Securing protected areas and ecosystem services in the face of global change

Managing in the face of global change: the role of evaluating management effectiveness

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1 How do we manage effectively?

1.1 The challenge of change

The earlier chapters in this book have shown us a world where we can expect dramatic changes – in the biophysical world, the community, the economy and the way we govern ourselves.

As these changes sweep the globe, can protected areas be a successful strategy for conservation? Is it possible that these precious areas can be managed effectively – that their values can be protected though they will be subject to climate changes, fragmentation, pressures from increasing populations, greater demands for resources, changing social attitudes, and violent conflicts raging around and even within them?

If protected area managers and communities are to meet these challenges, locally and globally, it is clear that effective management must be able to cope with surprises! Above all we have to learn about resilience, and about management that anticipates, responds, and adapts to changes at all scales. Our response times have to be rapid, and a new flexibility has to appear in public management agencies, which have often relied on thorough, but slow and cumbersome processes.

However, conservation of park values for posterity requires that we are also strong in 'holding the line' and protecting what is most important. Flexibility should not mean following new fads and accommodating all social demands or political pressures.

We can't afford to make the same mistakes over and over– or to ignore successes and good initiatives and let them languish uncelebrated and unrepeated. Managers need to build on the best ideas and practices of the past and combine them with inspiration, innovation and initiative for the future.

> *There is now ... a priority ...to design systems with enough flexibility to allow recovery and renewal in the face of unexpected events – in short there needs to be a better balance established between anticipation, monitoring and adaptation'*
> *Holling 1986, p.313*

Evaluation of management effectiveness is a vital component of the responsive, pro-active protected area management that can cope with global change. Through evaluation, every success and failure can be used as opportunity for learning, and continual improvement can be combined with anticipation of future threats and opportunities.

This chapter presents a summary of the experience, reflections and discussions among some of the practitioners in management effectiveness evaluation, particularly those working with the World Conservation Union (IUCN) World Commission On Protected Areas (WCPA) theme on this topic. The purposes and positive outcomes of management effectiveness evaluation are discussed, followed by a brief overview of lessons learned about planning, conducting and using evaluations. Most of the case studies referred to in text and many of the recommended guidelines were contributed during a workshop held in Australia in February 2003 and reflect the experience of a diverse group of practitioners over the last decade, around the world.

The chapter is not a guide to doing an evaluation – for more specific advice and for systems that can be used or adapted, see the references at the end of the chapter.

The guidelines presented in this chapter refer extensively to two framework documents:

- WCPA Framework (Hockings *et al.* 2000); and
- Adaptive Management approach (Salafsky *et al.* 2001).

and to a range of case studies and other references, which are listed in the bibliography. Major studies and guidebooks, which provide the basis for a number of evaluation studies, include:
- World Bank WWF Forest Alliance Tracking tool (McKinnon 2003);
- RAPPAM Methodology (Ervin 2001);
- Marine Protected Areas Evaluation Guidebook (Pomeroy *et al.* 2003);
- Enhancing our Heritage Toolkit (Hockings *et al.* 2001);
- ProArca CAPAS (Courrau 1999) ;
- WWF/CATIE (Cifuentes *et al.* 2000) ;
- 5S Threat Analysis (TNC 2000, 2002); and
- Adaptive management-based evaluation (Margoluis and Salafsky 1998, 2001).

1.2 What is management effectiveness evaluation and why is it so important?

Management effectiveness is the degree to which a protected area is protecting its values and achieving its goals and objectives.

Effective protected area management in the 21st century – management in the face of global change -– can be seen to have some consistent features, though the protected areas themselves and their environmental, social and political contexts vary greatly. Effective management:
- ❖ has a 'learning culture', conducts regular and open evaluations and learns from its successes and its mistakes;
- ❖ looks to the future, anticipates changes and has a good ability to respond to them positively while resisting inappropriate pressures;
- ❖ undertakes good planning and has an understanding of the systems being managed;
- ❖ fosters a cadre of capable, motivated leaders, staff and partners;
- ❖ strives to maintain good relationships with local communities and involve Indigenous communities (where these communities exist);
- ❖ has a supportive management culture and a solid level of support and resourcing from government and/or non-government organisations;
- ❖ practices conservation and extension 'beyond the boundaries' so the park is managed as part of a broader landscape, not as an isolated fragment.

Evaluation is the 'judgement or assessment of achievement against some pre-determined criteria (usually a set of standards or objectives)' (Hockings *et al.* 2000).

Evaluation of management effectiveness is at the core of resilient, adaptive and anticipatory protected area management. It enables us to reflect on past experiences and to develop excellent antennae to tell us what is happening now and what potential threats and opportunities are on the horizon.

Evaluation is also needed at a more basic level. In the face of rapid global change – biophysical, social and governance – we need to be able to show to what extent protected areas are an effective strategy for conservation. Society is making huge investments of money, land, and human effort into protected area acquisition and management and into specific intervention projects. Both the community and the managers need to know:
- ❖ Are protected areas effectively conserving the values for which they exist?
- ❖ Is management of these areas effective and how can it be improved?
- ❖ Are specific projects, interventions and activities of management effectively achieving their objectives, and how can they be improved?

Evaluation of management effectiveness can play an important role in providing transparency and accountability, and in identifying mistakes and 'dead-end' approaches. However, it is an essentially positive process, and is best viewed as a critical part of an improving management cycle.

How can evaluation help us to be more prepared for 'surprises' and to develop better anticipatory management? Protected area management is extremely complex. The dynamics of natural systems are complicated enough, but management decisions are influenced by social and political contexts, financial and human resources and always involve human value judgments. Good information can help to make these decisions, but the collection of large amounts of raw scientific data may not provide the basis of knowledge and understanding we need.

An increasing number of scientists now believe that the *application* of knowledge from multiple sources into management should be the most critical focus, and that '*the priority for ecosystem management is evolving improvements through reflection on experience that follows decision and action*' (Brunner and Clarke 1997, p.53). A system of evaluating management effectiveness can help us to integrate whatever information sources are available: that is, traditional and community knowledge, scientific findings and the perceptions and experience of managers and stakeholders. Evaluation focuses on relevant management-oriented knowledge, and on group learning about how this knowledge should be practically applied to meet future challenges. It also provides the critical opportunities for reflection on experience.

> As we enter the 21st century, almost a tenth of the world's land surface is in some form of protected area … This is a remarkable achievement for the world's governments and conservation organisations and a demonstration of the importance accorded to biodiversity protection, maintenance of environmental services, protection of cultural values and aesthetic and ethical considerations.
>
> It is therefore all the more remarkable to realise how little we know about the status of many of these protected areas - far less than we usually know, for example, about the health of agricultural land, the rate of growth in commercial forests and the viability of fish stocks. This is more than just of academic interest. What little we do know suggests that many protected areas are not in particularly good shape, suffering from a variety of impacts and in some cases in danger of losing the very values for which they were set aside in the first place. Others exist in name only - the so-called 'paper parks' that are present as lines on the map but have never actually been implemented.
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> We clearly need to put as much effort into achieving sound and effective management of protected areas as into setting up new areas. As a result, interest is growing in ways in which we can monitor and evaluate the effectiveness of protected areas and apply the findings to progressively improve on-going management.
>
> *Hockings et al. 2000*

> 'As gold which he cannot spend will make no man rich, so knowledge which he cannot apply will make no man wise'
> *Samuel Johnson, quoted by Patton 1990, p.491.*

1.3 Evolution of management effectiveness evaluation

Wide recognition of threats to natural systems and of the need for conservation programs began to emerge in the late 1960s in response to concerns such as that raised in the seminal book "Silent Spring" (Foundations of Success *et al.* 2003). As other fields such as health and international development have progressively recognised the importance of evaluation in effective management and project cycles, so conservation has also put a higher emphasis on evaluation over the past fifteen to twenty years. New methodologies and approaches have developed in a number of fields, with many common issues and some productive exchange of ideas across the sectors (Foundations of Success *et al.* 2003). Protected area management involves biophysical, cultural, socio-economic and managerial factors as well as numerous stakeholders, so monitoring and evaluation must draw on tools from a wide range of

disciplines. Approaches such as participatory rural appraisal and project cycle management have offered many useful ideas.

The need to develop "tools and guidelines" to "evaluate the ecological and managerial quality of existing protected areas was recognised in the Bali Action Plan adopted at the end of the Third World Congress on National Parks (the Bali Congress) in 1982. Following the Bali Congress the issue of management effectiveness of protected areas began to appear in international literature and particularly within the work and deliberations of WCPA.

The Fourth (Caracas) Congress in 1992 identified effective management as one of the four major protected area issues of global concern and called for IUCN to further develop a system for monitoring management effectiveness of protected areas. In 1996 a Task Force was formed within the Commission and in 2000 it published a framework and guidelines for assessing the management of protected areas. The Task Force has now been replaced by a thematic programme within WCPA, which is continuing work on the issue. At the same time as the Task Force was preparing these guidelines, a number of other groups and individuals around the world were addressing the same issue. A suite of methodologies now exists and is being applied around the world (Hockings *et. al.* 2001). These have evolved with consideration of advances in evaluation philosophy and practices from a range of other disciplines including health sciences, rural development, agriculture and environmental science.

Evaluation and global change
Some of the global change factors identified in this book have had and will continue to have significant repercussions for management effectiveness. Increased emphasis on evaluation is in part due to changes in society, especially the increased demand for accountability, transparency and demonstrated 'value for money'. Methodologies considered in this chapter for evaluating management effectiveness are flexible and most are oriented towards assessing future and potential events as well as present and past.

Some of the responses of management effectiveness evaluation to global change should include:
Community and governance trends
❖ Assessments will become more transparent and participatory in response to community expectations;
❖ As park management becomes decentralised, management effectiveness evaluation can play an important role in maintaining standards. It may also be able to assist in times of political crises or even military conflict, as a strong system of management effectiveness evaluation could be a focus for international pressure or presence to maintain the park's integrity;
❖ Better communications mean that a global network of practitioners can effectively share ideas and experiences, and make cross-site comparisons. This makes it more desirable for some approaches, methods and reports to have some consistencies, while still being flexible enough to be used in different situations for different purposes.
❖ Management effectiveness evaluation reflects an increased focus on applied knowledge and attempts to incorporate both scientific and traditional knowledge as well as the perceptions and experience of park managers;
❖ There is a greater respect for ownership of culturally important information;
❖ Evaluation needs to look beyond park boundaries and traditional outcomes – for example, being relevant to and appreciated by the local community may become an important indicator for long-term survival.

Biophysical changes
❖ Evaluation of ecosystem services and their economic significance will become increasingly important in recognition of this role of protected areas;

❖ Monitoring should be carefully designed to indicate which changes might be driven from global causes such as global warming. A network of evaluated sites is desirable for these purposes;

❖ Monitoring and evaluation should be set up to give early warning of destructive changes such as pest invasions;

❖ Protected areas should be managed as sites to test hypotheses and to better understand the implications of change. Making assumptions explicit and testing hypotheses are vital aspects of management in changing conditions;

❖ Management effectiveness evaluation should include the assessment of success of complementary conservation initiatives such as corridors linking protected areas; and

❖ We may need to develop 'triage 'assessments for protected areas in serious danger.

2   What can management effectiveness evaluation achieve?

Evaluation is initiated and supported for a range of purposes. These purposes should be stated explicitly, as they shape the expectations of stakeholders and guide the evaluation process.

Four kinds of purposes are discussed in this chapter.

Evaluation can:
- lead to better management in a changing environment (2.1);
- assist in effective resource allocation (2.2);
- promote accountability and transparency (2.3); and
- help involve the community, build constituency and promote protected area values(2.4).

Often one evaluation process or one methodology can be used for several purposes. For example, the 'RAPPAM' methodology (Box 1) has been used by the Worldwide Fund for Nature (WWF) in a number of protected area systems for different purposes. In addition to the stated purposes, evaluations sometimes have unexpected outcomes, such as better communication and working relationships between stakeholders.

This section outlines some of the purposes and outcomes of assessments, with examples taken from a wide range of case studies.

Box 1 Rapid assessment and prioritisation of protected area management (RAPPAM)

The rationale for undertaking the assessment was different for each case study. The goal of the Russian assessment was to develop a picture of the extent of problems within the entire national protected area system, including threats and pressures, but also institutional problems stemming from recent economic and political changes.

The goal of the China assessment was to assess the management effectiveness of protected areas within the Upper Yangtze Ecoregion as part of a systematic conservation planning process. This broader process sought to prioritise support to critically threatened protected areas.

The goal of the Bhutan assessment was to reflect back over the first decade of park management, identify areas for improvement, and establish baseline data for future assessments.

The goal for South Africa was to prioritize and reallocate budget expenditures for the recently consolidated parks department. KZN Wildlife was also involved in a systematic conservation planning exercise for the province, and planned to use the data in that broader assessment process.

*Jamison Ervin ,Independent consultant to WWF – (*Ervin 2003)

2.1   Evaluation can lead to better management in a changing environment

Most case studies reviewed in this chapter cite improvement of protected area management as the most important overarching aim of the evaluation process. This can be a direct outcome of the evaluation or can be a secondary outcome (i.e. through improved management of a particular project or intervention).

Evaluation can improve management effectiveness in a number of ways:
- ❖ enabling adaptive management;
- ❖ 'action learning' for better management;
- ❖ encouraging a learning organisation and culture;
- ❖ signalling global and local changes and threats;
- ❖ informing management planning;
- ❖ ensuring impacts on community are recognised by management;
- ❖ providing positive reinforcement when protected area management is effective;
- ❖ showing gaps in protected areas and systems, and identifying major constraints in management; and
- ❖ showcasing management techniques for broader landscape management.

Enabling adaptive management where people systematically experiment with different interventions, evaluate them, learn and adapt.

Adaptive Management: policy as hypothesis, management by experiment.
'Learning is not a haphazard by-product of mistakes in policy or management. In contrast to the usual system of rewards and advancement, which tends to discourage admission of error, by using adaptive management managers and decision-makers view unanticipated outcomes as opportunities to learn, and accept learning as an integrated and valued part of the management process. Learning while doing accelerates progress towards improved policies and management.

Learning is facilitated by feedback obtained from monitoring and evaluation… Without adequate investment in feedback, learning about the consequences of policies or management actions is slow; change is cumbersome and can come too late. The result is a situation where staff simply 'muddle through'.
Parks Canada Agency 2000, p.3-2

The adaptive management approach has much to offer protected area management, especially when similar programs are evaluated across protected areas or wider areas. This 'learning portfolio' approach means that the learning can be on a broader scale and shared more widely (Margoluis and Salafsky 1999, 2000) as illustrated in Box 2.

Box 2: **Learning about the Effectiveness of Specific Conservation Tools across Protected Areas: Lessons from Sustainable Agriculture in Central America and Mexico**

Two conservation NGOs [Línea Biosfera in Mexico and Defensores de la Naturaleza in Guatemala] managing protected areas in Guatemala and Mexico conducted evaluations as part of a process of adaptive management and as an experiment in sharing cross-site lessons. Both partner organizations approached the Biodiversity Support Program (BSP) with the question: "How do we determine if sustainable agriculture is working as a conservation tool the way it is supposed to be?"

