

Evaluating Management Effectiveness:

Maintaining Protected Areas for Now and the Future



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Front cover photo:

*San Salvador Island viewed from
Bartolome Galapagos Islands Ecuador*
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Front cover illustration:

*Saddleback tortoise Galapagos Islands,
Ecuador Drawing*
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*The WWF/CATIE Evaluation methodology
has been developed and applied over a
number of years within Latin American
protected areas including the Galapagos
Islands (refer to page 12).*

Evaluating Management Effectiveness:

Maintaining Protected Areas for Now and the Future

How well are protected areas meeting their conservation objectives and protecting their biological and cultural values? Are they being managed to cope with increasing threats such as climate change, hunting and invasive species? How do we measure this and adapt management so that protected areas will be maintained for now and the future?

All over the world, huge investments of money, land and human effort are being put into acquisition and management of protected areas, and into specific intervention projects. More than ten percent of the world's land surface is now in some form of protected area. This demonstrates the tremendous importance the global community places on this form of conservation. However, declaration alone does not guarantee the conservation of values. In many cases we have little idea of whether management of individual protected areas, or of whole systems, is effective. More importantly, what little we do know suggests that many protected areas are being seriously degraded. Many are in danger of losing the very values for which they were originally protected.

We clearly need to find out what is happening and then carefully manage protected areas to cope with escalating threats and pressures. An increasing number of people have been developing ways to monitor and evaluate the effectiveness of protected areas. There is a growing awareness that evaluating management effectiveness and applying the results is at the core of good protected area management. Essentially, evaluation enables managers to reflect on experience, allocate resources efficiently, and assess and plan for potential threats and opportunities.



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What is Evaluating Management Effectiveness?

Management effectiveness evaluation measures the degree to which a protected area is protecting its values and achieving its goals and objectives. The main objective of evaluation is to enable managers to improve conservation and management of protected areas.

Three main components of management effectiveness can be evaluated:

Design of individual protected area or protected area systems - important elements include size, shape, external interactions and connectivity. Evaluation may highlight design problems such as exclusion of critical habitat areas, isolation, and lack of protection from external pressures.

Adequacy and appropriateness of management - examines how management is being undertaken: whether plans are in place, whether staff and funds are sufficient to meet basic needs and whether management meets best practice standards for the region.

Delivery of protected area objectives - assesses whether protected areas are achieving their stated aims. Measures include biological elements (such as whether key species are surviving, recovering or declining) and cultural, social and economic aspects (such as recreational use and the attitudes of local communities).



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Field Monitoring is often an important part of evaluating management effectiveness. Monitoring key species and ecosystems may indicate whether protected areas are achieving their objectives and maintaining biodiversity. WWF researcher monitoring coral reef, Tubbataha Reef, Philippines

What is the purpose of protected area management evaluation?

Management effectiveness evaluation can be undertaken for many reasons and it is important that the purpose of evaluation is made clear at the beginning of the process. Four broad purposes for evaluation are outlined below:

- 1 promoting better protected area management including a more reflective and adaptive approach;
- 2 guiding project planning, resource allocation and priority setting;
- 3 providing accountability and transparency; and
- 4 increasing community awareness, involvement and support.

Evaluating management effectiveness should be seen as a positive process which allows us to correct and learn from our mistakes instead of repeating them, as well as to celebrate and build on past success. Evaluation will also enable managers to anticipate future threats and opportunities.



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Assessments of management effectiveness need to consider interactions between the protected area and neighbouring communities. Effectiveness of mechanisms to enhance community well-being whilst addressing impacts of incompatible adjacent land use can be critical issues for protected area managers. Virunga National Park Democratic Republic of Congo (Zaire)

Evaluation and Global Issues

The challenge is to ensure that protected areas will be successful even though they will be subject to pressures such as climate change, feral animal and exotic plant invasion, hunting and poaching pressure, isolation and fragmentation, clearing, pollution, over use, greater demands for resources, changing social and political attitudes, and political crises and military conflicts around and within them.

To cope with these pressures, effective management needs to be resilient and adapt to changing influences. We need to have the capability to respond rapidly to change and to be flexible without succumbing to damaging social and political demands.

