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Protected Area Management Effectiveness Assessments in Europe

Supplementary Report

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Overview of European methodologies

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Introduction

The European Study

Between May 2009 and February 2010 a research project was conducted to examine management effectiveness in European protected areas. One of its three objectives was to provide a comprehensive overview of existing evaluation studies, their methodological approach and indicators. This document is a supplement to the final report of this European study[1] and summarizes 32 of 40 methodologies found in Europe for evaluating management effectiveness in European protected areas. For a detailed description of the research methods, please refer to Nolte et al. (2010).

Methodologies worldwide

In 2008 Leverington et al. conducted a global study[2] about management effectiveness in protected areas and found 42 different evaluation tools, 5 of which were used in Europe. As European countries were under represented in the global study, it is not surprising that Nolte et al. (2010) found 30 additional evaluation tools, which adds up to 72 different approaches to evaluate protected area management effectiveness worldwide.
The growing number of methodologies can however not just be explained by additional research effort. As a numbers of protected areas and importance of effectively managed protected areas and systems increase, more evaluations are conducted and more specific tools for evaluations are developed. This document aims to provide an overview of existing evaluation approaches. It can be expected that there are even more methodologies in place - in particular on local levels. Thus, this document does not claim to provide a complete list of methodologies, but describes the most important ones in terms of number and significance of protected areas.

Methodologies in Europe

The authors came across 40 methodologies, 31 of them only used in Europe. The following table provides an overview of European assessment tools, their application extent ("Global": applied in countries in- and outside of Europe; "Europe": applied in more than one European country; "National": applied only in single European countries) and whether a methodology summary is included in this report ("YES") or not ("—").

[1] Nolte et al. (2010): Protected Area Management Effectiveness in Europe. BfN, Bonn, Germany.
[2] Leverington et al. (2008): Management effectiveness evaluation in protected areas – a global study. Supplementary report No.1: Overview of approaches and methodologies .The University of Queensland, Gatton, TNC, WWF, IUCN-WCPA, Australia.

Table 1: Methodologies applied in Europe

Methodology name	Application	Summary
Carpathian Management Tracking Tool	Europe	YES
Enhancing our Heritage Toolkit	Global	YES
European Charter for Sustainable Tourism	Europe	YES
European Diploma of Protected Areas	Europe	YES
European Site Consolidation Scorecard (adapted version of Parks in Peril Site Consolidation Index)	Europe (Global)	YES (YES*)
Governance of Biodiversity Survey Greifswald	Global	YES
How is your MPA doing?	Global	YES*
Important Bird Area monitoring	Global	YES
Integrative Protected Area Management Analysis	Global	YES
Management Effectiveness Tracking Tool	Global	YES*
Marine Tracking Tool	Global	YES*
Protected Area Network (PAN) Parks	Europe	YES*
Rapid Assessment and Prioritization of Protected Area Management	Global	YES*
Stockholm Biosphere Reserves Survey (Schultz et al.)	Global	YES
UNESCO-MAB Periodic Review	Global	—
Management Effectiveness Evaluation Finland (also adapted for Lithuania)	Finland, Lithuania	YES*
State of the Park Assessment Finland	Finland	—
Continuous Evaluation of French Regional Nature Parks	France	—
Contrat d'Objectifs (French National Parks)	France	—
Nature Park Quality Campaign, Germany	Germany	YES
Quality criteria and standards of German national parks	Germany	YES
Evaluation of German BRs (EABR)	Germany	—
Evaluation of German BRs (Dr. Schrader's thesis)	Germany	YES
Quality Park Project Italy (ISO 14001/EMAS)	Italy	YES
Monitoring and Evaluation of Protected Areas, Italy	Italy	YES*
Natuurmonumenten Quality Test	Netherlands	YES
Staatsbosbeheer Internal Audit	Netherlands	—
National Parks Evaluation Report (Alterra)	Netherlands	YES
Situation of National Park Network	Spain	—
Catalonia Management Effectiveness Evaluation	Spain	YES*
Management Effectiveness Evaluation Tenerife	Spain	YES*
EUROPARC Spain Database	Spain	—
INDES-PAR (Asturias)	Spain	YES
Evaluation of Swedish County Administrative Boards	Sweden	YES
SkötselDOS (Protection GIS Sweden)	Sweden	YES
National Park Authority Performance Assessment, England	UK	YES
Evaluation of Local Nature Reserves, Scotland	UK	YES
Performance and management effectiveness of National Nature Reserves, Scotland	UK	YES
'Raising Standard' on National Nature Reserves in Scotland	UK	YES
Countryside management system (National Nature Park, Wales)	UK	YES

* Methodology summaries are extracted from: Leverington et al. (2008): Management effectiveness evaluation in protected areas – a global study. Supplementary report No.1: Overview of approaches and methodologies .The University of Queensland, Gatton, TNC, WWF, IUCN-WCPA, Australia.

Methodology summaries

Methodology summaries are mainly based on telephone interviews with experts and official documents. However, information depth and quality can vary throughout the summaries. The summary structure is based on Leverington et al. (2008)[3], but was slightly modified as described below:

Organisation: Names the organisation(s) or affiliation primarily responsible for developing and/or applying the methodology.
Primary methodology reference: The major source of information is shown here. Wherever possible, a published document or official report is provided, but in some cases the information is based on internal documents or oral information.

Brief description: This section provides an overview of the methodology and its characteristics.

Purposes: The purposes of the methodology are listed here. Most of them are listed in key points focusing on the predefined primary purposes of Leverington et al. (2008): to improve management; for prioritisation and resource allocation; to raise awareness and support; and for accountability. However, some purposes were not predefined and some are described in more detail.

Objectives and application: The specific objectives of the methodology are presented and the known applications of the methodology are included.

Origins: The development of the methodology and its links to other approaches are outlined.

Strength, constraints and weaknesses: Both sections discuss what the methodology can and cannot achieve. In many cases these statements are based on personal experience of people using or developing the methodology. However, in some cases, the advantages or disadvantages derived from comparing the approach with others are outlined by the authors. Wherever possible, practical experience and theoretical comparison was combined.

How the methodology is implemented: Describes the actual process of obtaining the evaluation information.

Elements and indicators: Indicators are listed in most cases, and where applicable the hierarchy of indicators with different levels of organisation is shown.

Scoring and analysis: Some information is provided about the type of scoring or rating system used and about how the data is analysed and reported.

References and contact: Additional references about the methodology and contact details of the expert or source of information are listed in this section.

Note that for some methodologies the available information was not sufficient to cover all sections.

The summaries are also available online at the WDPA Management Effectiveness Module: Methodologies (http://www.wdpa.org/me/tools.aspx).

[3] Leverington et al. (2008): Management effectiveness evaluation in protected areas – a global study. Supplementary report No.1: Overview of approaches and methodologies .The University of Queensland, Gatton, TNC, WWF, IUCN-WCPA, Australia.

International methodologies

Rapid Assessment and prioritization of protected area management (RAPPAM)

Organisation

World Wide Fund for Nature (WWF)

Primary methodology reference

Ervin, J. (2003b) WWF: Rapid Assessment and prioritization of Protected Area Management (RAPPAM) Methodology. WWF Gland, Switzerland
http://www.panda.org/parkassessment; www.conserveonline/workspaces/patools

Brief description of methodology

The RAPPAM methodology is designed for broad-level comparisons among many protected areas which together make a protected areas network or system. It can:

- Identify management strengths, constraints and weaknesses.
- Analyse the scope, severity, prevalence and distribution of threats and pressures.
- Identify areas of high ecological and social importance and vulnerability.
- Indicate the urgency and conservation priority for individual protected areas.
- Help to develop and prioritise appropriate policy interventions and follow-up steps to improve protected area management effectiveness.

It can also answer a number of important questions:

- What are the main threats affecting the protected areas system, and how serious are they?
- How do protected areas compare with one another in terms of infrastructure and management capacity? And how do they compare in effectively producing outputs and conservation outcomes as a result of their management?
- What is the urgency for taking actions in each protected area?
- What are the important management gaps in the PA system?
- How well do national and local policies support effective management of protected areas? Are there gaps in legislation or governance improvements that are needed?
- What are the most strategic interventions to improve the entire system?
  Source: *Higgins-Zogib and Lacerda (2006)*

Purposes

- For prioritisation and resource allocation
- To raise awareness and support
- To improve management (adaptive management) – at system level

Objectives and application

RAPPAM provides policy makers and protected area authorities with a relatively quick and easy method to identify major trends and issues that need to be addressed for improving management effectiveness in any given system or group of protected areas. Through conducting RAPPAM assessments, authorities responsible for managing systems of protected areas have been able to:

- analyse the range of major threats facing their protected areas system and to get a broad overview of the most pressing management issues they face;
- look at how the system or group as a whole is functioning and performing; and
- to agree on needed corrective steps that will lead to improved system-level management effectiveness.

RAPPAM has been implemented in some 40 countries and over 1000 protected areas in Europe, Asia, Africa and Latin America and the Caribbean. Useful reports of the status of protected area systems or groups are produced (see list of references at the end of this section), suggesting priority protected areas in terms of the values and vulnerabilities and analysing the trends in protected area management issues.

Origins

The system was designed originally to assess networks of protected areas. It is based on the IUCN-WCPA Framework. It was developed by WWF between 1999 and 2002, with field testing in China, France, Cameroon, Algeria and Gabon.

Strengths

It has been used widely in different regions of the world and covers network of protected areas in one assessment. It allows identification of threats and management issues across groups of protected areas. In contrast to many other systems, it includes indicators measuring the state of protected area system as a whole, as well as collecting details about individual protected areas.

'A broad-level assessment such as WWF's Rapid Assessment can be complementary to more detailed site-level assessments. It can serve as an early warning for serious management problems, and help identify individual protected areas that may warrant more in-depth study. It can also help identify broad program areas, such as training, PA site design, or law enforcement that may warrant a more thorough analysis and review. Furthermore, a broad-level assessment can be viewed as a type of macro assessment; it can enhance, but is not a substitute for, the routine reviews and evaluations that are part of program planning, implementation and assessment cycles' (WWF 2001).

The workshop looking at MEE in the Andean countries (Cracco et al. 2006) also noted:

- It allows general and comparative evaluations, identifies management strengths and weaknesses, points out the urgency/priority of conservation and provides effective and transparent information for the distribution of resources and the development of policies in the levels of the PA and the country.
- Covers the six elements of the IUCN-WCPA Framework.
- It is easy to adapt.

Constraints and weaknesses

The system is not designed to measure outcomes of management in depth. It is primarily designed to assist in setting priorities across a system of protected areas and although it can be applied to a single protected area, the RAPPAM Methodology is not designed to provide detailed, site-level adaptive management guidance to protected area managers.

How the methodology is implemented

The following material has been extracted from Higgins-Zogib and Lacerda (2006)

There are five steps in the RAPPAM process:

1. Determine the scope of the assessment;
2. Assess existing information for each protected area;
3. Administer the RAPPAM questionnaire;
4. Analyse the findings; and
5. Identify next steps and recommendations.

In general the most thorough and effective approach to implementing this methodology is to hold an interactive workshop or series of workshops in which protected area managers, policy makers, and other stakeholders participate fully in evaluating the protected areas, analysing the results and identifying subsequent next steps and priorities.

RAPPAM workshops usually take three days. Two-day workshops have been held, but in these cases the agenda has been very tight with little time available for group and plenary discussions. The costs depend largely on where the workshop is held. Where possible it is advisable to hold the workshop inside a protected area as many of the discussion points during the workshop will be represented right outside the door. However, these logistics are usually the choice of the government ministry (or other protected area authority), who will be the lead player in the workshop.

Getting the right participants to the workshop is critical – and the broader the stakeholder group present, the more true the results. It is important to have at least the manager of each park present at the workshop, as well as top-level participation from the appropriate government ministry. If deemed appropriate, donors can be invited, in the hope that they engage in helping with follow-up steps, as can other international and local NGOs present in the country or region. This helps build support for implementing recommendations that stem from the workshop. Other stakeholders such as community representatives, tourism operators and university staff strengthen the results. And even if in the end, there is disagreement between park staff and community members for example, points raised by the community can still be reflected in the RAPPAM report and taken into consideration.

Lessons learned:

- Ensure the government protected area authority leads the assessment process.
- Develop partnerships with other NGOs present in the country or region.
- Choose a useful assessment scope: RAPPAM is seen at its best when a larger number of protected areas are included in the assessment.
- Administer the questionnaire through interactive workshops.
- Think carefully about assessment objectives and adapt the method to local needs.
- Launch the report at an event if possible.
- Make clear, concrete, practical recommendations.
- Ensure participation and engagement of local communities and other relevant stakeholders in assessments, but plan carefully for their input.

Elements and indicators

The questionnaire begins with introductory context questions on values and threats/ vulnerability, followed by questions aimed at the protected area level and the system level. Questions are divided into a number of headings.

Table 2: Indicators for the RAPPAM methodology

WCPA Elements	**Sections**	**Questions**
	1. Background	includes specific management objectives and critical management activities
Context	2. Pressures and threats	including trend, extent, impact, permanence, and probability of past and future threats
Context	3. Biological importance	Number of rare, threatened or endangered species Relative level of biodiversity Degree of endemism Critical landscape function Extent of full range of plant and animal diversity Contribution to the representativeness of PA system Minimum viable populations of key species Consistency of structural diversity with historic norms Historic range has been greatly diminished ecosystems Extent of full range of natural processes and disturbance regimes
Context	4. Socio-economic importance	Employment for local communities Dependence of communities on PA resources for their subsistence Community development opportunities through sustainable resource use Religious or spiritual significance Unusual aesthetic features Plant species of high social, cultural or economic importance Animal species of high social, cultural or economic importance Recreational value Ecosystem services and benefits to communities Educational and/or scientific value
Context	5. Vulnerability	Low law enforcement Common bribery and corruption Civil unrest and/or instability Conflicting cultural practices, beliefs and traditional uses High market value of PA resources Accessibility for illegal activities Demand for vulnerable resources Pressure to unduly exploit resources Difficult recruitment and retention of employees Difficulty in monitoring illegal activities within the PA

WCPA Elements	Sections	Questions
Planning	6. Objectives	PA objectives provide for the protection and maintenance of biodiversity Specific biodiversity-related objectives are clearly stated in the management plan The management policies and plans are consistent with the PA objectives PA employees and administrators understand the PA objectives and policies Local communities support the overall objectives of the PA
Planning	7. Legal security	The protected area has long-term legally-binding protection There are no unsettled disputes regarding land tenure or use rights Boundary demarcation is adequate to meet the PA objectives Staff and financial resources are adequate to conduct critical law enforcement activities Conflicts with the local community are resolved fairly and effectively
Planning	8. PA site design and planning	The sitting of the PA is consistent with the PA objectives The layout and configuration of the PA optimises the conservation of biodiversity The PA zoning system is adequate to achieve the PA objectives The land use in the surrounding landscape enables effective PA management The protected area is linked to another area of conserved or protected land
Inputs	9. Staff	The level of staffing is sufficient to effectively manage the area Staff members have adequate skills to conduct critical management activities Training and development opportunities are appropriate to the needs of the staff Staff performance and progress on targets are periodically reviewed Staff employment conditions are sufficient to retain high-quality staff
Inputs	10. Communication and information inputs	There are adequate means of communication between field and office staff Existing ecological and socio-economic data are adequate for management planning There are adequate means of collecting new data There are adequate systems for processing and analysing data There is effective communication with local communities

WCPA Elements	Sections	Questions
Inputs	11. Infrastructure	Transportation infrastructure is adequate to perform critical management activities Field equipment is adequate to perform critical management activities Staff facilities are adequate to perform critical management activities Maintenance and care of equipment is adequate to ensure long-term use Visitor facilities are appropriate to the level of visitor use
Inputs	12. Finances	Funding in the past 5 years has been adequate to conduct critical management activities Funding for the next 5 years is adequate to conduct critical management activities Financial management practices enable efficient and effective PA management The allocation of expenditures is appropriate to PA priorities and objectives The long-term financial outlook for the PA is stable
Process	13. Management planning	There is a comprehensive, relatively recent written management plan There is a comprehensive inventory of natural and cultural resources There is an analysis of, and strategy for addressing, PA threats and pressures A detailed work plan identifies specific targets for achieving management objectives The results of research and monitoring are routinely incorporated into planning
Process	14. Management decision-making practices	There is clear internal organisation Management decision making is transparent PA staff regularly collaborate with partners, local communities and other organisations Local communities participate in decisions that affect them There is effective communication between all levels of PA staff and administration
Process	15. Research, monitoring, and evaluation	The impact of legal and illegal uses of the PA are accurately monitored and recorded Research on key ecological issues is consistent with the needs of the PA Research on key social issues is consistent with the needs of the PA PA staff members have regular access to recent scientific research and advice Critical research and monitoring needs are identified and prioritised

WCPA Elements	Sections	Questions
Outputs	16. Outputs	Threat prevention, detection and enforcement Site restoration and mitigation efforts Wildlife or habitat management Community outreach and educational efforts Visitor and tourist management Infrastructure development Management planning and inventorying Staff monitoring, supervision and evaluation Staff training and development Research and monitoring outputs
System-level questions	17. Protected area system design	The PA system adequately represents the full diversity of ecosystems within the region The PA system adequately protects against the extinction or extirpation of any species The PA system consists primarily of exemplary and intact ecosystems Sites of high conservation value for key species are systematically protected The PA system maintains natural processes at a landscape level The PA system includes the protection of transition areas between ecosystems The PA system includes the full range of successional diversity Sites of high biodiversity are systematically protected Sites of high endemism are systematically protected The layout and configuration of the PA system optimises the conservation of biodiversity
System-level questions	18. Protected area policies	National PA policies clearly articulate a vision, goals and objectives for the PA system. The area of land protected is adequate to maintain natural processes at a landscape level There is a demonstrated commitment to protecting a viable and representative PA network There is a comprehensive inventory of the biological diversity throughout the region There is an assessment of the historical range of variability of ecosystem types in the region There are restoration targets for underrepresented and/or greatly diminished ecosystems There is ongoing research on critical PA-related issues The PA system is periodically reviewed for gaps and weaknesses (e.g. gap analyses) There is an effective training and capacity-building programme for PA staff PA management, including management effectiveness, is routinely evaluated

WCPA Elements	Sections	Questions
System-level questions	19. Policy environment	PA-related laws complement PA objectives and promote management effectiveness There is sufficient commitment and funding to effectively administer the PA system Environmental protection goals are incorporated into all aspects of policy development There is a high degree of communication between natural resource departments There is effective enforcement of PA-related laws and ordinances at all levels National policies promote widespread environmental education at all levels National policies promote sustainable land management. National policies promote an array of land conservation mechanisms There is adequate environmental training for governmental employees at all levels National policies foster dialogue and participation with civic and environmental NGOs

Scoring and analysis

Most questions use a standard 4-selection scale (no=0, mostly no=1, mostly yes=3, yes=5), where 'yes' describes an ideal situation. Threats (vulnerability) are rated according to their extent, impact and trend.

Analysis of the data is usually presented as comparisons among the sites in the protected area system. Many different analyses are presented in the reports. Important outputs include lists and graphs of the most common threats, management strengths and management weaknesses; prioritisation of parks with respect to their vulnerability and importance; and other comparative information about specific aspects of management.

Further reading

Ervin, J. (2003a) Rapid assessment of protected area management effectiveness in four countries. BioScience 53, 833-841.

Ervin, J. (2003b) WWF: Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology. WWF, Gland, Switzerland.

Higgins-Zogib, L. and L. Lacerda (2006) Case Study II:RAPPAM: Rapid Assessment and Prioritization of Protected Area Management: a methodology for assessing protected area networks. In 'Evaluating effectiveness: a framework for assessing the management of protected areas second edition'. (Eds Hockings, M., S. Stolton, N. Dudley, F. Leverington and J. Courrau). (IUCN Best Practice Protected Area Guidelines Series: Gland, Switzerland and Cambridge, UK).

Simões, L. (2005) RAPPAM Rapid Assessment And Prioritization Of Protected Areas Management. (25th October 2005: Dallas).

WWF (2001) WWF Rapid assessment and prioritization methodology for protected area systems. WWF.

WWF (no date) Metodología para la evaluación y priorización rápidas del manejo de áreas protegidas (RAPPAM). WWF.

Management Effectiveness Tracking Tool (METT)

Organisation

World Bank/WWF Alliance

Primary methodology reference

Stolton S, Hockings, M, Dudley, N, MacKinnon, K, Whitten, T and Leverington, F (2007) 'Reporting Progress in Protected Areas A Site-Level Management Effectiveness Tracking Tool: second edition.' World Bank/WWF Forest Alliance published by WWF, Gland, Switzerland.

http://www.panda.org/about_wwf/what_we_do/forests/our_solutions/protection/tools/tracking_tool/index.cfm

The Tracking Tool is available in a number of languages.

Brief description of methodology

The methodology is a rapid assessment based on a scorecard questionnaire. The scorecard includes all six elements of management identified in the IUCN-WCPA Framework (context, planning, inputs, process, outputs and outcomes), but has an emphasis on context, planning, inputs and processes. It is basic and simple to use, and provides a mechanism for monitoring progress towards more effective management over time. It is used to enable park managers and donors to identify needs, constraints and priority actions to improve the effectiveness of protected area management.

Purposes

- Donor/ treasury evaluation
- To improve management (adaptive management)
- For accountability/ audit

Objectives and application

The tool's objectives are stated (Stolton et al. 2007) as:

- Capable of providing a harmonised reporting system for protected area assessment;
- Suitable for replication;
- Able to supply consistent data to allow tracking of progress over time;
- Relatively quick and easy to complete by protected area staff, and thus not reliant on high levels of funding or other resources;
- Easily understood by non-specialists;
- Nested within existing reporting systems to avoid duplication of effort.

The Tracking Tool has been applied in at least 85 countries, primarily by donor agencies and NGOs. It is being used by the World Bank, WWF and the GEF as a mandatory monitoring tool for areas in which they are involved.

'The Tracking Tool has been used to survey the effectiveness of the WWF portfolio of 206 forest protected areas, in Europe, Asia, Africa and Latin America, initially in 2003/4 and then repeated during 2005/6. The World Bank has time series data for project sites in several countries, including Bolivia, India, Philippines, Indonesia and Central Asian republics. The Global Environment Facility (GEF) has adopted the Tracking Tool as a simple impact monitoring indicator, and recently China and India have adopted the tool as part of their national protected area monitoring systems. To aid adoption the tool has been translated into many languages' (MacKinnon and Higgins-Zogib 2006).

The methodology can also be adapted and used by other development programs, protected area management agencies or national governments as a tool to assess protected areas across a group or system, as has been done in Korea (Young 2005) and Namibia (Jonathon Smith pers. comm.) and for 150 forest reserves in Tanzania (Neil Burgess pers. comm.). An adaptation is also being used in the Brazilian Amazon (Ronaldo Weigand pers. comm.).

Origins

The World Bank/WWF Alliance for Forest Conservation and Sustainable Use ('the Alliance') was formed in April 1998. As part of its programme of work the Alliance 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 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 IUCN-WCPA Framework. After being tested and modified over a three-year period, the Tracking Tool has been operational since 2003. A revised version released in 2007 is compatible with the previous version but clarifies some questions and is more consistent in its descriptions of scores.

Strengths

The Tracking Tool produces a standard report which has been widely used across the world. It is designed primarily to track progress over time (rather than to compare sites) and can reveal trends, strengths and weaknesses in individual protected areas or in groups. The data set from the Tracking Tool is large enough to reveal some international trends in protected area management (Dudley et al. 2004).

It is rapid to complete, with only 30 questions, but covers all the elements of the IUCN-WCPA Framework and, especially if it is applied in a workshop situation, leads to a good deal of discussion and reflection. If it is fully completed, with comments and 'next steps', it can be valuable in setting directions and in evaluating progress towards improving protected area management. '… the Tracking Tool has proven to be a useful instrument to build a baseline on management effectiveness, for tracking progress over time, for providing critical information about portfolio-wide issues that need to be addressed as a priority, and for putting in place a simple monitoring system in sites that will not afford to develop a more detailed monitoring system in years to come' (MacKinnon and Higgins-Zogib 2006).

Constraints and weaknesses

The constraints of the Tracking Tool are acknowledged in its documentation. The assessments produced are relatively superficial (as expected from a rapid analysis) and do not cover all aspects of management.

'The objectives of the Tracking Tool, to be quick and simple, also mean it has limitations as to what it can achieve. It should not, for example, be regarded as an independent assessment, or as the sole basis for adaptive management, and should certainly not replace more thorough methods of assessment for the purposes of adaptive management.' (MacKinnon and Higgins-Zogib 2006). Evaluation of outcomes is not detailed and for this the Tracking Tool should be used in conjunction with other monitoring and evaluation tools.

The experience of some people in the field is that the Tracking Tool is better received by field staff if some additional questions specifically relevant to that area and situation are added.

How the methodology is implemented

The Tracking Tool is designed to be simple and implemented with minimal costs. Ideally, the questionnaire should be completed as part of a discussion between, at a minimum, the project officer or task manager, the protected area manager and a representative of local stakeholders. Wider discussions with a number of managers and stakeholders are beneficial where possible. A useful part of the questionnaire for the purpose of project oversight and management improvement is the section on "comments" and 'agreed next steps'.

'The Tracking Tool has been designed to be easily answered by those managing the protected area without any additional research. However, it is useful to review the results of existing monitoring and to spend sufficient time discussing each aspect of management being assessed to arrive at a considered judgement. In most cases, a group of protected area staff from the reserve, project staff or other agency staff should be involved in the assessment; where possible additional external experts, local community leaders or others with knowledge and interest in the area and its management can be involved in completing the assessment' (Stolton et al. 2007).

When repeat assessments are undertaken it is advisable to use at least some of the same team members who undertook previous assessments. Where this is not possible the information provided by previous assessors in the text fields of the Tracking Tool will be particularly valuable in guiding the assessment and ensuring consistency in the evaluation being made.

Elements and indicators

After introductory questions, 30 questions are asked. The tool has been adapted slightly by different countries and has given rise to other systems including the wetland and marine Tracking Tools. As discussed earlier, some organisations have adapted the Tracking Tool to better suit their needs. It is best if this can be done by adding questions to the end, so that answers to other questions can be analysed in a wider data set if desired.

Table 3: Indicators for the Tracking Tool methodology (2007 version)

Data sheet 1: Details about the protected area and its management objectives, administration, staffing and funding
Data sheet 2: Threat assessment (high, medium, low, not applicable) based on the Conservation Measures Partnership threat hierarchy[4] under the following major headings:
1. Residential and commercial development within a protected area: Threats from human settlements or other non-agricultural land uses with a substantial footprint
2. Agriculture and aquaculture within a protected area: Threats from farming and grazing as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture
3. Energy production and mining within a protected area: Threats from production of non-biological resources
4. Transportation and service corridors within a protected area: Threats from long narrow transport corridors and the vehicles that use them including associated wildlife mortality

[4] IUCN – Conservation Measures Partnership (2006) IUCN – CMP Unified Classification of Direct Threats Version 1.0 – June 2006. http://www.iucn.org/themes/ssc/sis/classification.htm.