The purpose of the evaluation was to:
  a. Measure the effectiveness of sustainable agriculture interventions at site and cross-site levels
  b. Build the capacity of partner organizations to do AM
  c. Document the conditions under which sustainable agriculture is successful in reducing the threats to biodiversity (and by doing this, learning about this specific tool)
  d. Learn about the best way to develop networks of site-level projects to maximize results and learning

❖ At one site, one partner learned that subsistence crops were not the main threat to the PA (the focus of the sustainable agriculture project) and shifted their efforts from projects focused on subsistence crops to one focused on reducing the threats associated with cash crops.
❖ At the other site, the partner organization learned its sustainable agriculture project was working and they continued it with only minor modifications.
❖ Both partners integrated AM principles into their routine management.

Richard Margoluis and Caroline Stem, Foundations of Success. (Margoluis and Stem 2003)

'Action learning' for better management –Park managers can use and encourage an action learning approach to:
❖ consider whether management strategies and interventions are working well and how they might be improved;
❖ increase understanding of management processes;
❖ build a better knowledge base for future projects; and
❖ share knowledge, insights and information sources.

In this process, good scientific information – preferably the results of robust monitoring – is extremely valuable. However, where sufficient information is not available, evaluation needs

to be undertaken anyway, using the best possible combination of information and informed opinions.

Encouraging a learning organisation and culture

The process of evaluation encourages protected area or project managers to take time out and reflect on what they are doing and how effective they are being – essential activities in a responsive management agency. In a well-run evaluation, people feel secure enough to be critical of themselves and of processes, and to openly consider failures as well as successes.

Over time, evaluation can encourage a whole organisation to adopt a culture of reflection, and institutional learning as well as individual learning occurs. Box 3 discusses the positive effects of an evaluation program on agency culture.

Box 3: Evaluative Management System for the Tasmanian Wilderness World Heritage Area, Australia

Application of an evaluative approach to management is bringing about a change in the way managers are viewing their role and responsibilities. For example, it is assisting the agency culture in changing from one that in the past has not expected critical analysis of management performance to one with an increased emphasis on accountability for the results of management. There is a growing focus on being able to document and demonstrate the results of management, and declining reliance on 'trust us, we're the experts'.

Involvement in the development of monitoring and evaluation programs is encouraging managers to take responsibility for, and pride in, the results achieved. Program managers have become more inclined to articulate and focus on the outcomes they are seeking, and to assess the quality of their strategies and actions in the light of these targets. Preparation of reports on the findings of evaluation is enabling those involved in work programs to see their work, alongside others', from a different and broader perspective, and to take pride in the contribution they are making to management progress.

The opportunity for managers to provide critical comments (both positive and negative) on management performance places value on their knowledge and expertise, and allows them to contribute directly to improving ongoing management performance.
Jones 2000

Informing management planning

Evaluation and planning are very closely linked processes. Management plans identify management goals, objectives and strategies, which form the basis of many evaluations. Ideally, management plans also include details of how their implementation should be monitored and evaluated. Where plan implementation is evaluated regularly, managers can judge and improve both the quality of the plan and their capacity to achieve its outcomes.

Most evaluations present conclusions and recommendations for improvement, which may be implemented directly or incorporated into future management plans.

Information gained in assessments of management effectiveness can be very useful for planning processes at different levels, including:
- system-wide planning and policy analysis;
- protected area management planning;
- operational planning; and
- project planning.

Evaluation results assist in decision-making and provide good justification for decisions and recommendations. As the community requires a higher level of accountability and involvement in management planning, the ability to show good cause for decisions has become much more important.

Regular evaluation should be built in to project planning cycles to ensure they are relevant, flexible and appropriate and to avoid costly mistakes.

Signalling global and local changes and threats

Anticipatory management must recognise existing and potential threats to protected areas. Some evaluation projects have a primary focus on threat assessment, and many others include threat assessment as an important aspect. For example, the 5S methodology developed by The Nature Conservancy (TNC 2000, 2002) looks at systems (including focal conservation targets), stresses and sources, strategies to address the stresses, and measures of success. This methodology assesses viability of conservation targets, with measures of landscape context, size and condition, and the level of stress, including sources and priorities.

> 'Just as ecosystems have their own inherent response times, so do societal, economic and institutional systems. How long an inappropriate policy is successful depends on how slowly the ecosystem evolves to a point when the increasing fragility is perceived as a surprise and potential crisis.'
> *Holling 1986 p311*

Protected areas as 'canaries' signalling wide-scale threats: Evaluation of the state of protected areas can provide critical information about the state of the wider environment. Protected areas are generally far less subject to human disturbance than other parts of the landscape, and can be good indicators of widespread and significant changes, including global climate change. When wide-ranging species disappear or decline in protected areas, it is a sign that landscape health over an entire region might be seriously compromised. For example, significant declines in some fauna in Kakadu National Park are suspected to demonstrate the loss of bushland birds and savannah mammals across northern Australia's savannas (Woinarski *et al.* 2001).

Changes on this scale and other threats from outside the protected area– such as the incursion of pollution, declining water quality, or changes in species due to climate change –require broad responses, such as policy changes and large-scale actions by government, industry and community. Without regular evaluation, these changes may not be identified or taken seriously until irreversible damage has been caused.

Threats of more local relevance: Monitoring and evaluation also identifies more local changes and emerging threats – such as new pest problems or unsustainable levels of visitation.

Ensuring impacts on community are recognised by management

Evaluation projects that include local communities gain information about positive and negative effects of the park and park management on local people. Participatory evaluation techniques (Margoluis and Salafsky 1998) can unearth viewpoints and experiences which are very different from agency-based evaluations.

Providing positive reinforcement when protected area management is effective

Sometimes a significant outcome of evaluation is to demonstrate effective practices and to provide justification for their continued support. As discussed in Box 4, external and independent assessment can

> **Box 4: Evaluation of Oulanka National Park, Finland for PANpark status**
> Oulanka National Park was evaluated by three external experts to see if it qualified for certification in the 'PANPark' Network (see*www.pan-parks.org*). The management agency found that…'The evaluation led only to some minor changes in the management of the national park, but some significant modifications are likely to take place in the future. It was also encouraging for the host team and the park agency that the present management regime and plans were in most cases found to be of high international quality by independent external verifier'
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> *Ruano Vaisanen, Natural Heritage Services, Metsähallitus, Finland.(Väisänen 2003)*

be particularly successful in this regard.

Showing gaps in protected areas and systems, and identifying major constraints in management

Broad-scale evaluations review a protected area or a system as a whole and reveal:

- gaps in protected area systems;
- gaps in resources, staff, training, expertise;
- problems with policies of the organisation or other agencies; and
- problems with internal communication.

A major system-wide evaluation study was undertaken in India in 1984-1987 and is now being repeated. The first study had very significant outcomes (see Box 5).

Box 5: *Evaluation of effectiveness of protected area management in India*
An evaluation is being conducted by the Indian Institute of Public Administration and the Centre of Equity Studies (commissioned by the Indian Ministry of Environment and Forests (MoEF)) to survey the status of protected areas in India, including the legal and administrative status, socio-economic pressures, management planning and implementation, staffing, research, monitoring, and tourism.

The last evaluation done (1984-87) led to significant increases in the investments on the PA network, to amendments in the laws governing wildlife and protected areas, and to the setting up of various recommended institutional mechanisms. It also led to the acceptance, by the Government, of recommendations relating to the initiation of ecodevelopment activities around Pas.

This study (2003) will assist the Government of India to evaluate the efficacy of systemic, institutional and other remedial measures taken since the last evaluation. It will also highlight other issues needing attention …and will recommend legal and policy changes. (The study will)… prioritise protected areas for special attention and investment and will help the government to take stock of its performance.
 Prof Shekhar Singh, Centre for Equity Studies, New Delhi (Singh 2003).

For a single protected area, an evaluation at Bwindi Impenetrable National Park, a World Heritage Area in Uganda, has also had very positive outcomes for management (Box 6)

Box 6: Evaluation of Bwindi Impenetrable National Park: Uganda
'The resultant changes in management included:
- an increase in staffing levels as well as individual staff changes,
- further training of staff particularly in computer use and data storage and analysis,
- a plan for acquisition of more equipment, specifically vehicles and radio communication,
- a plan for infrastructure development,
- a plan for acquisition of more land through purchase from a neighbouring community, to contain the gorillas that have often strayed to this land causing considerable damage to crops; and
- more importantly a plan to work together with communities in ecotourism efforts in this land area.

A re-focus on research and monitoring particularly on gorilla health and the impacts of tourism on the gorillas themselves has also resulted.
Moses Mapesa, Uganda Wildlife Authority (Mapesa 2003)

Showcasing management techniques for broader landscape management

Benefits of evaluation can be carried beyond the protected area boundaries. Evaluation results can be demonstrated to local communities and other interest groups through field days and extension techniques, and by community involvement in the monitoring and evaluation process (see Box 7). For example, the effectiveness of revegetation programs on protected areas and establishment of wildlife corridors can be studied in conjunction with landholders and other organisations. Good practices, which often increase productivity as well as biodiversity, can then be applied on other lands beyond the park boundaries.

Box 7: Benefits beyond the boundaries

Lochern National Park in central Queensland – a former rangelands grazing property - was declared as national park in 1994. Cattle and sheep were removed and an 'experimental' management program implemented. Changes in the ecosystems were regularly monitored. After ten years, a field day was held at the park to demonstrate to the local community how the park is managed and to encourage discussion on the use of fire for vegetation management. Neighbouring landowners, students, local government officers and a natural resource scientist were among the 28 participants.

The rangers conducted a guided tour comparing burnt and unburnt sites in Mitchell grass and mulga systems. This was of particular interest to the property owners as gidgee invasion of Mitchell grass (a big problem in the area) was greatly reduced in the burnt sites. Fire is a natural part of the ecosystem – and therefore desirable for conservation purposes - but had not been used as a tool by graziers.

Queensland National Parks and Wildlife Service 2000

2.2 Evaluation assists in effective resource allocation

A second group of purposes for evaluation is to support decision-making in the allocation of resources. A common theme for protected area agencies as we enter the 21st century is the inadequacy of resources to manage all protected areas to the standards we would like. Many agencies are therefore searching for objective, fair and effective methods to prioritise resource allocation to those areas and activities most critical to conservation and to where they will have the greatest effect.

Evaluation is useful for:
- informing decisions on local, regional and global priorities; and
- adjusting resource allocation.

Informing decisions on regional and global priorities for funding and assistance - prioritising areas according to conservation significance and threat levels
Evaluations are undertaken by donor organisations to help them set priorities for future investments. Evaluation enables these organisations to rank protected areas according to such criteria as ecological and cultural importance, level of threat, level of management, and likely success of future interventions. One of the objectives of the RAPPAM methodology (Ervin 2003is to allow donors and managers to rate protected areas according to level of threat and conservation importance, and to assess the extent to which they are well managed and effectively conserved.

Within a system or park, - adjusting resource allocation on a logical and informed basis
A number of conservation agencies and organisations are attempting to develop rational, consistent models for allocating resources, to overcome the past tendency for resourcing the 'squeakiest wheel'. Evaluation plays a key role in these models, which generally establish a minimum acceptable standard for a range of criteria, then assess the current status of protected areas against these standards. The conservation importance of protected areas, their suitability for particular uses (e.g. tourism) and their current threats and opportunities are usually taken into account in these decision-making models. Box 8 and the case study described by Väisänen and Leivo 2003) demonstrate how such models can work.

Box 8: Parks Victoria's Level of Service framework

With finite resources, it is impossible to keep all of Victoria's state and national parks in optimum condition. So how does *Parks Victoria* decide where to apply resources and effort to gain the best benefit possible?

Results of evaluations (visitor analyses, market research and asset analyses) are processed through an assessment model known as the Level of Service Framework. This framework details the desired level of service for different categories of parks, quantifies the existing level and the gap between desired and existing, and then is used to assess and develop optimum approaches for every park in the context of its

Findings of evaluation also inform better allocations by demonstrating which programs are effective in achieving objectives (and so deserving of continued or enhanced funding) and which programs are either not relevant or not performing well (signalling redirection of funding away from the program - or perhaps the need for additional resources to make it more effective).

2.3 Evaluation promotes accountability and transparency

A third group of common evaluation purposes is to provide information for public reporting. The community expects accountability from public agencies and non-government organisations, including evidence that protected areas are being adequately managed. Evaluation can assist by:

* providing information about use of resources and management effectiveness;
* providing the basis for conservation agreements and joint management;
* informing decisions on certification; and
* tracking the progress of projects.

Providing reliable and timely information for donors, government and the community about the use of their resources and the effectiveness of protected area management
Most bodies spending public money have to justify that it is spent according to high standards of accountability. With increasing competition for resources, they also need to demonstrate 'value for money' by showing clear benefits and outcomes.

Some organisations and international agreements require reports from participating agencies, so they can judge whether parties are meeting their agreed management obligations. For example, the World Heritage Convention requires regular reports from State parties and a current project is developing more informative and useful evaluations to inform these reports (Box 9).

In many countries, collaboration of private owners and local population living in protected areas (e.g. categories V, VI) is expected and often can only be attained on the basis of mutual trust. Management effectiveness evaluation can play, in those cases, an important role

Providing the basis for conservation agreements and contracts including joint management agreements

Management of protected area systems is increasingly being devolved from central agencies to traditional owners, local government, community groups or private enterprise. Often this devolvement is based on a covenant, contract, agreement or trusteeship where the central agency retains some or all of the legal responsibility for overseeing the standard of management. Evaluation provides baseline and follow-up information about the state of protected areas as well as management processes. With this information, agencies and the community can fairly judge whether protected areas are being effectively managed by the contractors, joint management partners or trustees. Management agreements can require regular independent evaluations to ensure that specified standards are met.

Informing decisions on certification

Initiatives and proposals in some areas are attempting to officially 'certify' protected areas according to whether they meet set standards. In certain cases, management effectiveness evaluations are being used to award or withhold certifications of protected areas. There is a great deal of debate about the values and drawbacks of certifying protected areas, but in particular circumstances, as described in Box 10, the evaluation for this purpose can be to be a positive process.

Tracking progress of projects

Evaluation helps to track the progress of specific intervention projects, including the achievement of goals, emergence of new problems and factors, and effectiveness of particular actions. Regular evaluations during a project cycle enable adjustment of programs with timely feedback, so that maximum learning can occur and the best path is taken through the project's life. The World Bank/WWF Forest Alliance uses a rapid assessment of management effectiveness to track the success and progress of their projects (Box 11).

Box 11: World Bank Alliance Tracking Tool

The World Bank/WWF Alliance for Forest Conservation and Sustainable Use ('the Alliance') has set a target relating to management effectiveness of protected areas: *50 million hectares of existing but highly threatened forest protected areas to be secured under effective management by the year 2005.*

To evaluate progress towards this target, the Alliance has developed a simple site-level Tracking Tool to facilitate reporting on management effectiveness of protected areas within WWF and World Bank projects. The Tracking Tool has been built around the application of the WCPA Management Effectiveness Evaluation Framework (see section 3.3.1). The Tracking Tool is aimed to help report progress on management effectiveness and should not replace more thorough methods of assessment for the purposes of adaptive management.