There are many benefits of management effectiveness evaluation in the face of global threats and pressures. For example, monitoring and evaluation can:



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Monitoring can help quantify the effects of threats to protected areas and measure the success of management efforts to address threats such as poaching.



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- give 'concrete' evidence of success in managing pressures such as hunting and poaching;
- enable park managers to quantify impacts such as over-use and adapt management to minimise this;
- identify impacts on protected areas from global threats such as climate change. This in turn may help park managers from a network of sites, develop buffers and test hypotheses to cope with change;
- demonstrate the effectiveness of different control programs on weeds and feral animals. It can also provide early detection of new infestations;
- provide indicators of overall ecosystem health and methods of managing global threats on the wider landscape;
- indicate the success or failure of initiatives beyond park boundaries such as corridors and transfrontier parks;
- enable Indigenous and other local communities to become actively involved in assessing protected area management and guiding its future;
- involve Indigenous and local communities to facilitate a greater feeling of ownership and support for the park;
- enable practitioners to share ideas and experiences, and make cross-site comparisons with consistent data (especially when using the same general evaluation framework);
- give early warning signals of protected areas in danger - and help to argue for funding and international support for these areas;
- provide a mechanism for incorporating scientific and traditional knowledge as well as the perceptions and experience of park managers into decision making;
- provide a mechanism for maintaining management standards as governments and their priorities change;
- assist in times of political turmoil and conflict by providing a focus for international pressure or presence to protect the park;
- provide data on economic and other benefits of protected areas which can be used to build public and political support.

Tourism and recreation benefits are an important value of many protected areas. Monitoring visitor impacts can demonstrate whether protected areas are being "loved to death". Pamukkale Protected Area, Turkey



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Evolution of Evaluating Management Effectiveness

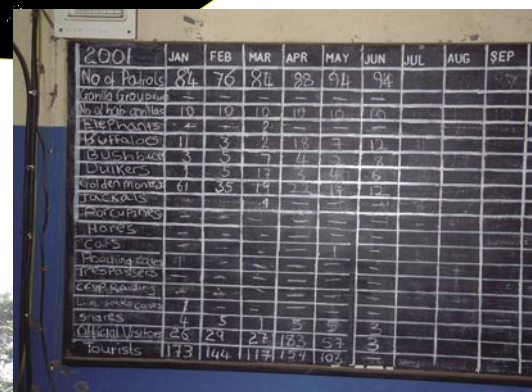
Although other fields such as health and international development earlier recognised the importance of evaluation in effective management and project cycles, it is in the last fifteen to twenty years that evaluation has begun to grow in importance for conservation programs.

The need to develop “tools and guidelines” to “evaluate the ecological and managerial quality of existing protected areas” was recognised by IUCN 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 of the IUCN.

The Fourth (Caracas) Congress in 1993 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 World Commission on Protected Areas (WCPA) to address this issue. 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, other groups and individuals were addressing the same issue. A number of methodologies are now being applied around the world. These range from detailed monitoring systems for individual areas to rapid assessment systems for use at a national scale. These have also evolved with consideration of advances in evaluation from other disciplines including health sciences, rural development, agriculture and environmental science.