5. Biological resource use and harm within a protected area: Threats from consumptive use of "wild" biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species (note this includes hunting and killing of animals)
6. Human intrusions and disturbance within a protected area: Threats from human activities that alter, destroy or disturb habitats and species associated with non-consumptive uses of biological resources
7. Natural system modifications: Threats from other actions that convert or degrade habitat or change the way the ecosystem functions
8. Invasive and other problematic species and genes: Threats from non-native and native plants, animals, pathogens/microbes or genetic materials that have or are predicted to have harmful effects on biodiversity following introduction, spread and/or increase
9. Pollution entering or generated within protected area: Threats from introduction of exotic and/or excess materials or energy from point and non-point sources
10. Geological events: Geological events may be part of natural disturbance regimes in many ecosystems. But they can be a threat if a species or habitat is damaged and has lost its resilience and is vulnerable to disturbance. Management capacity to respond to some of these changes may be limited.
11. Climate change and severe weather: Threats from long-term climatic changes which may be linked to global warming and other severe climatic/weather events outside of the natural range of variation
12. Specific cultural and social threats
Assessment
1. Legal status: Does the protected area have legal status (or in the case of private reserves is covered by a covenant or similar)?
2. Protected area regulations: Are appropriate regulations in place to control land use and activities (e.g. hunting)?
3. Law enforcement: Can staff enforce protected area rules well enough?
4. Protected area objectives: Is management undertaken according to agreed objectives?
5. Protected area design: Is the protected area the right size and shape to protect species and habitats of key conservation
6. Protected area boundary demarcation: Is the boundary known and demarcated?
7. Management plan: Is there a management plan and is it being implemented?
7a. Planning process: The planning process allows adequate opportunity for key stakeholders to influence the management plan
7b. Planning process: There is an established schedule and process for periodic review and updating of the management plan
7c. Planning process: The results of monitoring, research and evaluation are routinely incorporated into planning
8. Regular work plan: Is there a regular work plan and is it being implemented
9. Resource inventory: Do you have enough information to manage the area? 10. Protection systems: Are systems in place to control access/resource use in the protected area?
11. Research: Is there a programme of management-orientated survey and research work?
12. Resource management: Is active resource management being undertaken?

13. Staff numbers: Are there enough people employed to manage the protected area?
14. Staff training: Are staff adequately trained to fulfil management objectives?
15. Current budget: Is the current budget sufficient?
16. Security of budget: Is the budget secure?
17. Management of budget: Is the budget managed to meet critical management needs?
18. Equipment: Is equipment sufficient for management needs?
19. Maintenance of equipment: Is equipment adequately maintained?
20. Education and awareness: Is there a planned education programme linked to the objectives and needs?
21. Planning for land use: Does land use planning recognise the protected area and aid the achievement of objectives?
22. State and commercial neighbours: Is there co-operation with adjacent land users?
23. Indigenous people: Do indigenous and traditional peoples resident or regularly using the protected area have input to management decisions?
24. Local communities: Do local communities resident or near the protected area have input to management decisions?
24 a. Impact on communities: There is open communication and trust between local and/or indigenous people, stakeholders and protected area managers
24b. Impact on communities: Programmes to enhance community welfare, while conserving protected area resources, are being implemented
24c. Impact on communities: Local and/or indigenous people actively support the protected area
25. Economic benefit: Is the protected area providing economic benefits to local communities, e.g. income, employment, payment for environmental services?
26. Monitoring and evaluation: Are management activities monitored against performance?
27. Visitor facilities: Are visitor facilities adequate?
28. Commercial tourism operators: Do commercial tour operators contribute to protected area management?
29. Fees: If fees (i.e. entry fees or fines) are applied, do they help protected area management?
30. Condition of values: What is the condition of the important values of the protected area?
30a: Condition of values: The assessment of the condition of values is based on research and/or monitoring
30b: Condition of values: Specific management programmes are being implemented to address threats to biodiversity, ecological and cultural values
30c: Condition of values: Activities to maintain key biodiversity, ecological and cultural values are a routine part of park management

Scoring and analysis

In the main assessment form, 30 questions are asked - each with a four-point scale (0, 1, 2, and 3). The intention is that the scale forces respondents to choose whether the situation is acceptable or not. Generally 0 is equivalent to no or negligible progress; 1 is some progress; 2 is quite good but has room for improvement; 3 is approaching optimum situation. A series of four alternative answers are provided against each question to help assessors to make judgements as to the level of score given. In addition, there are three groups of supplementary questions which elaborate on key themes in the previous questions and provide additional

information and points. Where questions are not relevant to the protected area, they are left out and the scores adjusted accordingly. The scores are totalled and the percentage of the possible score calculated.

It is noted that 'the whole concept of "scoring" progress is however fraught with difficulties and possibilities for distortion. The current system assumes, for example, that all the questions cover issues of equal weight, whereas this is not necessarily the case. Scores will therefore provide a better assessment of effectiveness if calculated as a percentage for each of the six elements of the IUCN-WCPA Framework (i.e. context, planning, inputs, process, outputs and assessments)' (Stolton et al. 2007).

Some analyses have been conducted to discover overall trends and correlations between management strengths and weaknesses. Analyses of repeated surveys have also begun.

Further reading and reports

Dudley, N., A. Belokurov, O. Borodin, L. Higgins-Zogib, M. Hockings, L. Lacerda and S. Stolton (2004) Are protected areas working? An analysis of forest protected areas by WWF. WWF International, Gland, Switzerland.

Dudley, N., A. Belokurov, L. Higgins-Zogib, M. Hockings and S. Stolton (2006) Tracking progress in managing protected areas around the world.

IUCN – Conservation Measures Partnership (2006) IUCN – CMP Unified Classification of Direct Threats Version 1.0 – June 2006. http://www.iucn.org/themes/ssc/sis/classification.htm

MacKinnon, K. and L. Higgins-Zogib (2006) World Bank/WWF Alliance Tracking Tool: Reporting conservation progress at protected area sites. In 'Evaluating effectiveness: a framework for assessing the management of protected areas second edition'. (Eds Hockings, M., S. Stolton, N. Dudley, F. Leverington and J. Courrau). (IUCN Best Practice Protected Area Guidelines Series: Gland, Switzerland and Cambridge, UK).

Stolton, S., M. Hockings, N. Dudley, K. MacKinnon and T. Whitten (2003) Reporting Progress in Protected Areas A Site-Level Management Effectiveness Tracking Tool. World Bank/WWF Alliance for Forest Conservation and Sustainable Use., Gland, Switzerland.

Carpathian Protected Area Management Effectiveness Tracking Tool

Organisation

WWF Danube Carpathian Programme (DCP)

Primary reference

Online evaluation tool: http://86.123.15.36:8080/cpamet/

Purpose

- Effective adaptive management in Carpathian protected areas
- Implementation of the CBD Programme of Work on Protected Areas (PoWPA), e.g. long-term monitoring (→ support governments reporting back to the CBD)
- Support development of an effective Carpathian Network of Protected Areas

Brief description of methodology

The Carpathian Protected Area Management Effectiveness Tracking Tool (CPAMETT) is developed as part of the 2012 Protected Area Programme (2012 PAP), which is a programme initiated by WWF which aims to promote and support the implementation of the CBD's PoWPA. It is an online, web based tool, based on the Management Effectiveness Tracking Tool (METT) questionnaire, aiming to help track and monitor progress in the achievement of the protected area management effectiveness targets.

The CPAMETT consists of two major components:

A) Forms for collecting the information on protected areas ("Info on my Protected Area"), assessment of management effectiveness ("Assessment Form") and results section;
B) A database on protected areas of the Carpathian region.

The protected area managers have to enter basic information about their protected areas and answer questions about their management performance. The CPAMETT online tool contains a result section, where managers can see the results in various ways, e.g. effectiveness sorted by WCPA-element or compared with results from former years. Moreover, the tool's reporting feature enhances the sharing of experiences and connecting between protected area managers, as well as meeting CBD reporting obligations.

Objectives and application

WWF DCP is currently finalising the development of the CPAMETT. The tool has been translated into seven Carpathian languages and since July 2009 has been tested in 1-3 protected areas in each of the seven Carpathian countries (Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, and Ukraine).

The methodology has not been officially applied yet. The testing should raise awareness and show protected area administrators the importance of the tool for improving their management performance. Additionally, governments need to be convinced to use the tool and make the implementation mandatory. Workshops will be organised for governments, PA administrations and other relevant stakeholders.

In 2010 the tool will be presented to the ministries in the Carpathian countries and eventually, the application in Natura 2000 and other national protected area networks will start. Presently (Oct. 2009), over 100 protected area administrators are interested in using this tool.

System origins

The CPAMETT is an adapted version of the Management Effectiveness Tracking Tool (METT), which was developed by the World Bank and WWF. The questionnaire was modified to consider the special situation in the Carpathians. For that reason, cultural and natural values for example were separated and in order to enhance the objectivity, some answers were changed to a more quantitative manner.

Strengths

- Comprehensive tool, which is easy to use
- Easy to analyse the results and to generate different types of reports
- The collected data is stored in a database, which means less paper work
- Gives the opportunity to compare the results between protected areas from a country (at national level) or region (within the Carpathians of a specific country)
- Internationally embedded links to the CBD, WCMC and the WDPA

Constraints and weaknesses

- It is possible that only one person performs the evaluation (e.g. no internal discussion). However, it is recommended that the forms are filled in by the entire PA staff, having internal discussions. In addition, other experts and stakeholders can be involved as well.
- Depending on the PA staff, the evaluation can be subjective.

How the methodology is implemented

It is an online tool which can be viewed at: http://86.123.15.36:8080/cpamet/
Firstly, protected area managers or administrators have to register their protected area and enter basic information about their site (e.g. name, category, size, etc). The data can be updated later if needed, using the "Edit" option. After completing and saving the first form, a code (password) is sent to the email address provided at the beginning of this form. Then, the PA managers have to login using the email address and the code to allow them to complete the assessment form. The PA managers have to answer 42 questions applicable to the Carpathians (some of the original METT questions have been adapted to the region's needs) about their management performance. After filling in this second form, the managers can see and consult their effectiveness, under the "Results" section. There are different options to view the results, e.g. for each question, sorted by IUCN-WCPA element, compared with average scores of single Carpathian countries, etc. Results of repeated assessments can also be compared with the results of previous years and improvement or decline of performance can be detected easily. Several filters can be used, for instance one can select a specific category of protected area / size of protected area, to compare the results with.
Reports can be generated on relevant topics from the first form and on any individual question from the assessment form, in the online database. It is important to mention that both CPAMETT (with the 42 questions) and METT (with the original 30 questions) can be generated. The reporting features can help protected area managers to establish contacts and share information or experiences.
Additionally, a direct link to the PoWPA will be created. This will allow the governments to report directly back to the CBD.

Elements and indicators

The first component of the tool is divided into an information section (description of the PA), an assessment form and a results section.

Information about the protected area:

- Country
- Name of PA
- Protected area category (IUCN, National, International)
- World Database on protected areas code
- Protected areas size
- Administration / management body
- Contact details
- Data of official designation
- Designation(s)
- Location
- Size of protected area
- Biogeographical region
- Ownership details
- Landuse details
- Internal zoning
- Number of staff
- General budget
- Main values for which the protected area was designated
- Primary management objectives
- Information on international designations
- Information on international recognitions
- Protected area threats (with 12 major categories)
- Information for networking among protected areas
- Experience in project implementation.

Assessment form (major points):

1. Legal status
2. Efficiency of legal status
3. Protected area design
4. Protected area boundary demarcation
5. Protected area objectives
6. Protected area`s own regulations
7. Law enforcement - illegal activities
8. Law enforcement - capacity
9. Access assessment
10. Management plan
11. Regular work plan
12. Monitoring and evaluation of management effectiveness
13. Key stakeholders
14. State and private land users, owners and administrators in the vicinity of the protected area
15. Local communities
16. Cooperation with national PA authorities
17. Natural resource and value inventory
18. Biodiversity monitoring

19. Conservation status of key indicator species and/or habitats
20. Ecological condition assessment
21. Planning for land and water use
22. Cultural resource inventory
23. Cultural condition assessment
24. Research
25. Economic benefit
26. Values and goods
27. Management of the protected area values
28. Education and awareness programme
29. Commercial tourism operators
30. Visitor facilities
31. Staff numbers
32. Changes/ fluctuation in the permanent staff during the last year
33. Staff qualifications
34. Staff training
35. Equipment
36. Maintenance of equipment
37. Current (existing) budget
38. Security of budget
39. Management of budget
40. Decisions on the budget
41. Fees
42. Fines

Result section:

- Sorted by WCPA element (context, planning, input, process, output, outcome)
- Results according to individual questions from the Assessment Form
- Generation of METT and CPAMETT results/ reports
- Results of current year
- Results of previous year
- Graphical comparison of WCPA-elements between different years (present situation compared to the maximum possible)
- Comparison with average scores of other countries or entire Carpathians region

Scoring and analysis

For each of the 42 questions managers can select between four answers, which are scored from 0 to 3. The maximum score is 56 points.

Example

Issue "'Legal status' - Does the protected area have legal status?" with four possible answers:

- The protected area is not gazetted
- The government has agreed that the protected area should be gazetted but the process has not yet begun
- The protected area is in the process of being gazetted but the process is still incomplete
- The protected area has been legally gazetted (or in the case of private reserves is owned by a trust or similar)

Further reading and contact

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METT Questionaire: http://www.wdpa.org/ME/PDF/METT.pdf (30.11.2009)

Important Bird Area Monitoring

Organisation

BirdLife International

Primary methodology reference

BirdLife International (2006) Monitoring Important Bird Areas: a global framework. Cambridge, UK. BirdLife International. Version 1.2.

Brief description of methodology

The Important Bird Area (IBA) monitoring framework is a global system for collecting, analysing and sharing data about IBAs. Sites should preferably be monitored regularly. However, minimum data requirements are set. At least one indicator for pressure, state and response need be assessed once every four years as a minimum.

Purposes

- At site-level: Detect threats, trends and the effectiveness of conservation actions for birds and, thereby, wider biodiversity
- At national level: Provide a standardised monitoring framework, which helps national reporting e.g. to the CBD, IUCN, EU

Objectives and application

There are Important Bird Areas all over the world.

Table 4: Number of IBAs for European countries according to the official IBA website (2009)

European country	Nr. of IBAs	European country	Nr. of IBAs
Albania	15	Italy	148
Andorra	1	Latvia	71
Armenia	18	Liechtenstein	2
Austria	55	Lithuania	44
Azerbaijan	53	Luxembourg	9
Belarus	42	Macedonia	7
Belgium	48	Malta	5
Bosnia and Herzegovina	3	Moldova	12
Bulgaria	114	Montenegro	5
Croatia	21	Netherlands	105
Cyprus	8	Norway	52
Czech Republic	16	Poland	140
Denmark	120	Portugal	90
Estonia	64	Romania	33
Faroe Islands (Denmark)	19	Russia (European)	470
Finland	97	Serbia	35
France	276	Slovaikia	40
Georgia	31	Slovenia	26
Germany	542	Spain	391
Gibraltar (UK)	2	Svalbard and Jan Mayen Islands (Norway)	14
Greece	196	Sweden	84
Greenland (Denmark)	54	Switzerland	31
Hungary	35	Turkey	116
Iceland	61	Ukraine	141
Ireland	138		

Origins

The global IBA monitoring framework has evolved since 2002 through a series of regional and inter-regional discussions and practical trials. Ongoing developments of national and international biodiversity indicators under the CBD were included in the guidelines, which are a part of BirdLife's IBA programme.

Strengths

- Simple and affordable tool
- Global framework (comparability worldwide)
- Flexible in application (depth, frequency)

Constraints and weaknesses

- Monitoring carried out by different people (inconsistent data possible)

How the methodology is implemented

Site monitoring

Example structured field forms have been developed for adaptation nationally to collect standardised data for each IBA on pressure, state and response. IBA data can be collected by staff of local or national Government agencies, Local Conservation Group (LCG) members, Site Support Group (SSG), BirdLife Partner or other project staff, or volunteers.

Process

Effective IBA monitoring requires coordination, communication and feedback among three main levels: local/site, national and regional/global. Therefore, a national monitoring coordinator should be appointed.
The site forms are submitted to the national coordinator who synthesise information from site monitors and other sources to calculate overall status scores for each of pressure state and response for each site. The scoring is a standardised process and needs to be repeated regularly (time span depends on monitoring schedule). The scores and their justification are entered into the World Bird Database so that trends can be determined and national, regional and global analyses undertaken. Moreover, the national coordinator uses the information and scores for each IBA to define a national IBA status and trends report. The national coordinator is additionally charged with giving feedback to the site-level monitors and collaborating organisations.
The IBA monitoring data are used by the BirdLife Secretariat for periodic (at least every four years) regionally and globally synthesised reports.

European context

Europe is characterised by a large number of IBAs (>4,700), which BirdLife's European Partnership is gradually implementing a monitoring strategy. In the European Union, the IBA Programme is closely linked to the requirements of the Birds Directive. In practice, IBAs have been considered as potential SPAs (Special Protected Areas), which form part of the Natura 2000 network. By 2008, 64% of the total area of IBAs in the EU27 had been designated as SPAs. Under Article 12 of the Birds Directive, EU Member States are obliged to report on their progress with implementing the Birds Directive, including the special protection measures (e.g. SPAs) they are taking. As the process of site protection moves from designation to management, SPA monitoring will therefore become increasingly important for reporting on progress. Hence, there are very strong parallels with IBA monitoring.

Elements and indicators

The site questionnaire is usually divided into five main parts. However, the structure can be adapted locally or nationally according to capacities.

I. Essential information
II. Monitoring the IBA
- Threats to the IBA ('pressure')
- Condition of the Bird populations and the habitats ('state')
- Conservation actions taken at the IBA ('response')

III. Information on the people and institutions and their activities
IV. Activities undertaken at the IBA
V. Additional information

Scoring and analysis

Simple scores to selected indicators for each of pressure, state and response are collected and summed to calculate overall IBA status and trend scores. Status is scored on a four-point scale from 0 to 3 (or, for pressures, 0 to -3, so that increasing threats attract lower scores). Scores for trend are calculated by comparing status scores of different assessments in time. Thus, trends can be assessed only after the second monitoring data have been collected. The scores are presented on a -3 to 3 scale. The National IBA Monitoring Coordinator is responsible for calculating the scores on the basis of site information.

Threat scoring

Threats are scored according to their timing, scope and severity, in relation to how likely they are to affect populations of the 'trigger' species, or the habitats upon which the trigger species depend, at the site. Trigger species are those for which the IBA was identified. Timing, scope and severity are all scored on a 0, 1, 2, 3 scale (low to high threat) for each separate threat affecting the site. An "impact score of threat" is then calculated by summing the single three singles scores. A 'weakest link' approach is used, where the threat with the highest impact score is then used to assign a threat status to the IBA by mapping the resultant 0-9 scale onto the 0 to -3 threat status score for the site, as mentioned above.

State of the IBA

The state or condition assessment is based on population size of the 'trigger' species or the combination of area and quality of habitat for the 'trigger' species. Which measurement is used usually depends on the availability of information. The condition of the population or habitat is then calculated by comparing the size of the population of the amount of habitat with the optimum previously recorded or assessed for the site, expressed as a percentage. The species or habitat in the 'worst' condition is used to set the over all IBA condition status.

% potential population/habitat of worst species or habitat		**→ IBA condition status score**		
> 90	%	→	3	Good
70 - 90	%	→	2	Moderate
40 -70	%	→	1	Poor
< 40	%	→	0	Very Poor

Response

Response is divided into three different actions:

(1) formal designation for conservation,
(2) management planning and
(3) implementation of conservation action

Each action can be scored from 0 (bad) to 3 (good). The IBA action status score is calculated by simple summation of the three single scores which are then mapped on to a 0 to 3 scale.

8 – 9 → 3 High
6 – 7 → 2 Medium
2 – 5 → 1 Low
0 – 1 → 0 Negligible

Further reading and contact

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Enhancing our Heritage

Organisation

UNESCO, IUCN, and the University of Queensland

Primary reference

Hockings M, Stolton, S, Courrau, J, Dudley, N, Parrish, J, James, R, Mathur, V and Makombo, J (2008); Enhancing our Heritage Toolkit, Assessing management effectiveness of natural, UNESCO, Paris

Available online at http://whc.unesco.org/en/series/23/

Purposes

- To improve management (adaptive management)
- To raise awareness and support
- For accountability/ audit
- For prioritisation and resource allocation
- As this is a toolkit, it can be adapted for multiple purposes

Brief description of methodology

The *Enhancing our Heritage Toolkit* (Hockings et al. 2008), aids managers and stakeholders of natural World Heritage sites to assess their effectiveness. The IUCN-WCPA Framework is the unifying theme around which the toolkit is structuredand the toolkit uses the framework to develop a range of assessment tools for managers of World Heritage sites to build a comprehensive system of management effectiveness assessment. The assessment tools can be used either to supplement existing assessment activities, helping to ensure all components of the management cycle are assessed, or to build a complete assessment system from the start' (Hockings et al. 2004). The scale and detail of the assessment are likely to vary, depending on available financial and human resources. The EoH toolkit is designed for World Heritage Sites but is applicable to other protected areas.

The toolkit includes 12 tools (see the indicator list) which are based on a variety of best practices in protected area, and in particular World Heritage, assessment. The assessment tools centre on identifying the main values (biodiversity, social, economic and cultural) which the World Heritage Site was set up to protect (and other important values), ensuring that appropriate objectives based on these values have been set, and then assessing the effectiveness of management in achieving these objectives.

Objectives and application

The objectives of EOH are to provide site managers and stakeholders with a tested set of tools for developing and implementing a site-based management effectiveness monitoring and evaluation system which:

- focuses on the most important values and objectives of the site;
- addresses key threats to these values and objectives;
- is flexible and enables incorporation of existing monitoring and assessment systems into the overall evaluation; and
- provides for in-depth participatory assessment of important aspects of management for all six of the IUCN-WCPA Framework elements (context, planning, inputs, processes, outputs and outcomes) but pays particular attention to assessing outcomes of management.

It is also valuable for donor/treasury evaluation, especially to improve the comprehensiveness and usefulness of reporting to the World Heritage Committee.

Projects currently in development will increase the application of this methodology through awareness raising and capacity building at national and regional levels, training for regionally-based mentors to help guide evaluations and support for extending application of the system to a wider range of countries and sites.

Origins

'The EoH project began in 2001 and the first draft of the manual was published in that year. The toolkit draws on best practice of assessing management affectiveness around the world. Tools draw on experiences in Fraser Island World Heritage site, Australia and from a joint WWF and IUCN project to develop assessment methods in Central Africa, in particular at the Dja World Heritage site, Cameroon. Tools for identifying objectives are based on those developed by The Nature Conservancy (TNC) for use in the USA, the Caribbean and Central and South America. The threat assessment also draws on work by TNC and the Biodiversity Support Program. The methodology developed for assessing ecological integrity (an outcome measure) was inspired by existing systems used by Parks Canada, TNC and Kruger National Park in South Africa' (Stolton et al. 2006).

The tools were field-tested and revised, in co-operation with managers and partners, in the nine sites participating in the Enhancing our Heritage project. The insights of those using the tools in these sites (which vary greatly biologically and in their size, level of funding and staffing and knowledge base) were incorporated into the final toolkit published in 2008.

Strengths

The approach provides guidance for an integrated in-depth evaluation of all six elements of the IUCN-WCPA Framework. As it uses a number of different 'tools', it is flexible and can be adapted to suit the local situation, needs and level of resources. Other systems of evaluation, such as questionnaires already developed to assess inputs, processes or context issues, could be fed into this system if desired.

Unlike many other systems, it places emphasis on the measurement of outcomes of management and assists in both the reporting of monitoring activities and in the development of monitoring priorities and procedures.

It encourages stakeholder participation in both the design and evaluation phases and has resulted in some improved communication in the field. The process can result in considerable capacity strengthening.

Constraints and weaknesses

The EoH methodology is not a simple 'off-the-shelf' methodology and must be adapted to the individual situation. The system as a whole is relatively time-consuming and expensive to set up, and its implementation requires continuing resourcing and some training and assistance.

How the methodology is implemented

The implementation process includes the following steps:

- Training for protected area managers;
- Desktop literature surveys, data collection and review;
- Workshops with staff;
- Workshops with stakeholders;
- Compilation of existing monitoring results; and
- Development of enhanced, values-based monitoring program.

The need for partnerships and local capacity building during the process is stressed: 'The underlying premise of the EoH Project is that World Heritage sites undertake assessment of their own management effectiveness. For the self-assessment process to be rigorous it is essential that site managers assemble a team of stakeholder representatives to work with them to develop and support the monitoring and assessment process. The project requirement for site implementation teams to undertake the project, who then work with a wider group of stakeholders to develop and ratify the initial assessment, reinforces this need to build strong and coherent local teams to work together to assess management' (Stolton et al., 2006, p.69).

Elements and indicators

The toolkit provides worksheets for each tool. The worksheets and accompanying text provide indicators for assessment, but sites can adapt these criteria and indicators to suit local circumstances if required.

Table 5: Indicators for the EOH methodology

Tool	Indicators
1. Identifying Site Values and Management Objectives	Biodiversity values Other natural values Cultural, social and economic values Principal management objectives
2. Identifying threats	Threats to biodiversity Threats to other natural values Threats to cultural and socioeconomic values
3. Relationships with stakeholders	Identify all the stakeholders and partners Details of the stakeholder and the issue being assessed Nature of the relationship between this stakeholder and the issue Economic dependency Impacts – Negative impacts Impacts – Positive contributions Willingness to engage Political/Social influence Organisation of stakeholders Opportunities stakeholders/partners have to contribute to management the Level of engagement of the stakeholder/partner Overall adequacy of stakeholder engagement

4. Review of national context	How adequate is the legislation? To what extent is the legislation used/useful? Is the legislation effective? How high does conservation rank relative to other government policies? Does other government policy relevant to this site contradict or undermine conservation policy? Is there a conscious attempt to integrate conservation within other areas of government policy? Are policies implemented i.e. has the necessary legislation been enacted? International conservation conventions and treaties Are these conventions and treaties reflected in national law? How willing is government to fund the World Heritage site? Does government have the capacity to match its willingness? What is the relationship between site level and agency level staff– e.g. money, staff, training, equipment? What proportion of the agency's budget goes to field operations?
5. Assessment of management planning	Name of plan; Level of approval of the plan (L,G,A, S/A,D); Year of preparation, likely completion or most recent review; Year specified for next review of plan Comments (comments should concentrate on the adequacy, currency, and integration of the plan with other planning instruments) Does the plan establish a clear understanding of the desired future for the site? Does the plan provide sufficient guidance on the desired future for the site? Does the plan provide for a process of monitoring, review and adjustment? Does the plan provide an adequate and appropriate policy environment? Is the plan integrated/linked to other significant national/regional/sectoral plans? Is the plan based on an adequate and relevant information base? Does the plan address the primary issues? Are the objectives and actions specified in the plan represented as adequate and appropriate response to the issues? Does the plan take account of the needs and interests of local and indigenous communities? Does the plan take account of the needs and interests of other stakeholders? Does the plan provide adequate direction on management actions? Does the plan identify the priorities?