Kathy McKinnon, World Bank (McKinnon 2003)

2.4 Evaluation can help involve the community, build constituency and promote protected area values

A fourth group of evaluation purposes is concerned with increasing public awareness and support, which all protected area systems need to survive and improve. Evaluation can alert the community to threats and can demonstrate the need for better support for or resourcing of protected areas. As mentioned above, a chronic resource shortage is a common feature of protected area systems, and public support – sometimes serious public concern – is needed to convince governments to provide better resourcing. Evaluation results, especially from independent external sources, can provide the clear and concrete evidence needed to spur more public action, either on general or specific park management issues. As mentioned earlier, management effectiveness evaluation can also be a basis for mutual and cooperation trust between partners.

Boxes 12 and 13 highlight examples, from very different social and political environments, of evaluation used with good communication campaigns to achieve significant community advocacy for protected areas.

Box 12: Management effectiveness evaluation of protected areas in Brazil

Due to concern about the deterioration of natural resources and biodiversity in Brazil, WWF, together with the Brazilian Environment Institute (IBAMA), set out to evaluate 86 protected areas, using a methodology that was simple and inexpensive to apply, would gather precise information, and would generate results quickly. The project also aimed to call attention to the so-called "paper parks", and to press the government to vote on, and pass a Bill to create a National System of Protected Areas (Sistema Nacional de Áreas Protegidas – SNUC). The bill had been in the House of Representatives since 1992, but had never been voted on.

The results of the evaluation survey were used by WWF, with great effect, in their campaign in support of protected areas in Brazil. WWF launched an e-mail petition in favour of parks, asking people to press Congress to vote on the SNUC Bill. On Environment Day 1999 WWF organized an event in front of the National Congress. Hundreds of children stood on the Congress front lawn forming a map of Brazil. Others stood inside the map, each representing a protected area, holding a sign with the park's name on it, and wearing a coloured T-shirt and cap to represent the degree of risk that the protected area faced The children also read out the petition that was sent by e-mail, and handed over 5,000 signatures to a group of Congressmen. Ten days after this event, the SNUC Bill was voted on and approved in the House of Representatives.

The WWF Brazil/IBAMA study is a good example of how evaluation results can be used for advocacy and for broad policy setting and prioritisation..
Rosa Lemos de Sa, WWF Brazil (Lemos de Sa et al. 2000, Izurieta 2000)

Box 13: Developing a "State of the Park" Program to Assess Natural and Cultural Resource Conditions in U.S. National Parks

There is widespread concern that the very existence of natural and cultural resources across the 387 units of the U.S. National Park System are threatened and we often don't know what we're losing nor

how fast we're losing them. Part of our lack of understanding is that a comprehensive assessment and tracking of resource conditions according to an objective set of standards does not exist. Additionally, the public generally believes that park resources are preserved simply because of the national park designation. Hence, there is a critical need for information and analysis to identify the most urgent resource needs in the parks so the Park Service and the nation can respond.

The State of the Parks program is based on the premise that communication of park resource conditions, based on a credible methodology, packaged in an understandable manner, and strategically delivered to key audiences, can significantly advance park resource protection over time. The National Park Conservation Association's (NPCA) role as a non-governmental citizens' advocacy group is central to the potential of the program. It is vital that the data be collected by an independent non-biased third party, and then leveraged to vigorously advocate for changes to specific park management policies and overall budget priorities. Such information will greatly aid in advocacy efforts. NPCA has the history, expertise and policy background to develop this product along with the advocacy experience to create change.

In addition, park assessment can help others. There is increasing interest from existing organizations in national park issues. This can be seen in the emergence of strong "friends" groups and the interest in media about our parks. This creates an opportunity to coalesce this increasing interest into an organized, strategic force for park protection.
–
Mark Peterson NPCA (Peterson 2003)

3 Guidelines for evaluation of management effectiveness: what have we learned?

3.1 Good communication, team-building and stakeholder involvement is essential

✶*Communication between all parties involved needs to be strong in all phases of the project*

Evaluation always involves a group of people, including at a minimum the evaluators and management or project agency staff, and usually a range of other stakeholders. Good communication is essential from the beginning of the evaluation and at all stages throughout. This is a key factor for successful evaluation.

Teamwork with the evaluators and the participants is also important. In most cases, the evaluation process should be regarded by all concerned as a team effort to obtain positive change, rather than as a potentially punitive process where participants are unwilling subjects of an unwanted 'inspection'. Box 14 discusses the positive team-building aspects of evaluation.

Box 14: Building a team is vital (**Enhancing our Heritage Project)**

The underlying premise of the Enhancing our Heritage Project is that World Heritage sites undertake the assessment of their own management effectiveness. For the self-assessment process to be rigorous it is essential that site managers form a team of stakeholder representatives to work with them to develop the monitoring and assessment process. … The requirement of the project to develop site implementation groups to undertake the project, who then work with a wider group of stakeholders to develop and ratify the initial assessment, has reinforced this need to build strong and coherent local teams to work together to assess management.

In Canaima National Park, Venezuela, the project has been perceived as an opportunity to combine the separate efforts of civil society, government, local governments and indigenous groups. The local team has demonstrated capacity and commitment to implement the project and quickly identified themselves as a team, ensuring all stakeholders involved in the project are actively engaged in project implementation

Sue Stolton, and Nigel Dudley (Equilibrium), Marc Hockings (University of Queensland 2003
(Stolton et al. 2003)

3.2 Evaluation is part of an effective management cycle

✶*Effective evaluation needs a high level of support and commitment from protected area management agencies as well as from other parties involved.* This is essential both for the smooth conducting of the evaluation process and for making sure the evaluation brings about the desired changes in management.

The most desirable situation is for evaluation to be integrated into management processes so that is becomes an accepted, integral part of doing business. Parks Canada (Box 15) has taken evaluation of park integrity very seriously, and its legislation requires that the Minister convene a national 'round table' to review key programs and policies.

Box 15: Ecological integrity evaluation in Canadian Parks.
In 1998, the Minister for Parks Canada asked a panel of experts to assess the strengths and weaknesses of Parks Canada's approach to the management of ecological integrity, and to recommend improvements. The panel assessed nine 'focus parks' and considered others. The report has had substantial influence on the directions of the agency and on park management across the country.

'The Panel on Ecological Integrity recommended that Parks Canada adopt adaptive management as their framework for management at all level from park to system-wide. Their report recommended: …'that Parks Canada integrate monitoring within the management accountability framework…'

and that…' Parks Canada establish an on-going park-based monitoring report of the state of each individual park's ecological integrity….these reports should be done every five years, prior to management plan review. In addition these reports should undergo a third-party review/audit and be made publicly available as part of an annual public reporting process. In using this report, the revised park management plan should demonstrate how the proposed direction and specific management actions respond to the state of ecological integrity within the park. '

Parks Canada Agency 2000

How can better integration of evaluation with management be achieved?
Agencies can:
- foster a learning environment and use an adaptive management approach wherever possible; and
- build evaluation and the monitoring which underlies it into business planning, policies and management plans, preferably backed by legislative mandate.

Evaluators can:
- understand and address the factors promoting or blocking institutional adoption and integration of evaluation systems. These factors include capacity issues such as resources and staff training, and stakeholder willingness to undertake regular evaluations;
- ensure that results of evaluation are interpreted in an appropriate way for all levels of the organization; and
- widely disseminate results to stakeholders, to maintain support for the evaluation process from the broadest possible group.

Box 16: Evaluation built into planning
Evaluation built into the formulation of a management plan is desirable because:
1. It helps monitoring and evaluation to happen
Worldwide experience demonstrates that even where adaptive management and continuous improvement in management are supported in principle, too often, in practice, monitoring and evaluation programs are… displaced by other more 'urgent' (though often less important) day-to-day management activities. The integration of monitoring and evaluation into core management systems for protected areas ‒ such as the management plan ‒ makes it more likely that monitoring and evaluation will be undertaken as part of the suite of 'normal' management activities.

2. It strengthens evaluations by providing for the collection of baseline data
Attempts to retrospectively assess the effectiveness of management are usually significantly compromised by the lack of baseline information about pre-management intervention conditions. The most valuable and informative evaluations occur when data about performance indicators have been collected before (or during the early phases of) active management so that 'before' and 'after' data can be compared and so allow for changes to be detected. The inclusion in management plans of prescriptions for the early establishment of monitoring programs for selected performance indicators paves the way for stronger and more meaningful evaluations of management performance.
Jones 2000

3.3 An accepted framework for evaluation is useful

Numerous evaluation exercises over recent years have demonstrated the advantages of sharing approaches and methods so that experience and ideas can be harnessed and new evaluations can proceed more smoothly. While there must be flexibility to respond to local conditions, some common ground has been established.

✸*To better' harmonise' different evaluation approaches and to provide a solid theoretical and practical basis for management effectiveness evaluation, it is desirable to clearly base evaluation on a consistent framework***.**

3.3.1 Overview of the WCPA framework

The framework for management effectiveness developed by World Commission for Protected Areas (Hockings *et al.* 2000) provides a consistent basis for designing evaluation systems. It gives guidance in terms of what to assess and provides broad criteria for this assessment, while enabling the incorporation of different methodologies to undertake the assessment at different scales and depths.

The framework is based on the idea that protected area management follows a process with six distinct stages, or elements, which are shown in Figure 1:

- it begins with reviewing context and establishing a vision for site management (within the context of existing status and pressures),
- progresses through planning, and
- allocation of resources (inputs), and
- as a result of management actions (process),
- eventually produces goods and services (outputs),
- that result in impacts or outcomes.

These six stages have a central core, which is a cycle of evaluation, reflection and learning. This inner cycle is further depicted and discussed later (see p 21). The key point is that management is most effective if it is based on the principles of action learning and adaptive management, and that all elements of management are improved if they are closely linked with evaluation, reflection and learning

Assess and understand the current and changing **context** through values review, threat and opportunity analysis, baseline studies of state of park and influencing environment

Changes to broad policy environment and other external elements recommended

Context and baseline information is essential for interpreting any evaluation

Report on changes in biophysical, socio-economic or governance measures. Level of outcome achievement is the most critical measure of success

Monitoring plan and model inform and drive the evaluation process. Report on design and planning effectiveness

Achieve **outcomes** – relating to stated management goals and objectives

Monitor Evaluate Analyse Reflect Communicate Learn Adapt

Planning – Design system and develop visions, standards, goals, objectives, strategies and actions. Develop evaluation plan, and concept model

Adjust plans and models to fit reality and be more effective

Report on the extent to which target outputs are being produced

Report on the adequacy of resources

Adjust targets if unrealistic. Change outputs if not appropriate

Adjust priorities, act to obtain needed resources

Produce **outputs** and meet identified targets

Assess resource needs and obtain **inputs.** Prioritise between areas and elements of management

Adapt processes and actions to be more effective under changing conditions

Report on the adequacy and appropriateness of processes

Green arrow – feedback from evaluation to management elements

Pink arrow – information from management element to evaluation process

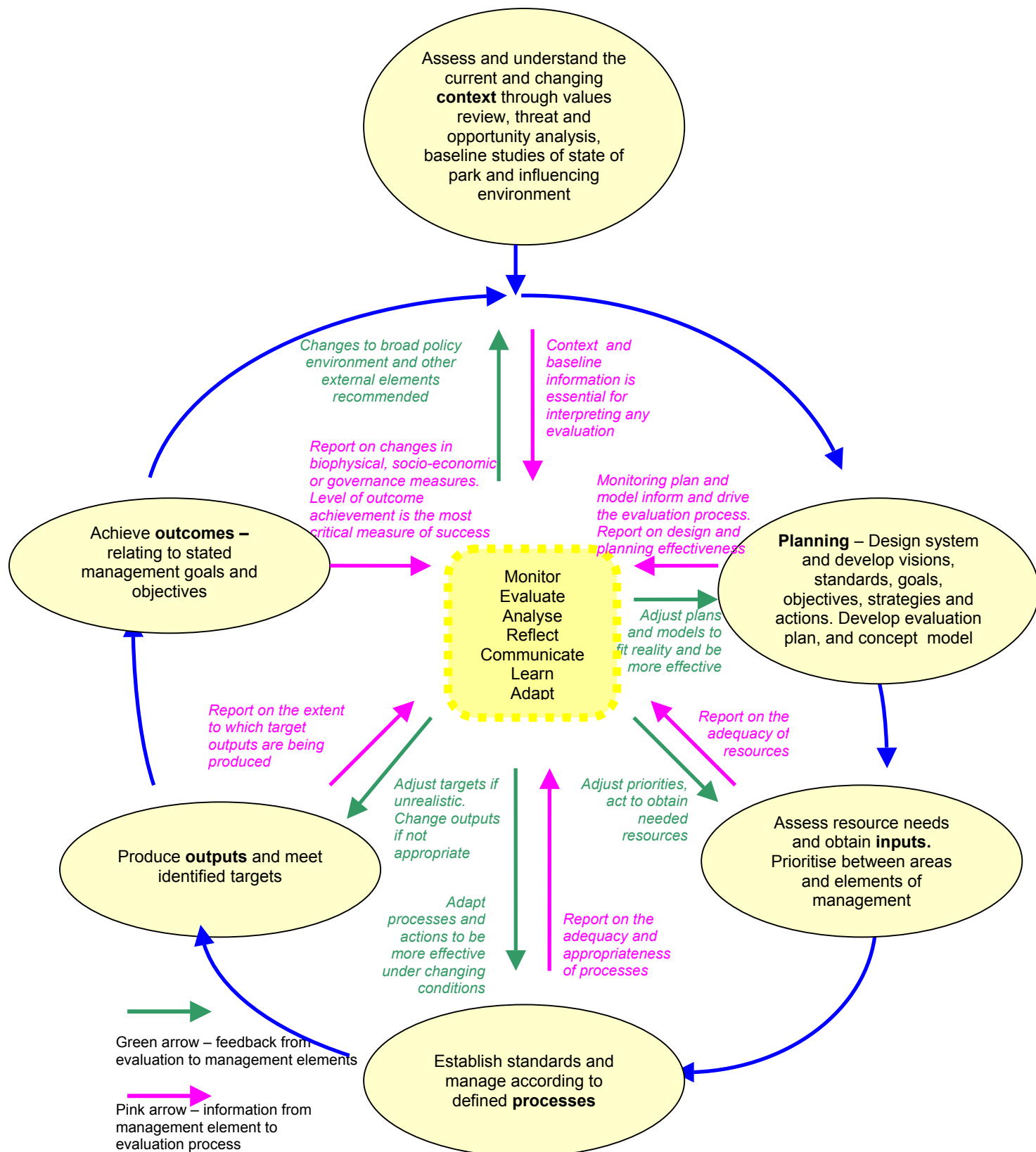Establish standards and manage according to defined **processes**

Figure 1: An adaptive management framework for park management - adapted from Hockings *et al.* 2000

Table 1 shows that each element of the management cycle can be evaluated and presents criteria and focus for each of these elements

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Table 1: WCPA framework for management effectiveness evaluation (Hockings *et al.* 2000)

Elements of evaluation	Context	Planning	Input	Process	Output	Outcome
Explanation	*Where are we now* Assessment of importance, threats and policy environment	*Where do we want to be?* Assessment of PA design and planning	*What do we need?* Assessment of resources needed	*How do we go about it?* Assessment of the way management is conducted	*What were the results?* Assessment of implement-ation of management programs and actions; delivery of products and services	*What did we achieve?* Assessment of outcomes and the extent to which they achieved objectives
Criteria assessed	Significance Threats Vulnerability National context	Protected area legislation and policy System design Reserve design Management planning	Resourcing of agency Resourcing of site Partners	Suitability of management processes	Results of management actions Services and products	Impacts: effects of management in relation to objectives
Focus of evaluation	Status	Appropriate-ness	Resources	Efficiency Appropriate-ness	Effectiveness	Effectiveness Appropriate-ness

3.3.2 Elements of the WCPA framework

The stages or elements of the management cycle are discussed briefly below, with mention of how each stage can be evaluated and how evaluation results can guide changes to management. The evaluation cycle can directly feed back information about an element being evaluated (for example, an evaluation of inputs recommends changes to inputs) or can feed back information to a number of linked elements (for example, an outcome evaluation usually produces recommendations in relation to planning and design, inputs, processes and outputs).

