaluation	Evaluation subjects corresponding to goals stated in key planning documents	Subjects covered by evaluation
QPWS			Outputs Recreational opportunities	Outputs Recreational opportunities use Visitor characteristics
	Outcomes Conservation values condition		Outcomes Visitor satisfaction Visitor safety Visitor cognitive outcomes	Outcomes Visitor satisfaction Visitor safety Visitor access Presentation values condition Conservation values condition Visitor compliance
NSW DECCW			Outputs Recreational opportunities	Outputs Recreational opportunities use Visitor characteristics Revenue
	Outcomes Visitor satisfaction Visitor cognitive outcomes Conservation values condition		Outcomes Visitor satisfaction Visitor cognitive outcomes Conservation values condition Economic impacts	Outcomes Visitor satisfaction Visitor cognitive outcomes Conservation values condition Economic impacts Visitor safety Visitor access
Tas DTAE - Tas PWS			Outputs Recreational opportunities Operator use	Outputs Recreational opportunities use Visitor characteristics
	Outcomes Visitor satisfaction		Outcomes Visitor satisfaction Visitor safety	Outcomes Visitor satisfaction Visitor safety Achieving visitor objectives Visitor access Conservation values condition Visitor compliance Visitor cognitive outcomes
Parks Vic			Outputs Recreational opportunities Operator use	Outputs Recreational opportunities use Visitor characteristics
	Outcomes Visitor satisfaction Visitor cognitive outcomes Conservation values condition		Outcomes Visitor satisfaction Visitor cognitive outcomes Social impacts Visitor safety	Outcomes Visitor satisfaction Visitor cognitive outcomes Social impacts Conservation values condition Visitor access Economic impacts
GBRMPA			Outputs Recreational opportunities	Outputs Recreational opportunities use Visitor

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Agency	Goals stated in legislation and corresponding evaluation subjects	Evaluation corresponding to goals stated in key planning documents	subjects	Subjects covered by evaluation
				Visitor characteristics Operator use Revenue Outcomes
	Outcomes Conservation values condition	Outcomes Conservation values condition Visitor cognitive outcomes		Visitor cognitive outcomes Visitor satisfaction
NT NRETA		Outputs Recreational opportunities		Outputs Recreational opportunities Visitor use Visitor characteristics
	Outcomes Visitor cognitive outcomes Visitor satisfaction (Conservation values condition implied elsewhere)	Outcomes Visitor cognitive outcomes		Outcomes Visitor cognitive outcomes Visitor satisfaction Conservation values condition Visitor safety Visitor access
WA CC	Outputs Recreational opportunities Outcomes Conservation values condition Visitor cognitive outcomes Visitor satisfaction	Outputs Recreational opportunities Outcomes Conservation values condition Visitor cognitive outcomes		
WA DEC	As above for WA CC	Outputs Recreational opportunities Outcomes Conservation values condition Visitor satisfaction Visitor safety Visitor cognitive outcomes Social impacts		Outputs Recreational opportunities Visitor use Outcomes Conservation values condition Visitor satisfaction Visitor safety Visitor access
WTMA		Outputs Recreational opportunities Outcomes Conservation values condition (implied elsewhere) Economic impacts Social impacts Visitor cognitive outcomes		Outputs Visitor use Visitor characteristics Outcomes Conservation values condition Visitor satisfaction Economic impacts Social impacts Visitor cognitive outcomes Visitor safety Visitor access Visitor compliance
Parks Aus		Outputs Operator use Outcomes Conservation values condition (implied elsewhere) Visitor satisfaction Visitor safety Visitor cognitive outcomes		Outputs Visitor use Visitor characteristics Recreational opportunities Outcomes Conservation values condition Visitor satisfaction Visitor safety Visitor access Visitor compliance Social impacts
SA DEH	Outputs <i>Recreational opportunities</i> Outcomes <i>Visitor satisfaction</i> <i>Visitor cognitive outcomes</i> <i>Conservation values condition implied elsewhere</i>	Outcomes Visitor satisfaction Visitor safety		Outputs Recreational opportunities Outcomes Visitor satisfaction Visitor safety Visitor cognitive outcomes Conservation values condition Visitor access Social impacts

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Identification of targets

Analysis of documents used in this study identified 31 specific targets or an average of less than one for each of the evaluation subjects used in this study (Table 69). The only evaluation subjects with a number of targets are for impact management and visitor satisfaction.

Jacobson, Carter & Hockings (2009b) discuss the role of targets or thresholds in determining the response to evaluations (see also du Toit, Biggs & Rogers 2003; Roe & Van Eeten 2001). The very limited range of targets identified means that this is an area requiring additional attention if evaluation efforts and results are to be appropriately converted to action in the field. Parks Victoria, and others, in their levels of service and protection programs are moving to better define targets and standards, but clear linking to evaluation remains as work in progress.

Table 69: Targets identified from analysis of documents

Only targets identified are listed. A list of all targets and evaluation subjects without targets are given in Appendix F.

Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Example targets—measure form used (Number of indicators with targets identified)
Context			
Values	PoM	Tas PWS	Interpretation of specific park features—binary (1)
Planning			
Design	PoM	Tas PWS	Approval only of development that focuses on recreation reliant on a natural outdoor setting—binary (1)
Inputs			
Funding	Ann Rep	WA DEC	Cost to agency of each visitor—scale (1)
Information	Ann Rep	GBRMPA	Information and training for industry and other stakeholders provided—binary (1)
Process			
Facility maintenance	Ann Rep	GBRMPA	Visitor facilities maintained to relevant standards for health and safety and to ensure protection of the environment—binary (1)
Communication	PoM	Tas PWS, GBRMPA	Codes of use have been developed and communicated—binary (1).
Tourism/visitor involvement	Ann Rep	GBRMPA	Management initiatives for tourism and recreation developed and implemented in partnership, with partnership arrangements recognised as very high standard—binary (1)
Visitor services	PoM	Tas PWS	All facilities in the visitor services zone meet applicable standards—binary (2)
Impact management	PoM	WA DEC, QPWS, Tas PWS	Over the life of the plan, no increase in the disturbance zone around campsites from 2004 levels—scale (4) Track deterioration is within an acceptable rate of change—ordinal (1) Lease or licences are current for all recreation clubs using the reserve and identify strategies to ensure activities are ecologically sustainable and minimum impact—binary (1)
Tourism management	Ann Rep	GBRMPA	System in place to recognise and reward high standard operators—binary (3)
Outputs			
Visitor use	Ann Rep	GBRMPA, NT NRETA	Tourist numbers visiting is maintained or increased—binary (1) 110 000 visitors to Reef HQ—scale (2)
Outcomes			
Visitor satisfaction	Ann Rep, PoM	GBRMPA, NT NRETA, WA DEC, Tas PWS	Levels of tourist satisfaction are maintained or increased - ordinal (5) 85% of visitors surveyed rate their visit as a satisfactory experience—scale (3)

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Visitor safety	PoM	WA DEC	The percentage of accidents/incidents per visit reported annually remains stable or decreases from 2004 levels—scale (1)
Visitor access	PoM	WA DEC	Complete access and circulation components of recreation masterplan within ten years of completion of regional management plan—binary (1) No reduction in visitor satisfaction levels due to altered access patterns over the life of the plan—ordinal (1)
Visitor use outcome	PoM	WA DEC	Complete access and circulation components of recreation masterplan within ten years of completion of regional management plan—binary (1)
Conservation values condition	PoM	Tas PWS	Absence of disturbance to artefacts—binary (2) Track deterioration is within an acceptable rate of change—ordinal (1)
Visitor compliance	PoM	Tas PWS	Visitors comply with requirements of integrated track and sign system—ordinal (1) 90% of people bringing dogs into the reserve comply with management plan requirements—scale (1)
Visitor cognitive outcomes	Ann PoM Rep,	GBRMPA, Tas PWS	85% of visitors surveyed rate an improved understanding of park related issues—scale (2)

Interviews with agency staff

Agency focus on evaluation

Interviewees were asked broad questions relating to planning and coordination of visitor related evaluation within their agencies (Table 70). Of significance is that of the seven agencies interviewed two reported no central coordination of evaluation, three reported no agency-wide evaluation framework and indicators, three reported no central staff allocated to monitoring and evaluation, and two reported no deliberate effort to evaluate achievement against key agency objectives. Five of the seven also had no central planning document to guide monitoring and evaluation (Table 70). This is reflected in the limited attention given to visitor-related evaluation. The WCPA framework or one developed specifically by the agency were most frequently reported as guiding frameworks.

Table 70: Planning and coordination of visitor-related evaluation

Question	Categories
Is there any planning or coordination of evaluation across the agency as a whole for evaluation in general? (overall question split into following sub-questions for analysis, based on scope of answers obtained) (n=7)	
Is there any central coordination (formal or informal) of evaluation across the agency as a whole for evaluation in general?	Yes (5) No (2)
Does the agency have strategically developed agency-wide framework and indicators?	Yes (4) No (3)
Are central staff allocated whose major focus is on monitoring/evaluation?	Yes (4) No (3)
Does the agency have a central planning document focusing on monitoring/evaluation (either already in place or under development)?	Yes (2) No (5)
Is there any planning or coordination of evaluation across the agency as a whole for visitor related evaluation? (n=7)	Yes, as well as including this as part of overall approach, agency is developing a coordinated approach to collection and use of visitor data including for evaluation purposes (1) Yes, but only as a component of an overall approach (4) No (2)
Does this include a deliberate effort to evaluate achievement of key agency objectives? (n=7)	Yes (4) No (2) Somewhat (1)
Is any guiding framework used? (n=5)	Framework developed internally (3) IUCN WCPA framework used or modified (3) Adaptive management cycle (1) Management cycle framework (1) Institutional analysis and design framework (1) No (1)

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Use of visitor evaluation information

Interviewees were asked questions regarding the usefulness of their agency's performance reporting. They commonly considered this to be useful in some areas and not in others, and these perceived strengths and weaknesses often differed between agencies (Table 71). The area in which performance reporting was most often considered useful was for determining whether the agency is meeting its key objectives, with half of the interviewees considering their agency's reporting useful to very useful for this purpose. Given the existence of few explicit targets, it can be inferred that 'meeting objectives' is subjectively appraised. Performance reporting was considered least useful for adaptive management at park level.

When asked whether they considered there would be significant value in improving performance reporting with regard to each of the purposes given for evaluating, the majority of interviewees were in favour of making improvements in every area (Table 71). Suggested improvements differed for each purpose discussed, but general themes were: the desire for more/better data, more useful indicators and for agencies to develop priorities for research to help with determining resource allocation. Where interviewees felt that improvement would be worthwhile, they were asked what would need to be done to achieve this. Some of the recurring suggestions were to allocate more resources (including financial) to monitoring and evaluation, collect more data, develop clearer agency objectives relating to visitor use, to target evaluation to better assess whether objectives are being met, and appoint central staff member/s to coordinate and oversee monitoring and evaluation and give feedback/recommendations to field staff. In a number of instances, it was reported that the agency was already in the process of making some of these improvements.

Table 71: Usefulness of visitor evaluation information for various purposes

Purpose	How useful?	Value in improving?	If not, why not?
	Very useful Useful Useful for visitor hotspots only Adequate Partly useful Not useful	Yes Maybe No, but could be with minor improvements No	Other mechanisms are more appropriate. Already good enough. Staff resistance to more systems. Visitation not seen as a priority in relation to conservation. Not the responsibility of our agency.
Accountability reporting to external parties (n=7)	Very useful (1) Useful (1) Adequate (2) Partly useful (2) Not useful (1) (n=7)	Yes (4) No, but could be with minor improvements (1) No (2) (n=6)	Already good enough (1)
Determining whether the agency is meeting its key objectives (n=7)	Very useful (1) Useful (2) Adequate (1) Partly useful (1) Not useful (2) (n=7)	Yes (5) No, but could be with minor improvements (1) No (1) (n=7)	Already good enough (2) Staff resistance to more systems (1) (n=2)
Informing Planning or policy at agency level (n=7)	Very useful (1) Useful (2) Adequate (1) Not useful (2) (n=6)	Yes (4) No (3) (n=7)	Already good enough (3) Staff resistance to more systems (1) Visitation not seen as a priority in relation to conservation (1) (n=3)
Adaptive management at park level (n=7)	Very useful (1) Useful (1) Useful for visitor hotspots only (1) Partly useful (1) Not useful (3) (n=7)	Yes (5) Maybe (1) No (1) (n=7)	Not the responsibility of our agency (1) (n=1)

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Purpose	If yes, what improve?	If yes, what would need to be done to achieve this?
Accountability reporting to external parties (n=7)	<ul style="list-style-type: none"> Collect better data on visitor impacts (2) Need standard indicators for 'health' of people (physical, mental, etc) (1) More monitoring data (1) Add tourism industry input into collection of monitoring data (1) Revise key result areas, with full framework for monitoring and indicators (1) Increase geographical coverage, especially in relation to recreational visitors (1) <p>(n = 4)</p>	<ul style="list-style-type: none"> Develop objectives and data collection methods for visitor impacts (2) Increase budget (1) Appoint a central staff member to coordinate and oversee monitoring and evaluation (1) Collect additional data (1) Planning already underway to do this (1) <p>(n=5)</p>
Determining whether the agency is meeting its key objectives (n=7)	<ul style="list-style-type: none"> Development and implementation of plans for monitoring (1) Better objectives and methods for monitoring at visitor hotspot parks (1) Address issues of social conflicts and visitor experiences (1) Revise key result areas, with full framework for monitoring and indicators (1) Use indicators to more directly assess whether objectives are met (1) Increase geographical coverage, especially in relation to recreational visitors (1) <p>Unsure (1) (n=5)</p>	<ul style="list-style-type: none"> Plans need to be operationalised and put in place for staff to execute (1) Build objectives more clearly into evaluation framework (1) Planning already underway to do this (1) Appoint a central staff member to coordinate and oversee monitoring and evaluation (1) Collect additional data (1) Develop suitable indicators (1) <p>Unsure (1) n=6</p>
Informing Planning or policy at agency level (n=7)	<ul style="list-style-type: none"> Orientate research to account for both visitors and biodiversity (1) Identify information gaps and develop priorities for research to more strategically deploy resources at branch or area levels (1) Bring all park components together under a framework so it's clear how they fit together— park assets, infrastructure, visitor experiences, etc (1) Increase geographical coverage, especially in relation to recreational visitors (1) Design monitoring data to better assist in local level planning (especially by spatially mapping visitation patterns) (1) <p>(n=3)</p>	<ul style="list-style-type: none"> Carefully consider research priorities and deployment of resources (1) Update overall visitor strategy to bring all components together under a framework (1) Planning already underway to do this (2) Collect additional data (1) <p>(n=4)</p>
Adaptive management at park level (n=7)	<ul style="list-style-type: none"> Increase geographical coverage, especially in relation to recreational visitors (1) Design monitoring data to better assist in local level planning (especially by spatially mapping visitation patterns) (1) Add new evaluation subjects (1) Design of visitor surveys (1) Performance indicators for PoMs (1) Change timing of data collection to allow for incorporation into annual report (1) Limiting confounding influences on data so data is comparable over time (1) Improve adaptive feedback loop so field staff can see usefulness of evaluation (1) Cultural receptiveness of agency (1) Add more visitor profiling not specific to experience and use data for marketing, etc (1) Better computerised data management allowing integration of many data sources (1) <p>(n= 5)</p>	<ul style="list-style-type: none"> Planning already underway to do this (2) Collect additional data (1) Develop new visitor surveys (1) Commitment and prioritisation by staff (1) More resources (1) Appoint head office staff member to interpret SoP data and give feedback/recommendations to field staff (1) Strike the right balance between continually improving monitoring and ensuring comparability over time (1) <p>(n=5)</p>

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Applying good practice principles

For agencies with performance reports that did not adhere (or only partially adhered) to the good practice principles identified in Chapter 1, the reasons behind this and opportunities for addressing this were explored. Interviewees were asked whether they considered there would be significant value in improving their agency's performance reporting with regard to each of the good practice principles that were not adhered to, or only partially so. Again, the majority of interviewees were in favour of making improvements in every area (Table 72). When asked what would need to be done to make these improvements, suggestions differed for each of the principles discussed, but general themes were: requiring more resources and funds, collecting additional data, and appointing a central staff member to coordinate and oversee monitoring and evaluation and give feedback/recommendations to field staff.

Table 72: Opportunities for improvement in relation to established good practice principles

Good practice principle (number not adhering or only partially)	Value in addressing	If no, why not?	If yes, what would need to be done to achieve this?
Achievement of the key agency objectives relating to visitor use are evaluated across range of evaluations (n=4)	Yes (3) No (0)	N/A	Planning already underway to do this (1) Collect additional data (1) Develop suitable indicators (1) More resources (1) Make monitoring a higher priority (1) Internal planning (1) Address any areas not being thoroughly evaluated under current regime (1) Agency needs more expertise in strategic recreational planning (1) Carefully consider research priorities and deployment of resources (1)
Visitor use indicators are used for multiple performance management purposes (n=8)	Yes (6) Probably (1) No (0)	N/A	More resources (2) Central/web based data management system (2) Better cooperation and agreement on definitions, questions being asked and purpose and use of data (1) Overcome problems with suitability of indicators for aggregation (1) More meaningful visitor indicators (1) Monitoring at park or site level (not currently done) (1) Commitment and prioritisation by staff (1) Make data more consistent across different parks (1) Redesign certain data collection instruments with help of researchers (1) Align indicators with strategic plans of agency (1)
Standardised visitor-use indicators are adopted that facilitate comparative analysis of performance within and across agencies, and across time (n=7)	Yes (5) Maybe (1) No (1)	Other agencies methodologies are not directly applicable to us (1)	Develop common indicators (2) Commitment and prioritisation by staff (1) More resources (1) Central/web based data management system (1) Develop national methodologies (1) Ensure a common understanding of issues and aggregation of indicators from park to state level (1)
Agency has defined purpose statement and objectives for measuring performance covering the range of evaluation methods (n=3)	Yes (2) No (0)	N/A	Planning already underway to do this (2) Internal planning (2)

Influential trends, comments on the way forward, and other opportunities for improvement for visitor evaluation in performance reporting

Interviewees were asked to identify future trends or requirements that are likely to affect what is needed in relation to the evaluation of visitor use in performance reporting (Table 73). A number of external trends were identified, such as climate change, economic concerns and population changes, all of which may affect visitation to parks and thus need to be better monitored and understood by agencies. Interviewees identified changes in requirements or operation of park agencies; such as, the need to assess tour guide impacts, the need to better understand the visitor 'market' in anticipation of re-branding popular parks, the need for agencies to adopt more

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formal evaluation systems using common indicators, and the need to develop monitoring and evaluation systems that are more adaptive and responsive to visitor needs. Two respondents suggested that recent technologies such as podcasts, internet posts and short message services could be better utilised to market parks to visitors and to help understand visitor patterns.

Table 73: Trends likely to affect the inclusion and approaches to visitor monitoring in performance reporting

Trends/requirements identified (n=7)	Categories
External trends	Changes in visitor use/demand re parks—need to monitor these and may need to change data collection/sampling program and/or obtain information from other organisations (5) External factors affecting visitation patterns esp. oil crisis, population changes—may need to change sampling program (2) Climate change - requires new forms of monitoring data (2) Changes in threatening processes - need to monitor how these affect visitor numbers and distribution (1) External environmental and economic concerns may affect patterns of visitor use - agency needs to understand these (1)
Change in requirements or operation of park agencies	Re-branding of popular parks - need to understand the target market (visitor numbers, level of satisfaction, market segmentation etc) (1) Agency expects greater external scrutiny in future (1) Trend towards common indicators to be used nationally - agency may be forced to develop more formal evaluation systems (1) Trend for agency to become more adaptive and respond to visitor needs - agency monitoring and evaluation systems need to reflect this (1) Requirement to assess tour guide impacts (1)
New opportunities	Technological advances offer new opportunities—need to use technology to understand visitor patterns and to market parks (2)

In response to prompting for additional comments on the way forward for evaluation of visitor use, interviewees identified the need to improve the scope and quality of indicators and monitoring data (e.g. develop agency-wide indicators), include social resilience indicators and aggregate of site level indicators and collect data on the ecological sustainability of visitor use (Table 74). It was suggested that agencies should seek more staff input when developing indicators. The need to improve internal cultures and resourcing of monitoring was noted, with respondents suggesting the need for greater engagement of field staff, promotion of the benefits of monitoring and allocate more resources for monitoring activities. Interviewees identified the need to improve planning and coordination of monitoring activity, recommending the adoption of a more holistic approach to visitor use, improvement of systems for monitoring and evaluation, and establishment of stronger links and/or standardised methods between agencies. Several interviewees felt the link between monitoring and adaptive management needed to be strengthened and suggested making better use of informal monitoring; implementing formal programs only where they are really needed.

Table 74: Additional comments about the way forward for visitor use evaluation as part of performance reporting

Categories (n = 6) (number of interviewees)	Additional detail from interviews (where given)
Scope and quality of indicators and monitoring data	
Develop better indicators that staff see as useful (1)	It is important to develop better indicators that staff see as useful—this is something useful that researchers can do.
Develop (better) agency wide indicators (1)	
Aggregate site/park level indicators where possible (1)	
Develop social resilience indicators (including tourism) (1)	
Obtain data on the ecological sustainability of visitors (1)	Unable to provide conclusions based on clear evidence about ecological sustainability of visitors—this leads to external pressure/scepticism. In principle, it would be good to have data on this.
Adaptive management and use of informal monitoring	
Strengthen link between monitoring and adaptive management (2)	Best practice is a combination of systematic monitoring and more responsive feedback systems and risk assessment that predicts problems.

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Categories (n = 6) (number of interviewees)	Additional detail from interviews (where given)
Utilise informal monitoring and only conduct formal monitoring where needed (2)	Don't want to rely only on formal monitoring systems because: (i) they are expensive and limited in scope; (ii) informal feedback can be timely in recording a problem and precipitate early response; (iii) cumulative impacts are difficult to assess formally, as they require careful design, anticipating all possible impacts. Since formal (scientifically based) monitoring is expensive, particularly in remote areas and in marine environments, need to target formal programs carefully only where they are really needed.
Planning and coordination	
Improve linkages with other park and tourism agencies and/or standardise approaches and methods where appropriate (2)	National standardisation of approach and methods is considered the most important step in the 'way forward', but it is difficult to get everyone to agree due to each agency's constraints and management and definitions of monitoring standards.
Evaluation of visitor use has to be part of a larger, integrated, coordinated approach (1)	Visitor use is only one part of an integrated story and has to be part of a coordinated approach. If we were to increase resources allocated to the visitor component, we would need to justify why this information is important
Undertake continual review, evaluation and improvement of systems for monitoring and evaluation	Monitoring of some visitor use issues is doing well, but other aspects need to improve. Try to keep reviewing and evaluating and making decisions about how to adapt to identified gaps to improve results that feed back into the model so that evaluation doesn't 'stand still'.
Internal culture and resourcing of monitoring	
Allocate more time to monitoring by parks staff (2)	Obtaining sufficient staff time to undertake monitoring is difficult because this area is poorly resourced.
Engage field staff, communicate benefits of monitoring and encourage them to undertake monitoring voluntarily (1)	Monitoring is not seen as a priority by field staff because the benefits are not clear. Until staff think they need it, it will not happen. To obtain greater support, undertaking monitoring should be voluntary, not forced, as this only leads to resistance. Improved evaluation would help in getting more resources. Strong staff resistance to 'more systems' is a huge barrier to adding any additional monitoring activities.
Need for agency to overcome internal divisions that create disagreements about the way forward (1)	We would like our agency to act together as they are currently not unified towards a common objective. An internal divide creates disagreements about how and what to do regarding monitoring and evaluation.