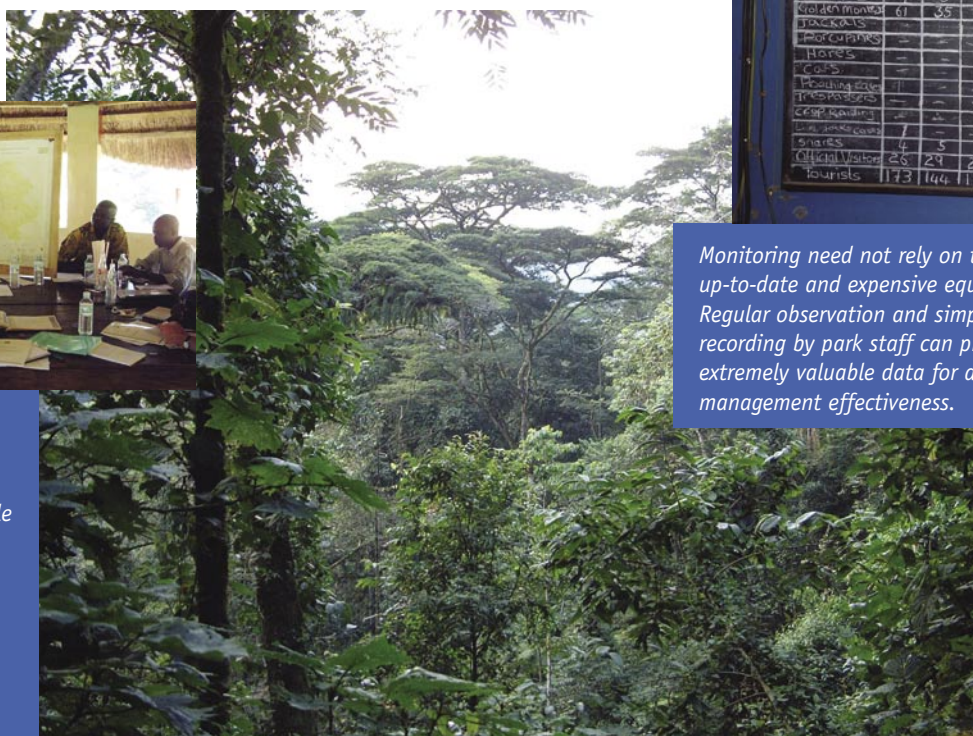
We are now in a position to review the experience gained over the past decade and set direction for the next stage of management effectiveness evaluation.



Monitoring need not rely on the most up-to-date and expensive equipment. Regular observation and simple recording by park staff can provide extremely valuable data for assessing management effectiveness.



A detailed site assessment system is being applied in Bwindi Impenetrable National Park.



The WCPA Framework for Assessing Management Effectiveness of Protected Areas

It is clear that different situations require different types of assessment. In particular, there will be major differences in the amount of time and resources available for assessment in different parts of the world. Issues of scale, nature of management objectives and differences in threats and impacts and available resources all affect the choice of evaluation methodology.

For example assessing the effectiveness of management in Bwindi National Park, Uganda requires a different approach to assessing the effectiveness of management of the Great Barrier Reef Marine Park in Australia.



The WCPA Framework can be used to develop different methodologies for various situations. For example, monitoring marine park management on the Great Barrier Reef Australia will require a different approach to monitoring mountain gorillas in Bwindi Impenetrable National Park.

Therefore, the WCPA Task Force developed a 'framework' rather than a standard global methodology. The framework aims to help in the design of assessment systems,

- provide a checklist of issues that need to be measured;
- suggest some useful indicators; and
- encourage basic standards for assessment and reporting.

The WCPA framework is based on the premise that the process of management starts with establishing a vision (within the context of existing status and pressures), progresses through planning and allocation of resources and, as a result of management actions, produces results that (hopefully) lead to the desired outcomes. Monitoring and evaluation of these stages provide the link that enables planners and managers to learn from experience. This also helps governments, funding agencies and communities to measure how well their project or area is doing.

Figure 1 presents a common framework within which evaluation and monitoring programmes can be established, combining context, planning, input, processes, outputs and outcomes.



Figure 1: Evaluation in the management cycle

The elements to be measured

The following section provides a brief description of each of the elements in the management cycle which are open for evaluation and explains why they are important.

Design Elements

Context - Where are we now?

What is the protected area's current status -

- its global, national or local significance;
- its conservation and other values;
- its broad policy and managerial environment; and
- the particular threats affecting it?

This information helps put management decisions in context. This may be the main assessment used to identify priorities within a protected area network, or to decide on the time and resources to devote to a special project. It may also provide information on management focus. For example, if poaching is a major problem and there are no anti-poaching measures in place, then an important discrepancy has been identified. Conversely the existence of extensive anti-poaching brigades when the poachers have moved on elsewhere may be a waste of resources.

Planning - Where do we want to be and how are we going to get there?

What are the intended outcomes for the protected area system or the individual protected area?

How adequate is protected area

- legislation and policy;
- design; and
- management planning?

The selected indicators for evaluation will depend on the purpose of assessment and whether a system of reserves or an individual protected area is being evaluated. With systems, issues of ecological representativeness and connectivity will be particularly important. The focus of assessment of individual protected areas will be on the shape, size, location and detailed management objectives and plans.