Context – where are we now?
The **context** of a protected area includes its values, its current status and the particular threats and opportunities that are affecting it. It sits outside the management cycle because it is not directly a part of management activities, but context has a very significant bearing on management effectiveness and includes physical, economic, institutional, political and social features.

In context evaluation, clear identification of protected area significance and values is particularly important, as the extent to which these are conserved or threatened over time becomes a major focus of most evaluations. Context evaluations also focus on analysing present and potential threats.

Evaluation of other elements, especially the interpretation of results, needs to consider context - both the internal environment, where there is a degree of control, and the external environment, where there may be varying degrees of influence but no direct control. Many

factors relating to the external environment are capable of determining success or failure of particular interventions and will also have major influences on management of protected areas generally.

Feedback from the evaluation cycle often recommends changes to the protected area or project context, such as changes to broad government policy or economic incentives. These matters are generally beyond the control of managers, but evaluation reporting can bring them to the attention of other influential people.

Planning and design–where do we want to be?
This phase of management 'drives' the evaluation process. It identifies the management goals, objectives and strategies that will be evaluated. The phase can include planning for evaluation as well as management.

Evaluation of this element focuses on appropriateness of planning and design at whatever level is being assessed:
System level
- the appropriateness of national protected area legislation and policies,
- plans for protected area systems (e.g. ecological representativeness and connectivity),
Site/protected area level
- design of individual protected areas in relation to the integrity and status of the resource (e.g. shape, size, location - whether the protected area is too small to protect biodiversity over the long term)
- plans for their management: detailed management objectives and plans.
Project level
- the logic and clarity of project plans;
- validity of assumptions made in project planning.

The results of management effectiveness evaluations (of all elements of management) should be 'fed back' into this element, with managers adjusting plans, systems and designs to make them more appropriate to current and future needs.

Inputs – what do we need?
This element of management determines the needs for resources – money, staff, training, resources and infrastructure.

Evaluation of inputs addresses the adequacy of resources in relation to the management objectives for a system, site or project, based primarily on measures of staff, funds, equipment and facilities, along with consideration of the contribution from partners.
Input evaluation seeks to answer the questions:
- Are sufficient resources being devoted to managing the protected area system/site or to the project implementation?
- How are resources being applied across the various areas of management?
- Is the project working with the right partners and is their capacity adequate?

The evaluation cycle feeds back into the 'input' element information after analyzing whether the outputs and outcomes of management would be improved by changes in the inputs.

Process – how do we go about it?
Protected area management is implemented through processes and systems which need to be appropriate for the management objectives for a system or a site.

The assessment of management processes focuses on the standard of management within a protected area system or site. Relevant questions include:

- Are the best systems and processes for management being used, given the context and constraints under which managers are operating?
- Are established policies and procedures being followed?
- What areas of management need attention to improve the capacity of managers to undertake their work (more resources, staff training etc)?

Assessment of processes involves a variety of indicators, such as issues of day-to-day maintenance or the adequacy of approaches to local communities and various types of natural and cultural resource management

Feedback from the evaluation cycle includes information about whether the defined standards and processes are being used, and information (from evaluating other elements of the management cycle) about whether these processes at the current level are appropriate and adequate.

Outputs – What did we do and what products or services were produced?
Outputs are the products and services delivered by management. They need to be distinguished from the outcomes of management, as successful completion of output targets (e.g. completion of a management plan; fencing of a protected area) will not always achieve the intended conservation outcomes.

Output evaluations consider what has been done by management, and examine the extent to which targets, work programs or plans have been implemented. Targets may be set through management plans or a process of annual work programming. The focus of output monitoring is not so much on whether these actions have achieved their desired objectives (this is the province of outcome evaluation) but on whether the activities have been carried out as scheduled and what progress is being made in implementing long-term management plans.

Two principal questions are involved:
- What products and services have been delivered?
- Have planned work programs been achieved?

Information from output evaluation can drive changes to the inputs and processes so that the production of outputs becomes more efficient and effective. Results from other parts of the evaluation cycle might suggest that some outputs are not appropriate to the achievement of management objectives.

Outcomes – What did we achieve?
Outcomes are the extent to which management objectives for a protected area, project or system have been achieved.

Outcome evaluation is most meaningful where concrete objectives for management have been specified in national legislation, policies, site-specific management plans or project plans. For evaluation of a protected area, outcome evaluation usually means assessing the extent to which values have been protected, threats to them abated, relationships with communities enhanced and other management objectives achieved. In terms of the elements shown in Figure 1, outcome evaluation could also measure the state of or change to aspects of context, input, process, or output – as long as this state or change is specified as an objective of the protected area or project.

In the final analysis, outcome evaluation is the true test of management effectiveness. It is most accurate where there has been long-term monitoring of the condition of the biological and cultural resources, socio-economic aspects of use, and the impacts of the management on

local communities. However, these monitoring results are often not available or are inadequate.

✶*Outcome evaluation must make the most of what information is available (where necessary, interpreting qualitative and anecdotal information), and should drive the establishment of a future monitoring program which is targeted to find out the most critical information.*

3.3.3 Use of the WCPA framework

The WCPA management effectiveness framework has been applied to develop a number of evaluation projects throughout the world, and it has been found to provide a solid basis. It is flexible and does not impose a methodology, but rather helps to understand how different methodologies can complement each other and work together to provide a richer picture of management effectiveness. For examples of different applications of the framework, see Hockings *et al.* 2001, Ervin 2001; Mallarach 2003, Pomeroy *et al.* 2003 and McKinnon 2003.

✶*Evaluation which assesses each of the elements of figure 1 and the links between them should obtain a relatively comprehensive picture of management effectiveness. This kind of evaluation is regarded as having greater 'explanatory power'.*

However, many evaluation processes will choose to evaluate only certain elements, and we need to interpret their results with care, knowing that information is incomplete. For example, in some national or international overviews or in cases where funds and time are very limited, an assessment might concentrate only on the elements that are easier to evaluate (inputs and processes). In other cases, only a representative sample of a large protected area system will be evaluated, using a complete set of indicators, to optimise efforts and resources.

3.4 Evaluation works best with a clear plan

Planning an evaluation within the framework outlined above follows a number of common steps, whether it is directed at a project, site, protected area or system. Figure 2 is a depiction of the 'inner circle' of figure 1 and presents four major phases in an evaluation process.
.
It should be emphasised that these four phases and the steps within them are iterative and that learning and management changes can occur at any time during the process.

Phase 1: Clarification of purpose, scope and objectives
- Clarify purpose
- Clarify scale and scope
- Decide which elements are being evaluated
- Define evaluation objectives and 'big questions

Phase 2: Choice and development of methodology
- Choose or develop an overall methodology
- Define more precisely what information is needed
- Choose indicators
- Develop and refine survey instruments and techniques
- Decide who to involve, how to conduct evaluation
- Clarify how information will be analysed, communicated and used

Phase 4: Communication and reporting of results and impact on management
- Check audience analysis and styles and methods of reporting
- Compile report with recommendations
- Check report with relevant stakeholders
- Present findings and recommendations
- Adjust methods for later evaluations
- Record impact of evaluation

Phase 3: Implement the evaluation and analyse the results
- Gain approval and support for evaluation plan from all parties
- Compile information – background research
- Conduct workshop/s and interviews
- Fill gaps and confirm results
- Analyse results and develop recommendations
- Establish monitoring programs

Work with and listen to agency and stakeholders

Improve management

Improve management

Improve management

Improve management

Figure 2: The evaluation cycle within figure 1

The remainder of Section 3 discusses the lessons learned about the process of planning and implementing evaluations. These lessons are organised according to the four phases shown in Figure 2. The phases of planning and implementing the evaluation are discussed concurrently as the lessons are very similar. Generally the preparation of an evaluation plan is the first step in an evaluation process, and consideration of all the points in figure 2 is recommended in such a plan.

This section is not a guidebook for planning and conducting an evaluation (see references), but provides an overview of the lessons from practitioners' experience to date.

3.5 A clear purpose, scope and objectives are needed

✸*It is important at the beginning of an evaluation project to know exactly what it is expected to achieve, and to understand the levels of resourcing and support that can be expected. All parties need to agree on these expectations.*

Phase 1: Clarification of purpose, scale and scope

- Clarify purpose
- Clarify scale and scope
- Decide which elements are being evaluated
- Define evaluation objectives and 'big questions

3.5.1 Deciding the purpose, scale and scope of the evaluation

The different purposes of management effectiveness evaluation (management improvement, resource allocation, accountability and advocacy) influence how the evaluation process is designed and implemented. Often an evaluation process can be designed to fulfil several purposes. It has been observed that design for management improvement often yields information useful for accountability, advocacy and resource allocation, but the reverse is not always true.

Linked to the purpose is the scope and scale of the evaluation, which also need to be established at the outset.

The **scope** of evaluation can be very broad – the evaluation of all aspects of management – or specific – for example, looking at how effective a particular education program or weed control initiative has been. The scope should also specify whether this is a one-off evaluation, a time-bound evaluation (e.g. over the life of a short-term project) or the establishment of a continuing program.

The **scale** can also vary from system-wide (or even embracing a number of national systems) to a protected area or a location.

The case studies already discussed from Brazil, India and Finland are examples of system-wide evaluations with a broad scope, as is an evaluation of the protected areas of Catalonia in Spain (Box 17). Evaluations of broad scale and scope are likely to be relatively superficial but can provide vital information for meaningful improvements in management at high levels, such as system-wide resource prioritisation, advocacy and policy directions.

Box 17: Broad scope and scale: Assessment of protected area system management effectiveness in Catalonia, Spain

It was felt that the lack of public, reliable information on the state of protected areas was an important obstacle for improving the awareness of both managers and the general public. In 1999, the Institució Catalana d'Història Natural proposed a project to evaluate the effectiveness of the entire system of natural protected areas of Catalonia, and was able to persuade the responsible public agencies and private organizations to cooperate, providing the necessary information and some funding.

The project aimed to
- Assess the condition of the entire system of 148 protected areas of Catalonia; and
- Based on the results of assessment, propose actions for improvement when needed.

The project also aimed to test, refine and be a reference for evaluation methodology, at least in Spain, and may be in other Mediterranean countries, based on the WCPA framework .
Josep-Maria Mallarach, Institució Catalana d'Història Natural (Mallarach 2003)

Localised or specific evaluations in more detail are useful for improving management at a practical on-ground level. For example, evaluating the effectiveness of a particular approach to resource management may result in a change in frequency of fires, resulting in measurably better biodiversity outcomes.

★ *Where possible, the scope of evaluation should be broad enough to capture the relationships and inter-linkages between various factors affecting protected area management.*

Factors to consider when defining the purpose, scale and scope of an evaluation include:
❖ organizational capacity and resources available;
❖ primary beneficiary of results (audience);
❖ primary driver of the process;
❖ time available for the evaluation; and
❖ whether the evaluation is 'one-off' or to be repeated at regular intervals over time.

> **Box 18 Narrow scope and park-wide scale: Evaluating the dingo education campaign, Fraser Island, Australia**
>
> There have been serious concerns about human safety and dingoes on Fraser Island World Heritage Area, Australia, especially after a child was fatally mauled in 2000. An external evaluation was commissioned to assess the effectiveness of education strategies relating to dingoes on the island. The evaluation was able to investigate the topic in detail with literature review, stakeholder interviews and consideration of all target audiences. Recommendations were also detailed and specific, guiding practical on-ground actions.
>
> Though the study was narrow in scope and scale, the general international issue of wildlife-visitor interaction was investigated and other facets of park management were understood in order to make meaningful recommendations.
>
> *Environmetrics 2003*

As mentioned earlier, institutional commitment to evaluation and the capacity to conduct monitoring and evaluation are recognised as key factors in successful evaluations. It is therefore critical that at this stage this commitment and capacity are carefully assessed, and the scale and scope adjusted if necessary.

3.5.2 Defining criteria, objectives and broad questions for evaluation

With the purpose, scale and scope clear, the management elements and the criteria for the evaluation (see table 1) are selected and the evaluation objectives and broad questions relating to these are framed logically. Some evaluations attempt to assess all the elements shown in table 1, while others concentrate on only one or two.

★ *Agreement among all partners on criteria, evaluation objectives and broad questions is important before a more detailed methodology is selected or developed.* It is an essential step before detailed questions and indicators are selected, as it helps to ensure a focussed approach to evaluation – everything that is measured should relate to one or more of these criteria or objectives.

★ *To frame the evaluation objectives and questions and to choose elements for evaluation, it is critical that the management goals and objectives for the protected area or project being evaluated have been spelt out clearly.* This is especially important for outcome-oriented assessments, which measure how well these goals and objectives have been achieved.

3.5.3 Developing a specific concept model

The field reality faced by most conservation managers is very complex, with many layers of 'causes and effects', and many interacting environmental factors – both biophysical and human. This complexity makes assessment of the park 'context' and program evaluation, especially the interpretation of results, extremely difficult.

★ *For some evaluations, such as those undertaken for adaptive management purposes and assessments of specific interventions or projects, a concept model of how the project is*

supposed to work is a vital tool for both planning and evaluation (See Salafsky et al. 2001) for further detail and explanation.)

A concept model clearly shows a chain of assumed causal events, where factors interact with each other to influence a conservation target. It therefore guides what should be measured for effective and efficient evaluation, and assists in interpreting results. The adaptive management approach (Salafsky *et al.* 2001) and the 5S threat analysis (TNC 2000, 2002) use concept models to facilitate both project design and evaluation.

3.5.4 Clarifying links and assumptions

Most evaluations of management effectiveness assess a number of elements, and these are linked to one another. For example, the number of staff (input) and the way their work program is organised (process) will affect the level of their output and thus the achievement of their objectives (outcome).