Finally, interviewees were asked to identify opportunities for improving the usefulness of their agency's performance reporting (and use of reports) in relation to evaluation of visitor use. The suggestions largely related to monitoring and data collection (Table 75). These included collecting more data, making better use of data already collected, establishing a system for tourism operators to contribute data, adopting a more strategic approach to determine what visitor information needs to be collected, considering external trends in monitoring, and developing useful short term indicators and standardise approaches throughout the different states.

Table 75: Opportunities for improving the usefulness of performance reporting as part of evaluating visitor use

Categories (n= 6) (no. of interviewees)	Additional detail from interviews (where given)
Increase utilisation of existing data (1)	There are always opportunities to use secondary data analysis. This untapped area could quickly and easily shift information gathering to use by other agencies and departments (and universities). At the moment, much data are underused.
Increased efforts to collect monitoring data (1)	
Tourism in Protected Areas (TIPA) initiative in Queensland, providing opportunity for tourism operators to input data (1)	

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Categories (n= 6) (no. of interviewees)	Additional detail from interviews (where given)
Develop useful short term indicators (1)	Develop new indicator: number of tour guides that have completed their tour guide training. Also consider similar short-term indicators.
Need to work out what visitor information we really need in a more coordinated strategic way (1)	
Standardise approaches across Australia, or at least the eastern states (1)	A standardised approach across Australia, or at least the eastern states would make monitoring and evaluation more viable and makes sense, as there seems to be a disjunct between states. Currently, there appears to be agreement on objectives, but agencies are not 'speaking the same lingo'
Consider external trends in planning future monitoring (1)	

Overarching themes evident from the interviews

Reading across all the interview responses, themes that emerge are: the need for more resources; the need to improve monitoring data; the need to develop more suitable indicators; the importance of assessing environmental impacts of visitors; the need for agencies to allocate central staff to coordinate monitoring and evaluation; the perceived benefits of informal versus formal evaluations; and the desire for greater standardisation of approaches and methodologies.

Increased resource allocation for monitoring

A clear theme to emerge from the interviews was the need for more resources, because visitor-related monitoring and evaluation was an area considered poorly resourced. One interviewee identified lack of resources as the reason their agency had developed its own evaluation framework; they needed to direct limited resources to delivery of outcomes and felt that external frameworks such as the WCPA framework put too much focus on stages other than outcomes and thus were unsuitable. The allocation of additional resources to visitor-related monitoring and evaluation was specified by interviewees as being needed to improve performance reporting in general and to meet good practice principles for monitoring and evaluation.

Improved monitoring data

The need to improve monitoring data was mentioned throughout the interviews. Interviewees emphasised the need to collect more monitoring data, make better use of existing data, but also plan monitoring and determine what visitor information is needed in a more coordinated and strategic way.

Collection of additional data was mentioned frequently as being necessary for improving evaluations relating to visitor use for the range of purposes for which such evaluation could be used. Interviewees felt that data collected should be more reliable, better relate to agency objectives, and be improved for individual parks (particularly the major tourist attractions).

For the purpose of adaptive management at the park level, it was felt that new evaluation subjects could be added, new visitor surveys developed and the timing of data collection modified to allow for incorporation into the relevant agency report. Interviewees called for greater involvement of the tourism sector in monitoring. It was argued that this would help agencies in the collection of more monitoring data and make performance reports more useful to the tourism sector. A related suggestion was to make greater use of data collected by other agencies and universities: increased sharing of data and analysis of secondary data would benefit all involved. This was considered especially so for agencies constrained by resources and lack of staff to undertake additional monitoring. Trends contributing to the need for improved monitoring and/or new forms of monitoring data included: the aging population, community health, domestic travel trends, economic issues, and environmental issues such as climate change. Interviewees believed that new technologies offer new ways in which to collect data in parks and provide improved data management—computerised systems allowing integration of many data sources and making data readily accessible within and between agencies.

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More suitable indicators

Interviewees frequently identified a need for new, improved, or more suitable indicators to improve visitor evaluation. These need to enable agencies to more directly assess whether objectives are being met and better inform adaptive management at the park level. Nearly every interviewee believed it would be worthwhile to develop indicators for visitor use that could be used for multiple performance management purposes; some agencies are already in the process of doing so. To achieve this goal, interviewees suggested developing more meaningful visitor indicators, overcoming problems with the suitability of indicators for aggregation (from site/park level to agency level) and aligning indicators with the strategic plans of the agency. Additional evaluation subjects proposed for indicator development were: physical and mental ‘health’ of people; social resilience (including tourism); visitor safety and risk; ecological impacts; and short-term indicators to assess the success of particular programs. Ensuring that staff see the benefits of indicators was also suggested as important.

Environmental impacts of visitors

While addressing the need to improve monitoring data, interviewees specifically noted the importance of more thoroughly assessing the environmental impacts of visitors to parks. Some agencies consider visitor-related evaluation to be less important than resource assessment but are coming to the realisation that visitor impacts is an area lacking in data, which needs to be addressed to preserve conservation values. Several agencies commented on the lack of conclusive information, with one interviewee stating, ‘I am embarrassed that I cannot give an answer based on clear evidence about [ecological] sustainability of visitors’. It was suggested that research be orientated to account for both visitors and biodiversity, and that environmental impacts be added as a new evaluation subject. Some interviewees whose agencies currently use staff experience to assess visitor impacts felt that this was insufficient and that standard protocols and frameworks should be implemented to measure and monitor these impacts.

Central office staff to coordinate monitoring and evaluation

Many interviewees identified the usefulness of central staff to coordinate monitoring and evaluation. Some agencies already have at least one full time staff member (or the equivalent) in head office whose role focuses on monitoring and evaluation. Most interviewees from agencies without this felt that performance reporting would be improved and key agency objectives would be more likely to be met if central staff were appointed for this role. In addition to coordinating monitoring efforts, it was considered important to have a staff member in head office to analyse and interpret the data collected from monitoring and subsequently make recommendations to field staff. It was reported by one interviewee that this is not the current practice: regional staff receive no guidance in interpreting results, which they believed leads to inconsistencies and potential inaccuracies.

Role of informal evaluations

Few agencies currently have formal programs focused specifically on visitor-related monitoring and evaluation (although all collect various forms of visitor data). Agencies that rely on informal systems generally believe these to be a useful approach, suggesting they be used in conjunction with formal systems, the latter of which should be planned to target areas where they are most needed. Some interviewees felt that formal monitoring systems are less efficient than informal systems, as they are more expensive to implement, particularly in remote areas and in marine environments. It was proposed that formal systems are more limited in scope and can take longer than informal systems to detect problems, leaving less time to take action. It was also suggested that formal monitoring is less sensitive in assessing cumulative impacts, as these require a careful and comprehensive design, anticipating all possible impacts.

Another perceived problem with formal evaluation systems is that agencies often encounter resistance from staff when attempting to enforce extra systems and additional monitoring activities. If staff are not doing their job well, formal evaluation was not considered a good way to deal with the problem. One interviewee said that this could, in some cases, lead to embarrassment for the agency. Therefore, an informal management process was preferred. Several interviewees believed that undertaking monitoring should be on a voluntary basis for parks staff, and reported that their agencies are attempting to encourage staffing groups to implement and evaluate their own programs. One respondent noted that it was important to be sensitive to this when writing performance reports—recommending that reporting be in terms of ‘things to consider’ and follow a supportive, non-critical tone so as not to place undue pressure on staff. Most interviewees believed that engaging staff is the key to obtaining support for monitoring, as staff who cannot see the benefits of monitoring do not typically consider it a priority.

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Standardisation

A number of interviewees expressed the desire for greater standardisation and consistency across parks, agencies and states. Most interviewees acknowledged that they do not currently use standardised visitor use indicators that facilitate comparative analysis of performance within and across agencies, and across time. Nearly all interviewees considered this to be worth addressing, stating that centrally-developed indicators would be more resource-efficient and more useful for the purpose of amalgamating national data to inform planning. Some, however, felt that standardisation should only apply to selected core indicators since agencies need to maintain indicators specific to their own needs and priorities.

Interviewees considered it important to aim for a greater standardisation of approaches and methodologies across Australia, or at least across the eastern states. Despite comments on the difficulty in achieving this goal, and the reluctance of agencies to develop more formal systems, interviewees believed that national standardisation would allow for improved comparisons and benchmarking and improved viability. They considered a more cooperative approach to be the way forward for conservation of protected areas, with some agencies already part of a national project to facilitate this.

Discussion

There are many reasons for resistance to fully integrating monitoring and evaluation into management practice. Interviews emphasised agency and staff issues of cost, an increase to staff duties, and fear of individual performance appraisal (implied). Contributing to these concerns are the identified issues of the extent of a monitoring and evaluation program, the selection of indicators, giving impetus to program development and use of data and insights generated.

In defence of a holistic approach to monitoring and evaluation

Despite the inconsistencies with the results of Jacobson, Carter & Hockings (2009b) and Worboys (2007), this consolidated assessment of visitor use evaluation efforts supports their results that across Australia there is inconsistent, incomplete and uneven monitoring and evaluation of all elements of the management cycle as presented in the WCPA framework. The rationale for the framework is that without a holistic approach to monitoring and evaluating all of the evaluation elements in the framework, confidence in attribution of outcomes to management action cannot be assured. As a simplistic example, a decrease in visitor satisfaction with a park visit (outcome) may result from reducing the range of interpretive services (output), failure to complete routine maintenance in a timely fashion (process), fewer skilled staff to provide interpretive services (input), a new facility that does not meet visitor needs (planning), or simply that the demographic using the park has changed to one that expects a higher level of service than what is currently being applied (context).

A trial and error approach to management would be to address one or more of the possible causes, and hope there is a positive outcome. The adaptive management approach would be to consider (evaluate) all possible causes of the outcome, define the probable cause(s), address these and then monitor all possibilities, even if this is simply observing user behaviour or talking with visitors about their experience, or administering a rigorous satisfaction survey exploring the possibilities. Pre-existing evaluations would increase confidence in defining the probable causes for more targeted response actions and monitoring. Defining and quantifying outcomes is important for reporting on achievement of objectives, however, adaptive management requires a broader understanding.

Emphasising monitoring and evaluation

Giving attention to improved systems and approaches to monitoring and evaluation towards more effective management does cost financially and in terms of staff time. There can be little argument that a more evidence-based approach to park management, relying on monitoring and evaluation information, is desirable, but the benefits of improved information systems need to be balanced against costs of establishment and maintenance.

Benefits lie in more comprehensive and meaningful reporting of performance (accountability), but utility of the information to reduce uncertainty in management also adds value. In implementing its SoP program, both NSW and Victoria found that changing their approach to management, including structural arrangements, was necessary if maximising utility of monitoring and evaluation was to be achieved. This included review of monitoring programs and indicators used (still in progress). Similarly, Queensland found that its emphasis on integrity assessment needed expansion to include other dimensions of the management cycle. This was also the

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experience of the GBRMPA, which expanded its reporting on integrity and threats to include consideration of management effectiveness. Ultimately, embarking on an integrated approach to monitoring and evaluation demands start-up investment and staff to develop and manage the system. The centralised approach called for by interviewees seems to be the most efficient way of starting.

Targeting monitoring and evaluation

Guidelines for developing a monitoring and evaluation system are given in Chapter 1, Table 5 and Box 4. The purpose will determine what is monitored, evaluated and reported. If evaluation is to inform management, then two questions are fundamental to the program:

- Will the information change management?
- Is the information needed to track incremental, long term or cumulative change?

As identified by interviewees, concern for monitoring and evaluation to cost more staff time and resources is valid, but only if the purpose is unclear and the above questions are not at the heart of program design.

Standardising indicators, increasing utility

Clearly, efficiencies exist if evaluation subjects and indicators are standardised (but allow for the needs of particular parks and specific management issues). The array of monitoring indicators currently being used is diverse, although alignment does exist for visitor use issues in many of the evaluation elements. In fact, indicators used across Australia for assessment of visitor use may be more compatible than any other area of park management interest, so development of a standard set of indicators may be relatively easy to achieve. The report of Horneman, Beeton & Hockings (2002) on methodological guidelines for monitoring visitors to natural areas Kajala, Almik, Dahl, Diksaite, Erkkonen, Fredman, Jensen, Karoles, Sievanen, Skov-Petersen, Vistad & Wallsten (2007), Moore, Crilley, Darcy, Griffin, Taplin, Tonge, Wegner & Smith (2009) and other reports associated this project provide useful starting points.

Chapter 7

OVERVIEW AND RECOMMENDATIONS

A mandate for increased attention to evaluation

Evaluation is an important component of public sector management. Assessing the effectiveness of management commonly serves purposes of:

- ensuring an agency is accountable to its stakeholders,
- better informing stakeholders about the agency and its work and hence build public support,
- identifying the achievement of goals and objectives and therefore allocation of resources to address these, and identifying factors affecting success and enabling management to be adapted appropriately (Gujit 1999; Leverington & Hockings 2004).

These multiple purposes lead to different forms of evaluation applied at different program stages. Owen (2006) and Bost (2006) call for interactive approaches when program improvement is required, for monitoring when fine-tuning of programs is sought, and for impact assessment to justify a program.

These reflect emerging forms of evaluation practice: evidence based evaluation, commonly applied in natural resource management and healthcare (e.g. Blomgren 2007; Pullin & Stewart 2006), and participation for organisational change in the fields of welfare (e.g. Wyatt et al. 2005), education (e.g. Segerholm & Aström 2007) and development (Bost 2006). The content of evaluations varies in focus, but suggested inclusions are context (Mark & Henry 2004; Nutley & Davies 1999; Segerholm & Aström 2007), planned actions (Bost 2006; Segerholm & Aström 2007), results (Blomgren 2007; Bost 2006; Mark & Henry 2004; Pullin & Stewart 2006; Ramage & Armstrong 2005; Segerholm & Aström 2007; Wyatt, Carbines & Robb 2005), efficiency (Bost 2006; Ramage & Armstrong 2005; Wyatt et al. 2005), process (Bost 2006; Nutley & Davies 1999), and utilisation or impact (Blomgren 2007; Bost 2006; Everitt 1996; Mark & Henry 2004). All forms are evident in the evaluation activities of the agencies responsible for protected area management in Australia.

In Australia, protected areas are managed by multiple agencies based on state boundaries and constitutional arrangements. In addition, Commonwealth properties are managed by the Commonwealth, increasingly cooperatively with traditional owners, under a variety of arrangements. The Commonwealth also has a role in World Heritage Areas (and other areas subject to international agreements), again variously expressed with different levels of direct management responsibility. The protected area estate includes a large number of reserves ranging in size from less than a hectare to thousands of square kilometres. For management generally, and for visitor use management in particular, there is little conformity in approach or resourcing; although management is increasingly being underpinned by an adaptive management approach and application of the precautionary principle. In the emerging area of management effectiveness evaluation and monitoring, there remains little coordination of approaches applied and indicators used in evaluation, with agencies applying different priorities and methods that suit contemporary and historical purposes.

The Convention on Biological Diversity adopted a Program of Work for protected areas, which includes a requirement (Goal 4.2) for signatory States to develop and implement systems for assessing management effectiveness (CBD 2004). A framework has been developed for comprehensive assessment of management effectiveness, and endorsed by the IUCN World Commission on Protected Areas (Hockings, Leverington & James. 2006b). This framework, which was used for the assessment elements of this research, includes assessment of context, planning, inputs, process, outputs and outcomes so that factors influencing outcome success, or lack thereof, can be identified and addressed. Application of this framework at the protected area network level has enabled senior managers to present richly illustrative information about the performance of their agency, to respond to results strategically and to support individual park managers to reflect on their management and adapt accordingly.

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The evaluation of management effectiveness of the Australian protected area network is strongly supported at the national level. Commonwealth, state and territory jurisdictions have included management effectiveness as a key policy direction (Direction 34 in their joint policy statement on the National Reserve System [NRS]), arguing for such a system to be in place within each jurisdiction by 2005 (NRMMC 2005). The CBD Program of Work, to which Australia is a signatory, set a target for management effectiveness evaluation of 30 percent of reserves in each signatory jurisdiction by 2010. Two Australian state agencies (NSW and Victoria) currently contribute substantially to this target, evaluating and reporting on management effectiveness of 1125 of 7675 publicly managed protected areas (i.e., 14.7%¹¹). Nevertheless, it is evident that the 30 percent target will not be met.

Thus, a clear mandate and direction exists for Australian protected area managing agencies to give more attention to monitoring and evaluation and to developing coordinating systems. This study has sought to review current monitoring and evaluation practice with respect to visitor use as input to guide this development.

Recommendations

Recommendation 1

All protected area managing agencies reaffirm their commitment to developing integrated and comprehensive systems for monitoring and evaluation and the meeting of the Convention on Biological Diversity targets.

Recommendation 2

Agencies appoint staff whose prime responsibility is developing and managing monitoring and evaluation systems, and whose duties also include system development and effective and equitable sharing of national experience.

Current approaches

All protected area managing agencies in Australia currently undertake monitoring and evaluation of protected values, threats and management response to them. This includes consideration of visitor use. Approaches vary considerably, with some agencies strongly emphasising a quantitative evidence-based approach (usually Commonwealth agencies), others using a formal system of qualitative expert-based judgement for whole of estate assessment, while others apply monitoring and evaluation methods on a case-by-case basis, including long-term monitoring. These approaches are not mutually exclusive, and all agencies apply the approaches at different scales and intensities. This diversity of models and approaches means that most agencies have systems and experience that collectively could be used to develop a common or compatible monitoring and evaluation system that suits the needs of individual agencies, maximises comparability, and creates efficiencies of scale, and collaborative learning.

Recommendation 3

All protected area managing agencies collaborate to create a national monitoring and evaluation system that meets the needs of individual agencies and at the same time maximises compatibility and associated efficiencies and capacity for shared learning.

What precludes the states from undertaking detailed quantitative monitoring is the sheer size of the estate and the number of individual reserve areas to be assessed. As a result, qualitative assessment is often used, supported by a variety of quantitative studies. In addition, state agencies have developed systems and methods that focus on different issues and emphasise different elements of the management cycle and relationships between these. There are strengths in all systems and methods developed that should be considered in developing an integrative system for Australia-wide use.

¹¹ Data provided in September, 2007 by state and territory agencies (except ACT data which was derived from the Collaborative Australian Protected Area Database (CAPAD, 2004)), and the federally managed Parks Australia, which were derived from the 2005-06 annual report of the Director of National Parks.

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Recommendation 4

In developing a national system for monitoring and evaluation, identify opportunities for integrating and/or adopting current approaches, to minimise waste of existing effort.

Insights from documentation

Documentation was reviewed in this study as surrogates or direct indicators of the emphasis given to, and approach and indicators used by protected area managing agencies in Australia for, monitoring and evaluating visitor use. In doing so, a number of broader issues became evident in terms of the utility of these documents for guiding evaluation effort.

Plans of management

Plans of management in Australia can be highly prescriptive, provide a decision-making framework and direction for management, or they can be documents that simply define principles for management. Legislation often defines the degree of prescription included. Management for the protection of specified values and meeting of mandated and corporate objectives should be the focus of plans. Most of the plans reviewed required monitoring of visitor use, fewer provided indicators for monitoring, fewer still offered targets. A very small number of plans linked indicators to clearly defined visitor objectives, and prioritisation was poorly defined.

Recommendation 5

Plans of management include prioritised monitoring actions (but not detailed methods) linked to clear objectives, with targets, appropriate indicators, and thresholds that will precipitate an adaptive response.

Recommendation 6

Agencies prepare monitoring protocols and methods suited to a variety of park issues that managers can draw upon in implementing monitoring actions prescribed in plans of management.

Annual reports

All agencies participating in this study are required by law to produce annual reports, either singularly or part of the annual report of a parent agency. Considerable effort goes into their compilation and production. The contents and format of annual reports is usually prescribed by legislation, but flexibility exists in what is actually reported beyond this. Annual reports are largely for public accountability purposes through reporting to parliaments. Few annual reports reviewed included evidence that they were informed by monitoring and evaluation, and where this was inferred, so too were the targets and objectives the monitoring information was addressing. Visitor use outcomes reported were informed by quantitative monitoring of outcomes, but this was not in evidence Australia-wide, or based on comprehensive assessments across the whole of the park estate. Extrapolation was applied.

Annual reports were largely almanacs of the years activities structured in key performance areas, with associated financial detail. Clearly, these meet government requirements. However, the growing demand for public accountability means that stakeholders may increasingly demand improved reporting and evidence of performance against key objectives. Recent performance audits of the protected area managing agencies in NSW and Victoria conducted by their respective auditors general suggest this inevitability. While annual reports are not the place to address monitoring, they are probably a place to report evaluations based on monitoring.

Recommendation 7

Agencies pre-empt increased accountability requirements by including in annual reports evaluation results based on monitoring and linked to key objectives.

State of the Parks reports

Whole-of-system SoP reports are a relatively recent initiative that builds on State of the Environment reporting and the requirement of areas listed under international agreements for periodic reporting. While the GBRMPA Outlook Report is underpinned by considerable research and monitoring of resource state, pressures and ecological response, other reports rely on the expert assessment of rangers, informed by the best evidence available, which varies considerably between park areas. For management performance evaluation, all SoP reports reviewed relied on expert assessment, with confidence in assessments supported by the available documented evidence. In the interests of making the whole-of-system assessment, indicators are necessarily general to enable rolling-up to provide a regional and higher level picture of performance. However, these systems do have the capacity in inform management at these higher levels of organisation and have been

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instrumental in focusing attention on monitoring and evaluation needs, approaches, priorities, indicators and systems to drive use of evaluation. Relatively, attention given to visitor use issues is less than that applied to resource management.

SoP programs continue to be developed along with associated protocols and refinement of indicators, given their apparent usefulness for agency reporting and organisational decision-making. However, they have proven to be of limited use in informing adaptive management at the park level. Tools exist suited to management effectiveness evaluation for the park level (e.g. Hockings et al. 2007).

Recommendation 8

Agencies collaborate, facilitated by the Commonwealth, in developing compatible SoP equivalent evaluation systems to meet existing Convention on Biological Diversity (CBD) and National Reserve System (NRS) commitments.

Recommendation 9

Agencies pilot the application of site-level management effectiveness evaluations using available methodologies.

Monitoring and evaluation of visitor use

Analysis of review documentation found that monitoring and evaluation of visitor use was relatively well-served by indicators, but many of these were agency or park specific. Emphasis is placed on evaluation of outcomes (visitor satisfaction), process (impact management, interpretation) and outputs (visitor use and characteristics), respectively, and on high visitation parks with large gaps in monitoring across a large proportion of parks. There appears to be high consistency between agencies on indicators that need monitoring for visitor use, and the ideal of a national approach to monitoring and evaluation is possible for this key performance area for parks. With this report, associated project publications and other methodological guidelines for monitoring visitors to natural areas (see Horneman et al. 2002; Kajala et al. 2007; Moore et al. 2009), a solid basis exists for inter-agency agreement on standardised monitoring and evaluation protocols, a suite of indicators and priority monitoring issues, which would provide a model for similar activity for other key performance areas.

Recommendation 10

Agencies collaborate, facilitated by the Commonwealth, in developing standardised approaches and methods, priority evaluation elements and indicators for monitoring and evaluating visitor use nation-wide. Special attention is to be given to approaches for monitoring visitor impact.