Appropriateness of management systems and processes

Inputs- what do we need?

How adequate are the available resources in relation to the management needs of an area? This is based primarily on consideration of staff, funds, equipment and facilities required.

Process - how do we go about it?

How well is management being conducted in relation to relevant standards of management for a system or a site? Assessment will involve a variety of indicators, such as issues of policy development, enforcement, facility and equipment maintenance, administrative systems and processes, the adequacy of local community involvement and systems for natural and cultural resource management.

Delivery of protected area objectives

Outputs - What did we do and what products or services were produced?

What has been done by management, and to what extent have targets, work programmes or plans been implemented? The focus of output monitoring is on whether targets (set through management plans or a process of annual work programming) have been met as scheduled and what progress is being made in implementing long-term management plans.

Outcomes - What did we achieve?

This question evaluates whether management has achieved the objectives in a management plan or national plans, and ultimately the aims of the IUCN category of the protected area. Outcome evaluation is most meaningful where concrete objectives for management have been specified either in national legislation, policies, or site-specific management plans. Approaches to outcome evaluation involve long-term monitoring of the condition of the biological and cultural resources of the system or site, socio-economic aspects of use, and the impacts of the management of the system or site on local communities. Outcome evaluation should also consider whether the values of the site have been maintained and whether threats to these values are being effectively addressed.

Outcome evaluation is the true test of management effectiveness. But the monitoring required is significant, especially since little attention has been given to this aspect of protected area management in the past. The selection of indicators to be monitored is critical so that resources are not wasted monitoring features that cannot help manage the most critical issues.



Wide involvement of stakeholders is an important ingredient of successful evaluations. Informal meetings and workshops can help park staff and local communities to work together to assess and improve management.

The WCPA evaluation framework is summarised in Table 1.

Elements of evaluation	Explanation	Criteria that are assessed	Focus of evaluation
Context	<i>Where are we now?</i> Assessment of importance, threats and policy environment	<ul style="list-style-type: none"> - Significance - Threats - Vulnerability - National context - Partners 	Status
Planning	<i>Where do we want to be?</i> Assessment of protected area design and planning	<ul style="list-style-type: none"> - Protected area legislation and policy - Protected area system design - Reserve design - Management planning 	Appropriateness
Inputs	<i>What do we need?</i> Assessment of resources needed to carry out management	<ul style="list-style-type: none"> - Resourcing of agency - Resourcing of site 	Adequacy
Processes	<i>How do we go about it?</i> Assessment of the way in which management is conducted	<ul style="list-style-type: none"> - Suitability of management processes 	Efficiency and appropriateness
Outputs	<i>What were the results?</i> Assessment of the implementation of management programmes and actions; delivery of products and services	<ul style="list-style-type: none"> - Results of management actions - Services and products 	Effectiveness
Outcomes	<i>What did we achieve?</i> Assessment of the outcomes and the extent to which they achieved objectives	<ul style="list-style-type: none"> - Impacts: effects of management in relation to objectives 	Effectiveness and appropriateness

Table 1: Summary of the WCPA Framework



One of the benefits of evaluations can be the process itself – bringing people together and sharing information. Multiple sources of information can be used - from maps and aerial photographs to local on-ground knowledge.

Ideally, assessments will cover each of the above elements, which are complementary rather than alternative approaches to evaluating management effectiveness. Monitoring inputs and outputs over time can be especially useful to show changes in management efficiency and may highlight the effectiveness of a particular change to management. However, assessments are driven by particular needs and resources and a partial evaluation can still provide very useful information. The framework provides a structure for designing an evaluation system. A process is outlined in Figure 2.