✶*We need to understand the links between the elements or criteria being evaluated so we can interpret the results of evaluation. It is important to clearly specify the assumptions being made when any of these elements are linked.* Two related types of assumptions can be recognised (Brown and Wyckoff-Baird 1992). The first type is the expectation that certain conditions will exist at a specific time (for example, that a market will remain stable, that climate and sea temperature will stay the same, or that staff members will increase). The second type of assumption is the unproven belief that certain actions will result in certain consequences. When assumptions are 'miscast as fact', there are great risks for projects as they may fail totally or become quite irrelevant when conditions change (Brown and Wyckoff-Baird 1992).

The diagram below shows an example of the major assumptions in a simplified model for a protected area project. (note that this is similar to the concept models referred to in the adaptive management framework).

PLANNING
e.g. Goal: to restore reef biodiversity and enhance community well-being.
Objectives:
.to stop reef bombing
to establish alternative income source for local community

CONTEXT
e.g. Marine park with very high biodiversity values. Poor local community dependent on marine resources

OUTCOMES
e.g. Income security established for community.
No further reef bombing.
Conservation of reef system..

INPUT
e.g. Funds from donor organisation.
Expertise from external scientists
Involvement of local community.

PROCESS
e.g.Development of aquaculture program to provide alternative income sources.

OUPUT
e.g. Successful and self-sufficient fish-farm established with no negative environmental effects.

Assumption:
Community supports project
Donor funds will continue until project becomes self-sustaining

Assumption:
Community adopts program.
Environmental conditions remain relatively stable.

Assumption: People will not seek further illegal income if they have a basic income from fish farm.
Community stewardship level is high
Environmental conditions remain relatively stable.
International laws protecting reef can be enforced (no outside fishing vessels).
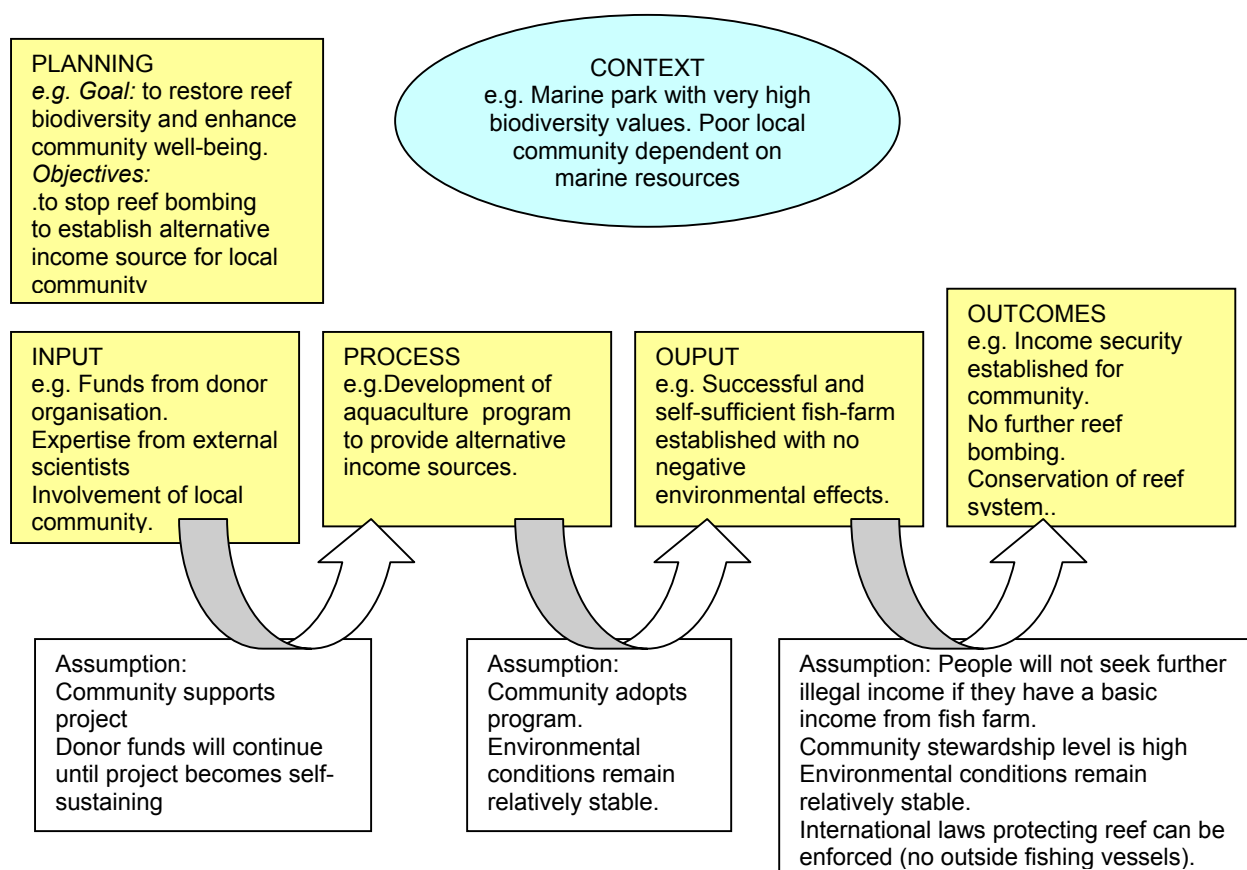
Figure 3:Assumptions linking the elements of the management cycle

It is desirable for these assumptions to be clearly stated in the project or protected area management plan, but if they have not been, they do need to be stated in the evaluation plan.

Assumptions of all the project partners need to be recognised. People from different backgrounds and holding different values (e.g. local elite, local poor people, development planners, government officers and conservationists) may have quite different assumptions.

3.6 The methodology needs to suit the purpose

This section provides some brief guidelines on choosing and developing methodology for evaluation. The sections below contain more 'lessons learned' on aspects of methodology such as selection of indicators.

3.6.1 What methodology should be used?

✶*We should learn from others and use or adapt existing methodologies if possible.*
A global community of conservation practitioners is using modern communication technologies to share methodologies and experiences. There has been a great deal of thought put into existing methodologies, and the use or adaptation of these can save considerable resources as well as allow comparability of results between projects or sites. For example, a guidebook for evaluating marine protected areas has been developed, based on the WCPA framework (see Box 19). The latest information should be available through networks of protected area managers such as the WCPA website and the proposed 'PALNET' electronic information network for park managers.

Adopting or adapting a methodology does not mean all of the indicators, survey methods or reporting proformas of a previous project need to be used. These can and should be tailored to fit specific needs (see Box 20).

✶*Methodologies should be compatible or 'harmonised' as much as possible*
Practitioners are aware of the need for harmonisation (not standardisation) of methodologies, to allow mutual understanding and better exchange of information. As discussed above, the WCPA framework and the adaptive management approach are proving useful tools for this harmonisation.

> **Phase 2: Choice and development of methodology**
> - Choose or develop an overall methodology
> - Define more precisely what information is needed
> - Choose indicators
> - Develop and refine survey instruments and techniques
> - Decide who to involve, how to conduct evaluation
> - Clarify how information will be analysed, communicated and used

> **Box 19***: IUCN WCPA-Marine/WWF MPA Management Effectiveness Initiative*
> IUCN World Commission on Protected Areas – Marine and the World Wide Fund for Nature are collaborating on an initiative to address evaluating management effectiveness in Marine Protected Areas (MPAs). The initiative builds on the IUCN Management Effectiveness Framework (Hockings *et al.* 2000) by applying an evaluation process to MPAs and focuses on indicators that are specific to marine protected areas, the marine environment and coastal communities. The main tool developed is the guidebook: "How is Your MPA Doing? Evaluating Management Effectiveness in MPAs" (draft December 2002). The guidebook aims to enhance the capacity for adaptive management in MPAs by providing a method to measure whether the management of a MPA meets its goals and objectives
> *Lani Watson, National Ocean Service – International Program Office. (Watson 2003*)

★*Design of methodology needs to consider how the initial phase will relate to later phases of evaluation* – that is, an overall project plan specifying the frequency of later evaluations should be developed.

★*Tools need to be appropriate and responsive to needs*

Practitioners have listed the following characteristics of good evaluation methods and tools. However, these characteristics might all not be essential for every evaluation method: for example, some will be more simple and rapid while others are more statistically robust: Methods should be:

1. Cost-effective – if they are too expensive they will not be adopted;
2. Replicable – to allow comparability across sites and times;
3. Robust and statistically valid – must be able to withstand scrutiny;
4. Simple – very complex tools can alienate field staff and stakeholders;
5. Field-tested – pilot studies before major projects are essential;
6. Documented in manuals or other formats so they can be reviewed;
7. Credible, honest and non-corrupt – the results need to be shown to be genuine;
8. Able to yield unambiguous results – or to have the greatest explanatory power possible;
9. Congruent between management and community expectations;
10. Scaleable – so that scores can be compared; and
11. Rapid – the evaluation process should draw on and review longer-term monitoring where possible, but should not be overly time-consuming.

> **Box 20***: Enhancing our Heritage project*
> Because World Heritage sites vary in their management and objectives, capacity for assessment and monitoring, and resources, the EoH project is providing a variety of different ways to help evaluate these indicators. …In many cases World Heritage sites will already have a range of systems in place to monitor management actions. The toolkit thus provides suggestions to fill gaps in monitoring and assessment, and does not suggest bringing in new systems to replace established practice: assessment systems will be tailored to the needs and resources of individual sites
> *Sue Stolton, and Nigel Dudley (Equilibrium), Marc Hockings (University of Queensland) (Stolton et al. 2003)*

★*Information should be triangulated where possible*
A common method of ensuring more accurate results is to choose several different indicators for the same question, different sources of information, and different methods or tools. This is known as triangulation of data, and is particularly important in any kind of qualitative research where a classic scientific method cannot be used.

★*Flexibility should be retained – an iterative approach is helpful*
While a plan for evaluation is important, so is the ability to adjust and develop during the evaluation process. As the beginning of the assessment, it may not be clear what information is available and what is important. The process must be flexible enough to accommodate major changes in the park or project environment over time, especially if the program is long-term.

★*Methodologies should be improved over time* – some people believe it is best to start with a fairly simple system and develop more sophisticated levels as all participants learn about what works best.

3.6.2 What should be measured?

An evaluation process is not monitoring in itself and evaluators often have to work with whatever information is readily available, including the results of existing past or current monitoring. Evaluation may drive and dictate future monitoring programs, so repeat evaluations can report on a better quality of information.

Framing questions

It was pointed out earlier that evaluation projects need a clear definition of criteria, objectives and broad questions relating to each criteria such as 'is biodiversity of the

reef being conserved' or 'how has the park affected local communities'. Such broad factors are impossible to measure or report on accurately and objectively, so more detailed questions, able to be answered more precisely, need to be framed.
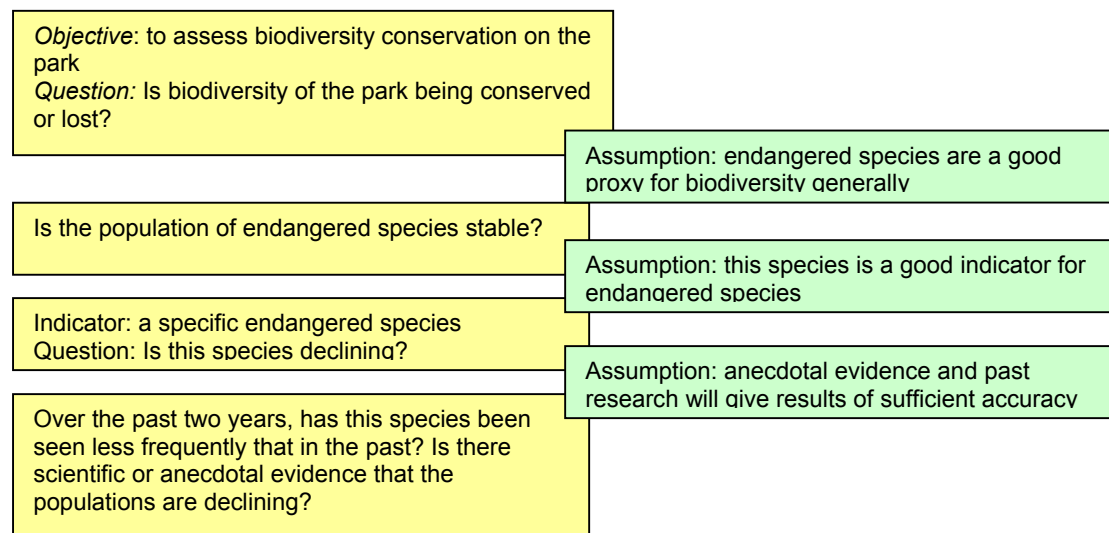
Most methodologies use a 'layered' approach when defining what should be measured, gradually subdividing the broad level questions until a level of very specific questions is reached. Different methodologies use different terminologies for these levels, and sometimes vary terms even within one assessment, where different types of questions are posed (e.g. for threat analysis versus evaluation of values conservation).

The variation and overlapping of terminology in different assessments can be confusing, but the unifying factors are that:
✴*Different layers of questions look at conditions in a particular dimension. Layers of questions should proceed logically and link from very general level (e.g. biodiversity) to specific and measurable level (e.g. the population of one animal species recorded at one time in one place);and*

✴*It is important to be explicit about the assumptions linking different levels of questions and indicators.*

An example of four layers of questions with linking assumptions is shown below:

Objective: to assess biodiversity conservation on the park
Question: Is biodiversity of the park being conserved or lost?

Assumption: endangered species are a good proxy for biodiversity generally

Is the population of endangered species stable?

Assumption: this species is a good indicator for endangered species

Indicator: a specific endangered species
Question: Is this species declining?

Assumption: anecdotal evidence and past research will give results of sufficient accuracy

Over the past two years, has this species been seen less frequently that in the past? Is there scientific or anecdotal evidence that the populations are declining?

Choosing indicators

Selection of indicators – the units of information that are actually measured and reported on – is of great concern to all evaluation practitioners. See Box 21 for some ideal characteristics of indicators.

✴*It is critical that indicators are relevant and useful in answering the higher level questions.* Evaluation will not get – or deserve- continuing support if large amounts of unnecessary information are collected. Relevance needs to be well thought out at the planning stage and well communicated to participants.

★*Indicators need to be as cost-effective as possible.* Considerable time and effort will go into measuring the indicators, whether through a field monitoring program or a simpler information-gathering exercise. Where monitoring is already being conducted, it is efficient for evaluation to use and report on the indicators already measured, provided they are appropriate.

★*Using indicators will be a learning experience.* As we learn from evaluation experiences, we can identify if indicators are useful; if they are impossible to measure or give us irrelevant information; or if they are redundant (i.e. they always tell us exactly the same thing as another indicator). The importance of triangulating information should be kept in mind – usually more than one indicator is chosen for each higher-level question. Preferably indicators will be linked to the question by different assumptions, reducing the likelihood of error.

Box 21 Desirable characteristics of indicators

A good indicator meets the following criteria:
Measurable: able to be recorded and analysed in qualitative or quantitative terms;
Precise: defined in the same way by all people;
Consistent: not changing over time so that it always measures the same thing; and
Sensitive: Changing proportionately in response to actual changes in the condition or item being measured.
Margoluis and Salafsky 1998, p.88.