Recommendation 11

Agencies collaborate, facilitated by the Commonwealth, in defining a set of indicators for regular and consistent monitoring and evaluating visitor use in a large proportion of parks across all states.

Insights from interviews

Interviews with agency staff provided opportunity to expand on the practice of monitoring, evaluation and reporting of visitor use of protected areas and raise specific issues.

Resistance to integrating monitoring and evaluation of visitor use into work practices

While there are many reasons for resistance of staff to fully integrating monitoring and evaluation into management practice, interviews emphasised the agency and staff issues of fears that evaluation efforts equate to individual performance appraisal rather than management effectiveness appraisal, additional cost in already extended budgets or an increase to staff duties at the expense of others. Contributing to these concerns are the identified issues of the extent (conceptually and spatially) of a monitoring and evaluation program, the selection of indicators (see Recommendations 10 and 11), giving impetus to program development and management of it, and use of data and the insights to management generated.

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Staff performance versus management effectiveness appraisal

Any evaluation of operational performance where people are involved risks being seen by operatives as an assessment of their personal performance. This leads to resistance to adoption. If monitoring and evaluation is to become part of 'business-as-usual' practice in protected area management, then it must be seen as a vital element that supports a formalised approach to adaptive management, which remains the foundation of park management where uncertainty is always going to be high. Clearly separating staff performance and management performance evaluation is essential, along with ensuring that staff understand the difference in purposes and uses.

Recommendation 12

In embarking on giving greater emphasis to monitoring and evaluation, agencies ensure that it is clear to field staff that the initiative is not related to or part of staff appraisal.

Justifying the cost of monitoring and evaluation

Monitoring and evaluation are part of a disciplined approach to adaptive management and responds to calls for a more evidence-based approach to conservation management (Pullin & Knight 2009; Pullin et al. 2004; Sutherland et al. 2004). However, it must be acknowledged that when resources are limited, there is an opportunity costs associated with data collection (Sheil 2001) that must be considered when embarking on an evidence-based approach. Some fundamental issues for agencies to consider are their level of commitment to an evidence-based approach to adaptive management, the level of concern for loss of corporate knowledge as each experienced manager departs employment, the implications of needing to better demonstrate effectiveness to stakeholders, efficiencies that can be made through a more comprehensive approach to monitoring, and the probability of more effective management. Given the concerns raised regarding cost and benefits of monitoring programs, greater exploration of these issues seems warranted.

Recommendation 13

Agencies jointly fund a short-term research project to identify the strengths and weaknesses, and benefits and costs of adopting a more evidence-based approach to management.

How much monitoring is sufficient and how is it used?

Associated with cost is a determination of how much monitoring is needed, priorities and utility of programs.

Recommendation 14

Agencies jointly fund a short-term research project to identify and evaluate existing long-term monitoring programs in terms of cost and utility.

Giving impetus to improved monitoring and evaluation systems

Recent initiatives in monitoring and evaluation for park management in Australia (e.g. Victoria's Signs of Healthy Parks Monitoring Program) and overseas (e.g. US Parks Vital Signs Program and Parks Canada Ecological Integrity Program, Kruger NP threshold approach) has seen the development of new frameworks, methods and tools. In Australia, some agencies are advanced in developing comprehensive management systems that integrate monitoring information into management and reporting. The capacity of other agencies to keep informed of these initiatives is limited by not having staff dedicated full-time to developing systems for monitoring, evaluation and reporting. Agencies that have already invested significantly in monitoring and evaluation systems are positive about sharing their experiences, but seek an equitable exchange of ideas or at least not be required to take the role of being teachers.

Recommendation 15

All agencies appoint at least one full-time staff member for the purpose of developing monitoring, evaluation and reporting systems.

Recommendation 16

- Agencies jointly fund a review (and preparation of a tool-kit) of national and international frameworks for monitoring, evaluation and reporting on visitors in protected areas in the interests of ensuring all agencies are fully briefed on contemporary thought, issues and approaches.
- Agencies, facilitated by the Commonwealth, use this review to work towards a compatible nationwide system for monitoring, evaluation and reporting.

Short-term, issue and park-specific and informal monitoring

The diversity of evaluation subjects and indicators identified in this study and comments by interviewees of the importance of accounting for issue and park-specific monitoring needs, highlights a role for informal, low cost, possibly less than 'scientifically' rigorous monitoring approaches. These might not be quantitative but rely on repeated observation or casual and unstructured interviews. The important issue here is that observations and interview responses are recorded for later analysis and reflection. Such monitoring may provide early warning of emerging issues and sufficient information to adapt management or justify more rigorous monitoring. It highlights that the standard of proof for management action is on the balance of probabilities.

Recommendation 17

Agencies acknowledge the role of informal monitoring and, facilitated by the Commonwealth, develop principles and guidelines for such monitoring and gather case study examples of how this type of monitoring influenced a change in management. Edited case studies can then be distributed to field staff.

Analysis and evaluation of monitoring data and feedback

Analysis, data interpretation and evaluation

While not evident in the analysis of documents or raised in interviews, analysis of monitoring data is a significant issue (see Hockings et al. 2009; Stathis & Jacobson 2009), which may require specialist expertise. Much monitoring data is unused because agencies do not have the resources or expertise to analyse data sets or, for example, poorly constructed survey instruments may invalidate the data. A key element of adaptive management is reflection, especially for expected users.

Recommendation 18

Before any monitoring is undertaken, agencies must be assured that resources and capacity exist to appropriately analyse the collected data and responsibly interpret the analysis and act on the monitoring findings.

Recommendation 19

Agencies allow work time for staff to reflect on monitoring results and determine how the findings might be used to adapt management. This may involve group workshops and adjustment of budget allocations.

Timely feedback of monitoring results

Interviewees in this study identified the need to ensure evaluations and interpretations of data analysis are returned to field staff as quickly as possible. This provides opportunity for staff to comment on interpretations that may be influenced by context, for early adaptive action and integration of learning into works programs, but most importantly, it reinforces the value of monitoring to the field. There is evidence that for complex (e.g. SoP) data sets there are advantages in working through the interpretations with field staff for both interpretation and defining adaptive responses to findings (Hockings et al. 2010).

A reason for not returning monitoring information to the field in a timely fashion, or disseminating it widely, is the political outfall of 'reporting failure'. The results of monitoring and evaluation will not always be positive. From an adaptive management perspective, it is probable that more can be learnt from failure than success. There is no simple fix to this concern. Simply, this must be managed. However, stakeholder perception that an agency is transparent in its management and seeking continual improvement in its management will foster public confidence and support for the agency's activities as a learning institution.

Recommendation 20

Where analysis of monitoring data is conducted centrally, agencies provide early feedback to field staff, or work with them in evaluating analyses and determining how management might be adapted.

Recommendation 21

Agencies recognise that monitoring may sometimes reveal management failure and develop strategies for managing the political and community response to lack of success. This may include working towards a corporate image of a transparent learning institution striving for continual improvement in its management.

***CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF
VISITOR USE OF PROTECTED AREAS***

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

APPENDIX A

Chapter 1 appendices

Table 76: Protected areas in Australia by IUCN category

IUCN category	IA Strict nature reserve	IB Wilderness area	II National park	III National monument	IV Habitat/species management area	V Protected landscape/seascape	VI PAs with sustainable use	Total
Australian Capital Territory (235813ha)								
Number	0	1	12	0	1	0	0	42
Area (ha)	0	28882	100571	0	84	0	0	129537
% of PA	0.0%	22.3%	77.6%	0.0%	0.1%	0.0%	0.0%	100.0%
% of ACT	0.0%	12.3%	42.7%	0.0%	0.0%	0.0%	0.0%	54.9%
New South Wales (80121268 ha)								
Number	404	26	298	9	75	21	1	834
Area (ha)	943402	1735113	3911701	5297	119675	10634	645	6726467
% of PA	14.0%	25.8%	58.2%	0.1%	1.8%	0.2%	0.0%	100.0%
% of NSW	1.2%	2.2%	4.9%	0.0%	0.2%	0.0%	0.0%	8.4%
Northern Territory (134778762 ha)								
Number	4	0	19	5	0	56	10	94
Area	44523	0	6163100	7168	0	205885	5329538	11750214
% of PA	0.4%	0.0%	52.5%	0.1%	0.0%	1.8%	45.4%	100.0%
% of NT	0.0%	0.0%	4.6%	0.0%	0.0%	0.2%	4.0%	8.7%

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Queensland (172973671 ha)								
Number	6	0	287	199	3	1	437	933
Area	37147	0	7836820	68925	14542	179893	1308705	9446032
% of PA	0.4%	0.0%	83.0%	0.7%	0.2%	1.9%	13.9%	100.0%
% of QLD	0.0%	0.0%	4.5%	0.0%	0.0%	0.1%	0.8%	5.5%
South Australia (98422137 ha)								
Number	79	14	16	1675	77	2	9	1872
Area	6069241	2888894	3020465	837270	1698957	524261	10185226	25224313
% of PA	24.1%	11.5%	12.0%	3.3%	6.7%	2.1%	40.4%	100.0%
% of SA	6.2%	2.9%	3.1%	0.9%	1.7%	0.5%	10.3%	25.6%
Tasmania (6840133 ha)								
Number	138	1	45	60	437	91	264	1036
Area (ha)	112216	1482	1532976	29098	232729	92507	803858	2804866
% of PA	4.0%	0.1%	54.7%	1.0%	8.3%	3.3%	28.7%	100.0%
% of TAS	1.6%	0.0%	22.4%	0.4%	3.4%	1.4%	11.8%	41.0%
Victoria (22754364 ha)								
Frequency	539	19	97	373	1564	14	259	2865
Area	457870	905009	3313336	62614	44042	67241	210910	5061021
% of PA	9.0%	17.9%	65.5%	1.2%	0.9%	1.3%	4.2%	100.0%
% of VIC	2.0%	4.0%	14.6%	0.3%	0.2%	0.3%	0.9%	22.2%
Western Australia (252700808 ha)								
Number	1197	0	167	7	19	42	53	1485
Area	10803655	0	6572425	74746	584572	2417	12153186	30191001

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

% of PA	35.8%	0.0%	21.8%	0.2%	1.9%	0.0%	40.3%	100.0%
% of WA	4.3%	0.0%	2.6%	0.0%	0.2%	0.0%	4.8%	11.9%
Commonwealth								
Number	0	0	3	0	3	0	0	6
Area (ha)	0	0	2119278	0	92752	0	0	2212030
% of PA	0.0%	0.0%	95.8%	0.0%	4.2%	0.0%	0.0%	100.0%
Australia								
Number	2367	61	941	2328	2176	227	1033	9133
Area (ha)	1846805 4	5559380	3245139 4	1085119	2694602	1082837	2999206 7	9133345 2
% of PA	25.9%	0.7%	10.3%	25.5%	23.8%	2.5%	11.3%	100.0%
% of Aus	2.4%	0.7%	4.2%	0.1%	0.4%	0.1%	3.9%	11.9%

Source CAPAD (2004)

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Table 77: Adapted IUCN-WCPA evaluation subjects

Evaluation subjects adapted from WCPA Park level			
Elements and Criteria	Common reporting format for WCPA framework	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'
Context			
Values and significance	Five important values Level of significance		Values Priority
Threats/issues/pressures	Five important threats Level of extent and severity of threats Trend of threats		Threat id Threat rating
Stakeholder attitudes and relations	Constrain or support by external political and civil environment		Threat trend Visitor attitudes
Influence of external environment	Main constraining factors of external political and civil environment		Community attitudes External constraints
Planning			
Legal status and tenure	Park gazettal and tenure security		NA
System design	Adequacy of legislation		Legal
Site design	Marking and security/fencing of park boundaries		NA
Management planning	Appropriateness of design Management plan		Design Mgmt planning
Inputs			
Staff	Adequacy of staff numbers		Staff numbers/time
Funding	Adequacy of current funding		Funding
Funding security	Security/ reliability of funding		Funding security
Equipment and facilities	Adequacy of infrastructure, equipment and facilities		Infrastructure
Information	Adequacy of relevant and available information for management		Information
			Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)
			Identification of key visitor/tourism related values, including recreation opportunities Priority rating or category with regard to visitor-related importance Identification of key visitor-related threats Rating of visitor-related threat or impact level (may be existing and/or potential) Trend in visitor-related threats Visitor or tourism industry attitudes, visitor reasons for visiting parks, relationship between visitors/ tourism industry and parks - collected as context for planning Community perceptions/attitudes regarding visitation to parks Availability of alternative recreational opportunities in region, marketing pressures etc
			Adequacy of staff allocation for tourism, visitor management; interpretation (including time allocated by staff? (i.e. staff hours?) Adequacy of funding allocation for tourism, visitor management, interpretation Security of visitor-related funding allocation Adequacy of visitor, tourism and interp infrastructure, equipment and facilities Adequacy of visitor-related information, including monitoring programs (including of impacts etc.) and their utilisation for adaptive management

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Elements and Criteria	Common reporting format for WCPA framework	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'	Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)
Process				
Capacity				
Governance, high-level management and leadership	Effectiveness of administration including financial management		Admin	Effectiveness of administration of visitor management and tour operator permit systems
Policy development and decision-making	Effectiveness of governance and leadership		NA	NA
Administration, work programming and internal organisation	Management effectiveness evaluation undertaken		NA	NA
Evaluation and process/management monitoring	Model of governance		NA	NA
Building and maintenance of infrastructure, facilities and equipment	Adequacy of building and maintenance systems		Facility maintenance	Adequacy of maintenance of visitor facilities
Capacity building	Adequacy of hr policies and procedures		NA	NA
Human resource management	Adequacy of staff training		Staff training	Adequacy of staff training in interpretation, visitor management, tour operator management
	Staff morale		NA	NA
	Staff/ other management partners skill level		Staff skills	Adequacy of skill level in interpretation, visitor management, tour operator management
Relating to people	Adequacy of law enforcement capacity		Law enforcement adequacy	Adequacy of law enforcement in relation to visitors and tour operators
Law enforcement	List (up to) five main issues for law enforcement		Law enforcement issues	Identification of visitor/ tour operator related law enforcement issue(s)
Community involvement and relationships	Appropriate program of community benefit/ assistance		Relationship appropriateness	Appropriateness of relationships with visitors or tour operators
Communication, education and interpretation	List community benefit/ assistance program		Relationship description	Descriptive field for above programs
		Adequacy of interpretation programs	Interpretation	Adequacy or appropriateness of interpretation program(s)
Community development assistance	Communication program		Communication	Adequacy of communication with visitors and tourism operators
Sustainable resource use - management and audit	Involvement of communities and stakeholders		Tourism/visitor involvement	Adequacy of involvement of tourism industry/ park visitors (not community in general) in planning and management

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Elements and Criteria	Common reporting format for WCPA framework	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'	Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)
Visitor management	Character of visitor facilities and services Visitors catered for and impacts managed appropriately Visitors catered for and impacts managed appropriately	Adequacy of visitor services Adequacy of visitor impact management processes Adequacy of management of visitor fees Adequacy of tour operator management	Recreation opportunities Visitor services Impact management Visitor fee management Tourism management	Descriptive field for types of visitor opportunities/ character of facilities and services Adequacy of visitor services in general or other than interpretation and communication Adequacy of management of visitor impacts Adequacy of systems for collecting entrance fees etc. Adequacy of systems for managing tour operators e.g. permitting, marketing etc.
Managing the resource	Natural resource and cultural protection activities undertaken Sustainable resource use - management and audit		NA NA	NA NA
Restoration (damaged & fragmented ecosystems, cultural heritage) Resource protection and threat reduction	Research and monitoring of natural/ cultural management Threat monitoring			
Research and values monitoring			Impact monitoring	Adequacy of monitoring of visitor threats/ impacts
Outputs				
Achieving work program	Achievement of set work program		Work program achieved	Achievement of work program relating to visitors/ tourism
Results/outputs	Activities/ services and outputs have been produced	Level/ pattern of visitor use Visitor characteristics Tour operator use Visitor-related revenue	Services provided Visitor use Visitor characteristics Operator use Revenue	Provision of specified visitor-related services e.g.interp services Visitor numbers, seasonal/spatial distribution Visitor demographics and other characteristics e.g. income (excludes attitudes). Tour operator numbers, distribution, characteristics \$ from visitor-related fees
Outcomes				
Achieve objectives	Proportion of stated objectives achieved	Achievement of visitor objectives not related to values: visitor satisfaction Achievement of visitor objectives not related to values: visitor safety	Achieving visitor objectives Visitor satisfaction Visitor safety	Achievement of visitor use/ management objectives in general (not specific to any of next 6 rows) Extent of visitor satisfaction/ meeting of expectations etc. (even if no explicit objectives in this document) Visitor safety/ incident levels (even if no explicit objectives in this document)

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Elements and Criteria	Common reporting format for WCPA framework	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'	Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)
		Achievement of visitor objectives not related to values: appropriate access	Visitor access	Extent to which appropriate/equitable access to park by visitors/ tourism industry is provided (even if no explicit objectives in this document)
		Achievement of objectives not related to values: visitor attitudes	Visitor cognitive outcomes	Attitudes/perceptions of visitors to park/conservation or new knowledge gained in response to visiting park/ interpretation programs
		Achievement of objectives not related to values: visitor compliance	Visitor compliance	Extent to which visitors comply with rules (esp. re impact management)
State of park	Conservation of nominated values - trend	Achievement of objectives not related to values: trend in presentation values	Presentation values trend	Trend - - are the presentation/ recreational values improving or decreasing in quality?
	Conservation of nominated values -condition	Achievement of objectives not related to values: condition of presentation values	Presentation values condition	Extent to which the recreational values have been maintained
		Achievement of objectives not related to values: impact of visitors on conservation values	Conservation values condition	Extent to which conservation values impacted by visitors have been maintained
Effect of park management on local community		Achievement of objectives not related to values: economic impacts of visitation	Economic impacts	Economic impacts of park-related visitation on community
		Achievement of objectives not related to values: social impacts of visitation	Social impacts	Social impacts (attitudes, perceptions, objective measures) of park-related visitation on community, including health

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Evaluation subjects adapted from WCPA system level

ELEMENTS AND CRITERIA	Common reporting format for WCPA framework (this column from park level)	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'	Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)	Roll up from park level?
Context					
Values and significance	Five important values		Values	Identification of key visitor/tourism related values/opportunities for park system as a whole (based on some kind of considered analysis/evaluation)	Yes
Threats/issues/pressures	Five important threats		Threat id	Identification of key visitor-related threats to park system	Yes
Opportunities for enhanced conservation, presentation and community well-being	Trend of threats		Threat severity Threat trend	Severity of key visitor-related threats to park system Trend in visitor-related threats	Yes Yes
Stakeholder attitudes and relations	Constrain or support by external political and civil environment		Opportunities to enhance Visitor attitudes Community attitudes	Opportunities for enhanced presentation (based on analysis/ evaluation) Visitor or tourism industry attitudes, visitor reasons for visiting parks, relationship between visitors/ tourism industry and parks - collected as context for planning Community perceptions/attitudes regarding visitation to parks	Yes, New Yes, New Yes, New
Planning					
System design	Adequacy of legislation		Legal	Adequacy of legislation, policy, mechanisms in relation visitor and commercial tourism management for parks system	New
Management planning	Appropriateness of design		Design Planning	Appropriateness of agency-level design of visitor facilities etc. in relation to visitor needs Adequacy of agency planning documents in addressing visitor issues	New New
Inputs					
Staff	Adequacy of staff numbers		Staff numbers	Adequacy of agency staff allocation for tourism, visitor management, interpretation	Yes, New
Funding	Adequacy of current funding		Funding	Adequacy of agency funding allocation for tourism, visitor management, interpretation	Yes, New
Funding security	Security/ reliability of funding		Funding security	Security of visitor-related funding allocation	Yes, New
Equipment and facilities	Adequacy of infrastructure, equipment and facilities		Infrastructure	Adequacy of visitor, tourism and interpretation infrastructure, equipment and facilities	Yes

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

ELEMENTS AND CRITERIA	Common reporting format for WCPA framework (this column from park level)	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'	Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)	Roll up from park level?
Managing the resource					
Research and values monitoring	Threat monitoring	Adequacy of tour operator management	Tourism management	Adequacy of agency level systems for managing tour operators e.g. permitting, marketing etc.	Yes and New
				NA	
			Impact monitoring	Adequacy of agency wide system of monitoring of visitor threats/ impacts	Yes & New
			Performance standards	To what extent do agency processes meet agreed performance standards?	New
Outputs					
Achieving work program			Actions achieved	Achievement of actions specified in key agency visitor-related planning docs	New
Results/outputs		Level/ pattern of visitor use	Visitor use	Visitor numbers, seasonal/spatial distribution across all parks	Yes
		Visitor characteristics	Visitor characteristics	Visitor demographics and other characteristics e.g. income (excludes attitudes).	Yes
		Tour operator use	Operator use	Tour operator numbers, distribution, characteristics	Yes
		Visitor-related revenue	Revenue	\$ from visitor-related fees	Yes
		Recreational opportunities	Rec opportunities	Appropriateness of range of recreational opportunities provided to visitors across the parks system	New
Outcomes					
Achieve objectives	Proportion of stated objectives achieved		Achieving visitor objectives	Achievement of visitor use/ management objectives in general as specified in agency planning docs	Yes, New
		Achievement of visitor objectives not related to values: visitor satisfaction	Visitor satisfaction	Extent of visitor satisfaction/ meeting of expectations etc. (even if no explicit objectives in this document)	Yes and/or New
		Achievement of visitor objectives not related to values: visitor safety	Visitor safety	Visitor safety/ incident levels (even if no explicit objectives in this document)	Yes
		Achievement of visitor objectives not related to values: appropriate access	Visitor access	Extent to which appropriate/ equitable access to park by visitors/ tourism industry is provided (even if no explicit objectives in this document)	Yes
State of park	Conservation of nominated values - trend	Achievement of objectives not related to values: trend in presentation values	Presentation values trend	Trend - - are the presentation/ recreational values improving or decreasing in quality?	Yes

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

ELEMENTS AND CRITERIA	Common reporting format for WCPA framework (this column from park level)	Additional reporting subject for visitor-focused classification	Visitor specific 'evaluation subject'	Definition/ scope of visitor specific evaluation subject (based on common reporting format if applicable, or new)	Roll up from park level?
	Conservation of nominated values -condition	Achievement of objectives not related to values: condition of presentation values	Presentation values condition	Extent to which the recreational values have been maintained	Yes
		Achievement of objectives not related to values: impact of visitors on conservation values	Conservation values condition	Extent to which conservation values impacted by visitors have been maintained	Yes
	Effect of park management on local community	Achievement of objectives not related to values: economic impacts of visitation	Economic impacts	Economic impacts of park-related visitation on community	Yes, New
		Achievement of objectives not related to values: social impacts of visitation	Social impacts	Social impacts/perceptions of community as a whole re park-related visitation, including health	Yes, New
		Achievement of objectives not related to values: visitor attitudes	visitor cognitive outcomes	Attitudes/perceptions of visitors to park/conservation or new knowledge gained in response to visiting park/ interpretation programs	Yes

Note: Worboys "severity of (visitor related) threat" outcome not added since it never came up in existing evaluations, though may be worth agencies considering

Guidelines for monitoring and evaluation

The following guidelines are based on a literature review (including many references not cited here), with an emphasis on previous available guidelines developed for protected areas and in particular those in Australia.