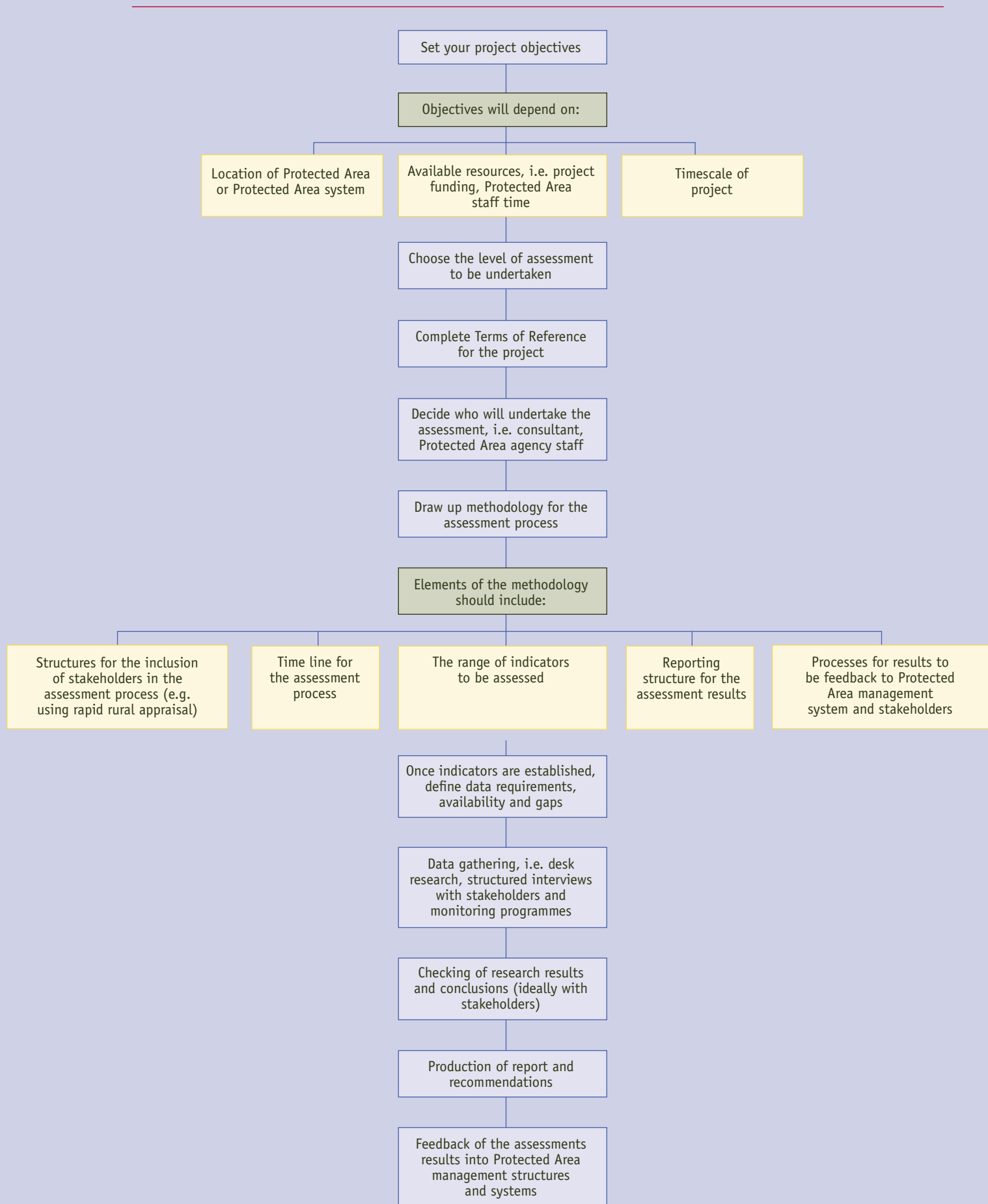


Figure 2: Creating a methodology to assess the management of protected areas or protected areas systems

Application of Management Effectiveness Evaluation

Several methodologies for evaluating management effectiveness are now being applied all over the world. Many of these are based on the WCPA framework. The basic framework can be used to develop methodologies across a range of environments and scales, from rapid assessments of national and international protected area systems to detailed monitoring of individual protected areas. Depending on available time and resources and the objectives of evaluation, the processes range from complex to simple and cheap.

A sample of methodologies that have been developed and applied at various scales are outlined below.