Indicators for biological health should be
❖ biologically relevant (reflect target health);
❖ socially relevant (recognized by stakeholders);
❖ sensitive to anthropogenic stress (reflect threats);
❖ anticipatory (early warning);
❖ measurable; and
❖ cost-effective (max. information/unit effort)
TNC 2002.

★*It is desirable for indicators to have some explanatory power, or be able to link with other indicators to explain causes and effects.* For example, an evaluation program which chooses frog populations as an indicator of biodiversity status might also choose to measure aspects of water quality (e.g. PH, turbidity and Biological Oxygen Demand) and streamside vegetation cover as ecological health indicators, so changes in these might be linked to any changes in frog populations.

★*Useful indicators are scaleable and sensitive to changes. They might also have the potential to be manipulated in an experimental setting or an adaptive management program.* The 'ideal' indicator would change in a predictable and regular manner so that changes in the attribute being evaluated (or the higher-level question) are accurately reflected. However, such ideal indicators are rarely found in the real world.

Some practical advice…

'…You should determine what data you would ideally test. You should then consider what data you can realistically get. You then need to decide as a group what data you will actually try to collect. …it is generally better to have 'approximate answers to exact questions' than 'exact answers to approximate questions'
Salafsky and Margoluis 1999

'Ideal indicators are rare – In the perfect resource evaluation process, one would have indicators of resource condition that are measurable, precise, consistent, sensitive to the phenomenon being tracked, and feasible to collect. Don't get hung up on finding the ideal indicator, they rarely exist. Yet we substantially advance our knowledge and achieve our goals by using indicators that are less than ideal.'
Peterson 2003

★*The limitations of indicators need to be understood.* There is a danger that evaluations can over-simplify reality by interpreting indicators to mean more than they really do – for

example, by using the abundance of one species to indicate the health of an ecosystem. Good project planning and the recognition of assumptions should make this kind of mistake less likely.

A well-documented evaluation presents clearly the hierarchy of levels of investigation with clear justification and assumptions linking each level. The justification for the indicator, and an explanation of how the indicator will be measured or scored, will also be documented – see Table 2 below.

Table 2: Example of selection of one indicator for one aspect of management. Source: Courrau 1999

1. SOCIAL ASPECT
This aspect considers the concept that the protected area should communicate with interest groups associated with it and have them participate in planning, management, and decision-making.

a. **COMMUNICATIONS FACTOR**
The planned, organized communication between the protected area and its corresponding interest groups is of great importance.

a.1 *Criterion of willingness to communicate by the protected area*
This criterion considers the preparation and execution of the communication plan and the measurement of its impact.

INDICATOR: Communications plan of the protected area, executed and evaluated.
Justification of the indicator:
The basic idea for this indicator is that the protected area should have a communications plan to efficiently disseminate truthful information about its management, species and ecosystems. At the same time, it is important that the impact caused by this program be accurately measured. It is of vital importance that appropriate methods of communication with the protected area's interest groups be established.

Measurement of the indicator:
The indicator is measured by comparing the initial optimum scenario against the condition of this component of the protected area at the moment of measurement. This condition refers to the existence or absence of a communication plan and its operation.

The measurement of the indicator is based on the following scale:
5= A communications plan exists and is in operation, it is evaluated and is oriented to have a significant impact in the target population
4= The plan has been executed and its impact on the target population has been evaluated
3= Sufficient technical know-how, equipment and materials exist to execute the communications program
2= Communication needs have been identified, or isolated actions have been taken
1= A communication plan does not exist, nor have isolated actions been taken

3.6.3 Who should be involved?

The case studies reviewed here reflect a wide range of opinions on the question of who should most appropriately conduct and be involved in evaluations. All agree that involvement of stakeholders, including park staff, local communities, and experts, is desirable or essential at certain stages, but the primary drivers or coordinators of evaluation projects can be either agency staff or external organisations. As discussed earlier, the formation of a team with a common purpose is essential, and can have great continuing benefits.

There are advantages of involving evaluators from universities or other scientific backgrounds as the range of expertise for some assessments may be beyond the capacity of protected area agencies, and these people can provide a fresh viewpoint. Some protected area evaluations are able to draw on the expertise of scientific advisory committees or equivalent bodies.

For a discussion of the desirable involvement of different groups for marine protected areas, see Pomeroy *et al.* (2003). Many of the same principles apply in evaluations of terrestrial protected areas.

Table 3 Presents some of the advantages and constraints of conducting evaluations primarily by external and internal operators, and of including community involvement.

Table 3: Advantages and constraints of groups involved in evaluations

	Internal (i.e. agency staff-led) evaluation	**External evaluation**	**Community involvement**
Truthfulness in discussions and questionnaires	Staff are more likely to be honest and open in an internal process. However, even internal evaluations will be threatening to some staff and all results require some mediation to ensure accuracy. There could also be bias in their opinions.	Some staff may wish to hide unpalatable truths – in some cultures will not wish to 'lose face' or cause other staff to lose face. Agencies may be punitive if staff reveal unpalatable facts.	Agency staff may be reluctant to reveal weaknesses or be self-critical in front of community members. Community members may be most open with external evaluators without park staff present.
Open reporting	Reports may be repressed or edited by senior staff or relevant politicians. May not be able to openly criticise e.g. statements of inadequate resourcing.	External evaluators are generally regarded as unbiased and highly credible. Reports can be totally open and critical where necessary	Community involvement means that reports are more likely to be open and complete.
Access to agency information	Will generally be free and complete access to any information needed	May be inversely related to the openness and public profile of reporting. Freedom of information in some jurisdictions may be helpful, but information can still be very difficult to obtain and interpret, especially when not in written form.	Access to certain information will be restricted (e.g. information relating to location and status of rare animals, special cultural sites)
Availability of resource information	Park staff should have all information available – but in practice are often unaware of important findings of research etc. High level of local knowledge	External evaluators e.g. scientists- may have access to a different set of resource information than that known to park staff.	Community members may have a wealth of resource information including traditional knowledge.
Learning processes	Critical outcome of evaluation is organisational learning and encouragement of reflection	External evaluators (e.g. consultants) may take valuable knowledge away so it is not institutionalised	Involvement of community in this process can be extremely valuable for their increased capacity in environmental management
Advocacy and community relations	Less likely to contribute unless used with community relations or publicity campaign.	Can be used to advocate better resourcing	Likely to contribute to positive working relationships – unless criticism by community members of park staff creates rifts.
Cost of evaluation	Relatively inexpensive	Expensive, but may be externally funded	Adds considerably to time and cost of process

Some viewpoints about desirable teams for evaluation are given below. Note that though all involved teamwork (as mentioned earlier, an essential facet of successful evaluation), the initiators and conductors of the evaluation vary widely.

:

Box 22: *Evaluation initiated by University researcher*

Management effectiveness on Fraser Island World Heritage Area
The evaluation of management effectiveness in this World Heritage Area involved a partnership of site managers, university researchers and advisory committee. This combination of independent researchers and site managers in design and implementation of evaluation programs can be an effective way to establish programs but there needs to be a planned process of "hand-over" of the programs to managers over time
Marc Hockings, University of Queensland (Hockings 2003)

Box 23: Evaluation initiated and conducted by a science-based NGO

Assessment of protected area management effectiveness in Catalonia, Spain
A wide range of people were involved in the evaluation:
- **Responsible**: Institució Catalana d'Història Natural: Two coordinators, over one hundred and fifty people participated in different stages of the process (initial methodology seminar, pilot plan, evaluation, diagnosis, proposal draft, etc).
- **Support**: Researchers from the University of Barcelona and Autonomous University of Barcelona in the elaboration of certain indicators, preparing certain general data, and database design and analysis. : In addition, active participation of around forty graduate students of Environmental Sciences and Biology in field work.
- **Information**: Managers and planners of protected areas, rangers, local authorities, economic and sectoral organizations, local population, and environmental NGOs. The Catalan Department for the Environment prepared the first complete digital layer at 1:5000 scale for the PA system.
- **Funding**: Department of the Environment of Catalonia, Fundació Territori i Paisatge (a private foundation linked to a Catalansavings bank), and Diputació de Girona (local authority)

Josep-Maria Mallarach, Institució Catalana d'Història Natural . Mallarach 2003

Box 24: Evaluation conducted by NGO

Evaluation of El Mirador – Rio Azul, Guatemala
ParksWatch can be most effective if we are recognized as a reliable source of unbiased, objective information about protected areas. Although we will not hesitate to confront park managers guilty of corruption or general mismanagement, we would rather work in partnership with these groups. We want to be recognized as a tool that they can use to identify threats and strengthen management.

Also, we are constantly reminded of the Importance of evaluations conducted by an independent third-party in order to ensure objectivity. Surveys answered by park directors are not always objective, for example. Along these same lines, the only true way to ensure accurate information is to get in the field to document threats in person.

Chris Fagan and Carlos Albacete, ParksWatch. (Fagan and Albacete 2003).

Box 25: Evaluation conducted by management agency staff

Bwindi Impenetrable National Park: Uganda
All … involved are either staff of the park or Uganda Wildlife Authority with the primary responsibility of managing the park. The others are either researchers, conservation non-governmental agencies or local community representatives or leaders who neighbour with the park and suffer the costs of its existence e.g. through denied benefit opportunities or crop raiding.
- In-house staff have tremendous potential to take on various roles at relatively low costs. They are able to comprehend the system of assessment and undertake it once given a few tips.
- The process provides an opportunity to review management values, objectives approaches and targets and allows for a re-focus of efforts on critical areas.
- The process can also be used for evaluation of individual staff efforts more positively. Many times staff are scared of evaluations and will even tell lies because they fear for jobs. But when they undertake the evaluation themselves, they have to be honest especially when they know that it will not result in victimisation.
- The partners, especially the community members and leaders who have often been very critical of management (and sometimes antagonistic) were very supportive and objective during the assessment because the process allows them to get more informed about management and the interventions including the constraints and challenges and are now able to give their assessment from an informed standpoint.

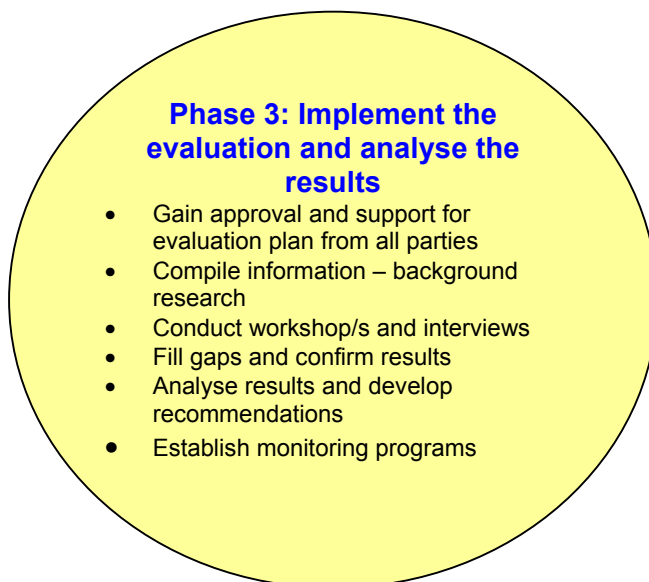**Box 26: Evaluation conducted by external consultants**

Forest Innovations Project: Developing a Protected Area Effectiveness Methodology for Africa
The main limitation recorded during the process of field-testing was the suspicion manifested by the protected areas management team toward the assessment, making it particularly important to engage with protected area managers and staff. Introductory meetings were needed to explain the objectives and the importance of assessing management effectiveness. Involving protected area staff in the development of the assessment process allowed for both an increased awareness of management effectiveness as an issue and the building of confidence between the assessor and staff.

However the benefits of working with an external and independent assessor were evident in the community consultation phase of the assessment. Conducting discussions with the local communities in the absence of protected area staff created an environment of open and interactive discussions. Communities raised a number of issues concerning management of the site which, in the opinion of the assessor, would not have been raised if management staff had been present.
Nigel Dudley and Sue Stolton, Equilibrium Consultants for WWF and IUCN. (Dudley and Stolton 2003)

3.6.4 How should information be obtained?

Phase 3: Implement the evaluation and analyse the results
- Gain approval and support for evaluation plan from all parties
- Compile information – background research
- Conduct workshop/s and interviews
- Fill gaps and confirm results
- Analyse results and develop recommendations
- Establish monitoring programs

Most evaluation processes use a range of techniques in a combination that suits the needs and context. The most common process for gathering information consists of the following phases:

1. Approval and socialisation;
2. Background research;
3. Workshop/s; and
4. Follow-up research.

Analysis of the information is discussed in section 3.6.5.

Both primary and secondary sources of information can be used, and as mentioned earlier, 'triangulation' of methods is helpful. For example, if information offered in a workshop is backed up by reports and an evaluator's observation, it adds further credibility to the source.

Approval and 'socialisation' of evaluation project

✶*Gaining approval, trust and cooperation of stakeholders, especially the managers of the protected areas to be evaluated, is critical and must be ensured throughout the evaluation*

Depending on how the evaluation was devised and who is 'driving' it, gaining support of the agency directorate may be a major task, as discussed in Box27. Finding a 'champion' within the agency or group being evaluated is valuable (see Box 28) Convincing the operational field staff can also be a significant challenge, and efforts must be made to repay their trust and the time they put into the process.

> **Box 27: Assessing the condition of the entire system of protected areas of Catalonia**
>
> We learnt…the difficulty of getting the public agencies interested and involved in an evaluation project for protected areas. It took us almost two years to convince the Department of the Environment of Catalonia to accept that the results should be made public, while the Diputació de Barcelona (the second most important agency in protected areas planning and management in Catalonia) finally decided not to provide funding for this project
> *Josep-Maria Mallarach, Institució Catalana d'Història Natural. (Mallarach 2003)*

> **Box 28: Rapid Assessment and Prioritisation of Protected Area Management (WWF)**
>
> It helps to have a designated, enthusiastic leader of the assessment process. For example, (a senior officer) approached WWF International early on, expressing his interest in implementing the RAPPAM Methodology. His enthusiasm and commitment ensured not only that the assessment was run smoothly and efficiently, but also that he contributed to the design of the methodology itself, collaborated with others in the region interested in assessing management effectiveness, and was instrumental in ensuring that the provincial government supported the findings of the assessment.
> *Jamison Ervin, Independent consultant to WWF. (Ervin 2003)*

✶*Evaluation systems should be established with a non-threatening stance to overcome mutual suspicion*. If the evaluation is perceived to be likely to 'punish' participants or to reduce their resources, they are unlikely to be helpful to the process.

Credibility for the evaluation is greatly enhanced if the participants are shown that previous work has been used or at least recorded (see Box 29). Protected area staff and communities have become very resistant to participating in research and evaluation exercises for which they see no outcomes. It is vital for evaluators to make genuine efforts to obtain previous material and to return something – even meeting transcripts – to participants as soon as possible.