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Conduct of monitoring and evaluation

- Get baseline information as early as possible (Jones & Dunn 2000).
- Use pilot studies when developing new monitoring systems to ensure the system is suitable before instituting on a wide scale (Wardell & Moore 2004).
- Build flexibility into systems for collecting and storing data for monitoring and evaluation (Wardell & Moore 2004).
- Provide adequate training and support for on ground staff who will conduct monitoring (Worboys 2007).
- Repeat monitoring and evaluation at regular time intervals, with appropriate interval depending on what is being evaluated (Hockings et al. 2004; Hockings et al. 2006a; Wardell & Moore 2004).
- Agency staff to conduct monitoring and evaluation, with review by external facilitators every 3 to 5 years (Hockings et al. 2006a).

Data collection

- In choosing appropriate methods, consider relative costs and benefits (CMP 2004a)
- Quality of data is more important than quantity.
- Ground truth data where possible (Worboys 2007).
- Make data collection techniques as simple as possible, with streamlining, minimum numbers of indicators and minimum paperwork (to meet evaluation goals) (Hockings et al. 2006a; Jones & Dunn 2000; Worboys 2007).
- Recognise that the range of data appropriate for collection will vary according to the site and purpose (Hockings et al. 2006a).
- Use existing and secondary data where possible to minimise costs (Hockings et al. 2006a).
- Where possible, integrate monitoring data collection into other management activities (e.g. research) (Jones & Dunn 2000).
- Data storage (see Wardell & Moore 2004 for details)
- Verify data to ensure they are error free before storage and use.
- Geo-reference data where possible so they can be used in spatial databases and associated applications.
- Design and maintain user-friendly databases.
- Guarantee the confidentiality of certain data if considered sensitive.
- Transfer data efficiently and accurately to storage databases from sites of data entry.

Staffing issues

- Employ staff with appropriate skills (Worboys 2007).
- Ensure high level of commitment to evaluation by managers.
- Appoint a person with particular responsibility for, and expertise in, program monitoring and evaluation (Parks Canada 2000).

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

- The program will need an individual (decision maker) who is highly motivated in relation to evaluation to drive the evaluation (Patton 1997).
- Use long-term tenured staff positions to oversee the program (to facilitate continuity and consistency) (Jones 2006)

Objectives

- Place corporate objectives of an agency at the core of the design of evaluation programs (CNPPAM 2002).
- As far as possible, integrate all performance evaluation within an agency (and where possible across related sectors) to inform the agency about its performance against its strategic objectives (CNPPAM 2002).
- Incorporate a focus on outcome-based evaluation (ANZECC-WGNPP 1997).
- Make each objective only one idea, focusing on the most important program outcomes (Patton 1997).
- Develop monitoring and evaluation systems based on clear, measurable, outcome-based objectives (Hockings et al. 2006a; Wardell & Moore 2004; Worboys 2007). These should be framed as statements of 'key desired outcomes' (ANZECC-WGNPP 1997; Jones in prep).
- Ensure goals/objectives adequately reflect the needs of stakeholders (e.g. agency requirements, visitors, broader community) or other societal objectives (Scriven 1980).

Design of monitoring and evaluation systems

- Primary goal should be to assist managers in their work.
- Use global benchmarking if possible (Hockings et al. 2006a; Worboys 2007)
- Provide good training materials and support.
- Design monitoring and evaluation systems to be sufficiently flexible to account for changes and geographical differences in priorities and dynamics (Worboys 2007).
- Design evaluation with careful consideration of how the information will affect use (i.e. will the information cause users to reflect on and inform management practice) (see Patton 1997 for further details).
- Develop a written plan and/or terms of reference for monitoring and for the evaluation process. Include definition of purpose, evaluation subjects, threats/opportunities for each subject, objectives, protocols (methodology), indicators, justification for selection of indicator, target and justification for selection, monitoring details (type of method, standardised procedure, frequency, how to measure indicator, data analysis, data management), who is responsible for each component, timing, reporting requirements, dissemination methods, data storage, and how use in adaptive management, (Hockings et al. 2006a; Mwangomo, Stolton & Dudley 2005; Worboys 2007). Where possible, produce comprehensive manuals and/or guidelines (Jones & Dunn 2000).
- Use a suitable logical and holistic framework to guide performance evaluation within each agency, and recognise that ad hoc evaluation activities will also be needed (CNPPAM 2002).
- Use the IUCN-WCPA framework (Hockings et al. 2006a; Worboys 2007) as an overall framework for guiding evaluations.
- Choose evaluation subjects for all stages of the management cycle (Hockings et al. 2006a).

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- The intensity of evaluation, and which parts of the management cycle it targets, will depend on the resources available, the purpose of the evaluation and the priority. Where site-based adaptive management is an important goal, then the principal focus should be on outputs and outcomes with some coverage of context, planning, inputs and processes. Where this is not the case, then evaluation of context, planning, inputs and processes may be sufficient using generic criteria (Hockings 2002).
- Align evaluation with stable long-term mandates (e.g. legislation, funding arrangements, overall framework for management) (Jones 2006)

Application of evaluation findings

- Establish strong links between monitoring, evaluation and reporting (Parks Canada 2000)
- Provide information to feed into sustainability frameworks such as SoE reports (Worboys 2007)
- Use evaluation to influence management actions, prioritisation and allocation of human and financial resources (Jones 2000)
- Use evaluation to service the practical information needs of intended users (Patton 1997)
- Wherever possible, use the same data for multiple reporting requirements (for cost effectiveness) (c.f. Wardell & Moore 2004)
- Use evaluation to reveal and convey technically accurate information (Patton 1997)
- Incorporate evaluation of management effectiveness into core business of protected area agencies as an integral part of the management cycle (Hockings et al. 2006a; Jones 2006).
- Ensure that planning exists for how evaluation results will be applied. Failure to do this is often the central problem in evaluation not being done well (Patton 1997).
- Include in evaluation an assessment of the extent to which an agency has met its legislative obligations. Report this in corporate and business plans, and subsequently determine the programs and activities of agencies (ANZECC-WGNPP 1997). As the legislation is relatively similar across agencies, this provides opportunity for benchmarking between agencies.
- Provide clear, specific recommendations on how to change management (Hockings et al. 2006a).

Including stakeholders

- Meet expectations of managers and other stakeholders
- Make data and evaluations accessible to all levels of management and other stakeholders (Wardell & Moore 2004)
- Good communication, teamwork and involvement of relevant stakeholders is essential in all phases (Hockings et al. 2006a).
- Design an approach that is non-threatening and helpful, not punitive, to users (Hockings et al. 2006a).
- Make positive recommendations, identifying challenges (Hockings et al. 2006a).
- Give all stakeholders the opportunity to express their viewpoints (Hockings et al. 2006a).
- Develop partnerships with other government agencies, industry and the public to achieve cost savings and improve relationships with stakeholders (Wardell & Moore 2004; Worboys 2007).

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- Consider the audience when planning the evaluation (Hockings et al. 2006a).
- Seek critical comment on management performance from those who can best provide legitimate and credible assessment for that area of management responsibility, and include external sources to enhance credibility—ask them to identify key factors that contributed positively and negatively to management performance over monitoring period (Jones 2006).

General planning of monitoring and evaluation

- Prioritise monitoring needs (Jones 2006). In determining the effort that should be put into an evaluation, the following factors should be considered (Hockings 2002):
 - national or global significance of site,
 - vulnerability of site's resources that could be threatened by visitor use,
 - extent and severity of threat of visitor impacts.
- At high priority sites, it is advisable to monitor both the threat and the effectiveness of response.
- Work towards regional, state and national data standardisation. This will allow valid comparisons to be made and aggregation of data (Wardell & Moore 2004)
- Include requirements for monitoring and evaluation and adaptive management in key planning documents (e.g. park plans of management) (CMP 2004a; Jones 2000)..
- Make evaluation part of the organisational culture (Hockings et al. 2006a) (Jones 2006)
- Undertake performance evaluation at all levels of the organisation: parks, regions, divisions, zones, districts and head office (as applicable) (ANZECC-WGNPP 1997).
- Conduct a thorough process for identifying values (Worboys 2007) and threats.
- Ensure level of effort in monitoring is proportional to requirements for management, natural resource protection and visitor services (Hornback & Eagles 1999).
- Prioritise goals on the basis of what information is likely to be most useful for the purposes of evaluation—not necessarily the same as ranking by importance (Patton 1997).
- Plan on basis of realistic levels of resourcing and support that can be expected (Hockings et al. 2006a).
- Clearly demonstrate short term benefits of evaluation when possible (Hockings et al. 2006a).
- Link choice of indicators directly to the management cycle logic (Hamburger 1992).
- Ensure monitoring and evaluation is cost effective (Hockings et al. 2006a; Worboys 2007).
- Decide what to measure based on what information will be most useful to primary evaluation users (Patton 1997)
- Use standardised monitoring protocols to minimise workload, facilitate aggregation and comparison (Worboys 2007)
- Use standardised measurement and reporting across sites and time to meet multiple reporting requirements and show changes over time (Hockings et al. 2006a).
- Use samples that are of adequate size and that are sufficiently representative (Hockings et al. 2006a).

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APPENDIX B: CHAPTER 2 APPENDICES

Table 78: Agency contacts and interviewees for this project

Institution	Nominee	Interviewees	Topic	
Department of Environment & Conservation, NSW	Andrew Growcock			
	Peter Stathis	Peter Stathis	SoP & PR	
		Alison Ramsay	PoM	
		Lynne Moyce	Ann Rep Interviewed	
Department of Environment & Conservation, WA	Colin Ingram		Interviewed	
	Tracy Shea		Interviewed	
WA Conservation Commission	John Bailey		Interviewed	
Parks Victoria	Tony Varcoe	Tony Varcoe	SoP & PR	
		Linda Greenwood	PoM	
		Julie Richmond	SoP	
		Peter Livitsanis	Ann Rep	
		Dino Zanon	PR	
Parks and Wildlife Service Tasmania	Mark Poll	Anni ??	Interviewed	
Department for Environment and Heritage SA	Julie Sandercock		Interviewed	
Great Barrier Reef Marine Park Authority	Jon Day	Lorelle Schluter		
		Lisha Mulqueeny	Lisha Mulqueeny	Ann Rep/SoP Interviewed
			Kathleen Broderick	PR Interviewed
			Peter McGinnity	PR Interviewed
			Chris (David?) Briggs	Ann Rep (SoP?) Interviewed
Environment ACT	Rod Hillman		Interviewed	
Department of Environment & Heritage	Julia Mulligan		Interviewed	
Parks Australia North	Meryl Triggs	Meryl Triggs	PR, Ann Rep Interviewed	
			David Phillips	SoP Interviewed
			Sarah Pizzey	PoM Interviewed
			Sam Ceravolo	Ann Rep Interviewed
Queensland EPA/QPWS	Ralph Hendersen		Interviewed	
	Claire Wright		Interviewed	
		Brett Waring	PR	
		Wolf Seivers	PoM	
		Adam Gietzelt/ Andrew Hoffman	SoP RAP	
		John Williams	PoM	
		Geoff Meadows	PoM	
		Shamus Conway	Ann Rep	
		Keith Twyford	PoM	
NT PWS	Jacque Hindmarsh		Interviewed	
WTMA	Campbell Clarke		Interviewed	

Figure 5: Information sheet



Monitoring, evaluating and reporting on visitor use of protected areas



INFORMATION SHEET

Project Leader:

Dr Karen Higginbottom
Griffith School of Environment
Griffith University, Qld.
Ph. 07 5545 3498
k.higginbottom@griffith.edu.au

Leader of WA component of project:

Dr Sue Moore
School of Environmental Science
Murdoch University, Murdoch WA
ph: 08 9360 6484
s.moore@murdoch.edu.au

Why is the research being conducted?

Public accountability is increasingly being demanded of protected area agencies, and there is increasing recognition within agencies of the value of evaluation in improving management effectiveness. However, balancing requirements for robust methods for monitoring and evaluation against the financial and practical constraints facing staff remains a significant challenge. For protected areas where visitation levels are high or where visitor impacts are of particular concern, monitoring and reporting on various aspects of visitor use is important, and requires special consideration in relation to appropriate methodologies.

This project aims to develop a framework, guidelines, indicators and protocols to help guide monitoring and performance reporting on issues relating to visitor use in Australian protected areas. At the end of this project, a manual or other user document(s) will be produced to help guide protected area management agencies in their application of this framework.

The research is funded by the Sustainable Tourism Cooperative Research Centre as part of its commitment to addressing priority research needs of Australian protected area agencies. The project is led by researchers from Griffith University, in partnership with researchers from Murdoch University.

Your involvement in this research

You have been asked to provide information and/or expert opinion in the form of an interview. This information will be critical in helping us make recommendations about what changes, if any, may enhance the current systems for monitoring, evaluating and reporting on visitor use of Australian protected areas.

Your involvement in this research has been proposed by [name of IRG member], who is our central contact person in your organisation.

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Your participation in this research is voluntary, and you are free to withdraw from the study at any time. If you decide to participate, you are not required to answer every question unless you wish to do so.

The information you provide will be anonymous and confidential. If, however, we would like to name you for a particular quote or citation, we will contact you to ask you to check the accuracy of any attributed comments and to ask your permission to use the quote. In such a case, we recommend that in order to remove any risks to you associated with comments your organisation may consider appropriate, you seek the appropriate approvals.

The conduct of this research involves the collection, access and / or use of your identified personal information. The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded.

Further information

We invite you to contact either of the researchers listed above for further information or questions about this project.

Complaints

Griffith University conducts research in accordance with the *National Statement on Ethical Conduct in Research Involving Humans*. If potential participants have any concerns or complaints about the ethical conduct of the project they should contact the Manager, Research Ethics on 3875 5585 or research-ethics@griffith.edu.au.

Feedback

Once this project is completed, you will be provided with a copy of the executive summary of the report(s) produced. Full copies of the report will be provided to the central contact person in your organisation named above.

Figure 6: Request for performance documentation



Monitoring, evaluating and reporting on visitor use of protected areas:

Request for performance reporting documentation

Introduction

This project aims to review existing practices, needs and opportunities of Australian protected area agencies with respect to monitoring, evaluating and reporting on visitor use in protected areas.

For this review, visitor use issues will be interpreted widely and may include, for example:

- levels of use (e.g. visitor numbers) and patterns of use (e.g. visitor activities, spatial distribution, seasonal distribution)
- visitor services provided e.g. interpretation programs, infrastructure
- visitor profiles, satisfaction, expectations
- visitor safety issues
- visitor impacts on the natural environment
- impacts of park visitation on neighbouring communities or the region

We expect to examine park management plans (see details on page 2 of this document), State of the Parks reporting, and annual reports in detail, but also plan to broadly review the full scope of ongoing performance reporting that covers visitor use issues (see details on page 3 of this document).

The remainder of this document details our specific requests with regard to obtaining this documentation from you ¹. We will follow up with you shortly to discuss this further, and welcome any feedback on the details of this request.

Contact

Ms Chelsea Northrope, School of Environmental Sciences, Griffith University, PMB 50, Gold Coast Mail Centre, Qld 9726. Phone: +61 7 5545 3498.
Email: c.northrope@griffith.edu.au

¹ This may be a website reference (if available), or further details of exactly how we can access the document(s)

Request for Park Plans of Management

Although not normally considered to be part of performance reporting, plans of management for protected areas play an increasingly important role in the monitoring and evaluation of visitor use of those areas.

Requested plans should be:

- for parks that make provision for visitor use
- 2001 or later

Plans may be:

- for marine or terrestrial protected areas
 - draft or final management plans
1. Please provide up to 3 plans of management that you consider to represent your agency's best practice with regard to the one or more aspects of monitoring of visitor use issues for parks that are considered of relatively high priority concerning visitor management and monitoring.

Please identify in what respect each plan represents best practice.

(Some examples might be: monitoring of impacts on the natural environment, provision for adaptive management, process for building into existing management activities).

2. Please provide (and label) a sample of plans that you consider typical or representative of those in place within your agency that have a high or moderate¹ level of priority with regard to:
 - a. Servicing visitors: a 'high' classification might be reflected in e.g. high visitor numbers, proximity to major city, high tourism income generation, and/or high visitor expectations – *if possible: 2 plans classified high, 2 plans classified moderate*
 - b. Managing visitors' ecological impacts: a 'high' classification is likely to reflect high value to biodiversity conservation² and a high risk of detrimental ecological impacts from visitor use (e.g. because of significant visitor use in fragile ecosystem, high current impacts, or high impact visitor activities) – *if possible: 2 plans classified high, 2 plans classified moderate (some of these may also have been classified under a).*

¹ We wish to distinguish between parks where a relatively high monitoring effort may be justified, and those where some monitoring, but at a lower level of effort, may be justified.

² High desired 'level of protection' in the Parks Victoria system

Request for other performance reporting documentation

A wide range of documents is prepared within protected area agencies for evaluating and reporting on performance, from site or park level through to whole-of-agency. We will refer to all of these as 'evaluations' (though they may be called 'reports', 'assessments', 'audits' or some other term). Some examples are: report on World Heritage Areas to World Heritage Commission, report provided for input into government State of the Environment report, agency annual report, state of parks reporting, audit of visitor assets, monitoring of visitor satisfaction across the parks system, review of effectiveness of interpretation program, and financial report (if visitor-related revenue and costs are distinguished).

1. Please provide a copy of the latest available version³ of all evaluations conducted by your agency that meet the following criteria⁴:

- includes reporting on visitor use issues
- carried out (or planned to be so) on a repeated basis over time
- if applied at site or park level, then applied to a wide range of parks (not just one-off cases)
- last completed 2001 or later, and planned to be carried out in the future

Please provide the evaluation document itself, plus supporting documentation explaining the methods used (where applicable), as well as any planning or policy documents that provide important background, rationale or further details of methods (e.g. agency business plan, policy on monitoring, policy on visitor use).

In some cases, we (or our colleagues) have already obtained some of this documentation from you. Before you go to the trouble of obtaining this documentation, we will follow up with you shortly to ensure that we are not asking you for anything twice, and to ensure that we are clear and agreed about the appropriate scope of documentation to include.

2. Out of the above evaluations, please identify which three are the most important to your agency in terms of reporting on issues relating to visitor use of protected areas, and explain briefly why they are important.

3. Identify any of the above that your agency considers to represent world or Australian best practice - in general or with respect to a specified aspect of the report⁵, and briefly explain in what respects this is so. (We are asking this because we plan to present some best practice cases in our report, and it will be useful to have possible candidates pointed out.)

4. Please also provide any key current planning, policy or strategy documents that include a requirement or recommendation for monitoring or evaluation in relation to visitor use issues. Please select up to 3 documents that you consider are the most important in this respect.

³ even if not yet implemented, as long as it has been virtually finalised

⁴ Please advise if you think any criteria may need to be added or adjusted

⁵ e.g. incorporation of adaptive management, measurement protocols

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Generic evaluation subjects used in the IUCN-WCPA Management Effectiveness Framework

The following tables are reproduced from (Leverington 2007), and build on the IUCN-WCPA Management Effectiveness Evaluation Framework (see Chapter 1). This framework was developed through an international review of

- indicators used in protected area management effectiveness evaluations, and,
- data needs of protected area agencies to effectively evaluate management effectiveness, and,
- a workshop process.
-

Table 79: Proposed park level common reporting fields

Element	Minimum data component	Common reporting field
Context	Values and significance	Five important values
		Level of significance
	Threat	Five important threats
		Level of extent and severity of threats
		Trend of threats
	Enabling environment	constrain or support by external political and civil environment
		Main constraining factors of external political and civil environment
Planning	Legal status/land tenure	Adequacy of legislation and other legal controls
		Park gazettal and tenure security
	Boundary demarcation	Marking and security/fencing of park boundaries
	Parks Aus site design	Appropriateness of design
	Management plan and biodiversity objectives	Management plan
Input	Staffing input	Adequacy of staff numbers
	Funding input	Adequacy of current funding
		Security/reliability of funding
	Infrastructure/equipment input	Adequacy of infrastructure, equipment and facilities
Information/inventory	Adequacy of relevant and available information for management	
Process	Governance and capacity (includes financial management)	Effectiveness of administration including financial management
		Effectiveness of governance and leadership
		Management effectiveness evaluation undertaken
		Model of governance
	Infrastructure/equipment maintenance	Adequacy of building and maintenance systems
	Staffing—process	Adequacy of hr policies and procedures
		Adequacy of staff training
		Staff morale
		Staff/other management partners skill level
	Law enforcement	Adequacy of law enforcement capacity
		List (up to) five main issues for law enforcement
	Stakeholder relations	Appropriate program of community benefit/assistance
		Communication program
		Involvement of communities and stakeholders
		List community benefit/assistance program
	Visitor management	Character of visitor facilities and services
		Level of visitor use
		Visitors catered for and impacts managed appropriately
	Natural resource management	Natural resource and cultural protection activities undertaken
		Sustainable resource use - management and audit
Values and threat monitoring and research	Research and monitoring of natural/cultural management	
	Threat monitoring	

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Element	Minimum data component	Common reporting field
Outputs	Achievement of work program	Achievement of set work program
		Results and outputs have been produced
Outcomes	Management plan objectives achieved	Proportion of stated objectives achieved
	Condition assessment (all values)	Conservation of nominated values - trend
		Conservation of nominated values -condition
Net effect of park on community	Effect of park management on local community	

Table 80: Proposed system level common reporting fields

Element	Suggested 'headline indicators'	Comment
Context	International cooperation and support	Includes commitment to international treaties, international aid, participation in regional/cross-boundary initiatives
	Supportive national government policies, laws and mechanisms for protected area management	Includes policies for cooperative conservation management
	Overall level and trend of threats to protected area system	Build up from protected area results
	Most common threats to protected area system	Build up from protected area results
	Level of community support for protected area system	
Planning	A systematic and clearly articulated design/vision for establishment of a representative protected area system	Principles for reserve selection, gap analysis conducted
	Adequacy of current protected area system to protect diversity of ecosystems, biodiversity and natural processes across the landscape	
	Adequacy of current legislation	Evaluation of system-wide legislative basis. Could also include complementary legislation if relevant
	Use of appropriate range of WCPA categories to achieve conservation and community well-being goals	
	Proportion of parks with management plans	Build up from pa results
	Extent to which protected areas in the system are linked by sympathetic land use/remnant habitats on other lands	
	Adequacy of system-wide management vision/strategic plan	
Input	Sufficient financial resources for management of the Parks Aus system	
	Sufficient human resources for Parks Aus system	staff numbers and training/capacity, including the support staff and system managers
	Adequate information and information systems to manage the Parks Aus system	Includes overall system-wide knowledge of biodiversity, cultural issues

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Element	Suggested 'headline indicators'	Comment
Process	Effective system of governance, leadership and administration at system-wide level	Unlikely to be measured by internal audit.
	Monitoring and research programs for threats and values of Parks Aus system	
	Participation/involvement of stakeholders at system level	System-wide advisory committee; transparency of agency dealings etc
	Management effectiveness evaluation	e.g. regular state of parks assessments
	Training and capacity-building program for staff	Planned system-wide training initiatives and support for staff
	effective enforcement of protected area laws at all levels	e.g. existence of support staff for enforcement
	System-wide program of communication, education and stakeholder relations	
	Adequacy of system-wide policies, standards and guidelines for Parks Aus management	
	Areas of greatest strength and weakness in management	From analysis of Parks Aus results
Output	Extent to which system plan has been achieved over previous period	
Outcome	Protection of cultural heritage	
	Protection of natural integrity/biodiversity	
	Expectations of visitors generally met or exceeded	May be linked with question below
	Overall impact of/perception of protected area system on communities	e.g. as shown by national/regional community attitude surveys in relation to their opinions and experiences with PAs

Figure 8: Interviewee selection criteria

Selection of interviewees for review of current practices

Interview process

Each interviewee will be interviewed individually over the phone, unless indicated otherwise below. At the start of the interview, they will be advised:

- of the selection criteria and of the other people on the interviewee list from your agency
- that for each question, they may choose whether they believe they are in a good position to answer it, or they believe another person is in a better position to answer it (either from the current list or by recommending a new person if they believed that person was more suitable).
- that if they would prefer to answer the question through a follow up email (e.g. if they need to look up some information) they may choose to do this.