6. Design assessment	List objectives for biodiversity and other natural values Key habitats Size External interactions Connectivity List community objectives for cultural, social and economic values Key area legal status and tenure List management issues related to legal status, access and boundary issues with neighbours Legal status and tenure Access points Neighbours
7. Assessment of Management Needs and Inputs	Assessing management needs Assessing whether the inputs available match the management needs
8. Assessment of management processes	Management planning: Is there a plan and is it being implemented? Planning systems: Are the planning systems appropriate i.e. participation, consultation, review and updating? Regular work plans: Are there annual work plans or other planning tools? Maintenance of equipment: Is equipment adequately maintained? Management staff facilities: Are the available facilities suitable for the management requirements of the site? Staff/management communication: Do staff have the opportunity to feed into management decisions? Staff training: Are staff adequately trained? Personnel management: How well are staff managed? Financial management: Does the financial management system meet the Critical management needs? Managing resources: Are there management mechanisms in place to control inappropriate land uses and activities (e.g. poaching)? Law enforcement: do staff have the capacity to enforce legislation? Monitoring and assessment: Are management activities monitored against performance? Resource inventory: Is there enough information to manage the World Heritage site? Research: Is there a programme of management- orientated survey and research work? Reporting: Are all the reporting requirements of the World Heritage site fulfilled? Ecosystems and species: Is the biodiversity of the World Heritage site adequately managed? Cultural/ historical resource management: Are the site's cultural resources adequately managed? Are visitor facilities (for tourists, pilgrims etc) adequate? Do commercial tour operators contribute to protected area management?

	Have plans been developed to provide visitors with the most appropriate access and diversity of experience when visiting the World Heritage site? Is there a planned education programme? Access Is visitor access sufficiently controlled? Local communities Do local communities resident in or near the World Heritage site have input to management decisions? Indigenous people Do indigenous and traditional peoples resident in or regularly using the site have input to management decisions? Local, peoples welfare Are there programmes developed by the World Heritage managers which consider local people's welfare whilst conserving the sites resources? State and commercial neighbours: Is there cooperation with neighbouring land/sea users? Conflict resolution: If conflicts between the World Heritage site and stakeholders arise, are mechanisms in place to help find solutions?
9. Assessment of management plan implementation	Achievement of management plan actions
10. Work/Site Output Indicators	Numbers of users (e.g. numbers of visitors, numbers of people using a service, numbers of inquiries answered) Volume of work output (e.g. numbers of meetings held with local communities, number of patrols undertaken, extent of area surveyed in a research programme, numbers of prosecutions instigated) Physical outputs (e.g. length of site boundary delineated and marked, numbers of brochures produced or distributed, number and value of development projects completed)
11. Assessing the Outcomes of Management	Size of protected area Ecosystem functioning Renewal of ecosystem Uniqueness Diversity Human well-being Cultural values Recreation management objectives Economic objectives Stresses
12. Review of Management Effectiveness Assessment Results	

Scoring and analysis

Many of the tools in the workbook use a four-point scale with detailed descriptions provided for each scale. Other tools have qualitative and descriptive answers. As this is a toolkit rather than a definitive system, other systems of scoring and analysis could be fed into different aspects if desired.

Outcome indicators depend on data from monitoring programs and are reported in quantitative terms against nominated target conditions, in a system similar to that used by Parks Canada and the TNC CAP methodology.

Reports are prepared structured around the results from the 12 assessment tools with additional commentary, supporting information and analysis as required. Reports are designed to identify any corrective actions or other responses to the evaluation findings. The goals are to use results for adaptive management measures.

References

See site reports on http://www.enhancingheritage.net

Dudley, N. and S. Stolton (2003) Forest Innovations Project: Developing a Protected Area Effectiveness Methodology for Africa.

GEF Tracking Tool for GEF Biodiversity Focal Area Strategic Priority One.

Hockings, M., S. Stolton, J. Courrau, N. Dudley and J. Parrish (2004) The World Heritage Management Effectiveness Workbook: How to build monitoring, assessment and reporting systems to improve the management effectiveness of natural World Heritage sites Revised Edition. . University of Queensland.

Stolton, S., J. Courrau and M. Mapesa (2006) Case Study IV: Enhancing our Heritage: monitoring and managing for success in natural world heritage sites. In 'Evaluating effectiveness: a framework for assessing the management of protected areas second edition'. (Eds Hockings, M., S. Stolton, N. Dudley, F. Leverington and J. Courrau). (IUCN Best Practice Protected Area Guidelines Series: Gland, Switzerland and Cambridge, UK).

Stolton, S., M. Hockings and N. Dudley (2003) The Enhancing our Heritage Project.

European Diploma of Protected Areas

Organisation

Council of Europe

Primary reference

Council of Europe, 2008: http://www.coe.int

Purpose

- Protection of biological, geological and landscape diversity in Europe
- Support appropriate management systems and award effective protection

Brief description of methodology

The European Diploma of Protected Areas is a prestigeous international award. It is awarded to protected areas which have exceptional European values of biological, geological or landscape diversity and which are managed in an exemplary way. The government of any European State can apply for an award by answering a questionnaire, referring to:

- Site identification
- Site location
- Natural heritage
- Cultural heritage and socio-economic context
- Educational and scientific interest
- Site description
- Site management
- Map of the site
- Slides

A Group of Specialists of the Council of Europe examines whether the area of application is of exceptional European interest or not. If it is, an independent expert appointed by the Secretary General of the Council of Europe visits the protected area. The expert examines the area of European interest and assesses the efficiency of the protection and the management system. Afterwards a report is written by the expert and sent to the Group of Specialists. They discuss and present their conclusions to the Standing Committee of the Bern Convention or its Bureau and then to the Committee of Ministers, who finally decides whether the area is awarded the Diploma or not. The initial requirements for the European diploma are very high, but once awarded the European Diploma of Protected Areas, the site is sponsored by the Council of Europe for a period of five years renewable. During the period of validity the protected area has to hand in annual reports, which are divided into:

I General information
   1 Natural heritage
   2 Cultural heritage and socio-economic context
   3 Education and scientific context
   4 Site description
   5 Site management
II Influence of the award of the European Diploma of Protected Areas
III Conditions and/or recommendations for the award or renewal

After 5 years the European Diploma needs to be renewed. For an extension of the period of validity the Group of Specialists examines whether all conditions or/and recommendations formulated during the award are fulfilled by referring to the last annual reports and by another visit which is systematically organised for the first renewal. In some cases the Group of Specialists decides that there is no need for a visit prior to the renewal as the current situation is satisfactory according to the last annual report. If all requirements are fulfilled, new conditions or recommendations for the coming period are defined and the European diploma is extended for another 10 years.

Objectives and application

The European Diploma of Protected Areas was established in 1965. Since then 70 awards have been given to protected areas across 25 European countries.

Table 6: List of Areas Holding the European Diploma of Protected Areas (2008)

Country	Protected area	Year of award
Austria	Krimml Falls Natural Site	1967
	Wachau Protected Landscape	1994
	Thayatal National Park	2003
Belarus	Berezinsky State Reserve	1995
	Belovezhskaya Pushcha National Park	1997
Belgium	Hautes Fagnes Nature Reserve	1966
Czech Republic	Karlštejn National Nature Reserve	2000
	Podyjí National Park	2000
	Bílé Karpaty Protected Landscape Area	2000
Estonia	Matsalu National Park	2003
Finland	Seitseminen National Park	1996
	Ekenäs Archipelago National Park *[Tammisaari]*	1996
France	Camargue National Reserve	1966
	Vanoise National Park	1976
	Scandola Nature Reserve	1985
	Ecrins National Park	1990
	Mercantour National Park	1993
	Port Cros National Park	1997
Germany	Lüneburg Heath Nature Reserve	1967
	Wollmatinger Ried-Untersee-Gnadensee Nature Reserve	1968
	Siebengebirge Nature Reserve	1971
	Germano-Luxembourg Nature Park	1973
	Weltenburger Enge Nature Reserve	1978
	Bayerischer Wald National Park	1986
	Wurzacher Ried Nature Reserve	1989
	Berchtesgaden National Park	1990
Greece	Cretan White Mountains National Park	1976
Hungary	Ipolytarnóc Nature Conservation Area	1995
	Szénás Hills Protected Area	1995
	Tihany Peninsula	2003

Italy	Abruzzi National Park	1967
	Sasso Fratino Integral Nature Reserve	1985
	Montecristo Island Nature Reserve	1988
	Maremma Nature Park	1992
	Maritime Alps Nature Park	1993
	Migliarino, San Rossore, Massaciuccoli Regional Park	2005
	Gran Paradiso National Park	2006
Luxembourg	Germano-Luxembourg Nature Park	1973
Netherlands	Boschplaat Nature Reserve	1970
	Weerribben Nature Reserve	1995
	De Oostvaardersplassen" Nature Reserve	1999
	Naardermeer Nature Reserve	2004
Poland	Bialowieźa National Park	1997
	Bieszczady National Park	1998
Portugal	Selvagens Islands Nature Reserve	1992
Romania	Danube Delta Biosphere Reserve	2000
	Piatra Craiului National Park	2006
	Retezat National Park	2008
Russian Federation	Oka National Biosphere Réserve	1994
	Teberda National Reserve	1994
	Kostomuksha Strict Nature Reserve	1998
	Tsentralno-Chernozemny Biosphere Reserve	1998
Slovakia	Poloniny National Park	1998
	Dobročský National Nature Reserve	1998
Slovenia	Triglav National Park	2004
Spain	Doñana National Park	1985
	Ordesa and Monte Perdido National Park	1988
	Teide National Park	1989
Sweden	Muddus National Park	1967
	Sarek and Padjelanta National Park	1967
	Store Mosse National Park	1988
	Bullerö and Långvisskär Nature Reserves	1988
Switzerland	Swiss National Park	1967
Turkey	Kuşcenneti National Park	1976
Ukraine	Carpathian Biosphere Reserve	1997
United Kingdom	Peak District National Park	1966
	Minsmere Nature Reserve	1979
	Beinn Eighe National Nature Reserve	1983
	Purbeck Heritage Coast	1984
	Fair Isle National Scenic Area	1985

Origins

The Regulations for the European Diploma were adopted in 1973 by the Committee of Ministers of the Council of Europe and revised several times. The last revision was in 2008 (Resolution CM/ResDip(2008)1).

Strengths

- High requirements for the first award
- Continuous evaluation and monitoring by annual reports to examine changes

Constraints and weaknesses

- Application is focused on context (values and threat)
- Long time period after award and renewals

How the methodology is implemented

1. Awarding: Application form & expert appraisal (fulfil criteria)
2. Maintenance of award: Annual report (fulfil criteria)
3. Extension of the period of validity:
   Special report & expert appraisal (fulfil conditions defined during award)

Elements and indicators

Table 7: Criteria for the award of the European Diploma of Protected Areas

General criteria (application valid for every applicant)

A European interest
Applicant area must be of European interest and therefore, must:

1 be important for the conservation of biological diversity in Europe,
2 conserve remarkable natural phenomena, geology or physiographic formation characteristic of the Earth's history, or
3 be important for conservation of landscape diversity in Europe.

B Protection measures
Applicant area:

1 must have legal protection status,
2 must be considered in regional planning,
3 should have zones with different objectives,
4 must be the subject of a development and management plan,
5 must be assessed as taking the impact of surroundings into account, and
6 must have an organisation with financial and personal resources to ensure meeting the objectives of the protected area.

Specific criteria (criteria depends on primary objective of protected area)

A Areas with primary goal of conservation of biological and landscape diversity and ecosystems must

1 have strict regulations to prevent any artificial changes,
2 not have permanent human occupation and economic activities,
3 ensure the physical and biological integrity of the area under current activities and installations,
4 guarantee enforcement of regulations and supervision,
5 regulate and authorise public access, and
6 present research and monitoring programmes.

B Areas which combine conservation of biological and landscape diversity with sustainable development of socio-economic and educational functions, must:

1 be clearly indicated,
2 ensure that permanent human occupation or other activities do not harm the integrity of natural and cultural values and guarantee sustainable development,
3 have strict regulations to limit activities,
4 provide adequate supervision to prevent damage of the values of the protected area, and
5 must regulate and authorise public access.

Scoring and analysis

An applicant protected area which fulfills the listed criteria receives the award. Whether the criteria are fulfilled or not, is a decision of the Group of Specialists. Their award proposal is mainly based on the report of the expert appraisal. Finally, the proposal is discussed and decided by the Committee of Ministers of the Council of Europe. Thus, the assessment is done by discussion of objective criteria without using any scoring system.

Further reading and contact

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Annual reports:
http://www.coe.int/t/dg4/cultureheritage/Aware/Diploma/AnnualReports_Model_en.pdf
Application criteria:
http://www.coe.int/t/dg4/cultureheritage/Aware/Diploma/Criteria_en.pdf
Application process:
http://www.coe.int/t/dg4/cultureheritage/Aware/Diploma/Application_en.pdf
Revised regulations in 2008:
http://wcd.coe.int/ViewDoc.jsp?Ref=CM/ResDip(2008)

PAN Parks (protected area network), Europe

Organisation

PAN Parks Foundation

Primary methodology reference

PAN Parks Verification Manual, January 2002, (last update of PAN Parks Verification Manual -January 2008), PAN Parks Foundation, Gyor, Hungary.

Brief description of methodology

The PAN Parks verification system is designed to provide an independent audit to demonstrate that the management of the protected area reaches the PAN Parks Quality Standard known as PAN Parks Principles and Criteria
http://www.panparks.org/Introduction/Verification/Principles

PAN Parks verification system is focusing not only on management effectiveness of protected areas (Principle 1-2) but also on quality of visitor management (Principle 3) and sustainable tourism in the region around protected areas (Principle 4) and local/business partners (Principle 5). The foundation provides marketing and communication support to promote the PAN Parks concept and Certified PAN Parks.

This made PAN Parks approach very complex because of direct engagement with parks management, local stakeholders and the tourism industry. This marriage however raises serious questions as it is known that tourism sector can be a key threat to conservation in many areas. Controlled and carefully planned tourism however can be also unique opportunity for protected areas and conservation. This complex approach is fundamental to maintain a high level of management effectiveness in long-term.

The PAN Parks philosophy focuses on positive element of this relationship but simultaneously is extremely aware about the threat and damage which can uncontrolled tourism cause to protected areas. Because of this awareness the Foundation decided to allocate a lot of resources and capacity to develop a sophisticated and demanding verification system to minimise this threat and provide transparency and credibility to the overall system.

Purposes

- To develop network of well-managed protected areas
- To improve management (support implementation of adaptive management)
- To set up detailed quality standard for well-managed protected area
- Increase awareness and support for wilderness protection

Objectives and application

The PAN Parks Foundation connects certified partners through its quality brand, and helps to improve the management of protected areas by utilizing and implementing the following essential goals:

- to ensure the long-term survival of well-managed protected areas while encouraging local communities to flourish;
- to promote wilderness management in protected areas in Europe;
- to facilitate sustainable tourism development in and around these protected areas; and
- to increase knowledge of and pride in Europe's wilderness heritage.

PAN Parks provides policy makers and protected area authorities with comprehensive information about management effectiveness trends, and identifies issues that need to be addressed for improving management effectiveness. Through implementing a PAN Parks assessment, protected area authorities are able to

- identify priorities for well-managed protected areas and wilderness protection;
- analyse the range of major threats and opportunities;
- identify benchmarks and set priorities; and
- agree on needed corrective actions that improve also system-level management effectiveness.

The PAN Parks methodology has been implemented in eight European countries and in 10 protected areas. More protected areas in Portugal, Estonia, Lithuania, Romania, etc are in a preparatory phase. The PAN Parks methodology has some restrictions on its use because of strict conditions identified in PAN Parks Quality Standard: for example, the size limit of protected area, minimum size of PAN Parks wilderness area, tourism potential, and capacity to develop sustainable tourism in surroundings. However, this methodology fully combines with the original aim to create the network of the well-managed wilderness protected areas and set the quality standard also for other protected areas. Useful verification, monitoring and renewal reports of the protected area status are produced

Origins

The system was designed as a tool to assess management effectiveness in selected protected area -potential PAN Parks and create quality standard - benchmark, for well-managed protected area generally. The system is based on IUCN-WCPA Framework and can be described as “in-depth” and “evidence-based” methodology.

The system was described as the world’s first operational, third party certification system under the WCPA (World Commission on Protected Areas) Framework for Management Effectiveness. It was developed by WWF between 1997 and 2001 with field-testing in 17 European countries (2001). First PAN Parks were certified in 2002 and today a network of 10 PAN Parks is stretching from Arctic Circle down to the Mediterranean.

Strengths

The most obvious strength of PAN Parks system is ability to create incentives and motivation to fulfil PAN Parks requirements. This is partially achieved through an attractive aim - become member of well-managed wilderness protected area network and partially through support offered by PAN Parks Foundation in the field of communication and marketing particularly for local business partners.
This approach ends up with very concrete, site-specific solutions to solve identified bottlenecks and threats, prioritised actions and so contributes to the improvement of management effectiveness.

Other strengths:

- Ambitious with philosophy of turning threats into opportunities
- Support concept of large unfragmented protected areas
- Allows objective and transparent verification
- Link PA management effectiveness with regional development and local economy
- Offer benefits of well-managed protected areas to the local business partners and others.

Constraints and weaknesses

PAN Parks assessment methodology was developed as a tool to implement PAN Parks concept. Because ambition of PAN Parks Foundation is to create a network of the well-managed wilderness protected areas implementation of PAN Parks assessment methodology can be interpreted as seemingly limited. However, lessons learned in previous years proved that experience learned from PAN Parks verification process can be widely used and reach far beyond network of certified PAN Parks.
www.panparks.org/projects/lessonslearnedseries

How the methodology is implemented

PAN Parks Verification Manual provides a comprehensive guideline to implement this methodology. A short version can be found at
http://www.panparks.org/Introduction/Verification/Howtoapply

The process of PAN Parks verification includes following steps:

- The applicant submits application package that can be downloaded from http://www.panparks.org/Introduction/Verification/Howtoapply to the PAN Parks Foundation.
- As a first filter, the PAN Parks Conservation Manager analyses the application documents.
- The PAN Parks Foundation sends a verification proposal including a timeline and costs estimate to the applicant.
- The applicant decides whether or not to approve the proposal .
- PAN Parks Conservation Manager form verification team .
- The applicant submits its documentation for review to the Lead verifier.
- The Verification team conducts a site verification.
- The Verification team submits a verification report including a recommendation whether or not to award the certificate and an annual monitoring plan.
- Based on the verification report the PAN Parks Foundation agree with the applicant about awarding ceremony.
- The PAN Parks Foundation awards the certificate.
- First local business partners can be verified.
- Local PAN Parks Group and protected area agree with PAN Parks Foundation about awarding ceremony for local business partners.
- The Verification team conducts annual monitoring.
- Renewal verification is conducted after a 5-year period.

Lessons learned (or how to make implementation of PAN Parks easier)

- Ensure the commitment of government protected area authority.
- Ensure that all involved parties including local stakeholders understand complexity of PAN Parks concept.
- Choose a committed protected area: a PAN Parks is seen at its best when a large protected area confirm interest and commitment to meet PAN Parks Quality Standard because they see obvious benefit of this process.
- Involve key local stakeholders and potential future business partners to the PAN Parks process at the early beginning.
- Make clear that to become a PAN Park is long-term commitment.
- Identify one reliable contact person with close links to the park director and key stakeholders.
- Start pre-verification procedure well in advance of side assessment.
- Maintain regular contact with all key stakeholders and partners.

Elements and indicators

PAN Parks Quality Standard sets a new standard for conservation and sustainable tourism. The standard is described in the format of PAN Parks Principles, Criteria and Indicators http://www.panparks.org/Introduction/Verification/Principles. This approach allows for objective verification and transparency. Every PAN Parks and they partners must meet all five comprehensive principles.

Principle 1: Natural values
Any protected area applying for PAN Parks certification must define the scope of protection, the international importance, and size of the protected area.

Principle 2-3: Management effectiveness
Principle 2 (conservation management) and principle 3 (visitor management) are management and process principles, which reflect the management effectiveness of the protected area administration applying to become a PAN Park.

Principle 4-5: Sustainable Tourism Effectiveness
Principle 4 (Sustainable Tourism) and principle 5 (Business Partners), like 2 and 3, are management /process principle. Principles 4-5 are different from the Principles 1, 2 and 3, because fulfilling these fall outside of the responsibility of the management of the national park. The Sustainable Tourism Development Strategy (STDS) is a multi-stakeholder project, formalised as a Local PAN Parks Group. Principles 4-5 are stakeholder principles.

Structure of P&C
1. The *body text* of P&C includes the principles, criteria and indicators.
2. *Footnotes* are added to criteria or indicators. These footnotes aim to provide an explanation on how to interpret and understand the criterion or indicator correctly.
3. *Glossary* includes commonly agreed upon terms and definitions.
4. *Appendix* includes a short overview of the PAN Parks Foundation's philosophy in the area ecosystem integrity, conservation management and visitor management.

Table 8: How the PAN Parks methodology combines with IUCN-WCPA Framework

WCPA Element	**PAN Parks criterion (examples)**	**To meet the Criterion, the following achievements are required**
	1.Background	Include specific management objectives and critical management activities
Context	2.Pressure and threats e.g. Criterion 2.3 The protected area has a long-term conservation strategy that is actively implemented …	Indicator 2.3.11: The conservation strategy / management plan is successfully implemented (e.g. via an annual work plan) including research and monitoring activities, threat prevention and mitigation, and restoration. Indicator 2.3.12: The annual plan implementation and the overall management effectiveness are regularly monitored and the plan then updated, etc…
Context	3.Biological importance e.g. Criterion 1.2 Importance for the conservation of biological diversity…	Indicator 1.2.1: The protected area is internationally recognised and/or supports protection of internationally threatened species and/or habitats, etc… Indicator 1.2.2: The protected area contains Natura 2000 sites, etc…

Context	4.Socio-economic importance e.g. Criterion 4.2 The Local PAN Park Group formulates and approves the STDS[5] for the PAN Park region.	Indicator 4.2.1: The PAN Park region has a STDS, which respects the PAN Parks conservation goals and aims at increasing the quality of tourism products and the quality of the visitor experience in and around the certified park. In particular, the STDS has a vision, goals, long- and short-term targets, including environmental objectives/care plan, a description of the PAN Park region (with defined boundaries of the area that is subject to this STDS - shown on a map indicating the protected area and the involved municipalities) and its zoning system an assessment of the ecological carrying capacity of different PAN Parks region zones, etc…
Context	5. Vulnerability e.g. Criterion 2.4 Protected area management makes use of zoning or some other system that achieves the conservation strategy…	Indicator 2.4.1: There is a zoning system or another system that ensures effective protection of the area Indicator 2.4.2: The zoning is based on a clear method of demarcating boundaries, both around the protected area and in between its zones. Indicator 2.4.3: The zoning system allows human activities compatible with the conservation strategy and, if existing, the long-term preservation of existing cultural heritages within.
Planning	6. Objectives e.g. Criterion 2.1 Design of the protected area aims to maintain natural ecological values.	Indicator 2.1.1: Priority of the management objectives (e.g. as per the act or decree) is the maintenance of natural ecological values. Indicator 2.1.2: The design of the protected area allows all key natural values (ecological processes and biodiversity) to exist and be maintained. Indicator 2.1.3: There is evidence of bio-geographical connections inside the protected area, with its adjacent areas, and/or with other protected areas.
Planning	7. Legal security: e.g. Criterion 1.1 The area is adequately protected by means of an enforced act or decree, or private initiative.	Indicator 1.1.1: The area is legally protected by means of an act or decree.
Planning	8. PA site design and planning e.g. Criterion 1.3 The minimum size of the protected area is 20 000 hectares.[6]	Indicator 1.3.1: The protected area is large enough and its composition (one block, fragmented) ensures the conservation of internationally important wildlife and ecosystems. Indicator 1.3.2: There is information if the size of protected area has been changed in the past.

[5] STDS – Sustainable Tourism Development Strategy

[6] An area smaller than 20 000 hectares, but having formal national and / or international transboundary cooperation with another protected area can also be verified, if its partner area also qualifies as a PAN Park. These partner areas would be awarded the PAN Parks Certificate together, as well as lose their certificate together (see also Criterion 2.10!). Also a group of connected PAs can qualify to become a PAN Park.

Inputs	9. Staff and finance e.g. Criterion 2.3 The protected area has a long-term conservation strategy[7] that is actively implemented.	Indicator 2.3.9: The conservation strategy / management plan is addressing needed capacities to effectively manage the protected area, including staff and their range of skills, equipment, organisational structure (functions of board, advisory committee etc.). The protected area management is adequately funded. Indicator 2.3.10: The conservation strategy / management plan is addressing existing and future external and internal threats and pressures to the protected area.
Inputs	10. Communication and information inputs e.g. Criterion 3.3 Visitor management creates understanding of and support for the conservation goals of the protected area.	Indicator 3.3.1: There are different visitor target groups that need to understand and support the conservation goals of the protected area and that are addressed by specific messages and different techniques. Indicator 3.3.2: A code of conduct for visitors is communicated to all visitors, specifying for which visits a qualified guide is needed. Indicator 3.3.3: The protected area has a communications and marketing plan that is successfully implemented in communication with the tourism marketing of the surrounding region.
Process	11. Management planning e.g. Criterion 2.3 The protected area has a long-term conservation strategy that is actively implemented...	Indicator 2.3.1: There is a conservation strategy that is implemented through nature, visitor, administration and marketing management (sub-) plans. Indicator 2.3.4: The conservation strategy/ management plan has long- and short-term goals. Indicator 2.3.5: A conservation strategy / management plan goal is that ecological processes and biological diversity will be maintained over the long-term.
Process	12. Management decision-making practices e.g. Criterion 2.3 The protected area has a long-term conservation strategy that is actively implemented…	Indicator 2.3.2: The conservation strategy / management plan(s) is developed through a planning process that includes procedures for revision and approval and the participation of different parties in these steps. The plan is communicated to different target groups and achieved via identified funding sources. Indicator 2.3.3: There are links between the area's (nature conservation) management, the visitor management, and the national/regional sustainable tourism development strategy.

[7] The long-term strategy is usually presented in the management plan and involves a period of 25 - 50 years.