> **Box 29: Developing a Protected Area Effectiveness Methodology for Africa**
>
> Before starting on the evaluation, it is essential to show or demonstrate how results of the previous evaluations have been used to improve on management. This is a question that was put to the team by some of the stakeholders who participated largely in external evaluations and evaluations of projects working around the site.
> *Case study: Forest Innovations Project: Nigel Dudley and Sue Stolton, Equilibrium consultants. (Dudley and Stolton 2003)*

Background research

This phase may be an exhaustive research project, but in most evaluation projects it is a time-restricted desk-top exercise to compile *relevant* information already available, especially a basic understanding of the context and the results of earlier evaluation, monitoring and research projects. This phase is important:

❖ to enable the evaluators to go into the field armed with a reasonable understanding of the situation, so that their learning can be rapid and their questions relevant;

❖ to avoid annoying field staff and stakeholders by requiring them to repeat former process of information-gathering;

- ❖ to make the best use of field time and field staff/ stakeholder time;
- ❖ to gain credibility with on-site managers; and
- ❖ in many cases to provide managers with usefully compiled information.

Field familiarisation is often undertaken, especially if someone from outside the local area is conducting the evaluation. This is an opportunity for intensive observations, which can be used to confirm or question other information sources.

Workshop/s with key staff and other stakeholders

Workshops are often used as an effective and efficient way to obtain information from a number of verbal sources simultaneously. They have advantages including the ability for the workshop group to 'moderate' results (Box 30), the benefit of information being shared, and the opportunity for people to hear other points of view. Skilled facilitators may be needed for larger workshops or those likely to become heated or controversial.

Box 30: Obtaining a collective viewpoint

Developing a "State of the Park" Program to Assess Natural and Cultural Resource Conditions in U.S. National Parks

(We) conduct a 1-day workshop at the park with key cultural and natural resource staff and other resource experts from academia, NGOs, etc. to explain program purposes, approach, to obtain a collective viewpoint on park threats, issues, accomplishments and priorities (staff often have different perceptions) and to identify natural resource communities and representative species that will serve as indicators for ecological integrity and investigation.
Mark Peterson NPCA (Peterson 2003)

★*Care needs to be taken to ensure all stakeholders have an opportunity to express their viewpoints.* Some evaluators choose to conduct separate workshops if there are cultural or physical difficulties in hearing all people at the same place and time, though splitting groups (for example into separate staff and community workshops) loses some of the advantages of the workshop method. Evaluators planning workshops and other field discussions should consider carefully matters of language, cultural norms and locations as some participants can be inadvertently excluded by setting in which they are not comfortable.
.

The lower cadres of staff particularly the rangers and some community members need to be given the confidence to speak up in the language they can best express themselves especially in workshops.
Mapesa 2003

See section 3.6.3 and associated references for a further discussion on participants in evaluation.

Follow-up research, field work and/or collection of secondary data

Workshops and background research answer many of the evaluation questions, but they usually identify information gaps and leads which need to be followed before the evaluation is complete. A further stage of information gathering by evaluators, field staff or other stakeholders is often needed.

Establish monitoring programs for future use

Frequently evaluations reveal significant gaps in available information, which might be important in judging management effectiveness – for example, if in a protected area established for conservation of an endangered species there is no information about the survival of or threats to this species. Establishment of a future targeted monitoring program might be an important phase of evaluation.

3.6.5 How should the results be analysed?

★*It is most useful to look at causal links between context, input, processes, outputs and outcomes. It is the combination of all these and teasing out their causal relationships that is most useful.*

Answering simple questions

The first level of analysis, often very useful to all involved, is simple compilation of collected data, either for one site or across sites. This analysis usually includes the creation of simple report tables and graphs.

SWOT analysis

Some evaluators find a 'swot' analysis – usually in a workshop with agency staff and/or other stakeholders a useful and simple tool for analysing information further. The table below shows that this provides a quick summary of management effectiveness, particularly appropriate for communication with busy upper-level managers and politicians.

Table 4:Example of SWOT analysis. Source: Leal 2003

Analysis of Strengths, Opportunities, Weaknesses and Threats.- Sian Ka'an Biosphere Reserve

STRENGTHS
Basic and functional legal frame, positive land tenure agreements.
Financial resources that guarantee basic operations.
Motivation and commitment to the development of personnel functions.
Follow-up in actions and work team consolidated.
Social presence and acceptance.
Basic training and capacity building in the protected area.
Acknowledge of achievements, national and international denominations.
Basic scientific information
Incorporation of communities from the influence zone of the protected area into management strategies.

WEAKNESSES
Deficiencies in design and operation of management plans.
Lack of technical and scientific information that supports decision-making processes.
Lack of an organizational structure.
Deficiencies in profile, induction and training of personnel.
Lack of incentive and promotion plans.
Deficiency in occupational health (security, hygiene).

DIRECTION
Old management plan. Non-adequate zoning.
Attributions (lack of legal support).
Three areas under the same administration and resources.
Financial resources limited to basic operations.
Gaps in legislation.
Lack of presence of mid and superior authorities in the areas.
Deficiencies in intra and inter institutional coordination.

 CONTROL
Lack of mechanisms of control for actions and processes.
Absence of mechanisms to control resources and products.

OPPORTUNITIES
Acknowledge for its values and environmental benefits.
Access to external financing.
Tourist demand for generating resources.
Participation of the three levels of government.
Participation in development programs.
Regional acknowledge.

THREATS
Impacts generated by uncontrolled tourism growth.

Scoring and indexes

Many protected area evaluation systems use simple scores, which summarise a lot of data into one number. Scores can be easy for managers and the public to work with and understand, and provide a simple way for an audience to quickly determine comparative conditions. Examples of these scores can be seen in most of the evaluations discussed in this chapter, including the WCPA framework, RAPPAM method, World Bank Tracking Tool and 5S system. These scores can be very useful in providing comparisons and snapshots, but the advantages of simplicity can also have some drawbacks. Some explanation of results should usually accompany 'score-card' reports so the audience does not draw the wrong conclusions form the figures.

It may be possible for more advanced statistical analyses to be conducted, looking at trends in data and attempting to draw out broader patterns. However, qualitative data that is turned into quantitative data should be treated with care and its limitations fully recognised. In particular, manipulating results through summing and averaging, or assigning weights to different indicators, and through the use of scales and indexes can give misleading results. Evaluators should always seek professional advice before attempting this kind of manipulation.

Assessing against standards or targets

Information can be further analysed by comparing the field reality with the defined standards or targets for management. These results are often scored (see above) and presented quantitatively as a percentage of the ideal or as a 'poor' to excellent' rating.

For assessment of input, processes and outputs, this analysis is reasonably straightforward using the chosen indicators and standards.

Measuring the extent to which outcomes have been achieved is a more complex task, requiring the assessment of indicators and answering questions at a number of levels. Often the answers to higher-level questions, such as whether biodiversity has been achieved, can only be approximated and assumed from the state of indicators. It is important that reports make any such approximations and assumptions very clear and give details of how the analysis was conducted, as well as the background to the conclusions reached.

Comparisons over time

For all except special-purpose single-event evaluations, it is desirable to repeat similar measures at intervals. A number of protected area systems are now developing 'State of the Parks' evaluations, which they intend to repeat regularly to see trends over time. At the park level, implementation of management plans should be tracked, while for specific intervention projects, evaluations should occur throughout the project cycle.

It is often valuable to assess both relative performance (e.g. whether results have improved or deteriorated over the management period) and absolute performance (e.g. how satisfactory or unsatisfactory the current situation is in relation to goals). Periodic assessments allow changes in the performance of management over time to be demonstrated. *Jones 2000*

Evaluation is itself a learning experience, and better indicators, changed circumstances, or more useful technology will shape evaluation projects over time. Participatory evaluations, by their nature, need to be flexible and respond to people's needs and perceptions. However, if clear and accountable comparability over time is a purpose of the evaluation, minimum

changes should be made to methods and measures from one evaluation to the next, unless there are very good reasons for doing so, or adjustments can be made so the trends are still clear.

Comparisons between sites

Similarly, comparisons between sites for accountability or resource allocation purposes must rely on standard measures. 'Scorecards' are a common mechanism to compare effectiveness on very different sites – for example, two protected areas can be rated from one to five on their efforts to conserve endangered species, even though the species themselves are completely different. However, as mentioned above, such comparisons must always be treated with a degree of caution, with a consideration of context.

The *Learning Portfolio* approach (Salafsky and Margoluis 1999) applies adaptive management principles across a range of sites. This process involves the selection of a number of projects using the same conservation strategy in different locations. These projects work together to test hypotheses that will provide insight about the conditions under which the strategy works or does not work, and why.

> Learning about adaptive management (AM) at cross-Site level:
> - Best to have a have a common process to be able to compare sites
> - Best to have a common language to facilitate cross-site communications.
> - Projects working on doing AM together find it a less onerous task and thus seem to be more willing to do it.
> - Working to do AM across sites requires the presence of a coordinating team that is actively engaged in management and facilitation.
>
> *Margoluis and Stem 2003*

This general approach – comparing over space rather than time - can also be used to efficiently evaluate the long-term effectiveness of particular management programs or the potential impacts of a threat. For example, the effectiveness of a revegetation program using a particular set of techniques can be evaluated by looking at areas with similar characteristics that were revegetated two, five and ten years ago (if such sites are available) rather than following one site over time.

Comparisons also are very helpful in setting priorities among resources competing for attention.

Looking for explanations

Once we have assessed whether management outcomes have been achieved, it is desirable to establish to what extent these results are due to our management interventions and to what extent they due to other factors – maybe those beyond our control. However, it is more important to know the reason for success or failure of a program than to simply know whether the outcome was 'caused' by the program activities. If we cannot understand the reasons for management success or failure, then attempts to improve performance or to emulate successful programs may be ineffective.

> Evaluation and monitoring go hand in hand. Monitoring provides the raw data to answer questions. But in and of itself, it is a useless and expensive exercise. Evaluation is putting those data to use and thus giving them value. Evaluation is where the learning occurs, questions answered, recommendations made, and improvements suggested. Yet without monitoring, evaluation would have no foundation, have no raw material to work with, and be limited to the realm of speculation. …. A monitoring program should not be designed without clearly knowing how the data and information will be evaluated and put to use. We cannot afford to collect and store data that are not used. Monitoring for monitoring's sake is monitoring that should never be done.
> *Allen 1997*

Many factors interact in the complex systems that are protected areas. For example, improvement in the ecological state of a grassland over the first five years of management in

a new protected area could be due to reduction in grazing, better fire management, or a series of good seasons.

Well-designed evaluation processes yield results with greater explanatory power, giving us some ideas as to why outcomes have been achieved or not achieved. Clear questions, explicit assumptions and meaningful indicators all help to increase our ability to understand and interpret the results. More comprehensive evaluation programs –i.e. those that address more of the elements of management –also explain causes better. Information about context, inputs, processes and outputs help interpret to what extent outcomes are due to particular interventions.

Interpretation of results is much easier if evaluators can refer to a simple model such as that in Figure 3, which shows how the elements are linked, what assumptions are made and what factors could influence management outcomes. Where an evaluation has been based on such a model, and assessments have been made of context, planning, inputs, processes, outputs and outcomes, analysis can draw on all this information to come up with informative and useful explanations and future recommendations. Even at the analysis phase a model can be developed to better understand results.

Referring to the example shown in Figure 3 (see page 30), possible summarised results could be:
Scenario 1: The outcomes were all achieved. The planning and execution of the project were excellent and that the chain of events and the assumptions were all 'on track';
Scenario 2: The output (a successful fish farm) was achieved. However, one of the critical assumptions (the level of enforcement of outside fishing) was incorrect, so the outcome was not achieved and the reefs were still plundered seriously. The recommendation from the evaluation is to continue the fish farm project but to also increase law enforcement capacity.
Scenario 3: The fish farm was not established on target and objectives were not achieved. Processes of working with the community were inadequate and need to be improved.
Scenario 4: As for scenario 3, but the cause of this problem was that the funding was discontinued for 6 months at a critical time, resulting in loss of key staff and of community trust. However, strict new law enforcement has stopped the reef destruction and some recovery is evident in spite of the project failure.
Scenario 5: All elements of the project appear to be successful but a severe drought and high temperatures have caused coral bleaching, so the reef biodiversity has further declined.

These scenarios are not all successful, but the project evaluation has explained the results and will practically guide future improvements.

Recommendations for actions
As analysis is being undertaken, the critical question 'how well is this protected area being managed' is usually paired with two other questions: 'how can this be improved' and 'what other information do we need to make these judgments better'? Recommendations for improved management and for monitoring usually result from the analysis phase.

✴*Advice from evaluation needs to be clear and specific enough to improve conservation practices and it needs to be realistic, addressing priority topics and feasible solutions.*

3.7 Evaluation can make an impact

Phase 4: Communication and reporting of results and impact on management

- Check audience analysis and styles and methods of reporting
- Compile report with recommendations
- Check report with relevant stakeholders
- Present findings and recommendations
- Adjust methods for later evaluations
- Record impact of evaluation

Section 2 of this chapter discussed the potential purposes and benefits of evaluation. How can practitioners ensure that the evaluation does achieve its purposes and result in more effective and anticipatory protected area management? All the guidelines suggested in this chapter work towards making an evaluation proceed successfully. However, one or more 'champions', either within a management agency or outside it, need to follow through both during and after the evaluation process to facilitate and encourage the needed changes. It should never be assumed that an evaluation will automatically result in improved management – unfortunately many excellent reports have very little impact at all.

3.7.1 Making an impact during the process

✶*Adaptive management and action learning approaches work on the philosophy that the evaluation process itself it is vital learning experience, which enhances and transforms management*. Evaluation often has impacts on management well before a formal report is prepared.

The process of *designing* the evaluation formalises and documents many aspects of management. Depending on the scope of the evaluation, essential requirements usually include clear statements of park values and objectives and the determination of expected management standards. Though these statements and standards have desirably been formulated as part of a management planning process, in reality many protected areas and systems have inadequate planning, and the evaluation process can assist in this documentation.

As well as forming the basis for process evaluation, the definition of management process standards can help improve management capacity. These standards can act both as a policy document to guide staff and as a basis for planning future management programmes, since identification of barriers to better management is the first step in addressing any shortcomings. This information can also be used to support proposals for additional funds or training, either from within the agency or from external donors.
Hockings et al. 2000

Conducting the evaluation also has immediate benefits. Getting people together to talk about management and to focus on reflecting on management effectiveness provides a valuable – sometimes unique – opportunity for increased understanding, improved learning and the exchange of different viewpoints.

✶*Short-term benefits of evaluation should be demonstrated clearly wherever possible:* The acceptance of longer-term evaluation and monitoring can be undermined by the fact that no results or outcomes are seen for a long time. It is important to establish processes to reach outcomes and measure progress along the chain towards outcome.

Some form of feedback – even unprocessed information – should be returned to agency field and stakeholders as soon as possible after evaluation exercises to reinforce the learning and exchanges that have taken place.

3.7.2 Communicating the results

✶*Evaluation planning should include an early consideration of communication and of the evaluation audiences.* This step is critical to getting maximum mileage out of the work. In some cases, the audience might be the organisation that requested the evaluation, but often a much wider audience is interested in the results. It may be possible to greatly multiply the positive effects of the evaluation by judicious communication. Possible methods of communication include reports in hard copy and on the internet, attractive publications and brochures to increase public interest, presentations to managers, decision-makers, interest groups and other stakeholders, field days and special events, media coverage and displays.