Selection criteria

Select the person who best meets each of the following criteria for each different component of the interview. If in doubt about the most suitable person, please refer to the interview questions. In some cases, a different person may be needed for each different component or even for parts of the same component; in others it may be possible for the same person to respond to more than one component, thus increasing time efficiency.

For the criteria marked with an asterisk, the person should have worked in this position for at least a year (if not, the present and previous person in this position will be jointly interviewed if possible).

Park plans of management

- The most senior available person with direct responsibility for developing plans of management*
- The most senior available person with direct responsibility for overseeing implementation of plans of management*
- The person with the most detailed knowledge of policy and legislative issues relating to plans of management
- The person with the greatest level of familiarity with the content of plans of management across the agency's whole jurisdiction (if there is no one who has a high level of familiarity across the whole jurisdiction, more than one person may be required).

Agency annual reports

- The most senior available person with direct responsibility for designing the evaluation component of the agency annual report*
- The most senior available person with direct responsibility for running the evaluation component of the agency annual report*
- The person with the most detailed knowledge of policy and legislative issues relating to the annual report

State of the parks reports

- The most senior available person with direct responsibility for designing the state of the parks reporting process*
- The most senior available person with direct responsibility for running the state of the parks reporting process*
- The person with the most detailed knowledge of policy and legislative issues relating to the state of the parks report

Performance reporting in general, and general questions relating to each of the above evaluation methods

- The most senior available person with direct responsibility for evaluating visitor use issues at agency-wide level
- The most senior available person with direct responsibility for designing and overseeing agency evaluation processes

Figure 9: Generic interview information



Monitoring, evaluating and reporting on visitor use of protected areas



Review of current practices component:

Information on interviews, generic to all agencies

Aims

In conjunction with information already obtained from agency reporting documentation, these interviews are designed to allow us to achieve the following aims:

- (a) describe current practices of Australian PA agencies regarding monitoring, evaluation and reporting on visitor use issues,
- (b) assess the extent to which these practices adhere to established good practice principles¹,
- (c) identify views of key informants regarding potential areas and mechanisms for 'improvement' in these practices, and constraints/challenges regarding these, and
- (d) make recommendations to enhance effectiveness of these practices.

Tailoring the questions to each protected area agency

The gaps in the questions below will be filled in to tailor them to the agency in question, based on our data derived from agency documentation. These final questions will be sent to the interviewees prior to the interview to allow preparation as needed.

Interview format

All questions will be asked through a phone interview. However, if the interviewee wishes (in order to check information), they may decide to answer or expand on a question subsequently by email.

Verifying information

Our central contact person for each agency will be sent a draft of the report sections relating to that agency's current practices, including information derived from interviews. Their verification (after consulting with more senior staff, and/or interviewees, as required) will be obtained prior to finalisation or circulation of the report.

Definitions

- "Evaluation" is taken to mean the judgement of status, condition or management performance. It includes e.g. judgements about presence, adequacy, efficiency, importance, nature of threats or impacts, magnitude, and trends. For the purposes of this project, it is restricted to evaluation that is based on data collected on a planned, repeated basis over time (monitoring).
- "Evaluation (or monitoring) relating to visitor use" may include evaluating e.g. adequacy of management planning in relation to visitor use, values or threats associated with visitor use, adequacy of visitor facilities/ services, presence/adequacy of specified management processes associated with visitor use, numbers of visitors, impacts of visitors on environment, visitor safety and visitor satisfaction with parks.

¹ For protected area performance effectiveness evaluations (Committee on National Parks and Protected Area Management 2002), management planning (ANZECC 2000), and for visitor monitoring (Darcy et al. in prep)

Agency annual reporting/ state of parks¹ reporting

Note that the same questions will be asked for both annual reporting and state of parks reporting, but will be part of separate interviews (or interview sections, if the same person is responding to both)

1. Your annual report/ state of parks reporting comprises evaluation of the following categories relating to visitor use:

[researchers to insert for this agency prior to interview, e.g. visitor numbers, visitor satisfaction, condition of presentation values]

(a) How were these categories chosen from all possibilities?

[open ended probe so can categorise later e.g. as 'direct from goals specified in document a,b,c', 'policy x,y', 'consultation with field staff', 'specified accountability requirements...']

(b) In practice, which, if any of these categories stand out as being of higher priority than others?

[open ended but probe in terms of how important the evaluation feedback is in influencing planning, management or statutory reporting requirements]

2. In practice, who is the primary audience(s) for the report?

[up to 3, e.g. public, park level management, treasury department, head office planners]

3. We note that the stated purpose of the annual report/ state of parks report is

[researchers to insert for this agency prior to interview]

In practice, how [where applicable] is the visitor-related information in this document/ process used in

(a) head office level planning, (b) park level adaptive management, (c) accountability reporting

(d).... [probe, they define and describe process, including any formal links esp. re adaptive management]

4. (a) In practice, to what extent is the visitor use monitoring and evaluation relating to visitor use, as specified in the agency's formal requirements for this report carried out? [give category choices e.g. 'in full', 'all done but some only partially', 'only some done at all', 'mostly not done' and describe further in words e.g. some parks not don]).

(b) If not done in full, what are the reasons for this?

(c) In practice, to what extent do the results of this evaluation influence planning or management

[if/ as applicable]?

(d) What are the mechanisms through which this occurs?

(e) If not done in full, what are the reasons for this?

5. Based on our review of your annual reports/ state of parks reports, we have identified the following possible 'opportunities for improvement' (in relation to established good practice principles)

[researchers to insert for this agency prior to interview - limited to 3 most important, among issues that arise across more than one agency e.g. documented purpose for performance evaluation, use of indicators, use of performance targets]

For each of these:

- Do you consider it to be something that would be worthwhile to address, in principle?

- If not, why not?

- If yes, what barriers are there (if any) to addressing this

- If yes, what would need to be done to address this barrier?

¹ or other agency wide rapid assessment system comparable with state of parks reporting

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6. Do you see any other opportunities for improving the adoption and usefulness of your agency's annual reports/ state of parks reports (and use of these reports) in relation to evaluation of visitor use?
7. Are there any future trends or requirements that you expect to emerge soon that are likely to affect what is needed in relation to evaluation of visitor use for annual/ state of parks reporting?
8. Are there any barriers or problems not covered above that need to be considered in any attempts to improve the usefulness of evaluations relating to visitor use in annual/ state of parks reporting?

If your agency doesn't currently have state of parks reporting:

Does your agency have any plans to implement state-of-parks reporting? If yes, why, when?

B. Plans of Management²

9. We notice that in **all/some** of your POM, monitoring/visitor use monitoring is not included/ limited.
 - Do you consider this to be something that would, in principle, be worthwhile to address (if not, why not)? *[include finding out whether the agency feel POM are a suitable mechanism for evaluating issues relating to visitor use at park level or what other documents they use for visitor monitoring].*
 - If yes, what barriers are there (if any) to addressing this?
 - If yes, what would need to be done to address this barrier?

Rest of questions apply only if visitor related monitoring included in at least some POM:
10. In practice, how is the information obtained from visitor use monitoring prescribed by the POM used in (a) head office level planning, (b) park level management, (c) accountability reporting (d)..... *(probe, they define)*
11. Your POM include monitoring of several categories relevant to visitor use, for example: *[researchers to insert common examples from sample of POMs e.g visitor numbers, visitor satisfaction, condition of presentation values]*
 - (a) How are these visitor-related categories chosen from all possibilities for inclusion in any particular POM?
[open ended but probe so can categorise later e.g. as 'direct from legislation and policy x', 'consultation with field staff', 'specified accountability requirements...']
 - (b) In practice, which, if any of these categories generally stand out as being of higher priority than others?
[open ended but probe for in terms of how important the evaluation feedback is in influencing planning, management or statutory reporting requirements?]
12. (a) In practice, to what extent is the visitor use monitoring as specified in POMs carried out? *[e.g. 'in full', 'all done but some only partially', 'only some done at all', 'mostly not done']*.
 - (b) If often not done in full, what are the reasons for this? What form does this monitoring take?
13. Do you see any other opportunities for improving the usefulness of your agency's POM with respect to evaluation of visitor use?
14. Are there any future trends or requirements that you expect to emerge soon that are likely to affect what is needed in relation to evaluation of visitor use in POM?

² or other park level planning document prescribing monitoring requirements

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C. Performance reporting re visitor use in general

- *This interview will be conducted when possible after all of the others have been completed and processed.*
 - *The following questions are to be applied in general, not to annual reports, state of parks or POMs, which are covered in previous interviews.*
15. Information for evaluation performance in relation to visitor use is collected through a range of reporting mechanisms in your agency, eg. [researchers to insert for this agency prior to interview].
- (a) Is there any documented statement for the agency as a whole regarding requirements/ goals/ plans for (i) evaluation in general, (ii) visitor related evaluation?
- (b) Is there any planning or coordination of evaluation across the agency as a whole for (i) evaluation in general, (ii) visitor related evaluation?
- If yes, does this include deliberate evaluation of achievement of key agency objectives?
- If yes, is any guiding framework used, eg. Management cycle, IUCN WCPA framework?
[*explore further as needed to describe*]
16. Based on our review of your current evaluation and reporting practices, we have identified the following possible general opportunities for 'improvement' in relation to established good practice principles [researchers to insert for this agency prior to interview - limited to 3 most important, among issues that arise across more than one agency e.g. opportunity for aggregation of specified indicators at park level for use in agency level reporting]
- For each of these:
- Do you consider it to be something that would be worthwhile to address, in principle (and if not, why not)?
- If yes, what barriers are there (if any) to addressing this
- If yes, what would need to be done to address this barrier?
17. Are there any barriers or problems not covered above that need to be considered in any attempts to improve the adoption and usefulness of evaluations relating to visitor use in your agency?
18. Do you see any other opportunities for improving the usefulness of your agency's evaluations of issues relating to visitor use (or their application to planning and/or management)? (describe in full)
19. Are there any future trends or requirements that you expect to emerge soon that are likely to affect what is needed in relation to evaluation of visitor use? If so, describe these and changes you suggest.

Figure 10: Interview preamble/introduction

Interview introduction/preamble

[Some of background info may not be needed depending on your other recent discussions with them]

Thanks for agreeing to be interviewed.

Before we start, I would like to quickly run through some background information and then inform you of several things as required by our university ethics committee. Feel free to ask questions as I go.

This research is funded by the Sustainable Tourism CRC as part of its program addressing priority research needs of Australian protected area agencies relating to tourism and recreation.

This project aims to make recommendations about what changes, if any, may enhance the current systems for monitoring, evaluating and reporting on visitor use of Australian protected areas. A key first step is to find out what you are doing now, why, and what you see as the opportunities and constraints for change.

We have already gone through your agency's documentation in some detail to see what and how you report on evaluation of visitor use issues.

Now we are using these interviews to provide additional information and opinion.

We are interviewing people about different aspects according to what they are responsible for. In your case

Your central contact person *[give name]* will be sent a copy of the sections relating to your agency to verify the content and get any necessary approvals. *[If they ask, say we expect that person will check with them about information they have contributed if needed, but if they want to make sure this is done, they should tell the contact person].*

[Name of contact person] will also be sent a copy of the final report.

QPWS only: Also, you will be sent a summary of your responses to this interview to check for accuracy *[delete for others]*

I now need to tell you a few things about the interview process.

Your participation in this research is voluntary, and you are free to withdraw from the study at any time.

If you decide to participate, you are not required to answer every question unless you wish to do so.

The information you provide will be anonymous and confidential.

If you do not feel in a position to answer the question adequately during the interview, you may choose to send this to us later by email.

[If they do this, try to get a short timeline for sending it, and keep track of whether they have sent/follow up as needed]

I will be taping this interview to ensure accuracy of the information collected. Do you have any objections to this?

Do you have any questions or concerns at this stage that you would like to raise?

Before we start, can you tell me a bit about your role and how it is linked with the administration or use of *[Insert prior to interview e.g. Plans of Management, RAP]* for QPWS?

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Table 81: Role of the agency

Name of agency	Role
Queensland Environmental Protection Agency (Q EPA)	‘To work with the community to protect our natural and cultural heritage and to achieve a healthy and sustainable environment as a foundation for social and economic well-being’ (EPA Annual Report, 05–06, p. 4).
NSW Department of Environment and Climate Change (NSW DECCW)	‘The Department of Environment and Climate Change is a NSW Government agency, created in April 2007, by expanding and renaming the Department of Environment and Conservation to include major programs from the former Department of Natural Resources, the former Department of Energy, Utilities and Sustainability, the former Greenhouse Office and Resource and Conservation unit from the Department of Premier and Cabinet. DECC was also given responsibility for management of marine parks and aquatic reserves. The new department came into effect on 27 April 2007’ (NSW Ann Rep 06–07, p. 5). ‘DECC is responsible for protecting and conserving the environment and Aboriginal heritage, managing national and marine parks and reserves, ensuring sustainable management of natural resources (including coastal environments and floodplains), and developing and coordinating programs to reduce greenhouse gas emissions and to address the impacts of climate change on NSW’ (NSW Ann Rep 06–07, p. 5).
Department of Tourism, Arts and the Environment (Tas DTAE) - TWPS	The principal goal of the agency is to create and maintain a representative and world-renowned park system that achieves the principal goal of conserving the State’s natural and cultural heritage while providing for sustainable use and economic opportunities for the Tasmania community (Tas DTAE Ann Rep 2006-07).
Parks Victoria (Parks Vic)	‘Parks Victoria’s responsibilities are to provide services to the State and its agencies for the management of parks, reserves, and other land under the control of the State’ (Parks Victoria Ann Rep 2006-07, p.2). ‘Parks Victoria is responsible for sustainably managing much of the recreational infrastructure in parks and waterways across the State. The provision of information services, educational programs and interpretation activities also contributes to visitor enjoyment...It is also the major provider of nature-based tourism in the State’ (Parks Victoria Ann Rep 2006-07, p. 23).
Great Barrier Reef Marine Park Authority (GBRMPA)	‘The Great Barrier Reef Marine Park Authority (the Authority) is the principal adviser to the Australian Government on the care, development and management of the Great Barrier Reef Marine Park’ (GBRMPA Ann Rep 2006-07, p.8).
Northern Territory Department of Natural Resources, Environment and the Arts (NT NRETA)	The NT Parks and Wildlife Commission was formed after the restructuring of the former Conservation Commission in July 1995. The Commission is responsible for planning and developing the Territory’s system of terrestrial and marine parks and reserves, along with other land. It manages 91 parks and reserves for conservation and the provision of high quality nature-based tourism and recreational experiences for visitors. ‘The Agency’s task is to ensure the Territory’s natural and cultural values are protected, understood, celebrated and encouraged to thrive. To achieve this purpose, the Agency must help the community understand the Territory’s biophysical environments and celebrate the Territory’s distinctive cultures and histories’ (NT NRETA Ann Rep 2006-07, p. 7)
Conservation Commission of Western Australia (WA CC)	‘The Conservation Commission of Western Australia is responsible for the preparation of new management plans; and the review of expiring plans and preparation of further management plans for all land which is vested in it, whether solely or jointly with an associated body’ (http://www.conservation.wa.gov.au/protected.htm). ‘The Conservation Commission legally holds the State’s land as well as publishing the management plans for all of the areas vested in it. An amendment to the CALM Act 1984 in 2000 gave statutory responsibility to the Conservation Commission to ‘ <i>assess and audit the performance of the Department and the Forest Products Commission in carrying out and complying with the management plans</i> ’ (s19(1)(g)). DEC is responsible for implementing the plans on behalf of the Conservation Commission and Marine Parks and Reserves Authority’.
Department of Environment and Conservation (WA DEC)	‘The department has the lead responsibility for protecting and conserving the State’s environment on behalf of the people of Western Australia. This includes managing the State’s national parks, marine parks, conservation parks, State forests and timber reserves, nature reserves, marine nature reserves and marine management areas.’ (WA DEC, 2007, p.14). ‘[Although DEC is responsible for the day-to-day management of the terrestrial and marine reserves, these areas are vested in two ‘controlling bodies’: the WA CC and the WA MPRA. These bodies, comprised of Ministerially appointed members, ‘...responsibilities include proposing management plans to the Minister, auditing [DEC’s] management against those management plans, providing advice to the Minister and reporting to the Parliament’ (WA DEC, 2007, p 2)]’.

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Name of agency	Role
Wet Tropics Management Authority (WTMA)	'The Wet Tropics Management Authority was set up to ensure Australia's obligation under the World Heritage Convention is met in relation to the Area. It is funded by the Australian Government and the Queensland Government, reporting to both on its performance against agreed outcomes. The Authority is a body corporate, with statutory powers defined under the Queensland Act' (WTMA Ann Rep 2006-07, p.14).
Parks Australia (Parks Aus)	'The Director of National Parks is the statutory agency responsible for the Australian Government's protected area estate, both terrestrial and marine. The Director is assisted by Parks Australia, a division of the Australian Government Department of the Environment and Water Resources, in carrying out the Director's responsibilities for management of terrestrial reserves' (Parks Aus Ann Rep 2006-07, p.i). Any reference to Parks Australia refers to the Director of National Parks and Parks Australia staff—as noted from Parks Australia Ann Rep 2006-07, p.31).
Department for Environment and Heritage (SA DEH)	'SA DEH is responsible for environment policy, biodiversity conservation, heritage conservation, and animal welfare, and is a custodian of information and knowledge about the State's environment. The Department also manages the State's public land—land held in the conservation reserve system and as Crown Lands. SA DEH is responsible for environment policy, biodiversity conservation, heritage conservation, and animal welfare, and is a custodian of information and knowledge about the State's environment. The Department also manages the State's public land—land held in the conservation reserve system and as Crown Lands' (SA DEH Ann Rep 2006-07, p9).

Table 82: Agency mission statements

Name of agency	Mission
Queensland Environmental Protection Agency (Q EPA)	Q EPA vision: A Queensland where everyone values the environment (Q EPA Annual Report, 05–06, p. 4).
NSW Department of Environment and Climate Change (NSW DECCW)	NSW DECCW vision: 'A healthy environment cared for and enjoyed by the whole community and sustained for future generations' (NSW Ann Rep 06–07, p. 1).
Department of Tourism, Arts and the Environment (Tas DTAE)—Tas PWS	Tas DTAE mission: 'To enhance Tasmania's economic, environmental and cultural wellbeing, both now and in the future, through the best possible use of our natural and cultural assets' (Tas DTAE Ann Rep 2006-07, p.8). Tas PWS mission: 'To manage, protect and enhance the State's national parks and reserves for the enjoyment of generations now and in the future' (Tas DTAE Ann Rep 2006-07, p.9).
Parks Victoria (Parks Vic)	Vision: 'An outstanding park and waterway system, protected and enhanced, for people, forever' (Parks Vic Ann Rep 2006-07, p.2).
Great Barrier Reef Marine Park Authority (GBRMPA)	Goal: 'to provide for the long-term protection, ecologically sustainable use, understanding and enjoyment of the Great Barrier Reef through the care and development of the Great Barrier Reef Marine Park' (GBRMPA Ann Rep 2006-07, p. 8).
Northern Territory Department of Natural Resources, Environment and the Arts (NT NRETA)	Vision: 'enable Territory communities to flourish in healthy and productive environments and be inspired through understanding of natural systems, our culture and history' (NT NRETA Ann Rep 2006-07, p.8).
Conservation Commission of Western Australia (WA CC)	Mission: 'to conserve the State's biological diversity and to ensure the conservation estate, for which it has responsibility, is managed in an ecologically sustainable manner' (http://www.conservation.wa.gov.au/protected.htm)
Department of Environment and Conservation (WA DEC)	'Working with the community, we will ensure that Western Australia's environment is valued, protected and conserved, for its intrinsic value, and for the appreciation and benefit of present and future generations' (WA DEC, 2007, p.14)
Wet Tropics Management Authority (WTMA)	A shared vision: 'The Wet Tropics Management Authority, land managers, Rainforest Aboriginal people, walkers and the tourism industry will work together in a spirit of partnership to provide a diverse mix of walking experiences which enhances the presentation, enjoyment and protection of both World Heritage values and the Aboriginal cultural landscape' (WTMA Walking Strategy, 2001, p. 1).
Parks Australia (Parks Aus)	'To assist the Minister and the Department of the Environment and Water Resources in the conservation and appreciation of Australia's biological diversity and associated cultural heritage, through leadership and cooperation in the management of the Australian Government's protected areas' (Parks Aus Ann Rep 2006-07, cover pages).
Department for Environment and Heritage (SA DEH)	Our purpose: 'Conserving and restoring the environment for all generations' (SA DEH Corporate Plan 2007, p3).

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Table 83: Types of protected areas covered

Name of agency	Types of protected areas
Queensland Environmental Protection Agency (Q EPA)	National Parks, Conservation Parks, Resources Reserves, Nature Refuges, coordinate conservation areas, Wilderness Areas, World Heritage Areas, international agreement areas (TTF 2007, p. 83).
NSW Department of Environment and Climate Change (NSW DECCW)	'National Park, Historic Site, State Conservation Area, Regional Park, Karst Conservation Areas, Nature Reserves or Aboriginal Areas. Each category of reservation has specific management principles (objectives)' (TTF 2007, p. 77).
Department of Tourism, Arts and the Environment (Tas DTAE) - TPWS	National Parks, Reserves, Historic Sites and Marine Reserves, including the Tasmanian Wilderness World Heritage Area. It is also responsible for the delivery of Crown Land administration (DTEA Ann Rep 2006-07, p.24).
Parks Victoria (Parks Vic)	National parks, State Parks, Wilderness Parks, Marine National Parks, Marine Sanctuaries, other reserves (TTF 2007, p. 81).
Great Barrier Reef Marine Park Authority (GBRMPA)	Preservation Zone, Marine National Park Zone, Scientific Research Zone, Buffer Zone, Conservation Park Zone, Habitat Protection Zone, General Use Zone (TTF 2007, p. 76).
Northern Territory Department of Natural Resources, Environment and the Arts (NT NRETA)	National Parks, Nature Parks, Conservation Reserves and Historical Reserves
Conservation Commission of Western Australia (WA CC)	'All of WA's National Parks, conservation parks, nature reserves, State forests and timber reserves are vested in the Conservation Commission of Western Australia' (WA CC Ann Rep 2006-07, p6).
Department of Environment and Conservation (WA DEC)	National Parks, Conservation Parks, Nature Reserves, Marine Parks, Marine Management Areas, State Forest, Timber Reserves, and other lands purchased for conservation and not yet formally reserved (WA DEC, 2007 p.2).
Wet Tropics Management Authority (WTMA)	'Comprises an area of 894,420 hectares and includes National Parks, State Forests, freehold (private) land as well as a number of leaseholds on public land' (Prideaux and Falco-Mammone 2007, p.2).
Parks Australia (PA)	'The term 'Commonwealth reserve' includes all the areas proclaimed under the EPBC Act with names such as National Parks, Marine Parks, National Nature Reserves, Marine National Nature Reserves, Marine Reserves and Botanic Gardens' (Parks Aus Ann Rep 2006-07, p. 31).
Department for Environment and Heritage (SA DEH)	'National Parks, State Parks, Conservation Parks, Marine Parks, Marine Nature Reserves and Marine Management Areas' (Darcy Draft p49).