Process	13. Research monitoring and evaluation e.g. Criterion 2.3 The protected area has a long-term conservation strategy that is actively implemented …	Indicator 2.3.6: The conservation strategy / management plan includes research programmes designed to improve knowledge and contribute to protected area management. Indicator 2.3.7: The conservation strategy / management plan includes programmes designed to improve the socio-cultural and economic benefits of the protected area for surrounding communities and tourism development. Indicator 2.3.8: The conservation strategy / management plan is based on an adequate site assessment, which includes abiotic and biotic data and an evaluation of past and present human activities and their impacts.
Outputs	14. Output e.g. Criterion 2.8 The protected area management system pays particular attention to threatened and endemic species and habitats, and to ecosystem dynamics.	Indicator 2.8.1: The management plan and other sources provide information, in particular in relation to the current management regime, on endemic, red-listed, vulnerable or other rare species occurring in the protected area, as well as on other, native species that have decreased or become extinct Indicator 2.8.5: There is a habitat or ecosystem restoration plan, according to which, if necessary, conservation values are being restored on the basis of studies from adequate reference areas. The implementation of the restoration plan and its impacts are regularly monitored, etc…
System level questions	16. Policy environment e.g. Criterion 2.1 Design of the protected area aims to maintain natural ecological values.	Indicator 2.1.1: Priority of the management objectives (e.g. as per the act or decree) is the maintenance of natural ecological values. Indicator 2.1.2: The design of the protected area allows all key natural values (ecological processes and biodiversity) to exist and be maintained. Indicator 2.1.3: There is evidence of bio-geographical connections inside the protected area, with its adjacent areas, and/or with other protected areas.
System level questions	15. Protected area policies e.g. Criterion 2.5 The protected area has an ecologically unfragmented wilderness area of at least	Indicator 2.5.1: The protected area has an ecologically non-fragmented wilderness area of at least 10,000 ha, which embraces all important habitat types and ecological processes, and adequately represents the highest value for nature conservation of local natural

[8] This criterion allows for the wilderness area to be divided into more than one area as long as it is not fragmented ecologically. If the wilderness is in one area, but is ecologically fragmented by a fence, road or other infrastructure, the area does not meet this criterion. Verifiers will use their professional judgement during evaluation. The PAN Parks Foundation always prefers to identify road-less wilderness areas; however the old existing roads can be within wilderness area if clear rules and strict limits of use are agreed, e.g. only emergency use, restoration, low key maintenance without vehicles etc.

[9] The following human activities are not accepted in the wilderness area: hunting/culling, fishing, collection of animals and (parts of) plants, of rocks and minerals, mining, logging, lifestock grazing, grass cutting, fencing, road maintenance, road and building construction, motorised transportation, large-scale cultural and sporting events, etc. These activities are not accepted even if they are based on traditional use; immediate consumption is not considered an extractive use. Obsolete infrastructure should be removed. Verifiers will use their professional judgement during evaluation.

	10,000 hectares[8] where no extractive uses[9] are permitted and where the only management interventions are those aimed at maintaining or restoring natural ecological processes and the ecological integrity.	ecosystems. Indicator 2.5.2: The management plan includes a clear management strategy and plan for managing the wilderness area at long term, Indicator 2.5.3: Ecological processes within the wilderness area are undisturbed those missing are under restoration…
System level questions	16. Policy environment e.g. Criterion 2.1 Design of the protected area aims to maintain natural ecological values.	Indicator 2.1.1: Priority of the management objectives (e.g. as per the act or decree) is the maintenance of natural ecological values. Indicator 2.1.2: The design of the protected area allows all key natural values (ecological processes and biodiversity) to exist and be maintained. Indicator 2.1.3: There is evidence of bio-geographical connections inside the protected area, with its adjacent areas, and/or with other protected areas.

Scoring and analysis

PAN Parks Verification
Generally speaking the third party (independent) verification lends credibility to something, which is under the control of one party and of interest, and/or significance to another. Independence of the verifiers both from the owner of verification methodology (PAN Parks Foundation) and the applicants (protected area) helps to develop trust in the network. This "true and fair view" builds credibility.

Process & Performance
While verification programmes all share certain common components, they are distinguished by whether they use a process (systems for monitoring certain criteria through management, there is no universal standard) or performance (include a set of benchmarks, often in the form of yes/no questions) methodology.

Certification Trend
There has been a growing consensus that strong certification programmes need to be performance-based, have onsite third-party audits, and include environmental, social and economic standards and criteria that measure impacts both within the business and/or protected area and within the wider community. In line with this trend, our PAN Parks verification system represents a hybrid of the process-based environmental management system and the performance-based standards/benchmarks. Analysis of the data is usually presented as very concrete and site specific proposals, recommendations, and strict conditions named Minor Corrective Action Requests- CARs. Major Corrective Action Requests prevent PA to be certified as a PAN Park. Detailed procedure is described in the PAN Parks Verification Manual 2008.

Further reading and contact

See manuals, quality standards, reports and lessons learned on: http://www.panparks.org
For more details please contact PAN Parks Conservation manager, Vlado Vancura, vvancura@panparks.org

EUROPARC Transboundary Park Evaluation

Organisation

EUROPARC Federation

Primary methodology reference

Website of EUROPARC: http://www.europarc.org/what-we-do/transboundary-parks

Brief description of methodology

The EUROPARC programme "Transboundary Parks - Following Nature's Design" is a certification system to promote and facilitate cooperations between Transboundary Protected Areas (TBPA) in Europe. Every European TPBA or any representative can apply for a certificate of excellent transboundary cooperation. To be awarded the protected areas need to meet the Basic Standard Criteria, developed by EUROPARC, and take part in an evaluation process by external experts.

Purposes

- Providing a toolkit (best practice) to help build strong cooperation between European adjacent parks
- To set standards for transboundary cooperation, which can help to strengthen acceptance and raise recognition

Objectives and application

European Transboundary Protected Areas, organisations, ministries and other partners supporting a TBPA partnership can apply for a certification by following the 'Basic Standards' application process:

1. Formal registration to EUROPARC
2. A manual about the application process and criteria is sent out and need to be studied by the applicant
3. The application form and an application fee needs to be transmitted to EUROPARC
4. Afterwards the second part of the manual is sent to the transboundary park and the actual evaluation process begins.

The evaluation process:

1. Once the park has become a member and the application has been accepted, the cooperation authority needs to complete a self-assessment form.
2. Based on the form, the STEC (Transboundary Steering and Evaluation Committee) decides whether the park can continue the certification process or should first improve the cooperation.
3. A successful self-assessment leads to an evaluation by external verifiers appointed by the STEC. The evaluation includes a field observation and an examination of all documents filled out by the park during the application process.
4. The external evaluators support the applicant authorities with recommendations and suggestions for further steps to develop the cooperation. The STEC is then informed about the final outcomes.

5. If the TBPA are certified or not is finally decided by the STEC, who also provides a list of recommendations for further improvement for the TBPA's partnership.
6. The certificate of excellence for transboundary cooperation is awarded to the parks at EUROPARC's annual conference.
7. After an initial period of 5 years the parks need to be re-evaluated. Therefore, EUROPARC examined the process made and the implementation of the expert recommendations. Moreover, the give advice for further improvement to the partners.

Origins

In 1988 EUROPARC Federation organised its first conference on Transboundary Protected Areas ("Transfrontier Parks: experience, problems, future prospects") in Belgium. Since 1994 EUROPARC supported the IUCN project "Parks for Life - Action for Protected Areas in Europe", which included the assistance and development of transboundary partnerships. Five years later EUROPARC published a "Pre-study on the appraisal of the quality of transfrontier cooperation of protected areas in Europe" and started to work on standards for assessing the development of transboundary cooperations. In 2000 EUROPARC's Basic Standards for Transfrontier Cooperation in Europe were approved by the European Commission's Environment Directorate General, UNESCO and the IUCN. An expert group, working primarily on the identification of indicators, a framework for assessing transboundary cooperations and on future recommendation for successful cooperation between TBPAs, was established afterwards. One year later another working group with 11 experts from 7 European countries worked on guidelines for the evaluation process. Therefore, they identified indicators for each of the Basic Standards Criteria and Fields of Work. The evaluation system with its Basic Standards criteria, fields of work and the indicators was then tested in three separate TBPAs. The methodology was slightly changed afterwards and officially launched as 'Transboundary Parks - Following Nature's Design' initiative in September 2003.

How the methodology is implemented

The following 15 European transboundary parks have been certified between 2003 and 2009:

- Neusiedler See National Park (A) and Fertö-Hansag National Park (HU)
- Krkonoše National Park (CZ) and Karkonosze National Park (PL)
- Oulanka National Park (FI) and Paanajärvi National Park (RU)
- Maas-Schwalm-Nette Nature Park (DE/NL)
- Thayatal National Park (A) and Podyjí National Park (CZ)
- Inari-Vätsäri Wilderness Area (FI), Øvre-Pasvik National Park (NO) and Pasvik Zapovednik (RU)
- Prealpi Giulie Natural Park (IT) and Triglav National Park/ Julian Alps Biosphere Reserve (SL)
- Bavarian Forest National Park (DE) and Sumava National Park (CZ)

Elements and indicators

The evaluation system consists out of 14 Basic Standards (9 quality criteria and 5 fields of work), which can be divided into four groups:

- The Primary Criteria are indicators covering common vision, official agreement, staff cooperation and fields of work for the protected area.
- The Secondary Criteria are indicators based on guidelines for the cooperation, data exchange, foreign languages communication and joint ecological monitoring and financing.
- The Primary Fields of Work are indicators related to nature conservation and major objectives of the park.
- The Secondary Fields of Work are indicators referring to education and communication, recreation and sustainable tourism, research and monitoring, mutual understanding and the promotion of peace.

Scoring and analysis

The transboundary parks must meet 10 out of 14 Basic standards as shown in table 9 below.

Basic Standards	**Total number**	**Needed for certification**
Primary Criteria	4	4
Secondary Criteria	5	3
Primary Field of Work	1	1
Secondary Field of Work	4	2
Sum	**14**	**10**

Additionally, the park must demonstrate how they involve local people in the transboundary cooperation and how the parks deal with socio-cultural differences.

Further reading and contact

Richard Blackman, EUROPARC Federation
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European Charter for Sustainable Tourism

Organisation

EUROPARC Federation

Primary methodology reference

http://www.european-charter.org/home/

Brief description of methodology

The European Charter for Sustainable Tourism is a management planning tool which gives assistance to protected areas for sustainable development and tourism management. The process towards sustainability considers environment, local community and local tourism operators. Moreover, a European-wide network was established to share experience between the Charter members.

Purposes

- To increase awareness and support for Europe's protected areas
- To improve the sustainable development and management of tourism in protected areas

Objectives and application

The European Charter consists of two parts. In Part I protected areas can apply and in Part II tourism operators within a Charter protected area can apply for the Charter. The certification of tourism businesses follows a similar application and verification process as described below for Part I, including basic requirements and a signed partnership agreement with the protected area.

Origins

In 1993 EUROPARC published the study "Loving Them to Death? Sustainable Tourism in Europe's Nature and National Parks." Based on the recommendation of the study EUROPARC initiated a project to develop the Charter two years later. The five-year period of research and consultation of parks and their partners was carried out by the Fédération des Parcs Naturels Régionaux de France and funded by EU's LIFE programme. During that period a steering committee (10 European pilot parks, tourism partners and environmental NGOs) developed and tested the Charter step by step. After rationalising the principles and establishing the verification process, the methodology was completed. In 2001 the first park was awarded as "Charter Park". By now 75 protected areas have successfully applied for the award and several others are currently "Charter Canditates". Additionally, over 100 local tourism businesses, local and regional government authorities and NGOs have joined the network as Charter partners.

How the methodology is implemented

All kinds of protected areas can become a member of the Charter. Firstly, they need to officially register as an applicant and thereby, get the application documents by EUROPARC. Afterwards the park need to proof that it meets the basic requirements, which are:

- to accept the 10 Charter principles (see "elements and indicators")
- to establish a forum for communication between all local stakeholders relevant to tourism
- to prepare a diagnostic analysis of the site
- to develop a strategy and action for sustainable tourism over a period of five years
- to fill out the application documents

An independent expert chosen by EUROPARC verifies the application by visiting the site and examining the documents handed in by the applicant. Based on the verifier the Charter Evaluation Committee decides about the application. After five years the Charter status needs to be renewed by another evaluation.

Elements and indicators

The Charter Principles for Sustainable Tourism:

A) Working in Partnership

Principle 1: To involve all those implicated by tourism in and around the protected area in its development and management.

B) Preparing and implementing a strategy

Principle 2: To prepare and implement a sustainable tourism strategy and action plan for the protected area.

C) Adressing key issues

Principle 3: To protect and enhance the area's natural and cultural heritage, for and through tourism, and to protect it from excessive tourism development.
Principle 4: To provide all visitors with a high quality experience in all aspects of their visit.
Principle 5: To communicate effectively to visitors about the special qualities of the area.
Principle 6: To encourage specific tourism products which enable discovery and understanding of the area.
Principle 7: To increase knowledge of the protected area and sustainability issues amongst all those involved in tourism.
Principle 8: To ensure that tourism supports and does not reduce the quality of life of local residents.
Principle 9: To increase benefits from tourism to the local economy.
Principle 10: To monitor and influence visitor flows to reduce negative impacts.

Scoring and analysis

In order to become a member of the Charter network, protected areas need to meet specific requirements. Whether the requirements are met or not is examined by an expert and an Evaluation Committee, appointed by EUROPARC.

Further reading and contact

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How is Your MPA Doing?

Organisation

NOAA/National Ocean Service/IUCN-WCPA Marine, WWF

Primary reference

Pomeroy R, Parks, J and Watson, L (2004) 'How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness.' (IUCN, WWF, Gland and the US National Oceanic and Atmospheric Administration (NOAA): Gland and Cambridge)

Pomeroy RS, Parks, JE and Watson, LM (2006) 'Cómo evaluar una AMP. Manual de Indicadores Naturales y Sociales para Evaluar la Efectividad de la Gestión de Áreas Marinas Protegidas.' UICN, Gland, Suiza y Cambridge, Reino Unido.

Purposes

- To improve management (adaptive management)
- For accountability/ audit
- For prioritisation and resource allocation
- To raise awareness and support

Brief description of methodology

'How is your MPA doing' is a substantial manual (more than 200 pages) guiding marine protected area managers in the field of monitoring and evaluation. It provides detailed guidance and advice on assessing all aspects of marine protected area management using a wide range of techniques, within the IUCN-WCPA Framework.

Objectives and application

This methodology is intended as a toolbox for managers to monitor and evaluate their own marine protected area (MPA). The guidebook provides detailed advice on developing a system tailored to the needs, goals and objectives of a particular area.
It has been field tested at 17 sites throughout the world and translated into several languages.

Origins

IUCN (WCPA Marine) and WWF jointly formed the Marine Protected Sites (MPS) management effectiveness initiative in 2000, and between 2001 and 2003 conducted a series of surveys, workshops and field trials to develop, test and refine the system. The final manual for the methodology was published in 2004 (Pomeroy et al. 2004) and is also available in Spanish (Pomeroy et al. 2006). The project was also sponsored by NOAA and the Packard Foundation.

Strengths

The methodology has been designed with input from numerous international experts and managers and provides detailed guidance applicable to many different marine protected area environments. It covers all aspects of the IUCN-WCPA Framework. It is designed to be adapted and applied in the field to meet relevant needs.
The manual provides advice on designing, applying and analysing the system but also emphasises the need for communication and application of results to adaptive management.

Constraints and weaknesses

"How is your MPA doing?' is not a complete set of indicators or a 'ready-to-apply' methodology. It might appear somewhat intimidating if people feel they need to apply all indicators.

How the methodology is implemented

The manual is intended as a toolbox, and contains numerous indicators and suggested techniques for measuring them. It is intended that the protected area manager organize or coordinate the overall evaluation, though technical experts might be used for various tasks within it. Most of the indicators require collection of field data, either directly or from secondary sources.

The guidebook stresses that techniques are intended to be simple and 'approachable' rather than very detailed scientific measurements, and that the system is meant to be applied in conjunction with other scorecards etc to meet the needs of the individual managers.

A number of measurement techniques are suggested for each indicator, and references given for more detailed technical assistance.

Elements and indicators

All elements of the IUCN-WCPA Framework are covered in the manual. As a 'toolkit', this methodology is not prescriptive with respect to indicators, but rather gives guidance and suggestions for possible indicators' types.

The manual for this system stresses that indicators must be chosen to reflect the goals and objectives of the marine protected area, and to match the purposes and resources available for the evaluation. Each indicator is presented as associated with particular management goals.

The guidebook presents 42 indicators: 10 biophysical, 16 socioeconomic and 16 of governance.

Table 10: Indicators for "How is your marine park doing?"

Biophysical	Area showing signs of recovery
	Food web integrity
	Recruitment success within the community
	Composition and structure of the community
	Habitat distribution complexity
	Water quality
	Focal species abundance
	Area under no or reduced human impact
	Focal species population structure
	Type, level and return on fishing effort
Socioeconomic	Local marine resource use patterns
	Quality of human health
	Percentage of stakeholder group in leadership
	Distribution of formal knowledge to community
	Stakeholder knowledge of natural history

	Number and nature of markets
	Community infrastructure and business
	Household income distribution by source
	Changes in conditions of ancestral and historical sites, features or monuments
	Material style of life
	Perception of non-market and non-use value
	Perception of local resource harvest
	Perception of seafood availability
	Level of understanding of human impacts on resources
	Local values and beliefs regarding marine resources
	Occupational structure
Governance	Availability and allocation of administrative resources
	Proportion of stakeholders trained in sustainable use
	Degree of interaction between managers and stakeholders
	Existence and application of scientific research and input
	Existence and adequacy of enabling legislation
	Local understanding of MPA rules and regulations
	Existence and adoption of a management plan
	Existence of an MPA decision-making and management body
	Existence and activity level of community organisations
	Level of training provided to stakeholders in participation
	Level of stakeholder participation and satisfaction in management process and activities
	Level of stakeholder involvement in surveillance, monitoring and enforcement
	Clearly defined enforcement procedures
	Number and variety of patrols per time period per unit area
	Degree of information dissemination to encourage stakeholder compliance
	Level of resource conflict

Scoring and analysis

Scoring systems vary, as answers may be qualitative/ descriptive, scores or measurement. Outputs range from species abundance profiles, habitat maps, and graphs to descriptions of human impacts and threat indexes.

References

Pomeroy, R., J. Parks and L. Watson (2004) 'How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness.' (IUCN, WWF, Gland and the US National Oceanic and Atmospheric Administration (NOAA): Gland and Cambridge).

Pomeroy, R.S., J.E. Parks and L.M. Watson (2006) Cómo evaluar una AMP. Manual de Indicadores Naturales y Sociales para Evaluar la Efectividad de la Gestión de Áreas Marinas Protegidas. UICN, Gland, Suiza y Cambridge, Reino Unido.

Marine Tracking Tool / MPA Score Card

Organisation

WWF-World Bank

Primary reference

Staub F and Hatziolos, ME (2004a) 'Calificador para Evaluar el Progreso en Alcanzar las Metas de la Efectividad de Manejo de las Áreas Marinas Protegidas.' Banco Mundial.

Staub F and Hatziolos, ME (2004b) Score Card to Assess Progress in Achieving Management Effectiveness Goals for Marine Protected Areas. World Bank

Purposes

- To improve management (adaptive management)
- For accountability/ audit

Brief description of methodology

This is a simple scorecard system designed for marine protected areas. It consists of a data sheet to gather general information about the protected area, and an assessment sheet with a total of 68 questions. It covers all elements of the IUCN-WCPA Framework.

This type of assessment requires little or no additional data collection and focuses on the context of the MPA along with the appropriateness of planning, inputs and processes of management. It relies largely on available date through literature searches and informed opinions of site managers and/or independent assessors, takes a short period of time and costs little. Issues are broadly covered, but depth of analysis is generally low(Staub and Hatziolos 2004b).

Objectives and application

'The purpose of the Score Card is to help marine protected area managers and local stakeholders determine their progress along the management continuum. It is a short, straightforward self-assessment tool to help managers identify where they are succeeding and where they need to address gaps. Because it is intended to be completed by the MPA staff and other stakeholders, it can be a useful team building exercise(Staub and Hatziolos 2004b).

'The MPA Score Card has many uses as an orientation tool to help managers of new protected areas scope out issues to be addressed in establishing an effective MPA, or as a Tracking Tool to provide managers with a sense of "where they are" along the management continuum. It also serves as a user-friendly reporting tool on MPA status based on information largely already collected without any additional field level research' (Staub and Hatziolos 2004b).

Origins

This is a marine adaptation of the World Bank/WWF Management Effectiveness Tracking Tool (METT) and from other tools (Hockings et al. 2000; Staub and Hatziolos 2004b; Wells and Mangubhai 2004).

Strengths

- The system covers all parts of the IUCN-WCPA Framework. It is rapid and simple to implement, and allows cross-comparison with other sites.
- This scorecard places higher emphasis on both outputs and outcomes of management than the terrestrial Tracking Tool, with questions/ indicators tied back well to the values set in the context section. As an overall reporting mechanism for progress it should be useful.
- Its compatibility with the terrestrial Tracking Tool could be useful

Primary constraints and weaknesses

- As with all scorecards, this is relatively superficial and general; and ratings are subjective and therefore open to interpretation. Outcome measures are included but there is no guidance on the detailed assessment of biophysical outcomes.

How the methodology is implemented

'The Score Card should be completed by marine protected area staff and, ideally, local stakeholders to validate the scoring. It is designed to be completed within a relatively short period, such as during a staff meeting or other routine meeting, by referencing available reports or datasets' (Staub and Hatziolos 2004b).

Elements and indicators

The questionnaire consists of a data sheet and an assessment form with a total of 68 questions as follows. There is also space for comments and respondents are encouraged to add their comments.

The indicators are arranged according to the IUCN-WCPA elements (Table 7).

Table 11: Indicators in Marine Tracking Tool scorecard methodology

Context	1	Legal status – Does the marine protected area have legal status?
	2	Marine protected area regulations – Are unsustainable human activities (e.g. poaching) controlled?
	3	Law enforcement – Can staff sufficiently enforce marine protected area rules?
	3a	There are additional sources of control (e.g., volunteers, national services, local communities)
	3b	Infractions are regularly prosecuted and fines levied
	4	Marine protected area boundary demarcation – Are the boundaries known and demarcated?
	5	Integration of the MPA in a larger coastal management plan – Is the MPA part of a larger coastal management plan?
	5a	a. The MPA is part of a network of MPAs which collectively sustain larger marine ecosystem functions
	5b	b. The MPA is part of a network of MPAs which collectively represent the range of bio-geographic variation in a marine eco-region
	6	Resource inventory – Is there enough information to manage the area?
	7	Stakeholder awareness and concern – Are stakeholders aware and concerned about marine resource conditions and threats?

Planning	8	Marine protected area objectives – Have objectives been agreed?
	9	Management plan – Is there a management plan and is it being implemented?
	9a	There is also a long term master plan (at least 5 years)
	9b	The planning process allows adequate opportunity for key stakeholders to influence the management plan
	9c	Stakeholder participation includes representation from the various ethnic, religious and user groups as well as representation from both genders
	9d	The socioeconomic impacts of decisions are considered in the planning process
	9e	The local culture, including traditional practices, social systems, cultural features, historic sites and monuments, is considered in the planning process
	9f	There is an established schedule and process for periodic review and updating of the management plan
	9g	The results of monitoring, research and evaluation are routinely incorporated into planning
	9h	Management plan is tied to the development and enforcement of regulations
Input	10	Research – Is there a program of management-oriented survey and research work?
	10a	a. Carrying capacity studies have been conducted to determine sustainable use levels
	11	Staff numbers – Are there enough people employed to manage the protected area?
	11a	There is additional support from volunteer programs, local communities, etc
	12	Current budget – Is the current budget sufficient?
	12a	There is a secure budget for the marine protected area and its management needs on a multi–year basis.
	12b	The budget is not entirely dependent on government funding; instead, funding also comes from NGO contributions, taxes, fees, etc.
Process	13	Education and awareness program – Is there a planned education program?
	14	Communication between stakeholders and managers – Is there communication between stakeholders and managers?
	14a	There is some communication with other MPA managers (and for example exchanges of good practices
	15	Stakeholder involvement and participation – Do stakeholders have meaningful input to management decisions?
	15a	There are clear financial contributions / agreements between MPA and tourism operators to recover MPA resources rents for local benefits
	16	Indigenous people – Do indigenous and traditional peoples resident or regularly using the MPA have input to management
	17	Staff training – Is there enough training for staff?
	18	Equipment – Is the site adequately equipped?
	19	Monitoring and evaluation – Are biophysical, socioeconomic and governance indicators monitored and evaluated?

	19a	The MPA participates as a site in national or international environmental monitoring programs such CARICOMP, CPACC, GCRMN, AGGRA or similar. (Provide the name of the program(s))
	19b	There is an Emergency Response Capability in place to mitigate impacts from non threats
Output	20a	Legal status has improved (refers to question 1. Legal status)+2
	20b	Regulations have improved (refers to question 2. MPA Regulations)+2
	20c	Law enforcement has improved (refers to question 3.
	20d	Boundary demarcation has improved (refers to question 4.
	20e	The MPA has been integrated into ICM (refers to question 5. Integration of the MPA)+2
	20f	The resource inventory has improved (refers to question 6.
	20g	Stakeholder awareness and concern has improved(refers to question 7.)+2
	21a	Signs – signs are now available, or new one have been installed
	21b	Moorings – moorings are now available, or new one have been installed
	21c	Education materials – education materials are available, or new one have been developed
	22	Mechanisms for stakeholder participation in decision-making and/or management activities (e.g. advisory council) – are mechanisms available to ensure stakeholder participation?
	23	Environmental education activities for stakeholders (e.g. public outings at the MPA) – have education activities been developed for stakeholders?
	24	Management activities – have the two critical management activities (listed in the data sheet) been improved to address threats
	25	Visitor facilities – does the MPA have sufficient visitor facilities?
	26	Fees – If fees (entry fees - tourism, fines) are applied, do they help marine protected area management?
	27	Staff Training
Outcome	28	Objectives – Have MPA objectives (listed in the data sheet page) been addressed?
	29	Threats – Have threats (listed in the data sheet page) been reduced?
	30	Resource conditions– Have resource conditions improved?
Outcome - Has community welfare improved?	31	MPA management is compatible with the local culture, including traditional practices, relationships, social systems, cultural features, historic sites and monuments linked to marine resources and uses
	31a	Resource use conflicts have been reduced
	31b	Benefits from the MPA are equitably distributed
Outcome	31c	The non-monetary benefits of the marine resources to society have been maintained or enhanced
	31d	Environmental awareness – Has community environmental awareness improved?
	32	Compliance – Are users complying with MPA regulations?

33	Stakeholder satisfaction – Are the stakeholders satisfied with the process and outputs of the MPA?
34	Stakeholders feel that they are able to effectively participate in management decisions
34a	Stakeholders feel that they are adequately represented in the MPA decision-making processes
34b	Community welfare – Has community welfare improved?

Scoring and analysis

For most questions, there is a choice of four responses (rating 0 to 3), where zero is equivalent to no progress or very little/ poor situation and three is an ideal situation.