The Enhancing our Heritage: monitoring and managing for success in natural World Heritage sites project

This is a four-year United Nations Foundation, IUCN and UNESCO project working in ten World Heritage sites in south Asia, Latin America and southern and eastern Africa. A monitoring and assessment toolkit based on the WCPA framework has been developed. Evaluation is being used to improve management and reporting at World Heritage Site level. The project aims to improve management of World Heritage sites by providing managers with a consistent program for assessing and reporting on management effectiveness and conservation values. Evaluation involves field monitoring, workshops and interviews. The process is participatory and involves many stakeholders from local communities and field staff to international NGOs. Improved communication has been established between park managers, local communities and other key experts. Responses to identified deficiencies are now being implemented to improve management.

The Rapid Assessment and Prioritisation of Protected Areas Management (RAPAM) Methodology

WWF International has developed and field-tested a tool for assessing the management effectiveness of protected area systems at a national level. It is intended to:

- identify strengths and weaknesses;
- analyse threats and pressures;
- identify areas of high ecological and social importance and vulnerability;
- indicate the urgency and conservation priority for individual protected areas; and
- help to improve management effectiveness.

Evaluation consists of review of available information and a workshop-based assessment using the Rapid Assessment Questionnaire, analysing findings and making recommendations. The process involved park staff, local communities, scientists and NGOs. The objectives of assessment were developed individually for each country. Detailed case studies for each area were developed and used to improve management in ways such as conservation planning, priority setting, and increasing focus on threatened areas.



Long-term monitoring has been conducted in many World Heritage areas such as Royal Chitwan National Park in Nepal. A coordinated management effectiveness evaluation process can ensure that monitoring results are used to improve site management.



Benefits of evaluation can include raising public awareness of park issues and better allocation of park resources. Rocky Mountains National Park USA

The "State of the Park" Program to Assess natural and Cultural Resource Conditions in U.S. National Parks

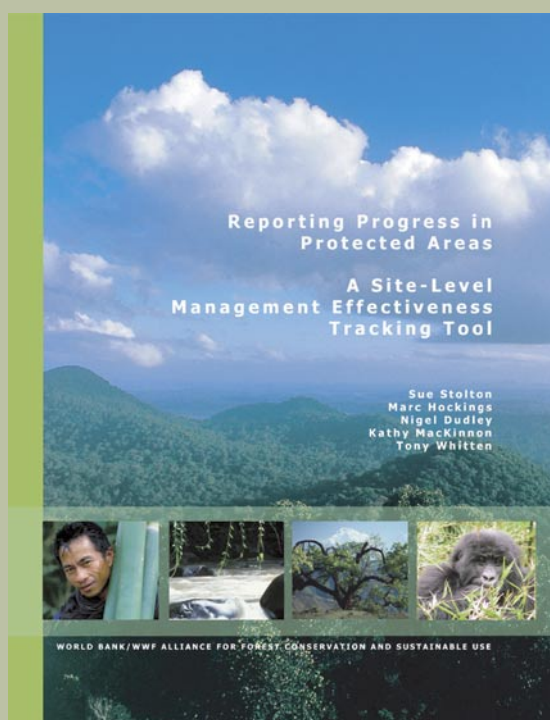
This evaluation project was commissioned by the National Parks and Conservation Association to raise public awareness about the state of national parks and to show the actual resource conditions of the 387 units of the US system. The methodology examined critical indicators of both natural and cultural resource conditions and management practices. It particularly focussed on outcomes. Immediate benefits included prioritised funding and increased stakeholder awareness of park issues.

The Nature Conservancy's Measures of Success

The Nature Conservancy's Measures of Success methodology is a part of its broader 5S conservation planning approach. This methodology assesses viability of conservation targets using measures of landscape context, size and condition. Threats to conservation targets are assessed in terms of both the stress acting on the conservation target and the sources of that stress. The Framework has recently been revised using adaptive management principles to better assess the effectiveness of conservation actions. It now includes outcome-based objectives and specific indicators for measuring conservation success. It has been applied to many protected areas.

Reporting Progress in Protected Areas: A site-level management effectiveness tracking tool

The World Bank/WWF Alliance for Forest Conservation and Sustainable Use has developed a simple, site-level assessment system for tracking progress in management effectiveness. The methodology, which is also being used by the Global Environment Facility, is designed to provide a relatively quick, easy and consistent system for reporting progress on management effectiveness in a diverse range of protected areas. It is not, however, designed to replace more thorough methods of monitoring and assessment for purposes of adaptive management.