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Structure of the agencies

With focus on visitor use planning and management, especially what sections responsible for what aspects, regional vs head office roles.

Table 84: Structure of the agencies

Name of agency	Structure of agency
Queensland Environmental Protection Agency (Q EPA)	<p>‘The Environment Protection Agency, incorporating the Queensland Parks and Wildlife Service, is responsible for key aspects of the Queensland Government’s environmental management program’ (Q EPA Annual Report, 05–06, p. 4).</p> <p>‘QPWS operates under a regional and district structure that includes regional offices in Brisbane (Southern Region), Rockhampton (Central Region) and Townsville (Northern Region) and 17 districts that reflect the geographic distribution of regional communities. Districts are further divided into management units or areas. Districts and management units report to the regions.</p> <p>There is a Central (Head) Office that coordinates policy and planning, corporate affairs, systems and performance. Within this, the Tourism and Visitor Management Branch has responsibility to provide a strategic framework for business and visitor opportunities, information and services. Core activities include: the development of operational policies for visitor management, a site planning manual to guide development of QPWS-managed land, visitor and community research and the development of procedural guidelines for identifying the sustainable capacity of premium visitor sites’ (Darcy Draft p.135).</p>
NSW Department of Environment and Climate Change (NSW DECCW)	<p>NSW DECCW includes a number of divisions, one of which is the Parks and Wildlife Division. ‘The Parks and Wildlife Group manage NSW protected areas, including national parks, wilderness areas and marine parks for conservation, education and public enjoyment. The group also forms partnerships with communities to protect biodiversity and cultural heritage on private and other public lands’ (NSW Ann Rep 06–07, p. 6).</p> <p>‘Structurally, NPWS is comprised of five ‘branches’: one central branch in Sydney and four field branches dispersed throughout the state. The central Reserve and Wildlife Conservation Branch provides strategic support to the field branches with respect to managing visitors and their needs, primarily through its Visitor and Business Programs section. This branch also produced <i>Living Parks—A Sustainable Visitation Strategy</i>, which sets our guiding principles for visitor management. Each of the field branches, Northern, Southern, Central and Western, manages a defined geographic portion of the state. The state is further subdivided into nineteen ‘regions’, with each branch responsible for managing a number of these regions. Each of the regions is divided into a number of ‘areas’ for management purposes.’ (Darcy Draft, p.92).</p> <p>‘The NPWS has a decentralised structure with responsibilities and legislative powers delegated to Branch Directors of four geographic branches, and multiple Regional Managers for regions within each branch. The Regional Managers are responsible for multiple parks. Management of the relationship with lessees and licensees (and the identification of potential new commercial opportunities) is devolved to the Branch and Region level in consultation with the visitor and business program section of the Reserve & Wildlife Conservation Branch’ (TTF 2007, p. 77).</p>
Department of Tourism, Arts and the Environment (Tas DTAE)—TPWS	<p>Tas PWS operates as a unit within the Department of Tourism, Arts and the Environment and is structured into three functional branches; Business Services, Strategy and Sustainable Use, and Operations and Performance. The Operations and Performance Branch oversees on-ground park management, responsibility for which is divided into three geographic regions, Northwest, Northern and Southern. Each Region is subdivided into Districts, creating 18 across the state. The Strategy and Sustainable Use branch has responsibilities for planning services, historic heritage, public affairs, education and interpretation and strategy and research, including visitor research and monitoring (Darcy Draft, p.79).</p>
Parks Victoria (Parks Vic)	<p>‘The Victorian parks system is managed by Parks Victoria under a Management Services Agreement with the Department of Sustainability and Environment (DSE)’ (TTF 2007, p.81). ‘The Regional and Management Division manages five Regions in the on-ground delivery of services throughout the estate, including environmental and cultural values conservation, protection and enhancement programs, asset maintenance, fire and emergency support, visitor and tourist services, and recreational programs’ (Parks Victoria Ann Rep 2006-07, p.35).</p>

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Name of agency	Structure of agency
Great Barrier Reef Marine Park Authority (GBRMPA)	<p>‘By agreement between the Australian and Queensland Governments, the park management of the Marine Park, and Queensland marine parks and island national parks within the Great Barrier Reef World Heritage Area, is undertaken through collaborative agency arrangements that are referred to collectively as the Day-to-Day Management (DDM) Programme’ (GBRMPA Ann Rep 2006-07, p. 59).</p> <p>‘As a statutory authority with responsibility for zoning planning and approval of an entire park destination, the GBRMPA (working closely with the QPWS for adjacent state marine park waters) has effectively acted as one-stop shop for tourism investors and operators. This is a unique cross-jurisdictional collaboration between the Commonwealth and Queensland Governments’ (TTF 2007, p. 75).</p>
Northern Territory Department of Natural Resources, Environment and the Arts (NT NRETA)	<p>‘North Territory Parks and Wildlife Service is a division of the NT NRETA. NT PWS has three areas of responsibility: park management, bioparks and biodiversity conservation (Northern Territory Government 2006a). The purpose of joint management is to jointly manage and maintain the park or reserve to benefit traditional Aboriginal owners and the wider community, to protect biodiversity, and to provide education opportunities and community enjoyment’ (Darcy Draft, p. 178).</p>
Conservation Commission of Western Australia (WA CC)	<p>‘The Conservation Commission was established in November 2000 by the <i>Conservation and Land Management Act 1984 (CALM Act)</i>, and works independent of, but closely with, DEC. It is a statutory commission and body corporate and has vested in it terrestrial conservation reserves (including freshwater areas) and State Forest and Timber Reserves. It has associated management planning responsibilities and functions in respect of monitoring and auditing performance of DEC and the Forest Products Commission in respect of those management plans. It also has policy advisory functions in relation to vested lands and waters, and broader biodiversity conservation matters. Appendix A provides details of the Conservation Commission’s functions as provided in section 19 of the <i>CALM Act</i>’ (WA CC Ann Rep 2006-07, p4)</p> <p>The WA CC ‘works collaboratively with other environmental agencies including the Environmental Protection Authority, the Department of Environment and the Marine Parks and Reserves Authority. It also has association with the Forest Products Commission, the Department of Agriculture, Department of Industry and Resources, Tourism Western Australia, Western Australian Museum, local government authorities, Department of Indigenous Affairs, Rottnest Island Authority, Main Roads WA, Water Corporation, Department of Fisheries, Swan River Trust, and Office of the Auditor General for Western Australia. Outside the public sector, the WA CC works with a range of community, conservation and industry stakeholders, as well as Indigenous representatives to ensure that policies and plans meet the balanced needs of the wider community. Of particular note are the regular meetings with the Conservation Council of Western Australia to discuss issues associated with fauna habitat zones in the Forest Management Plan area’ (WA CC Ann Rep 2006-07, p. 27).</p>
Department of Environment and Conservation (WA DEC)	<p>WA DEC ‘is a highly decentralised department with roughly three-quarters of its workforce based in country areas while the corporate and operational Head Office are located in Perth, WA. Although the department is decentralised input for planning and reporting is provided by regional and district offices. In WA the state is divided into nine administrative regions each having their own regional office. Nearly 20 district centres support these regional offices and are responsible for daily operations. In some regions local offices have been established to support the district and regional offices (WA DEC, 2007, p.2)’.</p> <p>‘... (visitor) services are delivered through the Department’s regional structure, with districts nested within these regions. DEC has 9 regions and within these 15 districts (as of 12 September 2006)’ (Darcy Draft, p.25).</p> <p>Three divisions within DEC have central carriage of the CALM Act 1984 with regards to managing the State’s terrestrial and marine environments: nature conservation, parks and visitor services, and sustainable forest management.</p> <p>The aim of the Parks and Visitor Services Division is to provide recreation and tourism opportunities, services and facilities for visitors to the parks while protecting the natural environment. Most but not all visitor evaluation is located or at least originates from within this Division.</p> <p>Western Australia’s marine nature reserves, marine parks and marine management areas are all vested in the MPRA. The MPRA has two keys functions: to develop guidelines for monitoring the implementation of management plans, and to set performance criteria and conduct periodic assessments on the implementation of management plans by DEC (MPRA 2005).</p>

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Name of agency	Structure of agency
Wet Tropics Management Authority (WTMA)	<p>‘While the Authority is the lead agency responsible for policy, planning and the coordination of management in the Area, it is not directly responsible for field management. Day-to-day management activities such as infrastructure maintenance and pest control are the responsibility of the relevant land managers which include the Queensland Parks and Wildlife Service (QPWS), 14 local governments, the Department of Natural Resources and Water (DNRW) and other infrastructure service providers for power, water and roads’ (WTMA Ann Rep 2006-07, p.17).</p> <p>‘A Principal Agencies Forum meets every six weeks to ensure that management activities are coordinated between the Authority, QPWS and DNRW. To prioritise and coordinate management activities in the protected area estate within the Area, a service agreement is developed each year between the Authority and QPWS. The service agreement outlines products and services to be delivered by QPWS under funding provided by the Queensland Government for World Heritage management’ (WTMA Ann Rep 2006-07, p.18).</p>
Parks Australia (Parks Aus)	<p>‘The Director is assisted by staff of Parks Australia, a division of the Department of the Environment and Water Resources. In 2006–07, under delegation from the Director, staff of the Australian Antarctic Division of the Department managed the Heard Island and McDonald Islands Marine Reserve while staff of the Marine and Biodiversity Division managed the remaining Commonwealth reserves established in Commonwealth marine areas’ (Parks Aus Ann Rep 2006-07, p. 31).</p> <p>‘Administrative responsibilities within the division are carried out by three main areas: Parks Australia Executive; Parks Australia North, and Parks Australia South. Parks Australia Executive includes the Director of National Parks and his executive assistant, supported by the Business Management Section, the Parks Strategic Development Section and his Legal Counsel. Parks Australia North ... and Parks Australia South ... are both...consistent with Parks Australia’s vision of leadership in natural and cultural heritage conservation through establishing and managing protected areas; acquiring and using biodiversity knowledge; and building and maintaining partnerships with Indigenous Australians’.</p> <p>‘The majority of Commonwealth Marine Protected Areas declared under the EPBC Act are managed by the Land, Water and Coasts Division of the Department of the Environment, Water, Heritage and the Arts under delegation from the Director of National Parks. The Australian Antarctic Division under delegation from the Director manages the Heard Island and McDonald Islands Marine Reserve. These parks and reserves, which are located generally in remote areas, protect tropical islands as well as cays and temperate and sub-Antarctic marine environments. The Great Barrier Reef Marine Park is managed by the GBRMPA under separate legislation’ (Parks Aus website http://www.environment.gov.au/about/structure/pa/index.html).</p>
Department for Environment and Heritage (SA DEH)	<p>‘DEH is part of the Environment and Conservation Portfolio and reports to the Minister for Environment and Conservation. Other agencies within the Portfolio are the Department of Water, Land and Biodiversity Conservation, the Environment Protection Authority, and Zero Waste SA’ (SA DEH Corporate Plan 2007, p. 2).</p>

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

APPENDIX C: CHAPTER 3 APPENDICES

Table 85: Management plans reviewed

	Name	Agency	Best practice	Visitor monitoring	Indicators	Targets
1	Stotts Island Nature Reserve Plan of Management (2001)	NSW DEC		No	No	No
2	Little Pimlico Island Nature Reserve Draft Plan of Management (2007)	NSW DEC		No	No	No
3	Downforth Nature Reserves (n.d.)	NSW DEC		No	No	No
4	Broulee Island Nature Reserve Plan of Management (2006)	NSW DEC		No	No	No
5	Woomargama National Park Plan of Management (2006)	NSW DEC		Yes	No	No
6	Scheyville National Park Plan of Management (2000)	NSW DEC		Yes	No	No
7	Richmond River (2005)	NSW DEC	✓	Yes	No	No
8	Lane Cove (1998)	NSW DEC	✓	No	No	No
9	Kosciusko National Park (2006)	NSW DEC	✓	Yes	No	No
10	Sea Acres Nature Reserve (1995)	NSW DEC	-	Yes	No	No
11	Herdsman Lake Regional Park (2004-2013)	WA DEC & WA CC	✓	Yes	Yes	Yes
12	Proposed St John Brook and Jarrahwood Conservation Parks (2004)	WA DEC & WA CC		No	Yes	Yes
13	Carnac Island Nature Reserve (2003)	WA DEC & WA CC		No	No	No
14	Turquoise Coast Island Nature Reserve (2004)	WA DEC & WA CC		Yes	Yes	Yes
15	Cape Range National Park Draft Management Plan (2005)	WA DEC & WA CC	✓	Yes	Yes	Yes
16	Wellington National Park and Westralia Conservation Park (2005)	WA DEC & WA CC		Yes	Yes	Yes
17	Jurien Bay Marine Park Management Plan (2005-2015)	WA DEC & WA MPRA	✓	Yes	Yes	No
18	Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area (2005-2015)	WA DEC & WA MPRA	✓	Yes	Yes	Yes
19	Yellagonga Regional Park Management Plan (2003-2013)	WA DEC, WA CC & City of Joondalup, City of Wanneroo	I	Yes	Yes	No
20	Kooyoora State Park Management Plan (1996)	Parks Vic		Yes	No	No
21	Greater Bendigo National Park Management Plan (2006)	Parks Vic	✓	Yes	No	No
22	Chiltern-Mt Pilot National Park (2007)	Parks Vic	✓	Yes	No	No
23	Wilson's Promontory National Park Management Plan (2002)	Parks Vic		Yes	No	No
24	Dandenong Ranges National Park Management Plan (2006)	Parks Vic		Yes	No	No
25	Port Phillip Heads Marine National Park Management Plan (2006)	Parks Vic	✓	Yes	No	No
26	Trevallyn Nature Recreation Area (2006)	Tas PWS	✓	Yes	Yes	No
27	Tasman National Park (and Reserves) Management Plan (2001)	Tas PWS	-	Yes	No	No
28	Tasmania WHA (n.d.)		✓	Yes	Yes	No

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

	Name	Agency	Best practice	Visitor monitoring	Indicators	Targets
29	Logan Lagoon Conservation Area (Ramsar Site) Management Plan (2000)	Tas PWS		Yes	No	No
30	Mount Field National Park (& Reserves) Management Plan (2002)	Tas PWS		Yes	No	No
31	Southport Lagoon Conservation Area George III Monument Historic Site and Ida Bay State Reserve Management Plan (2006)	Tas PWS		Yes	No	No
32	Moulting Lagoon Game Reserve (Ramsar Site) Management Plan (2003)	Tas PWS		No	No	No
33	Mount Remarkable National Park (2006)	SA DEH	✓	Yes	No	No
34	Gawler Ranges National Park (2006)	SA DEH	✓	Yes	No	No
35	Anstey Hill Recreation Park (2006)	SA DEH		Yes	No	No
36	Brownhill Creek Recreation Park Management Plan (2003)	SA DEH		Yes	No	No
37	Belair National Park Management Plan (2003)	SA DEH		No	No	No
38	Morialta and Black Hill Conservation Parks Management Plan (2001)	SA DEH		No	No	No
39	Nitmiluk (Katherine Gorge) National Park Plan of Management (2002)	NT PWS	✓	Yes	No	No
40	Casuarina Coastal Reserve Management Plan (2002)	NT PWS	✓	Yes	Yes	Yes
41	Holmes Jungle Nature Park Plan of Management (1997)	NT PWS		Yes	No	No
42	Charles Darwin National Park Plan of Management (n.d.)	NT PWS		Yes	No	No
43	Alice Springs Telegraph Station Historical Reserve Plan of Management (2001)	NT PWS		Yes	No	No
44	Park Folio Statement for Springbrook National Park (2004)	Q EPA	✓	Yes	Yes	No
45	Park Folio Statement for Mt Barney National Park (2006)	Q EPA		Yes	Yes	No
46	Whitsundays Plan of Management (2005)	GBRMPA		No	No	No
47	Cairns Area Plan of Management (1998)	GBRMPA		No	No	No
48	Kakadu National Park Management Plan (2007)	Parks Aus	Yes	Yes	Yes	No
49	Booderee National Park (2002)	Parks Aus		Yes	No	No

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Evaluation elements, subjects and associated indicators

Table 86: Evaluation subjects and associated indicators contributing to the ‘context’ element of visitor monitoring

Evaluation subject (No. of plans evaluating it)	Agencies including this evaluation subject in their plans	Indicator (and type of variable)
Values (25)	WA DEC, NSWDEC, Parks Vic, Parks Aus, NT PWS, Tas PWS, SA DEH	Presence/absence of identification, conservation, interpretation of built components of the first era of hydro-electric power for visitors (binary)
Threat id (7)	NSWDEC, Parks Vic, WA DEC, NT PWS, Tas PWS, SA DEH	Nature of threats and adverse impacts on the world heritage and other natural and cultural values of the WHA (descriptive) Extent of threats and adverse impacts on the world heritage and other natural and cultural values of the WHA (ordinal)
Threat severity (1)	Tas PWS	Nature of threats and adverse impacts on the world heritage and other natural and cultural values of the WHA (descriptive) Extent of threats and adverse impacts on the world heritage and other natural and cultural values of the WHA (ordinal)
Threat trend (1)	WA DEC	Number of sampled areas uninfected with <i>P. cinnamomi</i> following an operation with an approved disease management plan (scale)
Opportunities to enhance (0)		No indicators
Visitor attitudes (0)	Tas PWS	Level of visitor support for the WHA (ordinal) Level of visitor support for the Service and its work in managing the WHA (ordinal)
Community attitudes (0)		No indicators

Table 87: Evaluation subjects and associated indicators contributing to the ‘planning’ and ‘inputs’ elements of visitor monitoring

Evaluation subject (No. of plans evaluating it)	Agencies including this evaluation subject in their plans	Indicator (and type of variable)
Planning (evaluation element)		
Legal (0)		No indicators
Design (16)	Parks Vic, WA DEC, NSWDEC, Parks Aus, NT PWS, Tas PWS, QPWS, SA DEH	Presence/absence of approved recreation related development
Planning (2)	TASPWS	No indicators
Inputs (evaluation element)		
Staff numbers (0)		No indicators
Funding (0)		No indicators
Funding security (0)		No indicators
Infrastructure (7)	NSWDEC, SA DEH	No indicators
Information (0)		No indicators

Table 88: Evaluation subjects (excluding impact management) and associated indicators contributing to the ‘process’ element of visitor monitoring

Evaluation subject (No. of plans evaluating it)	Agencies including this evaluation subject in their plans	Indicator (and type of variable)
Administration (0)		No indicators
Facility maintenance (1)	QPWS	No indicators
Staff training (1)	Tas PWS	Percentage of ranger, cave guides, tour operators who have done interpretation training (scale)

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Evaluation subject (No. of plans evaluating it)	Agencies including this evaluation subject in their plans	Indicator (and type of variable)
Staff skills (0)		No indicators
Law enforcement adequacy (0)		No indicators
Law enforcement issues (0)		No indicators
Relationship appropriateness (0)		No indicators
Interpretation (15)	QPWS, NT PWS, Tas PWS, Parks Aus, SA DEH	Popularity and effectiveness of a range of different approaches to interpretation, education, and communication across a range of audiences (ordinal) Degree to which safety issues are addressed in interpretive materials (ordinal) Presence/absence of identification, conservation, interpretation of built components of the first era of hydro-electric power for visitors (binary) Number of visitors participating in educational and interpretive programs (scale) Range and type of interpretive materials and activities provided (descriptive) Quantity of interpretive materials and activities provided (scale)
Communication (9)	NT PWS, Tas PWS, QPWS, SA DEH	Popularity and effectiveness of a range of different approaches to interpretation, education, and communication across a range of audiences (ordinal) Level of development and communication of codes of use for horse and mountain bike riding in the reserve (ordinal)
Involvement (2)	Tas PWS, PA	Number of people at WHA related talks, events and summer ranger program (scale) Feedback from WHA related talks, events and summer ranger program (descriptive) Number of visitors participating in educational and interpretive programs (scale)
Visitor services (4)	NT PWS, Tas PWS, SA DEH	Compliance/non-compliance of facilities in the visitor services zone with applicable standards set out in the Reserve Standards Framework (binary)
Visitor fee management (0)		No indicators
Tourism management (2)	Tas PWS, Parks Aus, SA DEH	Lease or license status of recreational clubs (nominal) Ecological sustainability and impacts of activities of recreational clubs (descriptive) Level of tourism industry satisfaction with site access and management (ordinal) Extent to which impacts, including cumulative impacts, from commercial accommodation are within acceptable levels (ordinal) Level of tourism industry satisfaction with commercial tour opportunities (ordinal)
Impact monitoring (4)	NSWDEC, WA DEC, NT PWS	Number of sampled areas uninfected with <i>P. cinnamomi</i> following an operation with an approved disease management plan (scale) Change in the area of disturbance zone around campsites (scale)
Performance standards (0)		No indicators

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Table 89: Evaluation subject of impact management and associated indicators contributing to the ‘process’ element of visitor monitoring

Agencies including this evaluation subject in their plans Parks Vic, NSWDEC, QPWS, WA DEC, Parks Aus, NT PWS, Tas PWS, SA DEH. Included in 21 plans.
Indicator (and type of variable): number of sampled areas uninfected with <i>P. cinnamomi</i> following an operation with an approved disease management plan (scale) level of compliance with policies, guidelines, conditions of operation, specified standards, defined limits of usage, etc which have been established to prevent or control impacts (ordinal) number of incidents of accidental or unforeseen damage to WHA values (scale) extent of effects of human use on geodiversity, earth features, processes and values (ordinal) level of impact on wilderness quality of recreational uses (ordinal) changes in the nature of environmental impact associated with recreation and other human use of WHA (descriptive?) changes in the extent of environmental impact associated with recreation and other human use of WHA (not specified) level of protection of environmental quality and recreation opportunities (ordinal) level of degradation from recreational activities (ordinal) level of erosion caused by boating activities (ordinal) level of expansion of campsites (ordinal) level of track erosion (ordinal) level of diver impacts on benthic community (ordinal) presence/absence of identification, conservation, interpretation of built components of the first era of hydro-electric power for visitors (binary) ecological sustainability and impacts of activities of recreational clubs (descriptive) distribution of <i>Bryophyte</i> populations (descriptive) distribution of limited suite of endemic bird species (descriptive) stream frog distribution (descriptive) stream frog abundance (ordinal or scale) level of trampling of the moss, <i>Sphagnum cuspidatum</i> (ordinal) extent to which visitor impacts are within acceptable levels (ordinal) extent to which impacts from camping are within acceptable levels (ordinal) extent to which impacts from walking activities are within acceptable levels (ordinal) extent to which impacts from fishing and boating activities are within acceptable levels (ordinal)

Table 90: Evaluation subjects and associated indicators contributing to the ‘output’ element of visitor monitoring