Scores are added for each of the six elements of evaluation and a final total score can also be calculated. If some questions are not scored (e.g., not relevant), the maximum score should be changed to an adjusted score (maximum possible score minus points for question that are not applicable). The final score is calculated as a percentage of the score obtained divided by the adjusted maximum score.

Further Reading

Wells, S. and Dahl-Tacconi, N. (2006). Table: Methodologies for Evaluating MPA Management Effectiveness. MPA News, 2-3.

Parks in Peril (PIP) - Site Consolidation Index

Organisation

The Nature Conservancy (TNC) and the US Agency for International Development (USAID)

Primary methodology reference

The Nature Conservancy. 2004. Measuring Success: The Parks in Peril Site Consolidation Scorecard Manual. Arlington, VA: The Nature Conservancy. 56 pp.
Available online: http://www.parksinperil.org/howwework/methods/scorecard.html

Brief description of methodology

TNC established this monitoring tool for its program Parks in Peril (PiP) to understand the processes and capacities needed for the conservation of individual protected areas and to allow protected area managers to measure progress.

Parks in Peril focuses on strengthening conservation NGOs and agencies in countries where protected areas may have been designated on paper, but the realistic means for protecting them are lacking. Parks in Peril fosters the local support necessary for conserving protected areas using a process called 'site consolidation'. Site consolidation is the process of bringing together the resources necessary to support long-term conservation in specific protected areas.
These resources include financial resources, technical resources, human resources, adequate infrastructure, a supportive local constituency, strong capacity for strategic planning, political support, and ecological information.

A consolidated site is one in which the institutions charged with its management have the tools to deal with current threats and management challenges, as well as the capacity to respond to threats that arise in the future. To manage this process, TNC developed the Parks in Peril Site Consolidation Scorecard. This tool helps site managers to set priorities for building conservation capacity, measure progress, and apply adaptive management to improve program efficiency and impact.

Purposes

- **To improve management (adaptive management)**
- To raise awareness and support
- For accountability/ audit
- For prioritisation and resource allocation

Objectives and application

The Site Consolidation Scorecard was designed to measure the effectiveness of the investment in protected areas in the Parks in Peril program. It serves to:

- Set multi-year, life-of-project objectives for Parks in Peril sites using standard criteria across a portfolio of protected areas;
- Allow project managers to track progress towards site consolidation at specific protected areas over time;
- Allow Parks in Peril program managers to track advances across the entire program/portfolio of protected areas;
- Enable TNC and USAID to recognize when the objectives of the Parks in Peril Program have been met at particular protected areas;

- Promote adaptive management by providing a planning and monitoring framework; Encourage accountability for performance;
- Raise awareness for systematic assessment of conservation capacity over time; and
- Attract future funding and technical resources by demonstrating documented excellence in conservation management.

The Parks in Peril program has operated in 40 countries in Latin America and the Caribbean region since 1990. The Scorecard has been used 271 times across 45 protected areas since 1997. It was revised in 2004, with

- Greater integration – elements are cross-referenced
- Vision-based consolidation (strategic planning first)
- Documentation section
- Site constituency section enhanced

The Scorecard is not designed to measure direct conservation impact or a protected area's success in reducing threats and conserving biodiversity. Instead, it measures processes that lead to site consolidation and the capacity for conservation of a given protected area. When properly developed and implemented, a site-specific monitoring plan, included as one of the 17 indicators, will provide an ongoing measure of conservation impact through changes in threat and biodiversity health indicators.

PiP employed the Site Consolidation Scorecard so that over the life of its investment in a site, managers could set goals that, if met, would create a sustainable conservation presence to conserve and protect the site into the foreseeable future. PiP's intensive investment in this site would be limited to this period; after this period, smaller investments by TNC, USAID or others might be necessary to generate specific products to aid management, but supplementing the development of basic management capacity would not be necessary (Martin and Rieger 2003).
The Scorecard approach has since been applied in protected areas outside the Parks in Peril program and has also been adapted by a number of other programs. It was recently adapted and used in a study to evaluate two protected areas in Austria and Germany (Pfleger 2007) – see above.

Origins

The Scorecard was developed based on experiences in the field between 1990 and 1997 (Martin and Rieger 2003). A tested and revised version was published in 1999, and further revision made for the version published in 2004. Another version is forthcoming in 2007 based on the latest work of the conservation community regarding protected area management effectiveness, lessons learned in the field, and mandates of the Convention on Biological Diversity's Program of Work on Protected Areas.

How the methodology is implemented

The methodology is implemented using a participatory process involving protected area managers and key stakeholders to facilitate communication and negotiation of management decisions. The steps are:

- Form a team of managers and key stakeholders
- Compile information, define and document baseline scores at beginning of project:

Where are we now?
- Set targets, and define changes necessary to reach the targets: Where do we want to be?
- Develop strategies: How will we get there?
- Revisit, adjust scores and targets annually: feedback loop for adaptive management (Martin 2005)

The Site Consolidation Scorecard was designed to be used by a program with specific funding sources in order to sustain its use at protected areas over the short to medium term. It is used in conjunction with complementary tools (i.e., TNC's Conservation Action Planning to define outcomes and TNC's Institutional Self-Assessment (ISA) to marshal resources for project implementation) (Martin 2005).

As one of the first steps in the process, Scorecard users should define what changes in the protected area constitute each benchmark of the Scorecard. For example, Scorecard users should define at the *outset* the changes in infrastructure that will qualify for each of the five benchmark levels. What buildings and equipment are needed and where in order to qualify for a level of '4' within the indicator for infrastructure? This reduces subjectivity and assists development of site activities by making goals more explicit.

The Site Consolidation Scorecard should be accompanied with guidance and technical assistance for its application in order to maximize its effectiveness and improves quality control and consistency across protected areas. While the Scorecard is designed to measure a protected area's progress towards consolidation, it is not designed to measure direct conservation impact or a protected area's success in reducing threats and conserving biodiversity. Instead, it measures *processes* that lead to the consolidation of a protected area and the *capacity* of a given site. When properly developed and implemented, a site-specific *monitoring plan*, included as one of the 17 indicators, will provide an ongoing measure of conservation impact through changes in threat and biodiversity health indicators.

Elements and indicators

The Scorecard separates the elements of a functioning protected area into four major categories:
- strategic planning;
- basic on-site protection;
- long-term financing; and
- a supportive local constituency for the protected area.

Within these categories, the Scorecard provides 17 indicators with which to measure Consolidation (version 2004) as shown below:

A. Strategic Planning
A.1 Project area zoning
A.2 Site-based long-term management plan
A.3 Science and information needs assessment for project area
A.4 Monitoring plan development and implementation for project area
B. Basic Protection Activities
B.1 Physical infrastructure for project area
B.2 On-site personnel
B.3 Training Plan for On-site Personnel
B.4 Land tenure and land use issues within the project area

B.5 Threats analysis for the project area
B.6 Official declaration of protected area status for the project area
B.7 Organisational structure
C. Long-term Financing
C.1 Long-term financial plan for sites in the project area
D. Site Constituency
D.1 Broad-based management committee/technical advisory committee for project area
D.2 Institutional Leadership for the project area
D.3 Common Leadership for the project area
D.4 Community involvement in compatible resource use at the project area
D.5 Stakeholder and Constituency Support for Project Area
D.6 Policy agenda development at national/regional/local levels for project area
D.7 Communication plans for the project area
D.8 Environmental education plans for the project area
D.9 Cooperation with other organizations
D.10 Integration in an ecological network

Scoring and analysis

Each of the 17 Scorecard indicators is rated according to five benchmarks.
Each of the five benchmarks reflects a similar level of progress across all the indicators.
The levels can be summarized roughly as follows:

5 = Excellent (proper management of the protected area ensured)
4 = Adequate (protected area is adequately managed for the most critical threats and highest priority conservation targets)
3 = Progress made (protected area becoming adequately managed, but still has progress to make)
2 = Work begun (little actual progress towards adequate management of the protected area)
1 = No work has been done (protected area not being managed)

As a general rule, a protected area that has achieved a score of '4' in all 17 indicators is considered consolidated. The specific circumstances of individual protected areas will vary, and it is the role of the portfolio's manager and in-country partners to determine the level of achievement for each indicator that best represents the consolidation of a given protected area. On a case-by-case basis, the portfolio's manager and the partners may decide that certain indicators do not apply to a given protected area; they may also decide that it will not be possible to boost every indicator to a level of '4' or greater. Ideally, this should be established at the beginning of the project, when baseline conditions are being determined (The Nature Conservancy Parks in Peril Program 2004).

Further reading and contact

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Reports for protected areas in Latin America and the Caribbean and the Parks in Peril Site Consolidation methodology are available online at:
http://www.parksinperil.org/resources/art18403.html

European Site Consolidation Scorecard, Austria

Organisation

Bernd Pfleger, Institute of Ecology, Klagenfurt, Austria
Email: pfleger@e-c-o.at

Primary reference

Pfleger, B. (2007b). European Site Consolidation Scorecard - Measuring the Management Effectiveness of European Protected Areas. Klagenfurt, Austria, 110 p.

Online available http://mpa.e-c-o.at/index.php/plain/content/view/full/864

Purposes

- Adaption of 'Parks in Peril Site Consolidation' methodology to European conditions
- Need for a comprehensive but not too detailed management effectiveness system in European parks

Brief description of methodology

The European Site Consolidation Scorecard is a site-assessment tool which can be used in line with resource capacity. Hence, the evaluation can vary from simple self-assessment by site-manager to an interactive assessment including an external evaluator and workshops or interviews with stakeholders.

The Scorecard consists of 22 indicators which can be scored at 5 levels of management quality. A discussion and analysis of the results is an important part of the assessment as the results should be included in future management (e.g. by adapting finance or monitoring plans). The assessment needs to be repeated every 3-5 years to examine the results of adaptive management.

Objectives and application

The Scorecard is designed to evaluate the management effectiveness of larger protected areas in Europe. By doing this the park can identify and implement necessary actions that reduces the most critical threats to the site and protects the highest priority conservation targets. The 'European Site Consolidation Scorecard' as a measurement and planning tool can be used for protected areas at different scales as long as they are on-site managing units. It focuses on the first four phases of the IUCN-WCPA Framework (context, planning, inputs, and processes) and is therefore well suited for a basic evaluation module.

The methodology was applied in Gesäuse National Park, Austria. The assessment was carried out as an external evaluation and included stakeholder opinions through workshops and interviews, as well as opinions of park management. Furthermore it is the recommended methodology in the guidelines for evaluation of national parks in Austria.

Origins

The 'European Site Consolidation Scorecard' is based on 'Parks in Peril Site Consolidation Scorecard' methodology, an approach successfully used for many years in Latin America and the Caribbean. Bernd Pfleger applied the 'Parks in Peril Site Consolidation Scorecard' in two national parks (Thayatal, Austria and Berchtesgaden, Germany). Based on this experience he developed a modified and improved version designed for protected areas in Europe. Instead of concentrating on threats and conservation like the former version, the evaluation of the 'European Site Consolidation Scorecard' focuses more on priority goals and management tools.

Strengths

- No detailed research and monitoring necessary
- Flexible in application (different scale, internal or external evaluation)
- Provides useful guidelines, examples, and a helpful documentation section
- Comprehensive explanation of the indicators and its application

Constraints and weaknesses

- Acceptance and participation of manager is essential (when used as external evaluation)
- Outputs and outcomes are only indirectly addressed via the indicator "monitoring plan"

How the methodology is implemented

Scorecard
The Scorecard consists of 22 indicators, which are essential for the conservation capacity of a protected site. Each indicator can be evaluated from 'excellently managed' to 'not managed' in five steps. The evaluation can be used as a self assessment tool for park management or, which is recommended, carried out together with an external evaluator. In addition to an external evaluator and the manager of the park, all relevant stakeholders should be included by organising workshops or personal interviews.

Process of management improvement

1. Site evaluation and documentation by using the Scorecard
2. Discussion, analysis, understanding of results
3. Management improvement by using various tools[10], such as training plan for staff, analysis of specific threats, long-term management and financial plan, threats-related monitoring plan, science and information needs assessment and plan for promoting government policies that support the conservation of the project area
4. Evaluation should be repeated every 3-5 years

[10] Examples and guidelines are provided

Elements and indicators

There are 22 Scorecard indicators, which are summarized in four groups (according to Pfleger, 2007b):

A. Strategic planning
- A.1 Project area zoning
- A.2 Site-based long-term management plan
- A.3 Science and information needs assessment for project area
- A.4 Monitoring plan development and implementation for project area

B. Basic protection activities
- B.1 Physical infrastructure for project area
- B.2 On-site personnel
- B.3 Training Plan for on-site personnel
- B.4 Land tenure and land use issues within the project area
- B.5 Threats analysis for the project area
- B.6 Official declaration of protected area status for the project area
- B.7 Organisational structure

C. Long-term financing
- C.1 Long-term financial plan for sites in the project area

D. Site constituency
- D.1 Broad-based management committee/technical advisory committee for project area
- D.2 Institutional leadership for the project area
- D.3 Common leadership for the project area
- D.4 Community involvement in compatible resource use at the project area
- D.5 Stakeholder and constituency support for project area
- D.6 Policy agenda development at national/regional/local levels for project area
- D.7 Communication plans for the project area
- D.8 Environmental education plans for the project area
- D.9 Cooperation with other organizations
- D.10 Integration in an ecological network

In addition to the scoring itself, there is a documentation section consisting of the following categories for each indicator:

- Goals for achieving levels 4 and 5
- Checklists
- Brief descriptions of processes or products
- Condition or quality
- Limitations and lessons learned
- Stakeholder opinions
- Sources of information
- Additional comments
- Reason for classification
- Target(s)
- Recommendations

In this section the manager should record information to verify the results, to ensure consistency over time, to facilitate information transfer among different staff and institutions, or to help in implementing necessary measures.

Scoring and analysis

Each indicator is scored by a five-level rating system.

Table 12: 5-level-scoring system for indicators according to Pfleger, 2007b

5 =	**Excellent** (proper management of the project area ensured)
4 =	**Adequate** (project area is adequately managed for the most critical threats and highest priority conservation targets)
3 =	**Progress made** (project area becoming adequately managed, but isn't yet)
2 =	**Work begun** (little actual progress towards adequate management of the project

Further reading

Pfleger et. al. (2009): Leitfaden zur Evaluierung des Nationalparkmanagements in Österreich. Institute for Ecology (E.C.O.), Klagenfurt, Austria.

Pfleger, B. (2007a). Evaluation of the Management Effectiveness of Central European Protected Areas - A Critical Revision of the Parks in Peril Site Consolidation Scorecard. Master thesis of the Management of Protected Areas Programme, University Klagenfurt, Austria, 173 p.
Online available http://mpa.e-c-o.at/index.php/plain/content/view/full/864

Pfleger, B. (2007b): European Site Consolidation Scorecard – Measuring the Management Effectiveness of European Protected Areas. Klagenfurt, Austria, 110 p.
Online available: http://mpa.e-c-o.at/index.php/plain/content/download/996/4573/file/European_Site_Consolidation_Scorecard_v6.pdf

Governance of Biodiversity (GoBi) assessment, Greifswald

Organisation

Governance of Biodiversity (GoBi) Research Group
Humboldt University (Berlin), Ernst-Moritz-Arndt University (Greifswald)

Primary methodology reference

Stoll-Kleemann, S. (2008).The Governance of Biodiversity Research Project (GoBi): Assessing biodiversity governance and management approaches in protected areas and biosphere reserves. GLP News 3, 20-22.

Brief description of methodology

The GoBi biosphere survey is an academic study, which has been carried out by the Governance of Biodiversity (GoBi) research team in Germany. The research project aimed to collect information about the management of protected areas (in particular biosphere reserves) and its legal, institutional, social, economic and ecological context. One component of the research project is a global telephone survey, which was conducted between July and December 2006. Manager and staff from 213 biosphere reserves (BR) in 78 different countries were called and interviewed by the research team. In addition, a Factor Evaluation Sheet was handed out to evaluate and rank proposed factors that have an influence on biosphere reserve management.

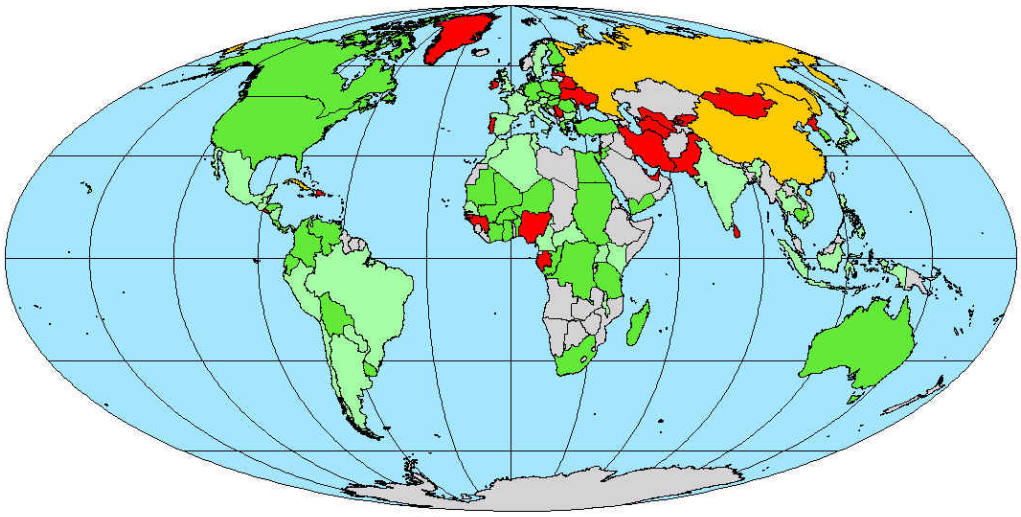
Purposes

- To examine success and failure factors affecting BR management
- Support and enhance the management of biosphere reserves worldwide

Objectives and application

This study has a research background and therefore does not provide a methodology to be applied at protected area level for the evaluation of management effectiveness. The objective is to obtain a detailed overview of the current status in biosphere reserve management, external influences and threats on biosphere reserves as well as the evaluation of expected developments from the perspective of BR managers and staff.

Figure 1 presents the percentage of participating biosphere reserves per country
(Source: Rainer Schliep, GoBi Research group)



Legend: dark green: >50%; light green: >20%; yellow: >0%; red: no reply; grey: no biosphere reserves

Origins

In 2004 the GoBi Project was launched after Susanne Stoll-Kleemann had successfully applied for a three year funding (plus two years extension) at the Robert Bosch Stiftung. Between 2004 and 2009 information about the management of protected areas (in particular biosphere reserves) and its legal, institutional, social, economic and ecological context have been collected by the GoBi Research Team. The data collection process of the GoBi research team included the following components:

- A comprehensive review of fundamental literature
- A meta-analysis of about 165 case studies on protected areas
- More than 170 detailed expert interviews conducted with people who work in protected areas (e.g. managers, scientists, and representatives of NGOs)
- A Factor Evaluation Sheet (version I) was handed out to the experts for ranking elaborated success and failure factors according to their importance
- 13 individual case studies in 9 countries
- A global telephone survey including a second version of Factor Evaluation Sheet with a condensed number of success and failure factors.

Strengths

- Gobi approach considers three different viewpoints on BRs (governance, management and conservation perspective)
- The telephone survey reflects up-to-date perspectives and insights on management and governance of biosphere reserves
- The telephone survey evaluates major success factors, which are crucial for the effectiveness of biosphere reserve management
- The telephone survey offers the opportunity to compare data at a country, continent or "developing – non-developing country" level

Constraints and weaknesses

- Global study, which does not provide insights at case level
- Not applicable as tool for management effectiveness evaluation

How the methodology is implemented

Between July and December 2006 manager and staff from 213 biosphere reserves (BR) in 78 different countries (that was 42% of the BR network in 2006) were interviewed by the GoBi Team. The researcher used structured interview guidelines in six languages (Chinese, English, French, German, Russian and Spanish) and additionally, handed out a Factor Evaluation Sheet to the interview partners. The Factor Evaluation Sheet assesses and ranks 27 proposed factors that have an influence on biosphere reserve management. Subsequently, the information was qualitatively and quantitatively analysed.

Elements and indicators

Table 13: Aspects and indicators of the global telephone survey

Theme	**Question**
Personal information	What is your job position?
	How many years have you held this position for?
	What is your academic / professional background?
Information on BR	What is the total size of your BR?
	To which zones does the total size refer?
	How many core zones are there?
	What is the total size of the core zone(s)?
	How many people live in the BR?
	When was your BR designated?
	Were there conservation activities prior the designation for your BR?
	If yes, when did they start?
	Does your BR contain mountain ecosystems, coastal ecosystems or island ecosystems?
	How many permanent and temporary staff are working in your BR?
	Please name the governance type of your BR.
Governance	In the area of policy, which are the two biggest constraints for your BR?
	What are the consequences of these constraints?
	Existing land-use rights constrain your management
	How do they constrain your management?
	Existing biodiversity or conservation programs of the national government support our BR management
	Corruption significantly impairs our management.
	What are the consequences of corruption?
	The current funding allows us to implement our management goals.
	Clear boundary demarcation facilitates our management
	Do you have a clear boundary demarcation?
	Which effects have the presence/absence of this demarcation?
	Unclear distribution of government responsibilities constrains our management

Management	What are the two most important short-term and long-term management objectives? Why are these objectives important? What are the two main activities of your management? Practical conservation measures such as protection against erosion, reforestation, etc are an essential component of our management concept. Large-scale ecosystem dynamics exceeding beyond the territory of the BR are considered in the planning of our management. Active community participation is relevant in our management concept Why is / is not community participation relevant in your management concept? What does actually result from the community participation? Approaches to dealing with conflicts play a significant role in our BR management. Which approaches play a significant role? Law enforcement is critical for successful conservation in our BR. Economic compensation for use restrictions has enabled us to better co-operate with local people. Our staff is trained on a regular basis. Our staff is adequately paid. Our staff has the necessary equipment to perform its tasks. Lack of systematic monitoring is one of the most important constraints in planning and implementing our BR objectives. Through our environmental education activities local communities understand the role of our BR. Sustainable rural development activities play a significant role in our management. Why or why not do they play a significant role? What actually resulted from the development activities? The buffer zone is an effective means to protect our core zone(s) against external threats. Human uses inside the buffer zone are sustainable from the point of view of conservation.
Status and Trend	What are the two biggest threats for biodiversity within your BR? Please order the following 4 threats according to their severity within your BR. What is your opinion on the trends of the following threats over the last years? Which illegal activities occur in your BR? Please name up to three ecological indicators that describe best the ecosystem health of the BR. What is your opinion on the trends of the above indicators over the last years? How do you know about these trends? Please name three important biodiversity values that justify the designation of your BR?

Perspectives	How would you expect the biodiversity status of your BR to be within 5 years? Why do you expect this trend? For your BR, what do you expect the status of the following threats to be within the next 5 years?

Scoring and analysis

The obtained data was analysed by referring to three main research questions:

- (1) How do governance types differ in high and non-high income countries?
- (2) Which governance constraints prevail according to BR managers?
- (3) What are the prevalent drivers for BR management decisions in non-high income countries compared to high income countries?

Various tools, such as SPSS and Excel were used for the analysis of the data.

Further reading and contact

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Web: http://www.biodiversitygovernance.de

Stoll-Kleemann, S. & Welp, M. (2008). Participatory and integrated management of biosphere reserves – Lessons from case studies and a global survey. GAIA 17/S1: 161–168.

Stockholm Biosphere Reserve (BR) Survey

Primary methodology reference

Schultz, L. (2009). Nurturing resilience in social-ecological systems. Doctoral Thesis in Natural Resource Management at Stockholm University, Sweden, 167 p.

Brief description of methodology

The global biosphere study consists of online self-evaluations of Biosphere Reserve Centres (BRCs) and telephone interviews with ten randomly chosen BRCs. The self-evaluation questionnaire was accessible online between January 15th to June 20th in four different languages (English, French, Spanish and Chinese). 407 BRCs were informed by email with contained the link and an introduction letter. Moreover, hard copies were distributed during the 3rd World Congress of Biosphere Reserves in February 2008. From the 148 BRCs that participated the survey, about half of the sites (69 BRCs) were identified as potential learning sites by using special criteria (see elements and criteria). Out of the English-speaking BRCs that have identified as potential learning site ten were randomly chosen for a more comprehensive telephone interview. These interviews should examine how learning can be facilitated on ground.

Purposes

- To assess practices and outcomes in biosphere reserves worldwide from the management authority's point of view (BRCs)
- To collect information from many biosphere reserves as basis for follow-up studies e.g. by identifying potential learning sites

Objectives and application

148 BRCs from 55 countries responded (28 % of total BR network) and judged their effectiveness by filing out the questionnaire.

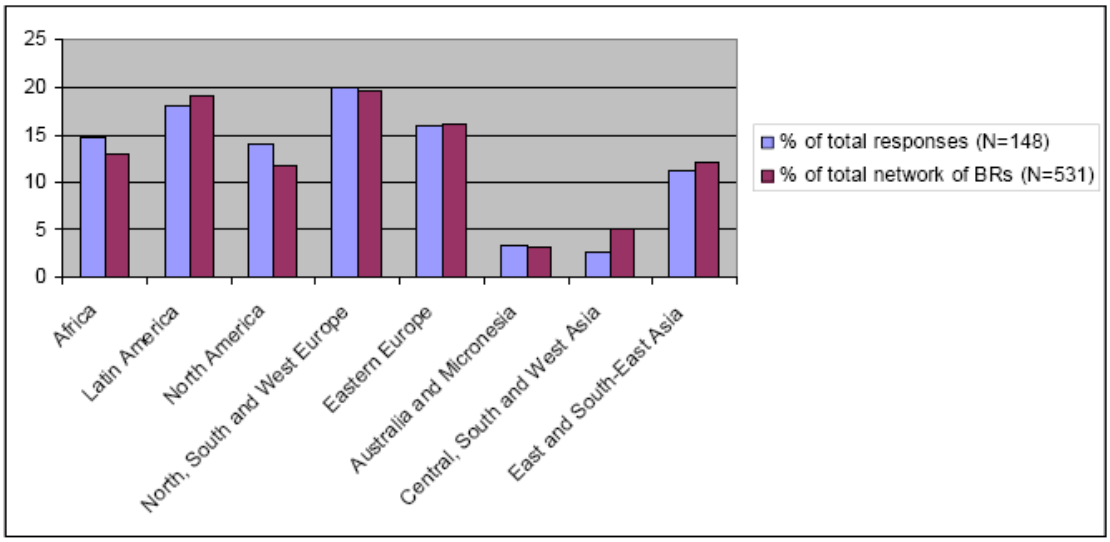

Figure 2: Biosphere reserves which participated the evaluation according to Schultz (2009)

The following ten Biosphere Reserve Centres were chosen for a telephone interview:

- Cape Winelands (South Africa)
- Channel Islands (United States)
- Delta del Orinoco (Venezuela)
- Frontenac Arch (Canada)
- Krivoklátsko (Czech Republic)
- Lower Morava (Czech Republic)
- Mata Atlântica including São Paulo City Green Belt (Brazil)
- Niagara Escarpment (Canada)
- Schorfheide-Chorin (Germany)
- Wienerwald (Austria)

Origins

A questionnaire for self-assessment, based on the approach of Kasunki (2005) was developed by the survey team. The team included researchers with various backgrounds, such as systems ecology, political science, rural studies and educational science. After completing the questionnaire it was tested, revised translated and finally, put online.