This methodology applied measurable performance indicators covering social, environment and management issues. Rio Platano Biosphere Reserve Ecuador

WWF/CATIE and PROARCA/CAPAS Evaluation Methodologies

Both the WWF/CATIE and PROARCA/CAPAS methodologies for evaluating management of protected areas have been developed, tested and refined over a number of years within Latin America. These methodologies involve scoring systems based around a hierarchy of indicators of different aspects of management performance. For each indicator used, a number of conditions are established - the optimum condition being given the maximum value. Results are presented in the form of a percentage of the maximum obtainable score. This can be calculated as an overall figure for the protected area and as scores for each field of activity and can be presented in matrix format. The methodologies focus principally on management inputs and process with some assessment of management outputs and outcomes.

General Guidelines for Evaluating Management Effectiveness

A number of general guidelines have been developed, based on experience in management effectiveness evaluation over the past decade. These guidelines are listed in brief, grouped according to the aspect of evaluation that they relate to:

The Process

- The process should have clearly defined objectives and plan.
- Methodology should be based on an accepted framework.
- Methodology used should be simple, repeatable, and transparent.
- The level and complexity of evaluation depends on the scale, scope and purpose of the project.
- Assessment should focus on the most important values and significant threats identified for that area.
- Evaluation should be based on the best available information and may be both qualitative and quantitative.
- Limitations to the process including knowledge gaps should always be identified.
- Performance indicators should cover social, environmental and management issues.
- Indicators should be measurable and results should reflect on important aspects of management.
- Management effectiveness evaluation needs to be supported by park managers and project leaders and become part of core business.

Reporting

- Limitations and flaws in the process should be identified in the assessment report;
- Improvement to the process should also be recommended;
- Strengths and weaknesses of management should be identified;
- Clear recommendations for improving management should be outlined after the evaluation process.

Applying Results

- The process does not end with evaluation - results should be fed into future management and decision making;

- Evaluation results should highlight any changes over time;
- Results should help to set management priorities and guide resource allocation.

Participation

- Involve the community, stakeholders and all levels of park staff;
- Build a team where necessary to carry the project and encourage ownership as well as increasing communication between of park managers and stakeholders;
- Findings should be accessible to park managers and stakeholders.

Conclusion - Where to Now?

This paper provides an introduction to the issue of management effectiveness evaluation. The framework and existing guidelines should help managers adapt and apply existing methods or design and implement their own evaluation methodology. As experience with evaluation accumulates, we can expect these guidelines to be extended and improved.

The next step in the evolution of management effectiveness evaluation will be increased focus on results of assessment rather than the development of methodologies.

The major challenge for the future, however, is to have these tools widely used and to have monitoring and evaluation established as core business within protected area management. To achieve this there needs to be a further increase in:

- awareness of the benefits of evaluation;
- willingness to use such systems; and
- capacity of often under-resourced areas to conduct evaluation.

At the Fifth World Parks Congress

The workshop at the Fifth World Parks Congress in Durban, South Africa Congress will carry forward the considerable progress that has been made on the topic over the last ten years. It will honour the commitment made at the Bali and Caracas Congresses to deliver work on this topic. In particular the Congress provides the opportunity to:

- identify and review the lessons learnt in conducting assessments of management effectiveness; and
- develop recommendations for the WCPA, governments, international conventions such as CBD and Ramsar, protected area management agencies, and NGOs and others involved with in situ conservation.

Sessions in the Evaluating Management Effectiveness Workshop Stream will particularly focus on:

- monitoring and evaluation models for protected areas;
- applying evaluation approaches at different scales from system to park level;
- methods of assessing ecological integrity;
- selection and use of social, economic and management indicators for protected area management;
- regional experiences in evaluating management effectiveness;
- assessing management effectiveness in marine protected areas and arid zone systems;

- meeting the needs of local and indigenous communities in management effectiveness evaluation;
- managing effectively in the face of threatening processes such as climate change; invasive species and wildlife trade/hunting;
- evaluating the effectiveness of the IUCN categories system; and
- developing options for guaranteeing management effectiveness.



Virunga National Park, Democratic Republic of Congo (Zaire)



Los Glaciares National Park, Santa Cruz Province, Patagonia, Argentina



Devil's Marbles, Australia

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