Evaluation subject (No. of plans evaluating it)	Agencies including this evaluation subject in their plans	Indicator (and type of variable)
Actions achieved (0)		No indicators
Visitor use (4)	QPWS, WA DEC, NT PWS, Tas PWS	Changes in number of visitors (scale) Levels and trends of visitation (ordinal) Number of visitors (scale) Number of ‘camper nights’ (scale) Number of repeat visitors (scale)
Visitor characteristics (1)	QPWS	No indicators
Operator use (0)		No indicators
Revenue (0)		No indicators
Recreation opportunities (21)	NSWDEC, Parks Vic, QPWS, WA DEC, Parks Aus, NT PWS, Tas PWS, SA DEH	Level of satisfaction that visitors express with their visit in relation to the use of dual use trails (ordinal) Level of use of visitor opportunities and facilities (ordinal) Level of visitor satisfaction with camping opportunities in the Park (ordinal) Visitor satisfaction with the range of day and overnight walking opportunities (ordinal) Visitor and tour operator satisfaction with the range of recreational activities available (ordinal) Level of visitor satisfaction with fishing and boating opportunities (ordinal)

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Table 91: Evaluation subjects (excluding visitor satisfaction, safety and compliance) and associated indicators contributing to the ‘outcome’ element of visitor monitoring

Evaluation subject (No. of plans evaluating it)	Agencies including this evaluation subject in their plans	Indicator (and type of variable)
Achieving visitor objectives (1)	Tas PWS	No indicators
Visitor access (16)	WA DEC, NSWDEC, Parks Vic, Parks Aus, NT PWS, Tas PWS, QPWS, SA DEH	Provision of formalised access in the park (binary) Level of satisfaction that visitors express with their visit in relation to park access (ordinal) Condition of roads within the park and their capacity to meet existing and forecast use split (ordinal)
Visitor use outcome (2)	PA, WA DEC	Number of hits on Parks Australia’s Kakadu web page (scale) Number of completions of the visitor survey program (scale)
Presentation values trend (0)		No indicators
Presentation values condition (2)	QPWS	Condition score for each of several presentation values (e.g. waterfalls, rainforests, views, glow-worms, walks, bbq/picnic areas and campgrounds) (ordinal)
Conservation values condition (24)	NSWDEC, WA DEC, Parks Vic, Parks Aus, NT PWS, Tas PWS, QPWS, SA DEH	Condition of identified significant World Heritage and other natural and cultural sites (scale) Rate of deterioration at track monitoring points (ordinal) Presence/absence of disturbance to artefacts (binary) Distribution of Bryophyte populations (descriptive) Distribution of limited suite of endemic bird species (descriptive) Stream frog distribution (descriptive) Stream frog abundance (ordinal or scale) Level of trampling of the moss <i>Sphagnum cuspidatum</i> (ordinal) Condition score for each specific landscape and ecosystem (ordinal)
Economic impacts (0)		No indicators
Social impacts (4)	Parks Vic, Parks Aus, SA DEH	EXTENT to which local community benefits from tourism opportunities (ordinal)
Visitor cognitive outcomes (11)	NSWDEC, NT PWS, Tas PWS, SA DEH	Level of visitor awareness of the concept of world heritage (ordinal) Level of visitor understanding of the world heritage and other natural and cultural values of the WHA (ordinal) Level of visitor awareness of the management issues the area faces (ordinal) Visitor understanding of the reserve’s natural values (unspecified)

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Table 92: Evaluation subjects of visitor satisfaction, safety and compliance and associated indicators contributing to the ‘outcome’ element of visitor monitoring

<p>Agencies including visitor satisfaction in their plans Parks Aus, NSWDEC, WA DEC, NT PWS, Tas PWS, QPWS, SA DEH. Included in 10 plans.</p>
<p>Indicator (and type of variable): Changes in visitor satisfaction levels (ordinal) Level of satisfaction that visitors express with their visit in relation to the use of dual use trails (ordinal) Number of complaints from public about introduced species (scale) Number of visitor complaints concerning noise or air pollution (scale) Level of visitor satisfaction (ordinal) Level of satisfaction by local community about balance between local community and tourism recreation opportunities in the reserve (ordinal) Level of visitor satisfaction with commercial tour opportunities (ordinal)</p>
<p>Agencies including visitor safety in their plans WA DEC, NT PWS, Tas PWS, QPWS, Parks Aus, SA DEH. Included in 10 plans.</p>
<p>Indicator (and type of variable): Percentage of accidents/incidents per visit reported annually to the department (scale) Number of reports of poor visitor health, if they arise, that are related or not to water consumption in the WHA (scale) Degree to which safety issues are addressed in interpretive materials (ordinal) Number of rescues (scale) Number of safety related incidents (scale) Number of safety incidents involving park users (scale) Severity of safety incidents involving park users (ordinal) Number of risk assessments completed for key visitor destinations in the Park (scale) Number of incidents associated with swimming (scale) Seriousness of incidents associated with swimming (ordinal) Number of compliance and safety related incidents (scale) Seriousness of compliance and safety related incidents (ordinal)</p>
<p>Agencies including visitor compliance in their plans Tas PWS, QPWS, PA. Included in 4 plans.</p>
<p>Indicator (and type of variable): Level of compliance with zoning and access controls and management guidelines related to maintenance of wilderness quality (ordinal) level of compliance of visitors with regulations, minimal impact practices and other promoted management protocols (ordinal) Level of visitor compliance with requirements of integrated track and sign system (ordinal) Level of visitor compliance with requirements regarding bringing dogs into the reserve (ordinal) Number of compliance and safety related incidents (scale) Seriousness of compliance and safety related incidents (ordinal)</p>

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APPENDIX D: CHAPTER 4 APPENDICES

Table 93: Visitor-related indicators reported in annual reports, grouped by evaluation subject

Evaluation subjects	Full list of indicators
Context	
Values	No indicators.
Threat id	No indicators.
Threat severity	No indicators.
Threat trend	No indicators.
Opportunities to enhance	No indicators.
Visitor attitudes	No indicators.
Community attitudes	No indicators.
Planning	
Legal	No indicators.
Design	No indicators.
Planning	No indicators.
Inputs	
Staff numbers	No indicators.
Funding	Cost to department per visit (scale). Ratio of total cost of services to operating revenue (scale). Cost to department of managing tourism and recreation (scale).
Funding security	No indicators.
Infrastructure	No indicators.
Information	Whether information and training for industry and other stakeholders is provided (binary).
Process	
Administration	Whether all expiring permits for limited opportunities reviewed for latency (binary).
Facility maintenance	Whether visitor facilities maintained to relevant standards for health and safety and to ensure protection of the environment (binary).
Staff training	No indicators.
Staff skills	No indicators.
Law enforcement adequacy	No indicators.
Law enforcement issues	No indicators.
Relationship appropriateness	No indicators.
Interpretation	No indicators.
Communication	Whether there is continued involvement of stakeholders in tourism and recreation (binary).
Tourism/visitor involvement	Whether management initiatives for tourism and recreation are developed and implemented in partnership with the tourism industry, recreational users and other key stakeholders, with partnership arrangements recognised as very high standard (binary).
Visitor services	Whether tourism and recreation opportunities in the Marine Park provided in an efficient and equitable manner as rated by industry satisfaction measures (binary).
Impact management	No indicators.
Visitor fee management	No indicators.
Tourism management	Whether tourism in the Marine Park provided in an efficient and equitable manner (binary). Whether all expiring permits for limited opportunities reviewed for latency (binary). Whether there are systems in place to recognise and reward high standard operators (binary).
Impact monitoring	No indicators.
Performance standards	No indicators.
Outputs	
Actions achieved	No indicators.

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Evaluation subjects	Full list of indicators
Visitor use	Annual numbers of park visitors (scale). Annual numbers of people participating in educational, interpretive and other programs (scale). Number of participants in discovery education programs and percentage satisfied (scale). Number of visitors to parks (scale). Trends in the number of tourists to the great barrier reef marine park (descriptive). Whether numbers of tourists visiting the marine park maintained or increased (binary). Number of visitors to Reef HQ (scale). Number of different types of parks passes purchased (scale). Total number of visits to land and waters managed by the DEC (scale).
Visitor characteristics	Types and demographics of park visitors (ordinal). Demographics of people participating in educational, interpretive and other programmes (ordinal).
Operator use	No indicators.
Revenue	No indicators.
Recreation opportunities	Whether recreation opportunities in the Marine Park provided in an efficient and equitable manner (binary).
Outcomes	
Achieving visitor objectives	No indicators.
Visitor satisfaction	Levels of satisfaction of park users (ordinal). Percentage of participants in discovery education programs satisfied (scale). Levels of satisfaction of tourists to the great barrier reef marine park with their experience (scale). Whether the level of satisfaction of tourists visiting the marine park is maintained or increased (binary). Percentage of visitors surveyed that rate their visit as a satisfactory experience (scale). Visitor and stakeholder satisfaction with management programs (scale). Percentage of visitors that were satisfied with their visit (scale).
Visitor safety	No indicators.
Visitor access	No indicators.
Visitor use outcome	New significant visitor experiences created (binary).
Presentation values trend	No indicators.
Presentation values condition	No indicators.
Conservation values condition	No indicators.
Economic impacts	\$ contributed to regional/national economy by visitors to parks (scale).
Social impacts	No indicators.
Visitor cognitive outcomes	Percentage of visitors surveyed that rate an improved understanding of reef related issues (scale).

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APPENDIX E: CHAPTER 5 APPENDICES

Table 94: Visitor-related indicators reported in State of the Parks reports (including QLD RAP and WTMA Periodic Report), grouped by evaluation subject

Evaluation subjects	Indicators
Context	
Values	No indicators.
Threat identification	Identifying visitors as current or emerging threat (binary). Nature and distribution of visitor impacts (descriptive).
Threat severity	No indicators.
Threat trend	No indicators.
Opportunities to enhance	Whether research is conducted to improve understanding of visitors (binary).
Visitor attitudes	Visitor expectations and preferences (descriptive). Main reason for visiting the region as identified by visitor survey (descriptive).
Community attitudes	No indicators.
Planning	
Legal	No indicators.
Design	Whether planning for sustainable access and management is conducted (binary).
Planning	Extent of availability of visitor data that is useful to support reserve planning and decision making on managing visitor use in accordance with the reserve's management intent and to meet the legitimate needs of visitors (ordinal). Extent to which Landscape Classification Settings (LCS) have been identified for key visitor nodes (ordinal). Extent to which appropriate management been applied based on LCS (ordinal). Extent to which sustainable visitor capacities have been determined for key visitor nodes (ordinal). Extent to which appropriate management has been applied based on sustainable visitor capacities (ordinal).
Inputs	
Staff numbers	Staff time input allocated to visitor infrastructure (scale). Staff time input allocated to visitor services (scale). Staff time allocated to customer service and administration (scale). Volunteer time allocated to visitor infrastructure (scale). Volunteer time allocated to visitor services (scale). Volunteer time allocated to customer service and administration (scale).
Funding	Recurrent budget amount allocated to revenue generation (scale). Recurrent budget amount allocated to customer service (scale). Capital works budget amount allocated to revenue generation (scale). Capital works budget amount allocated to customer service (scale).
Funding security	No indicators.
Infrastructure	Extent to which visitor facilities and services are appropriate to the reserve category and adequate for current levels and types of visitation (ordinal). Adequacy of infrastructure as reported by visitors (ordinal) Condition of park assets (ordinal). Adequacy of infrastructure as reported by visitors (ordinal) Extent to which visitor facilities are appropriate to the desired levels and patterns of visitor use (ordinal). Diversity of park assets (descriptive). Percentage of park assets with a life expectancy > 5 years (scale)
Information	Extent to which boundary marking, directional signage and basic park information fully meets park management and legitimate visitors needs (ordinal).
Process	
Administration	No indicators.
Facility maintenance	No indicators.
Staff training	No indicators.
Staff skills	No indicators.
Law enforcement adequacy	No indicators.

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Evaluation subjects	Indicators
Law enforcement issues	No indicators.
Relationship appropriateness	No indicators.
Interpretation	Extent to which a comprehensive, planned approach to awareness, interpretation or education information, facilities and activities is being implemented (ordinal). Information available for park visitors (descriptive). Participation in park education and interpretation programs (scale). Status of any interpretation and community education program (ordinal). Adequacy of interpretation and community education program (ordinal). Extent of interpretation and community education program implementation (ordinal). Status of sign plans (ordinal). Extent of sign plans implementation (ordinal). Level of information/interpretive signage in the aggregation that complies with the agency standards (ordinal).
Communication	No indicators.
Involvement	No indicators.
Visitor services	Meeting an appropriate level of service (ordinal).
Impact management	Extent to which a comprehensive, planned approach to visitor impact management is being implemented (ordinal). Extent/degree to which negative impacts of visitors are affecting reserve values (ordinal). Type of visitor management program (ordinal). Adequacy of visitor management program (ordinal). Extent of visitor management program implementation (ordinal). Type of program used to monitor visitor impacts (ordinal). Extent of visitor management program implementation (ordinal). Effectiveness of visitor management program for informing management decisions (ordinal).
Visitor fee management	No indicators.
Tourism management	Supporting tourism partnerships (descriptive). Type of commercial tourism management program (ordinal). Adequacy of commercial tourism management program (ordinal). Extent of commercial tourism management program implementation (ordinal).
Impact monitoring	Extent to which a planned and comprehensive monitoring and evaluation strategy, appropriate to the needs of the reserve, is being implemented (ordinal).
Performance standards	No indicators.
Outputs	
Actions achieved	No indicators.
Visitor use	Visitor numbers (scale). Status of any programs to monitor visitor numbers (ordinal). Extent of visitor numbers monitoring program implementation (ordinal). Effectiveness of visitor numbers monitoring program for informing management decisions (ordinal). Annual number of visitors (scale). Number of visitors on commercial tours (scale).
Visitor characteristics	Origin of park visitors (descriptive). Origin of bay, pier and river visitors (descriptive). Number of domestic/international visitors (scale).
Operator use	No indicators.
Revenue	Revenue raised from park user fees (scale).
Recreation opportunities	Providing sustainable recreation opportunities (descriptive). Adequacy of management knowledge of the recreational opportunities available (ordinal).
Outcomes	
Achieving visitor objectives	No indicators.
Visitor satisfaction	Level of visitor satisfaction (ordinal).
Visitor safety	No indicators.
Visitor access	Number of sites that provide access for people living with a disability (scale).
Visitor use outcome	Extent to which the current needs of park management and legitimate visitor expectations are being met (ordinal).

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Evaluation subjects		Indicators
Presentation values trend		No indicators.
Presentation condition	values	Effectiveness of the current state of management for maintaining the integrity of presentation values (ordinal).
Conservation condition	values	Extent to which the most important values are degraded and at continuing risk without corrective action (ordinal).
Economic impacts		Economic value of tourism in parks (scale). \$ value for impact of cessation of logging (scale). \$ values for economic contribution of tourism in the region (scale).
Social impacts		No indicators.
Visitor outcomes	cognitive	No indicators.

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APPENDIX F: CHAPTER 6 APPENDICES

Table 95: Visitor-related evaluation subjects and indicators covered in all reports assessed, across all agencies

Evaluation subjects	Indicators identified (measure form used)
Context	
Values	Presence/absence of identification, conservation, interpretation of built components of the first era of hydro-electric power for visitors (binary).
Threat identification	Nature and distribution of visitor impacts (descriptive). Nature of threats and adverse impacts on the world heritage and other natural and cultural values of the WHA (descriptive). Identifying visitors as current or emerging threat (binary). Extent of threats and adverse impacts on the world heritages and other natural and cultural values of the WHA (ordinal).
Threat severity	Nature of threats and adverse impacts on the world heritage and other natural and cultural values of the WHA (descriptive). Extent of threats and adverse impacts on the world heritages and other natural and cultural values of the WHA (ordinal).
Threat trend	The number of sampled areas uninfected with <i>P. cinnamomi</i> following an operation with an approved disease management plan (scale).
Opportunities to enhance	Whether research is conducted to improve understanding of visitors (binary).
Visitor attitudes	Level of visitor support for the WHA (ordinal). Level of visitor support for the Service and its work in managing the WHA (ordinal). Extent to which visitors agree with the statement ‘the presence of a ranger is important to me’ (ordinal). Extent to which visitors agree with the statement ‘there are too many people at the site’ (ordinal). Extent to which visitors agree with the statement ‘the behaviour of other visitors affected me’ (ordinal). Extent to which visitors agree with the statement ‘i enjoyed my visit’ (ordinal). Extent to which visitors agree with the statement ‘it was worth the money spent to get to the site’ (ordinal). Visitor expectations and preferences (descriptive). Main reason for visiting the region as identified by visitor survey (descriptive). Reasons for visiting (descriptive). Whether or not visitors are likely to visit the area again (binary).
Community attitudes	No indicators
Planning	
Legal	No indicators
Design	Whether planning for sustainable access and management is conducted (binary). Presence/absence of approved recreation related development not focussed on recreation that is reliant on a natural outdoor setting (binary).
Planning	Extent of availability of visitor data that is useful to support reserve planning and decision making on managing visitor use in accordance with the reserve’s management intent and to meet the legitimate needs of visitors (ordinal). Extent to which Landscape Classification Settings (LCS) have been identified for key visitor nodes (ordinal). Extent to which appropriate management been applied based on LCS (ordinal). Extent to which sustainable visitor capacities have been determined for key visitor nodes (ordinal). Extent to which appropriate management has been applied based on sustainable visitor capacities (ordinal). Whether plans at all levels of Parks Victoria clearly identify actions for responding to culture and linguistic diversity (binary).
Inputs	

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Evaluation subjects	Indicators identified (measure form used)
Staff numbers	Staff time input allocated to visitor infrastructure (scale). Staff time input allocated to visitor services (scale). Staff time allocated to customer service and administration (scale). Volunteer time allocated to visitor infrastructure (scale). Volunteer time allocated to visitor services (scale). Volunteer time allocated to customer service and administration (scale).
Funding	Recurrent budget amount allocated to revenue generation (scale). Recurrent budget amount allocated to customer service (scale). Capital works budget amount allocated to revenue generation (scale). Capital works budget amount allocated to customer service (scale). Cost to department per visit (scale). Ratio of total cost of services to operating revenue (scale). Total output cost (\$M) (scale). Cost per visitor (\$) (scale). Cost per site (\$,000's) (scale). Cost to department of managing tourism and recreation (scale)
Funding security	No indicators
Infrastructure	Extent to which visitor facilities and services are appropriate to the reserve category and adequate for current levels and types of visitation (ordinal). Extent to which visitor facilities are appropriate to the desired levels and patterns of visitor use (ordinal). Level of evidence of bush toileting (ordinal). Adequacy of infrastructure as reported by visitors (ordinal). Condition of park assets (ordinal). Extent to which visitors rate the facilities as adequate (ordinal). Condition of infrastructure (ordinal). Percentage of park assets with a life expectancy > 5 years (scale). Percentage of bays assets with a life expectancy of > 5 years (scale). Percentage and number of built assets fit for service (scale). Diversity of park assets (descriptive).
Information	Whether information and training for industry and other stakeholders is provided (binary). Extent to which boundary marking, directional signage and basic park information fully meets park management and legitimate visitors needs (ordinal). Adequacy of directional signs as reported by visitors (ordinal). Information needs of visitors as identified by survey (descriptive). Extent to which visitors consider maps and directions at the site are easy to locate and helpful (ordinal). Accuracy and suitability of walk information (ordinal). Percentage popularity of different sources of information (scale). Percentage of use of information sources for OLT trip planning (scale). Trend of use of information sources for OLT trip planning (descriptive).
Process	
Administration	Whether all expiring permits for limited opportunities reviewed for latency (binary).
Facility maintenance	Percentage of total length of 2WD road maintained in fair to good condition (scale). Number or percentage of infrastructure items damaged (scale). Percentage of infrastructure items with mould or dirt and intensity of dirt (scale). Condition and/or failure rate of toilets (ordinal). Adequacy of maintenance as reported by visitors (ordinal). Whether visitor facilities maintained to relevant standards for health and safety and to ensure protection of the environment (binary).
Staff training	Percentage of ranger, cave guides, tour operators who have done interpretation training (scale). Number of staff who have attended cultural diversity training (scale). Number of staff who have been involved in staff development programs, including internal and external employee exchanges, to build cultural diversity awareness and skills (scale).
Staff skills	Whether an audit has been completed of language and cultural diversity skills already held by staff (binary). Whether cultural diversity skills and knowledge taken into account in relevant selection criteria and position descriptions (binary). Whether integration of cultural diversity skills into staff competencies is done (binary). Number of staff who have cross-cultural communication competence (scale).