Strengths

- Comprehensive study with Biosphere Reserve Centres from various countries
- Rapid survey with large sample combined with comprehensive interviews of small sample
- Time and cost-effective study

Constraints and weaknesses

- Assessment usually by only one person of the BRC – representative?

How the methodology is implemented

Please refer to "brief description of methodology"

Elements and indicators

Topics of the online questionnaire:
1. General information
2. Priorities, goals and vision for the BR
3. Focus of conservation
4. Self-evaluation of effectiveness
5. Threats
6. Needs
7. Added value of the BR designation
8. Actors involved in BR management and coordination
9. Results from involvement
10. Support and communication
11. Activities concerning dialogue and training
12. Other questions
13. Your interest in future research

Criteria for potential learning sites:

- Relative high priority to objectives such as education, monitoring, research, communication and cooperation
- Fulfilling these objectives to a certain extent
- Providing opportunities of meetings for stakeholder of the BR

Scoring and analysis

The interviews were transcribed and then analysed. Six types of learning processes were identified, compared with examples from the survey and commented by the 10 interview partners. Thereby 3 approaches ("enabling mutual and collective learning", "building and updating a body of knowledge" and "framing information and education") to learning created by BRC were defined. Additionally, the self-evaluation was analysed. Amongst other things, correlation between objectives and effectiveness was examined and compared between potential learning sites and sites, which have not fulfilled the criteria for learning site.

Further reading and contact

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Email: lisen@ecology.su.se

References

Stockholm Resilience Centre:
http://www.stockholmresilience.org/seminarandevents/seminarsandevents/nurturingresilienceinsocialecologicalsystems.5.244c2fbe120dce4c6af800022320.html (accessed 13.10.2010)

Kasunik, M. 2005. Designing an effective survey. Technical Report, Carnegie Mellon University, Pittsburgh, PA:
http://www.sei.cmu.edu/pub/documents/05.reports/pdf/05hb004.pdf (accessed 13.10.2010)

Integrative Protected Area Management (IPAM) analysis

Organisation

E.C.O. Institute for Ecology

Primary methodology reference

Jungmeier, M. & I. Velik (2005): IPAM Toolbox. Final Report. Study commissioned by: Office of the Carinthian Government Dept. 20, Execution: E.C.O. Institute for Ecology Ltd., Klagenfurt, 67 p.

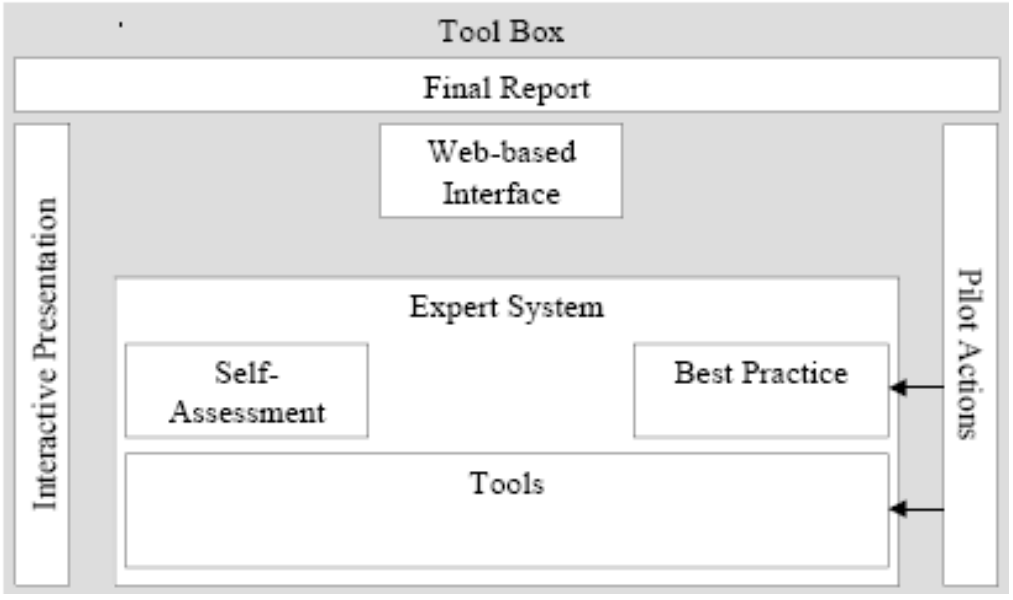
Brief description of methodology

Integrative Protected Area Management (IPAM) by Example of the Alps - Adriatic Region was an international research project between 2003 and 2006. The final result is the IPAM toolbox, a systematic instruction for assessing and developing methods, instruments and infrastructure for planning and managing protected areas. It is addressed to planners, managers and consultants of protected areas and can be accessed on the IPAM-homepage (www.ipam.info).
The IPAM toolbox consists of three components:

1) The **toolbox** provides various tools, instruments and methods for self-assessment
2) The **best practice** database describes successfully implemented tools with contact details of the persons in charge
3) The **web-based expert system**, an interactive platform to support tool-users with expertise

All together, the expert system provides a dynamic and interactive consulting process to identify problems, to focus questions and to find solutions for managers and planners of protected areas.

Figure 3: Components of IPAM analysis (according to Jungmeier, M & I. Velik, 2005)



Purposes

- Planning and managing protected areas

Objectives and application

The IPAM toolbox was used in target-regions of the Alps - Adriatic Region (Austria, Italy, Croatia, Slovenia and the Czech Republic). These regional pilot projects should present practical problems and demonstrate concrete solutions. Therefore different protected area designations, such as Natura 2000 and Ramsar sites, as well as regional and national parks, were chosen. The pilot projects involved regional initiatives and administrative bodies and focused on local implementation and communication. In 2009 the IPAM toolbox was used to evaluate nine Slovakian protected areas (Svajda, J., 2009).

Origins

The IPAM toolbox was developed between 2003 and 2006 as part of the international "Interreg III CADSES project", which involved five countries, seven project partners and six project region partners from Central and Eastern Europe.

Strengths

- Communication between various users (support)
- Dynamic and flexible process reduces implementation problems

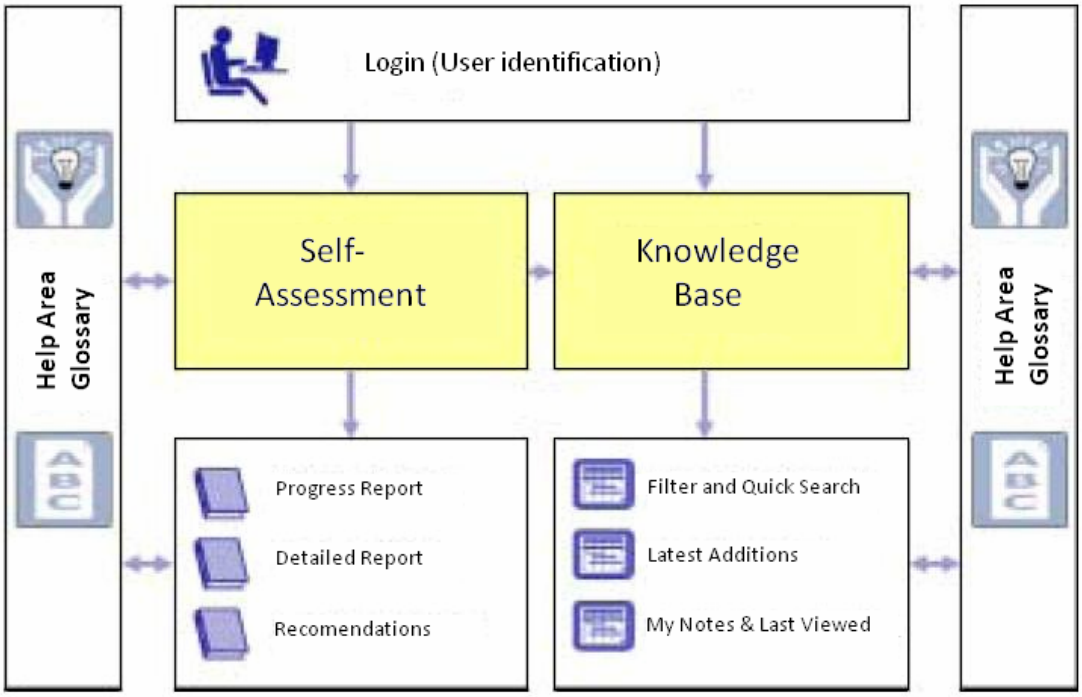
Constraints and weaknesses

- Open access to all IPAM users

How the methodology is implemented

1. Create user profile at IPAM portal
   (user registration with name, address, country and language)
2. Start self-assessment by creating profile of protected area
   (name of the protected area, category, biogeographic region and country)
3. Enter main part of self-assessment
   (questions about status of management belonging to 25 fields of activity)
4. Analyse results of assessment with standardized recommendation
   (progress report is provided by toolbox)
5. Supplementary information- the knowledge base (comprehensive database) can be used for additional materials or contacts

Figure 4: Overview of the toolbox structure according to Jungmeier & Velik (2005)



Elements and indicators

The self-assessment consists of questions referring to three major phases in the management of protected areas. Every phase is divided into several fields of activity, which are further divided into actions.

Table 14: Content of online self-assessment according to Svajda, J. (2009)

Phase	**Field of Activity**
Pre-phase	Development of idea and vision
	Feasibility check
	Communication and participation I
	Incorporation into PA-systems
Planning phase	Planning handbook
	Communication and participation II
	Basic investigation
	Implementation planning
	Designation and establishment
	Mission statement and basic concepts
	Ecosystem-based management plans
	Design of (regional) economic programs
	Specific planning (subsidiary plans)

Implementation phase	Personnel and organisational development Evaluating management effectiveness Financing (business plan) Impact assessment and limitation Data and information management Research setting and monitoring Communication and participation III Development of protected area´s region Co-operation design Information, interpretation and education Visitor management, services and infrastructure Marketing and public relations

Scoring and analysis

The actions for each field of activity are scored with "not started", "started" or "completed". The toolbox then calculated an index for each field of activity presented as traffic light and percentages (e.g. 95 % = green) and summarizes the results in the form of a report (progress report, detailed report or recommendation report).

Further reading and contact

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Email: jungmeier@e-c-o.at

IPAM homepage: www.ipam.info (viewed 30.10.2009)

Svajda, J. (2009): Evaluation of Integrated Protected Area Management in Slovak National Parks. Thesis, Klagenfurt, 112 pp.

National methodologies

Management Effectiveness Study - Finland

This information is extracted from Heinonen (2006) and Gilligan et al (2005)

Organisation

Metsahallitus

Primary reference

Gilligan, B., Dudley, N., Fernandez de Tejada, A. and Toivonen, H. (2005) Management Effectiveness Evaluation of Finland's Protected Areas. Nature Protection Publications of Metsähallitus. Series A 147. (www.metsa.fi/mee)

Purposes

- To improve management (adaptive management) primarily at system level
- For accountability/ audit
- For prioritisation and resource allocation
- To raise awareness and support

Brief description of methodology

In 2004 a management effectiveness evaluation of the Finnish protected area system was commissioned by the Finnish Metsähallitus Natural Heritage Services (NHS) and organised in cooperation with the Ministry of the Environment and stakeholders. The evaluation report was published in 2005. The evaluation was one of the most comprehensive and transparent evaluations of a protected area system undertaken so far, with external experts from several countries involved.

The evaluation results indicate substantial progress that has taken place since the first evaluation was carried out on Finnish protected areas by Harold Eidsvik of Canada and Hans Bibelriether of Germany in 1994. The report provides insight into the management of Finland's most valuable natural sites and how effectively the financial and other means granted to the NHS are used. It also shows how successful the result-oriented guidance and creation of operating conditions for protected areas have been.

Objectives and application

It was designed to assess a national network of protected areas. The assessment included 70 of the nearly 500 statutory protected areas, including the national parks, strict nature reserves, wilderness reserves and national hiking areas. Drawing on these, the team developed a series of specific questions based on the IUCN-WCPA Framework.

Origins

The management effectiveness evaluation of the Finnish protected areas was conducted using the IUCN-WCPA Framework adapted to the conditions of Finland – for example, considering the large amounts of information and staff expertise available. In accordance to the framework, the elements of the management cycle considered were context, planning, resources, process, outputs and outcomes. An international steering group was identified to help to develop and comment on the assessment.

The aim was to represent key institutions with an interest in Finland's environment and, by including two representatives from IUCN, help drive the international effort to increase protected area management effectiveness.

A four person evaluation team was identified and appointed, including someone with specific experience in running a comparable protected area programme, someone with expertise in Natura 2000, a representative from conservation NGOs and a local expert.

Strengths

- The evaluation was combined with a RAPPAM assessment to provide a comprehensive overview of the protected area system.
- It was transparent and conducted with oversight of international experts.

Primary constraints and weaknesses

- Considerable resources were used in the assessment.

How the methodology is implemented

The management effectiveness evaluation assessment process is shown in figure 5 . The evaluation team first reviewed a large amount of literature. Park managers in Finland also completed a self-assessment questionnaire, modified from the RAPPAM methodology.

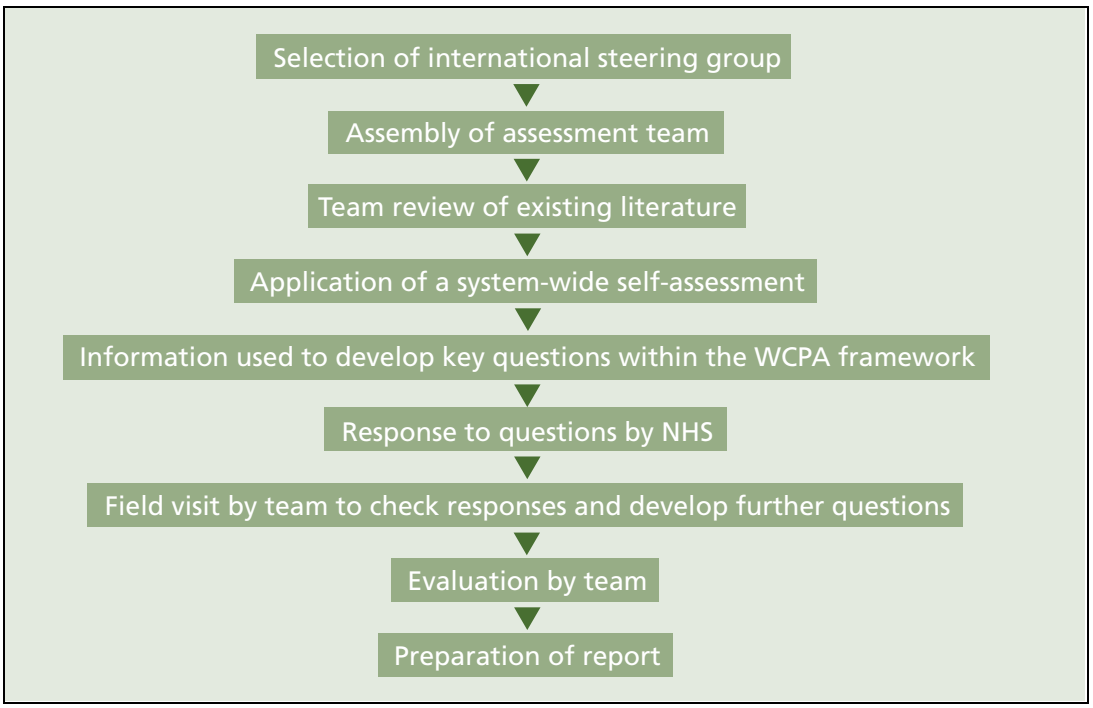

Figure 6: Management effectiveness assessment process in Finland

The questions were answered by the NHS staff and they formed the core of the assessment and the subsequent report. The management effectiveness evaluation was finalised by a field assessment, which included visits to representative protected area sites as well as meetings with NHS staff and representatives of directing and financing ministries, local stakeholder groups and NGOs.

Elements and indicators

Drawing on literature review, RAPPAM analysis and the IUCN-WCPA Framework, specific questions were developed.

1. Context
1.1 Is there a clearly articulated national vision for the on-going development and management of the Finnish PA system?
1.2 Does the legislative and administrative framework support the effective functioning of the PA system?
1.3 Are personnel and resources well organised and managed with access to adequate resources?
1.4 Is there a cohesive and nationally coordinated approach to PA management?
1.5 Is transboundary and regional cooperation established and maintained in a manner which supports effective management of Finnish protected areas?
1.6 Are the values of the PA system well documented and assessed?
1.7 Are the threats to PA system values well documented and assessed?
1.8 Do Finnish PA management objectives harmonise with Natura 2000 objectives?
1.9 Do Finnish PA management objectives harmonise with wider cultural objectives including those relating to the Sámi?

2. Planning
2.1 Are protected areas identified and categorised in an organised system?
2.2 Are individual protected areas designed and established through systematic and scientifically based criteria and process with a clearly articulated vision?
2.3 Are established reserves covered by comprehensive management plans?
2.4 Are management plans routinely and systematically updated?
2.5 Are protected areas located in places with the highest/most threatened biodiversity values?
2.6 Are stakeholders given an opportunity to participate in planning?

3. Resources
3.1 What level of overall resource is provided for PA management?
3.2 How have resource levels varied with increases in protected areas in recent years?
3.3 On what basis are resources allocated to PA for management?
3.4 At the park level, are resources linked to priority actions identified in management plans?
3.5 What level of resources is provided by partners and/or volunteers?
3.6 Do PA managers consider resources to be sufficient?

4. Process
4.1 Is management performance against relevant planning objectives and management standards routinely assessed and systematically audited as part of an on-going 'continuous improvement' process?
4.2 Is NHS staff performance management linked to achievement of management objectives?
4.3 Is the NHS internal audit function systematic and credible?
4.4 Is there external and independent involvement in internal audit?
4.5 Is there effective public participation in PA management in Finland?
4.6 Is there a responsive system for handling complaints and comments about PA management?

5. Output
5.1 Is adequate information on PA management publicly available?
5.2 Are visitor services appropriate for the relevant protected area category?
5.3 Are management related trends systematically evaluated and routinely reported?
5.4 Do audit reports reveal effective management?
5.5 Is there a systematic maintenance schedule in place for built infrastructure/assets?
5.6 Does Finland fulfill its monitoring and reporting obligations under European Directives and international conventions?

6. Outcomes
6.1 Are threats to reserve heritage values held in check or reduced?
6.2 Are threatened species populations stable or increasing?
6.3 Are parks and reserves losing native species?
6.4 Are selected indicator species within acceptable ranges?
6.5 Are biological communities at a mix of ages and location that will support native biodiversity?
6.6 Are ecological processes (in the PA) functioning in a healthy and sustainable manner?
6.7 Are the expectations of visitors generally met or exceeded?
6.8 Are neighbors and adjacent communities supportive of PA management?
6.9 Are cultural heritage assets protected?

Scoring and analysis

After some consideration, it was decided not to use numerical scoring for the assessment (though the earlier RAPPAM assessment was scored in the usual way). Instead, an overall evaluation of fair, good or very good was given to each question, and qualitative discussion and examples were given to each.

References

Gilligan, B., N. Dudley, A. Fernandez de Tejada and H. Toivonen (2005) Management Effectiveness Evaluation of Finland's Protected Areas. Nature Protection Publications of Metsähallitus. Series A 147.

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Evaluation of German Biosphere Reserves (Schrader`s approach)

Organisation

Nicole Schrader, University of Trier

Primary methodology reference

Schrader, Nicole (2006): Die deutschen Biosphärenreservate auf dem Prüfstand! – Evaluierung der bestehenden Biosphärenreservate unter Berücksichtigung der Vorgaben der UNESCO, der Anforderungen der nationalen Biosphärenreservatskriterien und des neu entwickelten Bewertungsverfahrens, Dissertation, Universität Trier.
Online available: http://ubt.opus.hbz-nrw.de/volltexte/2006/372/pdf/Endversion.pdf

Brief description of methodology

For her dissertation Nicole Schrader evaluated all of the 14 German biosphere reserves (BRs) in 2006. She compared two evaluation sets (the international guidelines for BRs by UNSECO and the national criteria by the German Commission for UNESCO for recognition and review of biosphere reserves "BR-criteria") and based on her findings developed an evaluation approach. The new approach included international and national criteria and compensates for their weaknesses by additional quality criteria and a modified scoring system.

Purposes

- For adaptive management (improvement of conservation plans)
- To fulfil international and national evaluation obligations

Objectives and application

The following 14 German biosphere reserves were evaluated:

- Vessertal-Thüringer Wald
- Pfälzerwald-Nordvogesen
- Bayerischer Wald
- Schorfheide-Chorin
- Spreewald
- Berchtesgaden
- Rhön
- Südost-Rügen
- Flusslandschaft Elbe
- Schaalsee
- Oberlausitzer Heide- und Teichlandschaften
- Hamburgisches Wattenmeer
- Niedersächsisches Wattenmeer
- Schleswig-Holsteinisches Wattenmeer und Halligen

Origins

According to both, the international guidelines of UNSECO and national BR-criteria, biosphere reserves need to be evaluated as a minimum, once every ten years. 11 out of 14 German biosphere reserves had already exceeded this requirement in 2006. During her dissertation Nicole Schrader has evaluated all BRs with three different approaches. The third, new approach allows fulfilling two evaluation requirements for German biosphere reserves by one uniform assessment.

Strengths

- Comparable results (ranking system between different BRs; development process over time)
- Applicable also for biosphere reserve candidates and BRs outside of Germany
- Regional characteristics are considered in the evaluation
- Due to the independent evaluator the procedure is expected to be relatively objective

Constraints and weaknesses

- Acceptance and trust between BR manager and independent evaluator is necessary

How the methodology is implemented

Nicole Schrader has created an approach for assessing biosphere reserves. The assessment consists of ten main components:

Expert interviews

1) Guidelines for expert questions

Main questionnaire

2) Questionnaire for administration of BR
3) Questionnaire for state ministries
4) Questionnaire for sponsoring association and other organizations
5) Questionnaire for evaluators (on the basis of site inspection)
6) Questionnaire for evaluators (on the basis of inspection of records)

Additional information sources

7) Questionnaire for forestry staff
8) Interviews with tourism operators
9) Interviews with local government office (e.g. employment office) for social-statistical information
10) Interviews with sample of community (citizens)

Expert interviews, main questionnaire and additional questionnaires filled out by the evaluator were the major information source. Nevertheless, all components were covered for the evaluation of the 14 German biosphere reserves. The data for the information was collected by Nicole Schrader between April 2001 and February 2002 and was continuously updated until July 2005. Finally, the data was qualitatively analysed. The results show the status quo of each BR, allow comparisons between different BRs, indicate strengths and weaknesses and lead to recommendations for the future, which are mainly based on Schrader's practical experience. Although Nicole Schrader's dissertation was a one-off assessment, the new approach is recommended for regular use. In order to assess progress and development trends, the evaluation should be repeated at least every ten years.

Elements and indicators

The evaluation questionnaire consists of 21 categories each with several questions:

A) Structural assessment indicators

1) General information about the biosphere reserve
2) Data about biosphere reserve
3) Anthropogenic activities

4) Representativeness
5) Area size
6) Boundaries and zoning
7) Legal context
8) Administration and organisation
9) Financing
10) Staff
11) Property
12) Planning

B) Functional assessment indicators

13) Sustainable resource use
14) Natural environment and landscape conservation
15) Biodiversity
16) Research
17) Ecological monitoring
18) Environmental education
19) Public relation and communication
20) Community
21) Documents / appendix

Scoring and analysis

There are three different scoring systems depending to the approaches used:

1. International UNESCO standards: Every question which is answered positively is scored by one point. In total there are 193 questions.

   Major results: International UNSECO requirements were achieved by the German biosphere reserves. However, the descriptive analysis might falsify the results if constraints are not mentioned.

2. National BR-criteria: The questionnaires are transformed into exclusion and assessment criteria, which are scored differently. Assessment criteria are scored with 1 to 5 points:
   - 5 points: All objectives are successfully fulfilled.
   - 4 points: Major measures tasks to fulfil objectives are done. Additional once were started.
   - 3 points: Major measures to fulfil objectives are done.
   - 2 points: Basic criteria for BR designation are achieved. Moreover, planning for BR development has started or first measures have been implemented.
   - 1 point: Basic criteria for BR designation are achieved.

   Exclusion criteria usually need to be fulfilled. Their scoring is multiplied with 5.

   Major results: National BR requirements turned out to be extremely high. The exclusion criteria could not be achieved by any biosphere reserve.

3. Assessment of BRs according to Schrader's approach: The questions refer to structural context (95 questions) and functional context (130 questions). 73 of all questions are indicators for the assessment. These are weighted according to the answer range (minimum choice = three different answers).

Table 15: Different weighting of indicators

Scoring	UNSECO criteria	BR-criteria	Implementation	Quality of work in BR	Pressure on BR
4 points	Achieved	Exclusion criterion	Perfect	Perfect	No pressure
2 points	Achieved	Assessment criterion	Good	Perfect	No pressure
1 point	Not achieved		Delayed	Work moderate	Medium pressure
No point	Not achieved		Insufficient	Work insufficient	High pressure

Table 16: Indicators with their maximum scoring

Question	Maximum scoring (in points)
General information about the biosphere reserve	
Data about biosphere reserve	2
Anthropogenic activities	0
Representativeness	10
Area size	4
Boundaries and zoning	22
Legal context	16
Administration and organisation	12
Financing	8
Staff	14
Property	2
Planning	16
Sustainable resource use	18
Natural environment and landscape conservation	6
Biodiversity	2
Research	8
Ecological monitoring	6
Environmental education	30
Public relation and communication	12
Community	2
Documents / appendix	0
Total scoring (sum)	**190**

The maximum scoring for all indicators can reach 190 points.

Further reading

Game Conservancy Deutschland e.V. (2006): GCD-Nachrichten 2006. 16 (1), University of Trier, Germany. Available online: www.gameconservancy.de/aktivitaeten/magazin/GCD%20Heft%202006.pdf

N. Schrader (2006): German biosphere reserves put to the test! Evaluation of existing biosphere reserves with reference to the UNESCO guidelines, the requirements of the national biosphere reserve criteria and the newly developed assessment procedures. Dissertation, University of Trier, Germany.
Online available: http://ubt.opus.hbz-nrw.de/volltexte/2006/372/

Nature Parks` Quality Campaign, Germany

Organisation

Association of German Nature Parks (Verband Deutscher Naturparke - VDN)

Primary methodology reference

Köster, U., Wilken, T., Brittner, S., Bausch, T. (2006): 'Nature's Park Quality Campaign', Verband Deutscher Naturparke e.V., Bonn.