Several reports or presentations with different levels of detail for different audiences might be appropriate for one evaluation. Careful thought needs to be given to what results should be reported outside a 'confidential' audience: for example, scores or comments that relate directly to individuals might be grouped or otherwise reported to avoid potential repercussions on participants.

Broad audiences might be most interested in conclusions, while more detailed information with a higher level of technical explanation may be made available for particular audiences. Many practitioners have had challenging experiences with deciding or negotiating what information should be available to the general public if it is critical of current management practices or if it clearly

> **Box 31: Evaluation through rapid assessment and integrity statements in Queensland parks and forests**
>
> An unexpected and immediate outcome of assessing our management is the sharing of knowledge in group meetings. Park managers find out about really valuable information or resources that they have never heard of, and about some great innovations other managers are making.
>
> There have also been very robust discussions about some aspects of management, about current and potential threats, and about impacts of certain activities, which I think will result in some park managers changing their practices or being more vigilant for problems. The important thing is that these results would not have come about without the meetings of staff from different areas, and that they don't happen after the evaluation is finished and people read a report, but as a direct result of peer review and reflection time.
> *Fiona Leverington (QPWS) Leverington*

> **Box 32: Management effectiveness evaluation of protected areas in Brazil**
>
> … the media's interest in the campaign (between March and October 1999, there were 50 news releases on newspapers and magazines about the WWF report, and several TV and radio interviews) caused some difficulties between WWF Brazil and IBAMA, mainly because the parties did not agree in advance on the objectives of the study and the use of its results…Some IBAMA staff responded defensively, seeing the report as a reflection on their management rather than on the difficult circumstances faced by protected area managers in Brazil. As far as WWF was concerned, "*the study was meant to be a 'snap shot' of the present situation, a base-line for future monitoring, and an instrument for government planning, not a judgement of past or present performance*" (Lemos de Sá *et al.,* 2000). Subsequently, WWF and IBAMA staff have reviewed the difficulties that arose over the publication and use of the results of the study, and have clarified the project's objectives and their institutional roles. This has resulted in a formal, five-year cooperative agreement.
> *Lemos de Sa et al. 2000*
> *Izurieta 2000*

signals the need for more resourcing. In Brazil (Box 32) problems arose when agency staff felt they were being openly criticised.

★*The way that findings are reported must suit the intended audiences.* Method of presentation, language and terminology used in collecting and reporting evaluations should be commonly understandable, though more technical language will be appropriate for selected audiences. Use of electronic publishing and the internet has enabled much wider audiences to be supplied with greater information. It can be particularly appropriate for regular reporting and for large amounts of information where people are likely to want to see only a fraction at one time. Distribution of some hard copy reports is often needed in addition.

> **Provide opportunities for broad review** -- Think broadly and inclusively when soliciting reviewers for the draft report findings. Wide dissemination serves a double benefit of getting more input and the public relations value to keep people informed and involved in the project.
> *Peterson 2003*

★*Timeliness of reporting is critical to making it useful.* Evaluators should be aware that spending months to conduct detailed analyses and produce attractive reports might be futile if the evaluation is then out of date by the time it is disseminated.

★*Harmonised or standardised reporting allows comparisons across sites, across time, and to meet multiple reporting requirements.*

> **Rapid feedback**
> Note that if early results show that current management is failing to achieve the objectives, it is essential that decision-makers get the facts when they need to know them and know what needs to be done to improve management. If the results of evaluations don't get back to and influence those who can change ongoing management, the benefits of evaluation can be lost.
> *Jones 2000*

3.7.3 Making sure change happens

Making recommendations
Evaluations should spell out need for planned change or should encourage reinforcement of what is going well at site or organizational level.

It is important that

❖ Recommendations include short-term actions, which are clear, concrete, achievable within time and resource constraints and prioritised; as well as long-term and other recommendations that enable managers to take advantage of potential increased resources and opportunities;

> It is likely that assessment will indicate a variety of suggestions for adapting management. These may range from small-scale interventions that can be achieved through minor adjustments or additions to current management practices, to the need for larger-scale interventions, where the results of the assessment can be used to support funding applications or to justify realignment of budget priorities
> *Hockings et al. 2001*

❖ Advice from evaluation is specific and clear enough to improve conservation practices;
❖ Findings address priority concerns, are relevant to evaluation audiences, and are presented in a way that is meaningful to them; and
❖ Evaluation findings, wherever possible, are positive, identifying challenges rather than blame.

Using recommendations
★*The findings and recommendations of evaluation need to feed back into management systems (see figure 1) to influence future plans, resource allocations and management actions (see section 2). Evaluations that are integrated into the managing agency's culture and processes are more successful and effective in improving management performance in the long term.*

Two key factors that determine whether evaluation findings will 'make a difference' are:
- ❖ a high level of commitment to the evaluation by managers and owners of the protected areas; and
- ❖ adequate mechanisms, capacity and resources to address the findings and recommendations.

Adaptive management

As discussed in section 2, the adaptive management approach builds evaluation into the management cycle, creating ideal conditions for management to become more effective over time and to respond quickly to changes. Salafsky *et al.* (1999) define the characteristics, conditions and principles of adaptive management for conservation projects and also provide guidance for practitioners.

Adaptive management incorporates research into conservation action. Specifically, it is the integration of design, management, and monitoring to systematically test assumptions in order to adapt and learn.

This definition can be expanded as follows:
a) **Testing assumptions** is about systematically trying different actions to achieve a desired outcome…The key here is to develop an understanding of not only which actions work and which do not, but also why.
b) **Adaptation** is about taking action to improve your project based on the results of your monitoring… Adaptation involves changing your assumptions and your interventions to respond to the new information obtained through monitoring efforts.
c) **Learning** is about systematically documenting the process that your team has gone through and the results you have achieved. This documentation will help your team avoid making the same mistakes in the future. Furthermore, it will enable other people in the broader conservation community to benefit from your experiences.
Salafsky and Margoulis 1999, p.12

The adaptive management approach has been adopted by a number of evaluation projects and methodologies (see Box 33) and is highly recommended for conservation organisations and management agencies seeking to become more effective in the face of global change. Adaptive management is most successful if the protected area or project managers themselves conduct it, though outsiders can help with design and documentation (Margoulis and Salafsky 1998).

Box 33: The Nature Conservancy's "Auditing Progress on Conservation by Design" project.

The Nature Conservancy's 5S Framework has been used as a planning tool for hundreds of protected areas over the past three years. The Framework has been most successful at assessing the *status* of threats and biodiversity and using this assessment as the basis for selecting strategies. The Framework has been recently revised using adaptive management principals to better assess the *effectiveness* of conservation actions. The Enhanced 5S Framework includes outcome-based objectives and specific indicators for measuring conservation success.

4   Conclusions

This chapter has provided a brief overview of current thinking and actions in relation to management effectiveness evaluation. There is no doubt that evaluation must play a major role in helping management to be more effective and responsive in the face of massive changes in the biophysical, socio-economic and governance environments of protected areas in the 21st century.

The guidelines presented throughout the chapter and in the source documents provide encouragement and a starting point for managers to implement evaluation as an integral part of protected area management. As experience with evaluation accumulates, we can expect these guidelines and recommendation to be extended and improved. Information on the most useful indicators to assess various aspects of management is particularly needed.

4.1 Findings and guidelines

In summary, the findings and guidelines of this chapter are:

Evaluation of management effectiveness is a vital component of the responsive, pro-active protected area management that can cope with global change. E**valuation can fulfil four major purposes**:

- lead to better management in a changing environment;
- assist in effective resource allocation;
- promote accountability and transparency; and
- help involve the community, build constituency and promote protected area values.

Evaluation is part of an effective management cycle
Effective evaluation needs a high level of support and commitment from protected area management agencies as well as from other parties involved**.**

An accepted framework for evaluation is useful
- To better' harmonise' different evaluation approaches and to provide a solid theoretical and practical basis for management effectiveness evaluation, it is desirable to clearly base evaluation on a consistent framework**.**

- The framework for management effectiveness developed by World Commission for Protected Areas (Hockings *et al.* 2000) provides a consistent basis for designing evaluation systems. It is based on the idea that protected area management follows a process with six distinct stages, or elements:

    - it begins with reviewing context and establishing a vision for site management (within the context of existing status and pressures),

    - progresses through planning, and

    - allocation of resources (inputs), and

    - as a result of management actions (process),

    - eventually produces goods and services (outputs),

    - that result in impacts or outcomes.

- These six stages have a central core, which is a cycle of evaluation, reflection and learning.

- Evaluation that assesses each of these elements and the links between them should obtain a relatively comprehensive picture of management effectiveness. This kind of evaluation is regarded as having greater 'explanatory power'.

Evaluation works best with a clear plan
- A clear purpose, scope and objectives are needed. It is important at the beginning of an evaluation project to know exactly what it is expected to achieve, and to understand the levels of resourcing and support that can be expected. It is critical that the management goals and objectives for the protected area or project being evaluated have been spelt out clearly. Agreement among all partners on criteria, evaluation objectives and broad questions is important before a more detailed methodology is selected or developed.

- Where possible, the scope of evaluation should be broad enough to capture the relationships and inter-linkages between various factors affecting protected area management.

- For some evaluations, such as those undertaken for adaptive management purposes and assessments of specific interventions or projects, a concept model of how the project is supposed to work is a vital tool.

- Most evaluations of management effectiveness assess a number of elements, and these are linked to one another. We need to understand the links between the elements or criteria being evaluated so we can interpret the results of evaluation. It is important to clearly specify the assumptions being made when any of these elements are linked.

The methodology needs to suit the purpose
- We should learn from others and use or adapt existing methodologies if possible. Methodologies should be compatible or 'harmonised' as much as possible.

- Tools need to be appropriate and responsive to needs.

- Information should be triangulated where possible. A common method of ensuring more accurate results is to choose several different indicators for the same question, different sources of information, and different methods or tools.

- Flexibility should be retained – an iterative approach is helpful. Methodologies should be improved over time.

Questions and indicators need to be carefully chosen
- Different layers of questions look at conditions in a particular dimension. Layers of questions should proceed logically and link from very general level to specific and measurable. It is important to be explicit about the assumptions linking different levels of questions and indicators.

- It is critical that indicators are relevant and useful in answering the higher level questions. Indicators need to be as cost-effective as possible. It is desirable for indicators to have some explanatory power, or be able to link with other indicators to explain causes and effects

- The limitations of indicators need to be understood. There is a danger that evaluations can over-simplify reality by interpreting indicators to mean more than they really do

Good communication, team-building and stakeholder involvement is essential in all phases of the project.
- Gaining approval, trust and cooperation of stakeholders, especially the managers of the protected areas to be evaluated, is critical and must be ensured throughout the evaluation. Evaluation systems should be established with a non-threatening stance to overcome mutual suspicion. If the evaluation is perceived to be likely to 'punish' participants or to reduce their resources, they are unlikely to be helpful to the process.

- Care needs to be taken to ensure all stakeholders have an opportunity to express their viewpoints.

A long-term evaluation plan with a good monitoring program is preferable
- For all except special-purpose single-event evaluations, it is desirable to repeat similar measures at intervals. Harmonised or standardised reporting allows comparisons across sites, across time, and to meet multiple reporting requirements.

- Well-designed evaluation processes yield results with greater explanatory power, giving us some ideas as to why outcomes have been achieved or not achieved.

- Evaluation of management effectiveness is best if it is backed up by robust, long-term monitoring.

- Evaluation must make the most of what information is available (where necessary, interpreting qualitative and anecdotal information), and should drive the establishment of a future monitoring program, which is targeted to find out the most critical information.

Evaluation findings must be communicated and used positively
- Advice from evaluation needs to be clear and specific enough to improve conservation practices and it needs to be realistic, addressing priority topics and feasible solutions.

- Adaptive management and action learning approaches work on the philosophy that the evaluation process itself it is vital learning experience, which enhances and transforms management. Evaluation often has impacts on management well before a formal report is prepared.

- Short-term benefits of evaluation should be demonstrated clearly wherever possible

- Evaluation planning should include an early consideration of communication and of the evaluation audiences. The way that findings are reported must suit the intended audiences. Timeliness of reporting is critical to making it useful.

- Evaluations should spell out need for planned change or should encourage reinforcement of what is going well at site or organizational level.

- Recommendations should include short-term actions, which are clear, concrete, achievable within time and resource constraints and prioritised; as well as long-term and other recommendations that enable managers to take advantage of potential increased resources and opportunities.

- Evaluation findings, wherever possible, should be positive, identifying challenges rather than blame.

- Findings and recommendations of evaluation need to feed back into management systems to influence future plans, resource allocations and management actions. Evaluations that are integrated into the managing agency's culture and processes are more successful and effective in improving management performance in the long term.

- Two key factors that determine whether evaluation findings will 'make a difference' are:
  - a high level of commitment to the evaluation by managers and owners of the protected areas; and
  - adequate mechanisms, capacity and resources to address the findings and recommendations.

4.2 Recommendations for Convention for Biological Diversity (CBD) Parties

The Convention for Biological Diversity and other international instruments and organisations can play a useful role in promoting the adoption of management effectiveness evaluation. The specific objectives below could form the basis for a global work program on management effectiveness evaluation.

Objectives for protected area management effectiveness evaluation that could be adopted by the CBD and protected area management agencies include:

- To promote the adoption and implementation of best practice systems for assessing management effectiveness of protected areas at the local, national and regional level.

- To assemble information and develop recommendations on the most appropriate indicators and methodologies for assessing aspects of protected area management (e.g. biodiversity conservation, ecological integrity, social, economic and institutional aspects) and make this information available to State Parties, protected area managers and relevant NGOs and protected area institutions.

- To assemble a database of management effectiveness assessment initiatives and experts in management effectiveness assessment and make this information available to State Parties, protected area managers and relevant NGOs and protected area institutions.

- To analyse the results of assessments of management effectiveness in order to identify any common regional or global features and trends, disseminate the results of this analysis to State Parties and make available information on the most effective management responses to commonly identified problems with protected area management.

- To encourage State Parties, protected area managers and relevant NGOs and protected area institutions to methodically and transparently use the outcomes of management effectiveness evaluation and state of parks reporting to improve management of protected areas at local, regional and state/national level

5 Glossary of terms

Action learning: the deliberate and conscious reflection on processes and problems, to ensure that lessons are learned from experience. (REVISE)

Adaptive management: a process that integrates project design, management and monitoring to provide a framework for testing assumptions, adaptation, and learning (Margoluis and Salafsky, 1998).

Evaluation: judgement or assessment of achievement against some pre-determined criteria (usually a set of standards or objectives)

Evaluation of management effectiveness needs to consider one or all of the three components of management effectiveness, also taking into account the context of management – i.e. the surrounding landscape, threats, and values of the protected area.

Management effectiveness is the degree to which a protected area is achieving its goals. It includes three main components:
- design issues relating to both individual sites and protected area systems;

- adequacy and appropriateness of management systems and processes;
- the extent to which a protected area is achieving its objectives.

Monitoring: repeated observations that show changes and trigger management responses.

Research: targeted information gathering, which assists in understanding how systems work

Indicator: an attribute whose presence or absence, quantity, level, pattern, etc. is used to measure the condition of an object of interest.

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