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Evaluation subjects	Indicators identified (measure form used)
Law enforcement adequacy	No indicators.
Law enforcement issues	No indicators.
Relationship appropriateness	No indicators.
Interpretation	<p>Extent to which a comprehensive, planned approach to awareness, interpretation or education information, facilities and activities is being implemented (ordinal).</p> <p>Status of any interpretation and community education program (ordinal).</p> <p>Adequacy of interpretation program (ordinal).</p> <p>Extent of interpretation program implementation (ordinal).</p> <p>Status of sign plans (ordinal).</p> <p>Extent of implementation of sign plans (ordinal).</p> <p>Level of information/interpretive signage in the aggregation that complies with the agency standards (ordinal).</p> <p>Popularity and effectiveness of a range of different approaches to interpretation, education, and communication across a range of audiences (ordinal).</p> <p>Degree to which safety issues are addressed in interpretive materials (ordinal).</p> <p>Quality of interpretation as judged by visitors (ordinal).</p> <p>Effectiveness of interpretation programs (ordinal).</p> <p>Participation in park education and interpretation programs (scale).</p> <p>Number of visitors participating in educational and interpretive programs (scale).</p> <p>Quantity of interpretive materials and activities provided (scale).</p> <p>Information available for park visitors (descriptive).</p> <p>Range and type of interpretive materials and activities provided (descriptive).</p> <p>Presence/absence of identification, conservation, interpretation of built components of the first era of hydro-electric power for visitors (binary).</p>
Communication	<p>Whether consultations using culturally and linguistically appropriate methods have taken place with relevant individuals and organisations (binary).</p> <p>Whether consultations have been conducted in a competent manner (binary).</p> <p>Whether the views and needs of the diverse population are known and understood by Parks Vic (binary).</p> <p>Whether information is translated into appropriate languages as required (binary).</p> <p>Whether appropriate communication methods are used (binary).</p> <p>Whether development and delivery of high quality information in appropriate media and languages has occurred (binary).</p> <p>Whether visitors are aware of on-site information (binary).</p> <p>Whether strategic communication objectives are met (binary).</p> <p>Sources of information for visitors (descriptive).</p> <p>What information is available (descriptive).</p> <p>What information is being utilised by visitors (descriptive).</p> <p>What information is being used to access the site (descriptive).</p> <p>Popularity and effectiveness of a range of different approaches to interpretation, education, and communication across a range of audiences (ordinal).</p> <p>Level of development and communication of codes of use for horse and mountain bike riding in the reserve (ordinal).</p>
Tourism/visitor involvement	<p>Number of people at WHA related talks, events and summer ranger program (scale).</p> <p>Number of visitors participating in educational and interpretive programs (scale).</p> <p>Number of representatives from diverse cultural and linguistic backgrounds on Parks Vic committees (scale).</p> <p>Number of successful partnerships established (scale).</p> <p>Whether management initiatives for tourism and recreation are developed and implemented in partnership with the tourism industry, recreational users and other key stakeholders, with partnership arrangements recognised as very high standard (binary).</p> <p>Whether appropriate partners are identified (binary).</p> <p>Whether identification of improved outcomes as a result of partnerships has occurred (binary).</p> <p>Feedback from WHA related talks, events and summer ranger program (descriptive).</p> <p>Patterns of reef tourist activity participation (descriptive).</p>

CURRENT PRACTICES IN MONITORING AND REPORTING ON SUSTAINABILITY OF VISITOR USE OF PROTECTED AREAS

Evaluation subjects	Indicators identified (measure form used)
Visitor services	<p>Whether tourism and recreation opportunities in the Marine Park provided in an efficient and equitable manner as rated by industry satisfaction measures (binary).</p> <p>Compliance/non-compliance of facilities in the visitor services zone with applicable standards set out in the Reserve Standards Framework (binary).</p> <p>Meeting an appropriate level of service (ordinal).</p> <p>Accessibility of NPWS website and how informative (ordinal).</p>
Impact management	<p>Extent to which a comprehensive, planned approach to visitor impact management is being implemented (ordinal).</p> <p>Type of visitor management program (ordinal).</p> <p>Adequacy of visitor management program (ordinal).</p> <p>Extent of visitor management program implementation (ordinal).</p> <p>Type of program used to monitor visitor impacts (ordinal).</p> <p>Extent of visitor impact monitoring program implementation (ordinal).</p> <p>Effectiveness of visitor impact monitoring program for informing management decisions (ordinal).</p> <p>Extent/degree to which negative impacts of visitors are affecting reserve values (ordinal).</p> <p>Level of compliance with policies, guidelines, conditions of operation, specified standards, defined limits of usage, etc which have been established to prevent or control impacts (ordinal).</p> <p>Extent of effects of human use on geodiversity, earth features, processes and values (ordinal).</p> <p>Level of impact on wilderness quality of recreational uses (ordinal).</p> <p>Level of protection of environmental quality and recreation opportunities (ordinal).</p> <p>Level of degradation from recreational activities (ordinal).</p> <p>Level of erosion caused by boating activities (ordinal).</p> <p>Level of expansion of campsites (ordinal).</p> <p>Level of track erosion (ordinal).</p> <p>Level of diver impacts on benthic community (ordinal).</p> <p>Changes in the extent of environmental impact associated with recreation and other human use of WHA (ordinal).</p> <p>Level of trampling of the moss, <i>Sphagnum cuspidatum</i> (ordinal).</p> <p>Extent to which visitor impacts are within acceptable levels (ordinal).</p> <p>Extent to which impacts from camping are within acceptable levels (ordinal).</p> <p>Extent to which impacts from walking activities are within acceptable levels (ordinal).</p> <p>Extent to which impacts from fishing and boating activities are within acceptable levels (ordinal).</p> <p>Level of erosion, site compactions and bare ground (ordinal).</p> <p>Level of sedimentation (ordinal).</p> <p>Level of modification of waterways (ordinal).</p> <p>Level of water quality deterioration (ordinal).</p> <p>Widening and deterioration of walking tracks and vehicle routes (ordinal).</p> <p>Level of weed invasion (ordinal).</p> <p>Stream frog abundance (ordinal or scale).</p> <p>Changes in the nature of environmental impact associated with recreation and other human use of WHA (descriptive?).</p> <p>Ecological sustainability and impacts of activities of recreational clubs (descriptive).</p> <p>Distribution of Bryophyte populations (descriptive).</p> <p>Distribution of limited suite of endemic bird species (descriptive).</p> <p>Stream frog distribution (descriptive).</p> <p>The number of sampled areas uninfected with <i>P. cinnamomi</i> following an operation with an approved disease management plan (scale).</p> <p>Number of incidents of accidental or unforeseen damage to WHA values (scale).</p> <p>Presence/absence of identification, conservation, interpretation of built components of the first era of hydro-electric power for visitors (binary).</p> <p>Whether key components of sustainable management practices have been identified (binary).</p> <p>Whether visitor impacts are within acceptable levels (binary).</p>
Visitor fee management	No indicators.

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Evaluation subjects	Indicators identified (measure form used)
Tourism management	Type of commercial tourism management plan (ordinal). Adequacy of commercial tourism management plan (ordinal). Extent of commercial tourism management program implementation (ordinal). Level of tourism industry satisfaction with site access and management (ordinal). Extent to which impacts, including cumulative impacts, from commercial accommodation are within acceptable levels (ordinal). Level of tourism industry satisfaction with commercial tour opportunities (ordinal). Level of service provided by commercial operators (ordinal). Whether tourism and recreation opportunities in the Marine Park provided in an efficient and equitable manner (binary). Whether all expiring permits for limited opportunities reviewed for latency (binary). Whether there are systems in place to recognise and reward high standard operators (binary). Supporting tourism partnerships (descriptive). Lease or license status of recreational clubs (nominal).
Impact monitoring	The number of sampled areas uninfected with <i>P. cinnamomi</i> following an operation with an approved disease management plan (scale). Change in the area of disturbance zone around campsites (scale). Extent to which a planned and comprehensive monitoring and evaluation strategy, appropriate to the needs of the reserve, is being implemented (ordinal).
Performance standards	No indicators.
Outputs	
Actions achieved	No indicators.
Visitor use	Annual numbers of park visitors (scale). Annual numbers of people participating in educational, interpretive and other programmes (scale). Number of participants in Discovery education programs (scale). Number of visitors to parks (scale). Number of tourists to the Great Barrier Reef Marine Park (scale). Number of visitors to Reef HQ (scale). Number of different types of parks passes purchased (scale). Total number of visits to land and waters managed by the DEC (scale). Visitor numbers (scale). Number of visitors on commercial tours (scale). Changes in number of visitors (scale). Number of 'camper nights' (scale). Number of repeat visitors (scale). Average duration of stay (scale). Total visits per annum (scale). Persons per peak day (scale). Persons at one time (PAOT) at this site (scale). Maximum group size (scale). Group size (scale). Length of stay - day use and overnight (scale). Total number of visits (visit days) (scale). Percentage of Victorians that have visited a Parks Vic managed park over the past 12 months (scale). Number of visitor sites (scale). Percentage of different visitors to WHA i.e. residents, domestic Visitors, international visitors (scale). Vehicle and visitor counts (scale). Average daily/weekly/monthly/yearly traffic counter results (scale). Number of average daily departures (scale). Percentage change and number of visitors, categorised by area (scale). Status of any programs to monitor visitor numbers (ordinal). Extent of visitor number monitoring program implementation (ordinal). Effectiveness of visitor number monitoring program for informing management decisions (ordinal). Levels and trends of visitation (ordinal) Frequency of visit (ordinal). Last time visited (ordinal). Activities participated in (ordinal). Whether visitor is an independent traveller or with a commercial group (binary). Whether numbers of tourists visiting the Marine Park maintained or increased (binary). Sites visited (descriptive).

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Evaluation subjects	Indicators identified (measure form used)
Visitor characteristics	Types and demographics of park visitors (ordinal). Demographics of people participating in educational, interpretive and other programmes (ordinal) . Visitor group composition (ordinal). Age of visitors (ordinal). Education level of visitors (ordinal). Source of prior information accessed about the site by visitors (ordinal). Travel group size (ordinal). Proportion of each visitor type using the sites (i.e. families, couples, single, etc) (ordinal). Origin of park visitors (descriptive). Origin of bay, pier and river visitors (descriptive). Origin of visitors (descriptive). Number of domestic/international visitors (scale). Number and percent of OLT bookings by country of origin and Australian postcode (scale). Percentage of interstate and international OLT respondents who identify the Overland Track as the primary reason for visiting Tas (scale). Mode of transport of visitors (nominal). Types of vehicles entering sites (nominal). Gender of visitors (binary).
Operator use	Number of tour operators (scale). Number of vessels and aircraft (scale).
Revenue	Revenue raised from park user fees (scale).
Recreation opportunities	Adequacy of management knowledge of the recreational opportunities available (ordinal). Level of use of visitor opportunities and facilities (ordinal). Providing sustainable recreation opportunities (descriptive). Range of opportunities provided for visitors (descriptive). Whether recreation opportunities in the Marine Park provided in an efficient and equitable manner (binary).
Outcomes	
Achieving visitor objectives	No indicators
Visitor satisfaction	Level of satisfaction by local community about balance between local community and tourism recreation opportunities in the reserve, as shown by visitor satisfaction survey (ordinal). Level of visitor and tourism industry satisfaction with commercial tour opportunities (ordinal). Level of visitor satisfaction (ordinal). Levels of satisfaction of park users (ordinal). Level of satisfaction that visitors express with their visit in relation to the use of dual use trails (ordinal). Level of visitor satisfaction with camping opportunities in the Park (ordinal). Visitor and tour operator satisfaction with the range of recreational activities available (ordinal). Level of visitor satisfaction with fishing and boating opportunities (ordinal). Visitor satisfaction with the range of day and overnight walking opportunities (ordinal). Changes in visitor satisfaction levels (ordinal). Level of satisfaction that visitors express with their visit in relation to the use of dual use trails (ordinal). Percentage of participants in Discovery education programs satisfied (scale). Levels of satisfaction of tourists to the Great Barrier Reef Marine Park with their experience (scale). Percentage of visitors surveyed that rate their visit as a satisfactory experience (scale). Visitor and stakeholder satisfaction with management programs (scale). Percentage of visitors that were satisfied with their visit (scale). Number of complaints from public about introduced species (scale). Number of visitor complaints concerning noise or air pollution (scale). Percentage level of satisfaction rating with Overland Track Management System (scale). Percentage and number of key clients and community satisfied with performance of PWS (scale). Percentage satisfaction of website users (scale). Percentage of OLT walkers who pre-booked their trip using the OLT website (scale). Percentage satisfaction with directions, signage, facilities and infrastructure for the OLT (scale). Percentage satisfaction with educational information products and services for the OLT (scale). Trend in satisfaction of website users (descriptive). Trend in incidence of positive feedback comments about website (descriptive). Trend in number of suggested improvements for website (descriptive). Trend of satisfaction with directions, signage, facilities and infrastructure for the OLT (descriptive). Trend of satisfaction with educational information products and services for the OLT (descriptive). Whether the level of satisfaction of tourists visiting the Marine Park is maintained or increased (binary).

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Evaluation subjects	Indicators identified (measure form used)
Visitor safety	<p>Percentage of accidents/incidents per visit reported annually to the department (scale).</p> <p>Number of reports of poor visitor health, if they arise, that are related or not to water consumption in the WHA (scale).</p> <p>Number of rescues (scale).</p> <p>Number of incidents (scale).</p> <p>Number of incidents involving park users (scale).</p> <p>Number of risk assessments completed for key visitor destinations in the park (scale).</p> <p>Number of incidents associated with swimming (scale).</p> <p>Number of compliance and safety related incidents (scale).</p> <p>Percentage change and number of visitor incidents and accidents (scale).</p> <p>Percentage and number of sites with completed hazard assessments (scale).</p> <p>Percentage consistency between recommended gear/safety items and what walkers actually take on the OLT (scale).</p> <p>Severity of incidents involving park users (ordinal).</p> <p>Degree to which safety issues are addressed in interpretive materials (ordinal).</p> <p>Seriousness of incidents associated with swimming (ordinal).</p> <p>Seriousness of compliance and safety related incidents (ordinal).</p> <p>Level of risk awareness of visitors (ordinal).</p> <p>Extent to which visitors consider safety information is easy to understand (ordinal)</p> <p>Appropriateness of safety information and advice (ordinal).</p>
Visitor access	<p>Provision of formalised access in the park (binary).</p> <p>Whether the site is easily accessible (binary).</p> <p>Whether the site is easy to find (binary).</p> <p>Level of satisfaction that visitors express with their visit in relation to park access (ordinal).</p> <p>Conditions of roads within the park and their capacity to meet existing and forecast use (ordinal).</p> <p>Number of sites that provide access for people with a living disability (scale).</p> <p>What route was taken by visitors to access the site and why (descriptive).</p>
Presentation values trend	<p>No indicators.</p>
Presentation values condition	<p>Effectiveness of the current state of management for maintaining the integrity of presentation values (ordinal).</p> <p>Condition score for each of several presentation values (e.g. Waterfalls, rainforests, views, glowworms, walks, bbq/picnic areas and campgrounds) (ordinal).</p>
Conservation values condition	<p>Extent to which the most important values are degraded and at continuing risk without corrective action (ordinal).</p> <p>Condition of identified significant world heritage and other natural and cultural sites (ordinal).</p> <p>Rate of deterioration at track monitoring points (ordinal).</p> <p>Level of trampling of the moss, <i>Sphagnum cuspidatum</i> (ordinal).</p> <p>Condition score for each specific landscape and ecosystem (ordinal).</p> <p>Level of vegetation disturbance and tree damage (ordinal).</p> <p>Level of wildlife disturbance (ordinal).</p> <p>Level of bark stripping for kindling (ordinal).</p> <p>Qualitative index of asset condition based on site inspection (ordinal).</p> <p>Stream frog abundance (ordinal or scale).</p> <p>Number of trees with broken branches or bark stripped (scale).</p> <p>Number of broken shrubs (scale).</p> <p>Number of small or large patches of damaged shrubs/seedlings and type of damage (scale).</p> <p>Length and width of undesignated track (scale).</p> <p>Number of fire scars of fifty-centimetre diameter per ten cubic meters (scale).</p> <p>Number of fire scars scattered throughout the area (scale).</p> <p>Number of foreign objects detrimental to fauna scattered throughout site (scale).</p> <p>Number of items of litter (scale).</p> <p>Number size and depth of gully erosion (scale).</p> <p>Percentage change and/or area, in representative sites, within reserves that show degradation or enhancement of walking tracks (scale).</p> <p>Percentage change and/or area, in representative sites, within reserves that show degradation or enhancement of pests & diseases (scale).</p> <p>Percentage change and/or area, in representative sites, within reserves that show degradation or enhancement of wilderness quality (scale).</p> <p>Distribution of bryophyte populations (descriptive).</p> <p>Distribution of limited suite of endemic bird species (descriptive).</p> <p>Stream frog distribution (descriptive).</p> <p>Presence/absence of disturbance to artefacts (binary).</p>

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Evaluation subjects	Indicators identified (measure form used)
Economic impacts	\$ contributed to regional economy by visitors to parks (scale). \$ contributed to national economy by visitors to parks (scale). Economic value of tourism in parks (scale). \$ value for impact of cessation of logging (scale). \$ values for economic contribution of tourism in the region (scale). Total annual visitor expenditure (scale).
Visitor compliance	Level of compliance with zoning and access controls and management guidelines related to maintenance of wilderness quality (ordinal). Level of compliance of visitors with regulations, minimal impact practices and other promoted management protocols (ordinal). Level of visitor compliance with requirements of integrated track and sign system (ordinal). Level of visitor compliance with requirements regarding bringing dogs into the reserve (ordinal). Number of compliance and safety related incidents (scale). Seriousness of compliance and safety related incidents (scale). Number of people involved or number of incidents observed or evidence of feeding wildlife (scale). Number of incidences involving disturbing wildlife or number of people/groups involved (scale). Number of non-compliance walkers for season (scale). Percentage and number of breaches investigated (scale).
Social impacts	Extent to which local community benefits from tourism opportunities (ordinal). Perceived personal and community advantages and disadvantages of the WHA listing (ordinal).
Visitor cognitive outcomes	Level of visitor awareness of the concept of world heritage (ordinal). Level of visitor understanding of the world heritage and other natural and cultural values of the WHA (ordinal). Extent to which visitors consider that ecological information presented is interesting/clearly presented/helped the visitor to better understand the ecological processes of the area (ordinal). Level of visitor awareness of the management issues the area faces (ordinal). Percentage of visitors surveyed that rate an improved understanding of reef related issues (scale). Percentage of visitors that report learning something of interest about the special values of the WTWHA and/or trend of learning (scale). Visitor understanding of the reserve's natural values (descriptive). What the visitor liked most/least about their visit (descriptive).

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Table 96: Targets identified from document analysis

Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Full list of targets
Context			
Values	PoM	Tas PWS	Built components of the first era of hydroelectric power within the reserve, have been identified, conserved, and interpreted for visitors (binary).
Threat identification			No targets.
Threat severity			No targets.
Threat trend			No targets.
Opportunities to enhance			No targets.
Visitor attitudes			No targets.
Community attitudes			No targets.
Planning			
Legal			No targets.
Design	PoM	Tas PWS	Recreation related development has only been approved where its focus is on recreation reliant on a natural outdoor setting (binary).
Planning			No targets.
Inputs			
Staff numbers			No targets.
Funding	Ann Rep	WA DEC	Cost to department per visit = \$5.88 (scale).
Funding security			No targets.
Infrastructure			No targets.
Information	Ann Rep	GBRMPA	Information and training for industry and other stakeholders provided (binary).
Process			
Administration			No targets.
Facility maintenance	Ann Rep	GBRMPA	Visitor facilities maintained to relevant standards for health and safety and to ensure protection of the environment (binary).
Staff training			No targets.
Staff skills			No targets.
Law enforcement adequacy			No targets.
Law enforcement issues			No targets.
Relationship appropriateness			No targets.
Interpretation			No targets.
Communication	PoM	Tas PWS, GBRMPA	Codes of use have been developed and communicated for horse and mountain bike riding in the reserve (binary).
Tourism/visitor involvement	Ann Rep	GBRMPA	Management initiatives for tourism and recreation developed and implemented in partnership with the tourism industry, recreational users and other key stakeholders, with partnership arrangements recognised as very high standard (binary).
Visitor services	PoM	Tas PWS	All facilities in the visitor services zone meet with applicable standards set out in the Reserve Standards Framework (binary). A site plan has been developed and implemented for the Trevallyn Dam picnic area, in cooperation with Hydro Tasmania (binary).

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Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Full list of targets
Impact management	PoM	WA DEC, QPWS, Tas PWS	No new human-assisted infestations of disease caused by <i>P. cinnamomi</i> in uninfected protectable areas (scale). Over the life of the plan, no increase in the disturbance zone around campsites from 2004 levels. Bryophyte coverage between 0 and 2 m above ground level does not differ significantly from those observed by Franks and Bergstrom (2000) (scale). No decrease in current populations of stream frogs (scale or ordinal). Track deterioration is within an acceptable rate of change (ordinal). Lease or licences are current for all recreation clubs using the reserve and identify strategies to ensure activities are ecologically sustainable and minimum impact (binary).
Visitor fee management			No targets.
Tourism management	Ann Rep	GBRMPA	Tourism and recreation opportunities in the Marine Park provided in an efficient and equitable manner (binary). All expiring permits for limited opportunities reviewed for latency (binary). System in place to recognise and reward high standard operators (binary).
Impact monitoring			No targets.
Performance standards			No targets.
Outputs			
Actions achieved			No targets.
Visitor use	Ann Rep	GBRMPA, NT NRETA	Numbers of tourists visiting the Marine Park and is maintained or increased (binary). 110 000 visitors to Reef HQ (scale). 160 000 visitors (scale).
Visitor characteristics			No targets.
Operator use			No targets.
Revenue			No targets.
Recreation opportunities			No targets.
Outcomes			
Achieving visitor objectives			No targets.
Visitor satisfaction	Ann Rep, PoM	GBRMPA, NT NRETA, WA DEC, Tas PWS	Levels of satisfaction of tourists visiting the Marine Park are maintained or increased (ordinal). 85 percent of visitors surveyed rate their visit as a satisfactory experience. 90% user satisfaction with venue (scale). Benchmark set at 6.1 for visitor satisfaction index (scale of 1-7) (ordinal). Average level of visitor satisfaction with their visits = 85% (scale). No decline in visitor satisfaction from 2005 levels (ordinal). No reduction in visitor satisfaction because of cycling on designated dual use trails (ordinal). Satisfaction within the local community about the balance between local community and tourism recreation opportunities in the reserve (ordinal).
Visitor safety	PoM	WA DEC	The percentage of accidents/incidents per visit reported annually to the Department remains stable or decreases from 2004 levels (scale).

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Evaluation subjects	Report referring to this subject	Agencies that include this evaluation subject	Full list of targets
Visitor access	PoM	WA DEC	Complete access and circulation components of recreation masterplan within ten years of completion of regional management plan (binary). No reduction in visitor satisfaction levels due to altered access patterns over the life of the plan (ordinal).
Visitor use outcome	PoM	WA DEC	Complete access and circulation components of recreation masterplan within ten years of completion of regional management plan (binary).
Presentation values trend			No targets.
Presentation values condition			No targets.
Conservation values condition	PoM	Tas PWS	Track deterioration is within an acceptable rate of change (ordinal). Tracks identified for closure have been closed and 50% have received rehabilitation work. Absence of disturbance to artefacts (binary).
Economic impacts			No targets.
Visitor compliance	PoM	Tas PWS	Visitors comply with requirements of integrated track and sign system (ordinal). 90% of people bringing dogs into the reserve comply with the management plan requirements (scale).
Social impacts			No targets.
Visitor cognitive outcomes	Ann Rep, PoM	GBRMPA, Tas PWS	85 percent of visitors surveyed rate an improved understanding of reef related issues (scale). Majority of visitors have a basic understanding of the reserve's natural values (unspecified).

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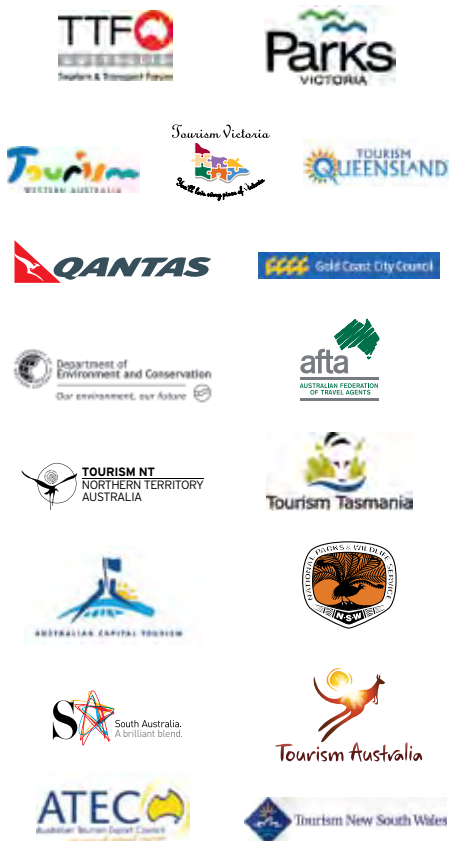
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Sustainable Tourism Cooperative Research Centre (STCRC) is established under the Australian Government's Cooperative Research Centres Program.

STCRC is the world's leading scientific institution delivering research to support the sustainability of travel and tourism—one of the world's largest and fastest growing industries.

Introduction

STCRC has grown to be the largest dedicated tourism research organisation in the world, with \$187 million invested in tourism research programs, commercialisation and education since 1997.

STCRC was established in July 2003 under the Commonwealth Government's CRC program and is an extension of the previous Tourism CRC, which operated from 1997 to 2003.

Role and responsibilities

The Commonwealth CRC program aims to turn research outcomes into successful new products, services and technologies. This enables Australian industries to be more efficient, productive and competitive.

The program emphasises collaboration between businesses and researchers to maximise the benefits of research through utilisation, commercialisation and technology transfer.

An education component focuses on producing graduates with skills relevant to industry needs.

STCRC's objectives are to enhance:

- the contribution of long-term scientific and technological research and innovation to Australia's sustainable economic and social development;
- the transfer of research outputs into outcomes of economic, environmental or social benefit to Australia;
- the value of graduate researchers to Australia;
- collaboration among researchers, between researchers and industry or other users; and
- efficiency in the use of intellectual and other research outcomes.