Brief description of methodology

The Quality Campaign is a voluntary instrument for German Nature Parks to continuously improve their work by self-assessment. It also provides guidance for the management of resources. The core element is the Criteria Catalogue which is divided into two parts: the 'Nature Park Fact File' records general information about the park but is not part of the assessment and the 'Fields of Activity', which includes 87 scored assessment questions referring to five different topics:

- Management and Organisation
- Nature protection and Landscape conservation
- Recreation and Sustainable Tourism
- Environmental and Education Communication
- Sustainable Regional Development

These topics were derived from the Federal Nature Conservation Act and the guiding principales of VDN. The evaluation process is supported by a special developed peer review system which verifies the quality on site.

Objectives

The Quality Campaign was specially developed for the evaluation of management effectiveness in order to meet the needs and the objectives of German Nature Parks. Its main task is to be an instrument of self-evaluation for individual Nature Parks and it allows tracking of progress over time as it is able to supply consistent data. The Quality Campaign provides Nature Parks' authorities with a relatively quick and easy method with minimal costs to identify issues that need to be addressed for improving the management effectiveness.

Purposes

- Continuous improvement of Nature Parks' management by identifying strengths, constraints and weaknesses
- Find factors influencing the possibilities of improvement in German Nature Parks
- Raise awareness and support for Nature Parks
- Increase acceptance of Nature Parks in society, economy and politics

Origins

There are over 100 Nature Parks, covering 26% of Germany. Ninety-seven nature parks are members of the Association of German Nature Parks (VDN); the umbrella organisation of Nature Parks that has existed since 1963. German Nature Parks have four objectives which are mainly enshrined in the Federal Nature Conservation Act:

- Conservation
- Recreation and sustainable tourism
- Environmental education
- Sustainable Regional development

VDN started developing its Quality Campaign in April 2004. Research and development has been funded by the German Federal Agency for Nature Conservation (BfN) with cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The Project was completed over 2 years and was led by a group of experts from VDN, Nature Parks, BMU, BfN, NGOs, Universities, Tourism and the Austrian Association for Nature Park. The criteria were tested in 13 Nature Parks. The Quality Campaign started in 2006. After three years of implementation, the Quality Campaign was revised in 2009. The revised criteria catalogue will be published in summer 2010.

Objectives and application

To date 64 Nature Parks are participating in the Quality Campaign. 59 have been awarded as 'Quality Nature Parks' and five as 'Partner of the Nature Parks' Quality Campaign'.

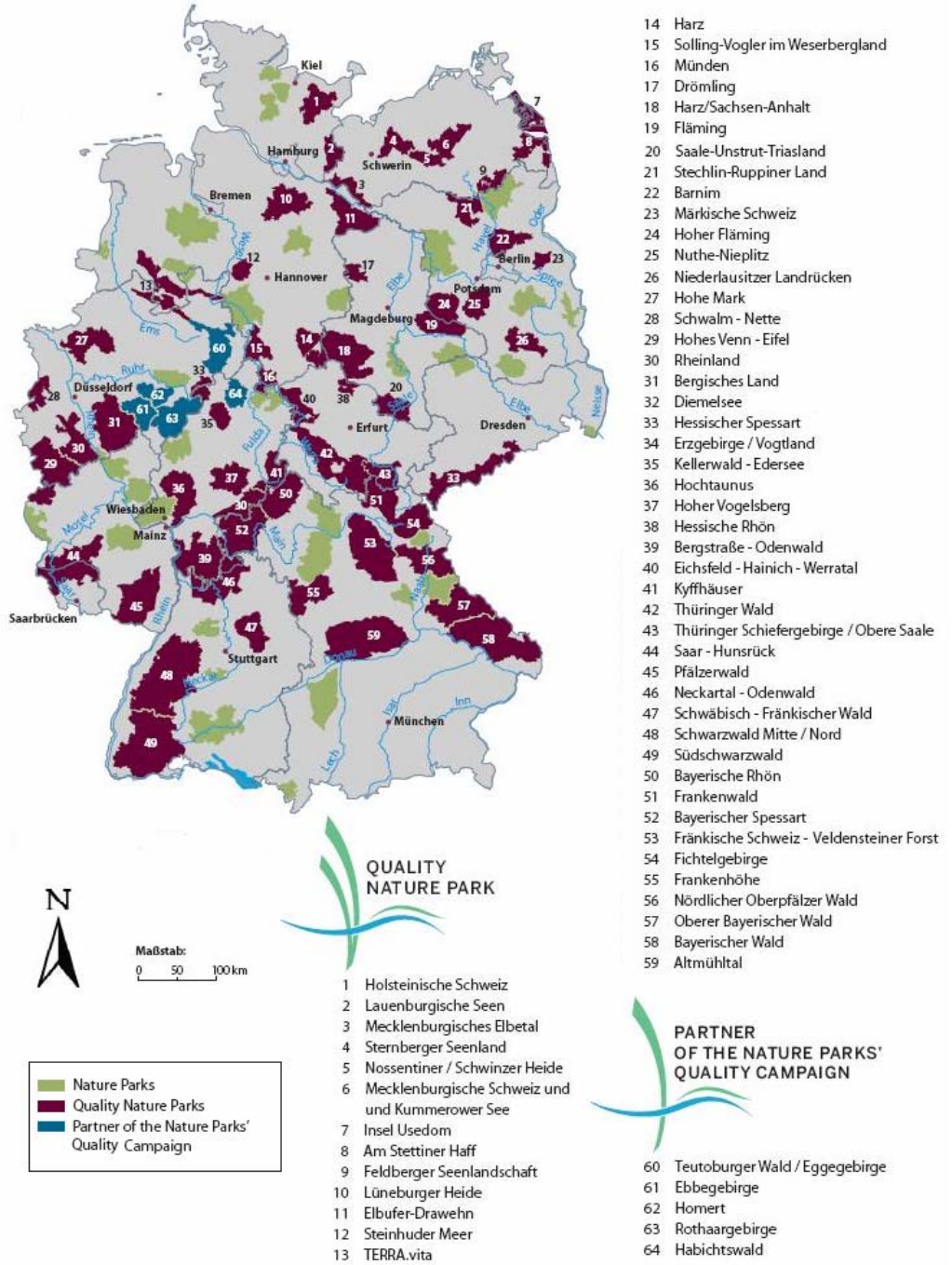

Figure 7: Participants of German Nature Parks' Quality Campaign, VDN 2010

How the methodology is implemented

Nature Parks fill in the questionnaire independently as it is available as an online version in the members' section of the VDN homepage (www.naturparke.de). The questionnaire can be also printed out. After completion it is sent as a printed version to VDN who analyses the results (maximum of 100 credits per "Field of Activity"). Furthermore a peer review of the information is carried out by specially trained voluntary "Quality Scouts" who are from other German Nature Parks outside the federal state of the park they are reviewing. The VDN is informed of the "scouting results" in a written report which is integrated in the final analysis of the results. The total scoring indicates the status quo of the Nature Park and results in an award as "Quality Nature Park" by scoring a minimum of 250 Points. In other cases Nature Parks are awarded as "Partner of the Nature Parks' Quality Campain". The award is valid for five years. Afterwards the evaluation needs to be repeated with increased requirements to achieve continuous improvement of the management in Nature Parks.

Strengths

- Peer review system as an exchange platform and consultancy service
- Instrument to collect databases: Nature Fact-files without evaluation refers to context
- Field of activities with numeric evaluation covers mainly process, but also context, input and planning
- As Nature Parks are places for sustainable economic development and recreation, sustainable land use, visitor management and cooperation within the region is covered well in the questionnaire
- Low threshold for participating in the process but maximum demands are hard to reach
- It links with existing evaluation processes (recreation & Sustainable Tourism)

Constraints and weaknesses

- Law enforcement and policy
- Outputs and outcomes are not covered

Elements and indicators

Table 17: Structure of questionnaire

A. Nature Park Fact-File (general information)
1. Management and Organisation (Question 1 – 24) 2. Nature protection and Landscape conservation (Question 25/26) 3. Recreation and Sustainable Tourism (Question 27 – 30)
B. Fields of Activity (assessment)
1. Management and Organisation (Question 1 – 25) - Management Plan - Financing - Staff and Education - Cooperation - Awards - Environmental Management

2. Nature protection and Landscape Conservation (Question 26 – 45)
   - Habitat system
   - Conservation of flora and fauna
   - Preservation of the cultural landscape
   - Visitor management
   - Mapping and Monitoring
   - Natura 2000
   - Agriculture
   - Forestry
   - Water management
   - Cultural Landscape
   - Natural Landscape
   - Projects and Cooperation

3. Recreation and Sustainable Tourism (Question 46 – 53)
   - Tourism marketing
   - Tourism information centre
   - Accommodation and catering
   - Nature experience offers
   - Accessibility/Barrier-free management
   - Sport tourism/ Sport activities
   - Recreational projects and Cooperation

4. Environnemental Education and Communication (Question 54 – 75)
   - Central information centre
   - Other information facilities
   - Guided tours and events
   - Staff adequacy
   - Nature Park information material
   - Internet
   - Communication concept
   - Public Relations
   - Projects and cooperation

5. Sustainable Regional Development (Question 76 – 87)
   - Cultural offers
   - Promotion of regional economy
   - Regional partnership and networking
   - Traditional building
   - Transportation
   - Renewable Energy
   - Region supporting projects
   - Regional cooperation

Further reading and contact

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Bundesamt für Naturschutz (BfN) (2008): 'Assessment of management effectiveness in European protected areas: sharing experiences and promoting good management ; proceedings of a seminar organised by BfN and EUROPARC Federation on the Island of Vilm, Germany, April 2008', Federal Agency for Nature Conservation, Germany (BfN), Bonn.

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Available online at www.bfn.de

Quality criteria and standards for German national parks

Organisation

EUROPARC Germany

Primary reference

EUROPARC Germany (2008). Quality criteria and standards for German national parks. Developing a procedure to evaluate management effectiveness: Berlin.

Purposes

- Long term improvement of management effectiveness
- German contribution towards achieving 2010 goal of the CBD

Brief description of methodology

An evaluation process was developed with the aim of improving the quality of German national parks. In Germany federal states ("Bundesländer") are responsible for the management of their national parks. A methodology used by all national parks assures comparability and quality throughout Germany. EUROPARC as an umbrella organisation for large protected areas in Europe organises the evaluation process, which is intended to be repeated every 10 years. The evaluation is based on self-assessment by the national park administration, which is supervised by EUROPARC Germany. The results are interpreted with SWOT-analysis and support of an external expert. Finally, an evaluation committee visits the site and recommends future steps for improvement of the national park administration.

Objectives and application

There are 14 national parks (IUCN category II) in Germany, covering an area of about 0.54 % of the land area. The methodology has been tested in four national parks (Bayerischer Wald, Hamburgisches Wattenmeer, Hainich and Müritz) and will be applied in all German national parks by 2011.

Origins

During October 2005 and February 2008 a research and development project called "Development of Quality Criteria and Standards for German National Parks" developed a quality set, consisting of field of action, criteria, standards and indicators. The project was funded by the German Federal Ministry of the Environment, Nature Conservation and Reactor Safety (BMU), as well as the Federal Agency of Nature Conservation (BfN) and was finalized by the German Inter-State Working Group for Nature Conservation, Landscape Management and Recreation (LANA). Within 2.5 years an assessment methodology was developed on the base of quality goals, status-quo analysis of all 14 national parks and national and international laws and guidelines. As a result an evaluation questionnaire, based on the IUCN-WCPA Framework, was created.

Strengths

- Comprehensive digital questionnaire (covers all the objectives of national parks)
- Improvement of internal and external communication (the entire management team is involved)
- Approved by stakeholders, who were involved in the development process

Constraints and weaknesses

- Cost intensive in terms of time and staff

How the methodology is implemented

The evaluation process:

1. Self-assessment with a questionnaire answered by the national park administration and supervised by EUROPARC Germany
2. Questionnaire is examined using a SWOT-analysis to identify strengths, weaknesses, opportunities and threats
3. Written report by an external expert based on data of self-assessment
4. Discussion of results with the national park management and staff
5. Visitation of the park by an evaluation committee nominated by the LANA[11]
6. Suggestions for management improvement and recommendations on further actions for national parks by the evaluation committee

This evaluation process should be repeated every 10 years.

Elements and indicators

The electronic questionnaire contains 60 pages and consists of 10 actions fields, which are subdivided into 44 standards and criteria. In total there are 250 questions and indicators.

Table 18: Ten fields of action with their criteria set (EUROPARC Deutschland, 2008)

Field of action	Criteria
Framework conditions	Legal foundations Protection purpose Overriding planning principles Competences Ownership rights Boundaries and shape
Protection of natural biological diversity and dynamics	Space for natural processes Extent Level of naturalness Habitats of international and national significance Species management Ecosystem networking
Organisation	Organisational structure Staff levels Ranger system Personnel management Financing Advisory boards and curatorship

[11] German Inter-State Working Group for Nature Conservation, Landscape Management and Recreation

Management	Model for landscape development Management plan Zoning Renaturation Strategies for sustainable use Visitor guidance and area control Integration of the national park in the region Evaluation of measures
Cooperation and partners	Cooperation agreements Integration in working groups and networks Volunteer management
Communication	Message Corporate design (CD) Communication structure
Education	Educational strategies Education courses Visitor guidance
Experiencing nature and recreation	Offers for nature experience Infrastructure for visitors
Monitoring and research	Research coordination Basic research Monitoring Documentation
Regional development	Image Impulses for the region Sustainable regional development

Example

Field of action:	Cooperation agreements and partners
Criteria:	Integration in working groups and networks
Standard:	The national park is integrated in many ways with its surroundings. It contributes significantly to the image of the region. The national park administration is actively represented in all relevant working groups and networks.

Scoring and analysis

The management effectiveness is analysed by Europarc Germany by referring to the indicators for each field of action.

Further reading and contact

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http://www.europarc-deutschland.de/broschueren

Stolton, S. (2008). Assessment of Management Effectiveness in European Protected Areas: Sharing Experience and Promoting Good Management. Bonn, BfN (German Federal Agency for Nature Conservation).

Quality Park Project Italy

Organisation

ENEA, Italian National Agency for New Technologies, Energy and the Environment

Primary reference

http://qualitypark.casaccia.enea.it/eng/

Purposes

- Improve park`s organisation performance for better conservation and quality of natural environment
- Sustainable development in protected areas

Brief description of methodology

'Quality Parks' need to develop their own management system aimed to combine economical benefits with nature conservation and thereby, maximal reduction of impacts of human activities. The basis to develop such an Environmental Management System is an initial analysis of the environment of the protected area. The ENEA helps the protected area management to establish their individual ISO 14001 and establish an EMS in collaboration with local institutions and economic operators. Protected Areas with such a management system are going to be certified as 'Quality Park'.

Objectives and application

The pilot application of Environmental Management Systems in protected areas was testes in two Italian national parks:

- Parco Nazionale del Circeo
- Parco Fluviale del Po

These pilot projects were promoted by the Ministry of the Environment and carried out by ENEA.

Origins

The ISO (International Organisation for Standardisation) standards in the 14000 series provide advice to organisations wishing to develop management systems aimed at ongoing improvement of environmental quality.
Environmental Management Systems make it possible to effectively achieve improvement in environmental quality and the implementation of sustainable development policies. It is a voluntary tool, which was originally developed for private companies. The organisation structure of protected areas is usually more complex, as different interest such as economic development and nature conservation collide. UNI, (Ente Nazionale Italiano di Unificazione), the Italian national standards institute has published two practical guidelines for the application of ISO 14000 standards in natural protected areas. In December 2001 the Environmental Ministry initiated the experimental application of ISO 14001 in two protected areas. The ENEA, a public research body was commissioned to help protected areas to develop their own Environmental Management Systems according to the ISO 14001 guidelines.

How the methodology is implemented

1) Initial analysis based on ISO 14001

The analysis covers the organisation of the body managing the park, ecosystems, productive and/or service processes and socio-economic composition. The process can be divided into seven phases.

Table 19: Phases to develop an initial environmental analysis (according to ENEA)

A.	Overall organisation of the area and assessment of past data
B.	Identification of legal requirements and creation of the index
C.	analysis of the organisation responsible for managing the park (park organisation)
D.	Description of activities present within the park and in surrounding areas;
E.	Identification and description of environmental aspects associated with the activities present in the area
F.	Identification of vulnerable and sensitive areas of the park's ecosystems, as well as particular communities and species
G.	Assessment of the significance of environmental aspects

2) Establishment of an Environmental Management System based on the finding of the initial analysis. Communication and arrangements with local institutions and collaboration with economic operators have to be initiated.

3) Once the EMS is established, the protected areas will be certified as 'Quality Park'.

Elements and indicators

Table 20: Proposal of initial environmental analysis according to Bruzzesi et al. (2003)

A	**General characteristics of the area**
A 1	Geographic-territorial composition
A 2	Aesthetic, historic and cultural composition
A 3	Socio-economic and demographic composition
A 4	Regional-planning composition
A 5	Administrative and urban-development composition
A 6	Ecology
B	**Legal context**
B 1	Legislation on international, national, regional level
B 2	Planning instruments
C	**Organisation**
C 1	Assignment of responsibility
C 2	Definition of interfaces
C 3	Operational procedures
C 4	Legal provisions
C 5	Training
C 6	Internal and external communication
C 7	Management of costs
D	**Management activities**
D 1	Planning
D 2	Oversight
D 3	Authorising activities

D 4	Scientific research
D 5	Environmental monitoring
D 6	Environmental education
D 7	Publicity
D 8	Support for local governments
D 9	Direct intervention to manage the area
D 10	Training
D 11	Tourism
E	**Environmental aspects**
E 1	Emissions into the atmosphere
E 2	Use of chemicals
E 3	Use of water and other natural resources
E 4	Contamination of soil and subsoil
E 5	Sewage discharge
E 6	Solid waste production
E 7	Production of vibrations
E 8	Alterations in visual and aesthetic impact
E 9	Information/training for parties within the "park territory" regarding environmental problems
E 10	Energy consumption
E 11	Production of unpleasant smells, etc.
F	**Vulnerability of ecosystem, communities and species**
F 1	Identification of sensitive areas
F 2	Vulnerability of sensitive natural resources
F 3	Impact of activities on sensitive natural resources
G	**Significance of environmental aspects**
G1	Legal compliance
G2	Significance of impacts
G3	Efficiency and effectiveness of impact management
G4	Characteristic of impacts
G5	Vulnerability of species and habitat
G6	Economical characteristics

Further reading and contact

Lucia Naviglio, consultant to ENEA
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Bruzzesi, F., Castorina, M., Minciardi, M. R., Morgana, G., Naviglio, L., Paci, S. Rossi G. L., Tesini, E. (2003). Application of the initial environmental analysis to protected natural areas. Roma, ENEA, Italy. Online available: http://qualitypark.casaccia.enea.it/eng/documents/8anambuk.pdf

Naviglio, L. (2003). "Italian experiment in using ISO 14001 to promote sustainable development in protected areas." ISO Management Systems: 41-44. Online available: http://qualitypark.casaccia.enea.it/eng/documents/1%20Eneatesto1.doc

MEVAP (Monitoring and Evaluation of Protected Areas) - Italy

Organisation

C.U.E.I.M., University Consortium for Industrial and Managerial Economics on behalf of the Italian Ministry of the Environment and Territory

Primary methodology reference

Banini S., Marino D., Lumaca C., Addis D., Alborino N., Marucci A., Palmieri M., Parasacchi A., Soffietti E., Zaottini D., Zarlenga G. (2006) " Assessment of Protected Areas Management Effectiveness" Report phase n°1.

Brief description of methodology

The aim of MEVAP (Monitoring and Evaluation of Protected Areas) methodology is to assess and monitor protected area management effectiveness through a set of indicators. The method developed for the Italian protected areas takes into account instructions and recommendations from national and international policies on biodiversity and sustainable development (e.g. General policy law n° 394, CBD, etc.).

MEVAP allows:

- A macro-level assessment of protected area management: the achievement of national goals and objectives in observance of international treaties and national strategies; and
- A micro-level assessment of protected area management: developing methods and criteria in order to diffuse Best Practice arising from the assessment of local management system.

Indicators are associated with four domains: environment, economy, governance and society. Every domain has related with macro-objectives and topics. The methodology has been adapted to the IUCN-WCPA Framework.

Table 21: Domains in assessment: example of indicators

Domain	Macro-objective	Topic	Indicator
Environment	Resource Conservation (CBD)	Biodiversity	Levels of threat to animal species
Economy	Reconversion of productivity and promotion of sustainable activities (L. 394/91)	Δ+ products with quality certification	Presence of trademark
Governance	Development of economic management capacity	Park as a generator of creative projects	Promotion of international co-operation
Society	Access and benefit-sharing of genetic resources (CBD)	Access to benefits	Local residents' perception of benefits

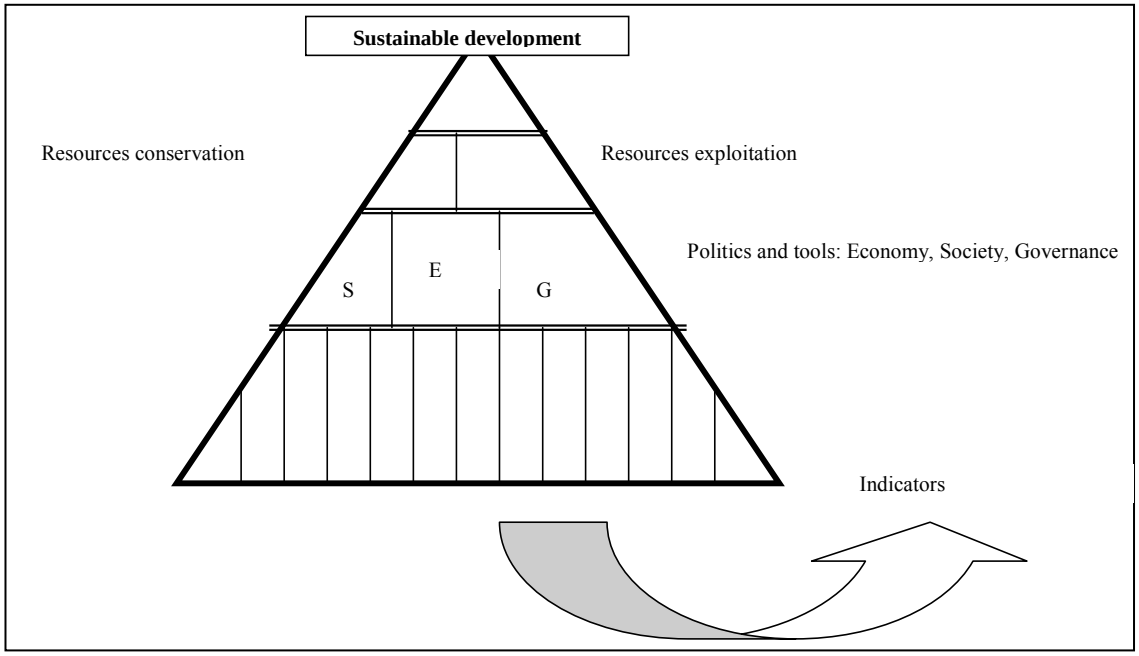

Figure 8: Theoretic Model

The triangle shows the hierarchical order among elements of sustainable development referring to protected areas. Conservation and resources exploitation can be affected and can interact with society, economy and governance, which are placed under them. On the top there is sustainable development, meant as the synthesis between two trends, resources conservation and resources exploitation. Society, economy and governance are sustainability management tools able to generate processes affecting its evolution. For this reason, the assessment of PA management effectiveness must take into consideration the maintenance of biodiversity without neglecting the social, economic and governance aspects and as well as human needs.

Purposes

- To improve management (adaptive management) primarily at a micro-level and afterwards at a macro-level widening the range of the study to a national park network at a system level.
- For accountability/audit
- To raise best practices and support to Protected Areas authorities

Objectives and application

MEVAP is a scientific tool designed to be flexible and accessible to different needs and context. It is made up of a wide range of 70 indicators that have been divided in core and supplementary. The set of indicators can be adapted and used in different circumstances and contexts:

Evaluation or self-evaluation of protected areas management effectiveness

- To provide support for best practice diffusion
- Supporting different environmental procedures and programs like ISO 14001, The EU Eco- Management and Audit Scheme (EMAS) and Agenda 21 or State of the Environment Reports.
- In sectorial studies concerning protected areas (tourism, agriculture, etc.)
- Supporting procedures for environment balance and/or sustainability balance

Origins

The General Directorate "Nature Protection" of The Ministry of the Environment and Territory charged C.U.E.I.M. with working-out a plan to assess the Italian national parks in order to fulfil obligations under CBD's PoWPA (goal 4.2- To evaluate and improve the effectiveness of protected areas management). The figure below shows the process for developing the methodology.

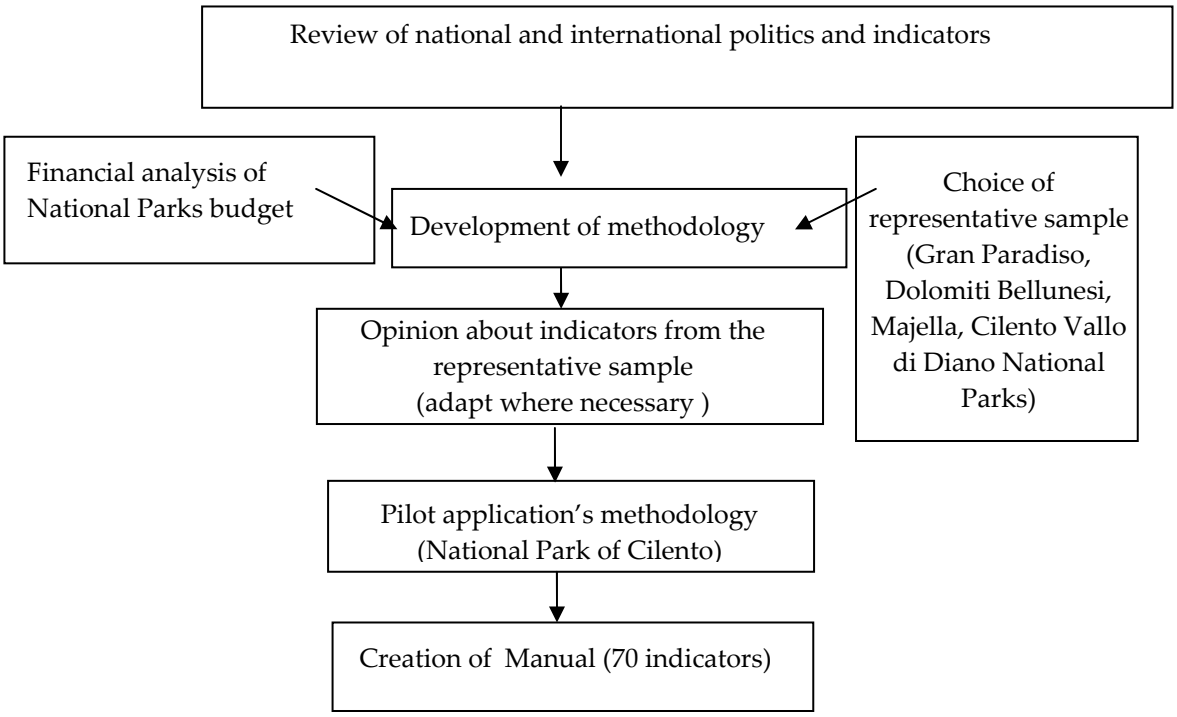

Figure 9: Development of methodology

Strengths

- High information requirement
- Ability to evaluate park management effectiveness in relation to the context
- Much of the data is objective and quantitative. The information is official and external the Park Authority. Because of these reasons, the data are useful to a self-evaluation.
- The methodology includes a high number of indicators and related index and can be applied to different needs and context (see paragraph on objectives and application).

Constraints and weaknesses

- The information retrieval can be complex and expensive
- The information retrieval can be not updated and/or is not reliable in territorial scale
- Sometimes the data analysis and evaluation can be ineffective due to the lack of availability of a historical series of information.

How the methodology is implemented

The work is in progress. MEVAP's team is assessing Cilento Vallo di Diano National Park but the aim of the project is to develop an evaluation of all Italian national parks.

Taking into account the nature of methodology (flexible and accessible to different needs), MEVAP can be also implemented in different kind of protected areas including marine reserves.

Elements and indicators

The evaluation of management effectiveness is achieved by the assessment of a set of selected indicators. The criteria used for selecting indicators are:

- Ease of collection
- Quantification
- Representativeness
- Scientific relevance
- Transferability

Indicators are allocated to the four 'domains' as shown below.

Table 22: Indicator groups and domains

WCPA elements	Environment	Economy	Society	Governance
Context	- Floristic resources - Fauna resources - Vegetation richness - Ecological network - Level of threat to plant species - Level of threat to animal species - Level of threat to Habitats - Surface water quality - Groundwater quality - Marine and costal water quality - Forest fires - Forest area condition and quality - Landscape quality - Genetic variation in agriculture and in zootechnics - Territory geologic brittleness	- Soil exploitation - Agricultural pressure on the environment - Tourist intensity* - Production of urban solid waste* - Proximity of sites at risk of incident - Consumption of energy - Sustainable mobility* - Pressure from road infrastructure - Intensity of water exploitation - Local products* - Farms and zootechnical enterprises agreeing to environmentally friendly measures and which practise organic	- Growth and population density - Social capital quality - Quality of life	- Bio-ecological - Architecture*

WCPA elements	Environment	Economy	Society	Governance
		farming* - Energy production through alternative energy resources* - Production of services and goods with a low intensity of material * - Energetic intensity - Water Balance - Economic welfare - Absorption capacity*		
Planning				- Environmental planning capacity - Administration complexity - Management and planning instruments - Indicators on fulfilment of legal obligations
Input			- Environmental education*	- Funding through planning activities - Staff - Balance indicators about revenue

Process		- Sewage purification capacity - Sustainable management from local authorities and local enterprise		- Functioning of Park board - National and international co-operation activities Indicators on budgetary expenditure - Management of AIB service (Anti-fire plan) - Surveillance and sanction activities - Indemnification - Cost to prevent damages from hydrogeological upheaval - Cost to restore damages from hydrogeological upheaval - Intervention plan
Output	- Botanical garden - Faunistic Area - Collection and germplasm bank and/or conservatory	- Tourist intensity* - Production of urban solid waste* - Sustainable mobility* - Local products* - Farms and zootechnical enterprises agreeing to environmentally friendly measures and which practise organic farming* - Energy production through	- Stakeholders' perception of benefits - Local residents' perception of benefits - Environmental education*	- Management of forest resources - Management of fauna - Activity of environment recovery - Reforestation - Bio-ecological - Architecture*

		alternative energy resources* - Production of services and goods with a low intensity of material* - Enterprises related with the park respect the total of enterprises - Presence of trademark Sustainable timber production		
Outcome	- Botanical garden - Faunistic Area - Collection and germplasm bank and/or conservatory	- Absorption capacity*	- Visitors' satisfaction	

*Some indicators can be valued both as context and as output. They can be put in the output box when the Park promotes (directly or indirectly) projects and activities related with indicators and/or aimed at theirs achievement. Otherwise they can be put in the context box.

*"Absorption capacity" can be valued both as context and as outcome depending on Park's policy and intervention in this field

*Taking into account the different index of this indicators, "Environmental education" can be valued both as input (index: voluntary camp) and as output (index: doctoral thesis, environmental education centres etc.)

National parks evaluation (Alterra), Netherlands

Organisation

Alterra Wageningen UR (University & Research Centre) by order of the Ministry of Agriculture, Nature, Food Quality (Landbouw, Natuur, Voedselkwaliteit)

Primary methodology reference

Nationale parken: naar meer omgevingsgericht werken. Opmaat voor een kwaliteitsslag. Pleijte, M., A. L. Gerritsen & M. N. van Wijk, 2008. *Nationale Parken: parels van de Nederlandse natuur. Opmaat voor een kwaliteitsslag. Nulsituatie in 2006 per Nationaal Park en benchmarking tussen Nationale Parken.* Wageningen, Alterra, Alterra-rapport 1710. 125 blz.

Brief description

In 2005 the Ministry of Agriculture, Nature and Food Quality (LNV) asked Alterra to investigate the situation of the national parks and to enable LNV to make comparisons between national parks possible. They gave the Dutch National Parks Foundation the assignment to 'strengthen the quality of the implementation with respect to ecology, administration and socially.' This investigation is part of a bigger investment program initiated by the Ministry of LNV.

The two central questions were:
1. What is the baseline situation of the national parks in 2006/2007?
2. How can the national parks learn from themselves and others?

The assessment is based on a questionnaire with ten subthemes, which consist of five questions. The questions should be answered by the national park managers. The responses are colour coded. The colours are tallied for each subtheme and an average colour determined. Afterwards, the subthemes are summed by an average colour of the main themes (content, process and continuity). After a pilot study in two national parks, the guidelines for improving stakeholder involvement were developed. Based on results of the evaluation concept area reports were produced for each of the 20 national parks and finally, a report synthesizing all results of the first evaluation was published.

Purposes

- To improve the quality of the national parks in the Netherlands
- To allow mutual comparibility between the parks and thus to share experiences

Objectives and application

In 2006/07 the condition of 20 national parks in the Netherlands was assessed and the management processes analyzed. As a result, national parks across the country could be compared and manager were able to learn from their collegues of other national parks. The situation in 2006/07 set the baseline for the evaluation planned in 2010. However, the LNV or the Dutch National Parks Foundation (SNP: Samenwerkingsverband Nationale Parken) has not yet commissioned Alterra to initiate the follow-up evaluation.

Introduction to national parks:
In the Netherlands there are 20 national parks. The government is responsible for 18 parks. Two parks are private properties. The national parks are part of a bigger Ecological Main Structure throughout the Netherlands. This Ecological Main Structure is part of the European

Network (Natura 2000). The national parks operate independently following the BIP (a management plan) which is established for ten years. After ten years this plan is revised and re-established by the province. The administrative organization of the national parks is SNP (*Samenwerkingsverband Nationale Parken*, Dutch National Parks Foundation).

Origins

The methodology was developed by Alterra WUR.

How the methodology is implemented

Step one: Three main themes were chosen ***(Content, Process***, and ***Continuity) and subdivided into*** several subthemes. Based on these subthemes a set of questions were formulated.

Step two: Before being able to start the evaluation, data for the baseline in 2006/07 had to be collected. Therefore, secretaries of the individual national parks were asked to do several activities.

1) They had to provide relevant documents of the area. Based on these documents some important questions could be answered.
2) They supplied background information (a brochure) to those involved in the evaluation.
3) They had to select three key persons who are interviewed for additional information not included in the documents. These key persons were:

- Somebody important to the management of the area
- Somebody from a governmental organization involved in the park (e.g. province, community)
- Somebody socially involved in the park (e.g. deputies of tourists, residents, farmer)

4) They had to discuss a concept report within a workgroup or a consultative body.

Step three: A system of colors was used to assess the national parks. Green means *good (G)*, orange means *average (M),* and red means *yet insufficient (O).* These colors indicate what the situation (at the time of the baseline) in the national parks was for each subtheme: good, average, insufficient. The colors of the individual questions are summed up and an 'average' color is determined (e.g. for one subtheme there are 5 questions. If the answers to the questions are three times green and two times orange, then the average for this subtheme is green). The subthemes are then added up and one color for each main theme is determined.

Step four: The questionnaire was tested in a pilot study, The two sites where the pilot was carried out were National Park Maasduinen, and National Park Zuid Kennemerland. After the pilot study the questionnaire was adjusted. It became clear that the project should be better communicated with the people involved. Therefore, a flyer was producedto provide background information. This flyer was sent to the national parks before the real evaluation/investigation took place.

Step five: The results of the real evaluation are written down in 20 concept area reports. The basis for these reports were area documents, and for each park three interviews with key figures selected by the secretaries. These concept reports were presented in a meeting of the consultative bodies or workgroups and adjusted.

Step six: Comparing the scores for each national park (a benchmark). The results are presented in the end report.

Elements and indicators

Content:

1. Management of nature & landscape
2. Recreation
3. Education & information
4. Research
5. Relationship & synchronization

Process:

6. Structure organization
7. Planning
8. Application of current instruments

Continuity:

9. Application future instruments
10. Relations with surroundings

Scoring and analysis

Table 23: For each subtheme, the 20 national parks were evaluated. The indicators are Green (G= good), Orange (O= Middle), Red (R= not yet sufficient). The scoring is based on documents, interviews, and conversations with people involved in the national parks. Quantitative data has not been used.

Subthemes	1. Nature	2. Recreation	3. Education and info	4. Research	5. Relationship & synchronization	6. Structure of organization	7. Planning	8. Application of current instruments	9. Application of future instruments	10. Relations with surroundings
De Alde Faenen	G	G	G	M	M	M	G	G	M	G
De Biesbosch	G	G	G	M	G	M	G	G	G	G
De Groote Peel	G	G	G	M	G	G	G	G	M	G
De Hoge Veluwe	G	G	G	G	G	G	G	G	G	G
De Loonse en Drunense Duinen	M	G	G	M	G	G	G	G	G	M
De Maasduinen		M	G	M	M	G	G	G	M	G
De Meinweg	G	G	G	M	M	G	G	G	M	M
De Sallandse Heuvelrug	G	G	M	M	G	G	G	G	G	G
De Weerribben	G	G	G	M	G	G	G	G	G	G
De Zoom-Kalmthoutse Heide	G	G	M	M	G	M	G	G	M	G
Drentsche Aa	G	G	G	G	M	G	G	G	G	G
Drents-Friese Wold	G	G	G	M	M	M	G	G	M	G
Duinen van Texel	G	G	G	M	G	G	G	G	G	G
Dwingelderveld	G	M	G	M	G	G	G	G	G	M
LAuwersmeer	M	G	M	M	M	M	G	G	G	M
Oosterschelde	M	G	G	M	G	G	G	G	G	G
Schiermonnikoog	G	G	G	M	G	G	G	G	G	M
Utrechtse Heuvelrug	G	M	G	M	G	G	G	G	G	G
De Veluwezoom	G	G	M	G	G	G	G	M	M	M
Zuid-Kennemerland	M	M	G	O	G	M	M	G	G	M

Further reading and reports

http://www.natuurbericht.nl/default.asp?id=667 (viewed: 10.12.2009)

http://www.alterra.wur.nl/nl/nieuwsagenda/archief/nieuws/2008/Nationale_Parken_moeten_meer_slagkracht_krijgen.htm (viewed: 10.12.2009)

Natuurmonumenten Quality Test, Netherlands

Organisation

Vereniging Natuurmonumenten

Primary methodology reference

Natuurmonumenten, 2007. Handleiding Kwaliteitstoets 2008. 's-Graveland.

Brief description

The quality check (*kwaliteitstoets*) is part of the management-cycle. This management-cycle consists of goals (vision and goals), planning (plans for monitoring, measures, recovery, and activity), execute (management, monitoring, draw up an inventory) and quality check. The *kwaliteitstoets* is a measure to evaluate the effectiveness of management and to evaluate if goals agreed upon are reached. After the *kwaliteitstoets* is carried out, goals and planning can be readjusted. This *kwaliteitstoets* is also used as a basis for discussion and to share knowledge among the people who are managing a certain site. After carrying out the *kwaliteitstoets,* the site manager should take up the action points mentioned in the *kwaliteitstoets* and use them in the monitoring plan, activity plan etc. and make sure that these points are executed.

The quality check consists of seven steps:

1. Organization and planning the *kwaliteitstoets*
2. Recording
3. Discussion of topics
4. Quality check assessment (and discussion)
5. Report
6. Determine *kwaliteitstoets* (approving *kwaliteitstoets*)
7. Finalizing steps

Purposes

- Inspire the people who are involved
- To be able to better realize the goals through:
    - Insights in the development of a certain site
    - To generate new ideas
    - To make concrete agreements about further activities
- Accountability of management (area manager to regional director, regional director to board and board to management and union council)

Objectives and application

The quality check (*kwaliteitstoet*) has been carried out in 246 of 333 of Natuurmonumenten's protected sites. These sites are mostly larger nature reserves. About one third of all nature reserves (105) belong to the Natura 2000 network and except for 12 sites all have carried out the *kwaliteitstoets.*

Origins

Vereniging Natuurmomenten has developed this methodology to set goals for nature conservation. Although there are other systems for goal-setting and monitoring in the Netherlands, Natuurmonumenten developed their own system as the existing tools are too complex, not complete or not detailed enough. For instance, goals cannot be set on the landscape level and can barely be monitored with the existing systems.

How the methodology is implemented

1. Organization and planning: the *kwaliteitstoets* is carried out once every 6 years. The site manager is responsible for planning, preparing and executing the *kwaliteitstoets.* The *kwaliteitstoets* should always evaluate nature goals and site management. Additional aspects can be evaluated voluntarily. The site manager establishes a team to carry through the *kwaliteitstoets.* An external expert is also represented in this team. The expert must be a person who knows the area and its issues well, but is not involved in the organization. External experts often include a researcher, volunteers from other organization such as people from Staatsbosbeheer, water regulatory authority ('Waterschap'), District Water Control Board ('Hoogheemraadschap') or colleagues from other protected areas.
2. Recording: to prepare for the kwaliteitstoet a document is formulated. In this document it is important to mention the purpose of the *kwaliteitstoets* for the whole site and in detail, per nature-type *(biodiversity/ecosystems)*. Other points include whether the goals are reached, what the developments with respect to cultural history and recreation are, reasons for these developments, site management, costs of management, results and conclusions, other issues to discuss.
3. Discussion of topics: determine which topics are going to be discussed on the day the *kwaliteitstoets* is carried out. This has to be done by the site manager, management-team and ecologist. The conclusions from the document mentioned under step 2 are used as a basis.
4. Day of the *kwaliteitstoet* (and discussion): The day starts with reviewing previous discussions and its conclusions. Addtional issues to discuss can be raised. The developments and results obtained since the last *kwaliteitstoets* are also discussed. Field visits are carried out. At the end of this day conclusions and issues with respect to goals, monitoring, management and influence on policies are discussed.
5. Report: this report includes at least a management summary and a list of issues. The issues discussed at the day of the *kwaliteitstoets* are also included. The ecologist checks this report for accuracy of information.
6: Determine *kwaliteitstoets* (approval): the report is discussed with the regional director and the ecological employee. The management summary and suggested further activities has to be approved by the regional director. Within 3 months after the *kwaliteitstoets* carried out the whole report has to be approved.
7: Finalizing steps: the site manager informs the people involved about the results of the *kwaliteitstoets.* The regional director informs the board. The sites that are evaluated are mentioned in the annual report of Natuurmonumenten. The ecological employee coordinates this. The site manager is responsible for filing the report.
8: Adaptive management: Finally, the site manager should assure that the action points described in the report are implemented by becoming part of the management plan.

Elements and indicators

The *Kwaliteitstoets* is part of a planning cycle (management cycle). The goals are mainly aimed at landscape and natural values. The natural integrity of the sites is most important.

Comparison with the IUCN-WCPA elements:
Context: External threats are explicitly discussed as an explanation why goals are not reached. Managing external threats is one of the main concerns of the area manager.
Planning: There is a management plan.

Input: Employees have to cope with high quality demands, while payment and other money-related management aspects are often limited. Thus, factors influencing work force and quality of management need to be assessed (staffing, funding input and infrastructure).
Process: The quality of management is evaluated; improvements are possible/desirable (*governance and capacity*). Employees can follow training programs (internal and external). These days a higher level of knowledge is desirable and realized by in-service training and partly by recruiting new employees. It is not possible for some employees to keep up with the changes (*Staffing – process*). In some areas, visitors are management, especially when there is a visitor's centre. Where visitor management requires attention, staff are hired (*Visitor Management*).
Process: Indicators include natural resource management and threat monitoring.
Outputs: Indicators include achievement of work program.
Outcomes: Indicators include assessment of whether management plan objectives are achieved.

The quality check (*Kwaliteitstoets* van Natuurmonumenten) is part of a bigger management cycle. Below the '**Manual Goals and Monitoring'** are discussed, which is another part of the Management cycle.

Goals:
Types of nature and landscape are the building blocks of the Natuurmonumenten monitoring and goal setting system (*Kwaliteitstoets*). With the type of landscape, the complete site and possibly the surroundings are described (bioregion, land form and ecosystems). With type of nature, the specific and different parts of the site are described (vegetation/plant species).

Evaluating on landscape level provides information about the relationship between different types of nature and patterns of landscape. When analyzing only the type of nature these relationships cannot be observed. Considering both type of landscape and type of nature the desirable quality should be established. This quality is described in:

- Desirable structure (*structural goals*)
- Desirable abiotic situation (*abiotic goals*)
- Desirable richness of characteristic species (*species goals*)

Monitoring:
Monitoring methods are standardized and equal to national standards. Monitoring includes basis monitoring, complementary monitoring, and remaining monitoring. The objectives of monitoring are nature management and threatened species. Monitoring activities have to be repeated every six years as required for *Kwaliteitstoets.* Basis monitoring has the highest priority. Information is gathered about the characteristic species and structural categories of the specific type of nature. It also provides supplementary information. Complementary and Remaining Monitoring has lower priority and is therefore only carried out where sufficient financial means and human capacity are available. Additionally, the procedures for goal setting, monitoring and development of an action plan are put into place.

Further reading

Annemiek Boosten, Paul Dirks, Nynke van der Ploeg, Henk Siebel (2002). Handleiding Doelen en Monitoring. Vereniging Natuurmonumenten's-Graveland.

Catalonia Management Effectiveness Evaluation

Organisation

Institució Catalana d'Història Natural – ICHN (Catalan Institution of Natural History)

Primary reference

Mallarach, J.M. and Varga, J.V. (Eds.) 2004 EI PEIN deu anys després: balanç I perspectives. Diversitas: 50, Universitat de Girona, Girona, pp 29-40.:

Web: www.iec-ichn/ichn

Mallarach, J.M (ed) (2005); Protegits de dret o de fet? Avaluació de l'efectivitat del sistema d'espais naturals protegits de Catalunya. Institució Catalana d'Història Natural, Barcelona

Purposes

- To improve management (adaptive management)
- For accountability/audit
- For prioritisation and resource allocation
- To raise awareness and support

Brief description of methodology

The assessment incorporated the entire system of natural protected areas of Catalonia, Spain, which includes 148 protected areas (21% of Catalonia's land area) from a medium size national park in the Pyrenees Mountains to a small island nature reserve in the Mediterranean Sea. Catalan and Spanish legislation establish 20 different types of protected natural areas that correspond to I-V IUCN categories. In Catalonia, there is a large majority of category V protected areas.

The evaluation of the protected areas system of Catalonia, Spain (2002-03) was the first to assess the effectiveness of an entire system of protected areas within Spain, and one of the first in the European Union to be conducted by an external, independent scientific organization based on the IUCN-WCPA Framework.

The evaluation of protected areas was conducted by the Catalan Institution for Natural History *(Institució Catalana d'Història Natural*, ICHN), the oldest and most influential scientific organization in Catalonia. The evaluation was external, participatory and independent, though it received the support and collaboration of the Ministry for the Environment and Housing, as well as economic support from Foundation *Territori i Paisatge de Caixa Catalunya* (a savings bank) and the *Diputació de Girona* (a local authority). In addition, several research centres from three Catalan universities collaborated in the evaluation, helping in the application of a limited number of indicators for the entire system (Mallarach 2006).

Objectives and application

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 where needed.

The project also aims to test, refine and be a reference for evaluation methodology, at least in Spain, and maybe in other Mediterranean countries based on the IUCN-WCPA Framework (Mallarach 2006).

The goals of the project were:

- to introduce the practice of protected area evaluation to Spain following a sound, internationally accepted methodology
- to disseminate the findings of the evaluation to the public
- to help improve the condition of the protected areas system in Catalonia *(Mallarach 2006).*

Origins

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 methodology was developed with indicators based on the IUCN-WCPA Framework.

Strengths

- The positive impact that a committed NGO can make on assessing the management of protected areas, even in countries that lack this tradition. The active participation and support of the Ministry of the Environment and Housing proved to be very useful.
- The value of an iterative, participatory process to adapt the IUCN-WCPA Framework to a particular situation. The pilot plan allowed substantial refinements, even at the end of the process when further simplifications were introduced.
- The critical importance of the support of the key agencies, local governments, and other private NGOs, without which the evaluation could not have been performed.
- The positive reaction of most stakeholders: policy-makers, managers, planners and evaluators – who all acknowledged that they have learned a great deal from this evaluation.
- Outcome indicators are more complete than most methodologies and include impacts on communities as well as on natural systems.

Primary constraints and weaknesses

- The complexity of coordinating over one hundred different evaluators with different backgrounds, experience levels and knowledge of protected areas.
- The necessity to provide the appropriate training and ensure effective coordination to evaluators during the entire process.
- The frequent difficulty of getting significant data from public local and regional authorities that are not used to being evaluated and have a variable level of distrust towards this process.
- For some types of protected areas (mainly Strict Nature Reserves, Wildlife Reserves and some Nature Parks) the problems identified are so serious that it is advisable to undertake evaluations at the individual protected area level, as soon as possible.

How the methodology is implemented

Since it was the first protected area evaluation to be conducted in Spain, it took a long time to set up, develop and complete the process of assessment. The main steps in this process are summarised below:

In November 2000 the ICHN organized a workshop to adapt the IUCN-WCPA Framework to the particular situation of Catalonia. Next, six reporters worked on the first draft of 87 indicators. During 2001 the definition of the indicators was completed, and funding was secured to conduct a pilot plan. In February 2002, a seminar was held about the scope of the evaluation and the methodology to be used.

From March to May 2002 a pilot evaluation was conducted in seven protected areas, representing a sample of the system: from large mountain natural parks, to small steppe natural areas or marine strict nature reserves. The purpose was to test the methodology and refine and adjust the indicators. In July 2002 the coordinators organized seven seminars in different parts of Catalonia to explain the methodology to the 130 evaluators, making sure that everybody had a sufficient understanding of it. After that the actual data compilation for evaluation began, which lasted six months.

Once the protected area evaluations were completed, the evaluators sent all the forms in electronic format to the managers, asking them to comment on the findings. Once this step was completed, both the evaluation and the managers' comments were sent to the secretariat of the ICHN, where all the forms were reviewed and checked for completion and coherence. When a problem was found the responsible evaluator was required to solve it.

In January 2003 data analysis began. The next two months were spent elaborating the proposed analysis with the input of all the evaluators. Later, several workshops were conducted to discuss the analysis until a consensus was reached to validate the interpretation.

From September 2003 to the present, the methodology and results of the evaluation project have been presented at four levels: Catalonia, Spain, Europe and the international community.

Elements and indicators

Six sets of indicators were developed based on the IUCN-WCPA Framework: context (21); planning and legislation (13); means or inputs (15); processes (1); activities/services or outputs (13), and results or outcomes (22). The reason for developing so many indicators was an attempt to be as rigorous and comprehensive as possible. For a complete description of each indicator and its associated form, see www.ies/ichn.es (currently only in Catalan).

Table 24: Entire list of indicators

Context indicators	Conservation value of geology
	Conservation value of flora and vegetation
	Conservation value of vertebrate fauna
	Conservation value of invertebrate fauna
	Conservation value of domestic traditional breeds
	Presence of habitats of European significance
	Spiritual, cultural or historical relevance
	Dimensions
	Shape
	Ecological reconstitution stage
	Fragmentation
	Ecological connectivity
	Fire risk
	Geological risk
	Urban pressures
	Infrastructure pressures
	Threats significance
	Population
	Sectoral work force
	Area with economic production
	Visitors
Planning and Legislation indicators	IUCN equivalent category
	Adequacy of existing legal protection
	International designations
	Adequacy of design
	Coherence of the protected natural areas system
	Land ownership
	Natural resources management planning level
	Existence and adequacy of the protected area management plan
	Time span between the declaration of the protected area and the approval of the management plan
	Conservation categories included on the management plan
	Public participation during the elaboration of the management plan
	Dissemination of the management plan
	Management of the protected area annual report

Means (inputs)	Staff by type of contract
	Staff by functional responsibility
	Participation of volunteers
	Public participation on the board
	NGOs and corporations making contributions
	Facilities inside the protected natural area
	Facilities outside (around) the protected area
	Fire prevention plan and management
	Use of new technologies
	Environmentally friendly facilities
	Access with motor vehicles
	Budget
	Level of economic autonomy
	Adequacy of the available resources
	Funding sources
Processes	One single indicator to measure how the different processes taking place for the management of the protected areas follow a formal pattern
Activities and services (outputs)	Number of visitors making use of the protected area facilities
	Physical identification of boundaries and accesses
	Informative panels
	Sign posted paths and trails
	Staff devoted to the attendance of visitors
	Litigation and prosecution
	Mandatory consultation reports
	Technical and economic support to local population
	Scientific publications
	Popular publications
	Research related to management
	Educational activities
	Execution of activities included in programs

Results (outcomes)	Changes in key geologic features or elements
	Changes in key species
	Changes in key habitats
	Local extinction of species
	Land use/land cover changes
	Negative impacts due to legal activities
	Changes of rivers ecological conditions
	Eutrophication of marine waters
	Changes on the quality of groundwater
	Impact of wildfires
	Shape and dimension changes
	Changes on the condition of historical and cultural heritage
	Changes on the number of visitors
	Changes on education and sensitivity
	Changes on the perception of quality of the natural environment and the landscape
	Monitoring and research
	Economic activity that has been induced (by the protection of the natural area)
	Number of jobs that have been created
	Changes on the (local population) average family earnings
	Changes on the local population types of jobs
	Changes in the number of farms
	Demographic changes in the local population

References

Mallarach, J. M. 2006. Case Study III: Evaluation of the Protected Areas System of Catalonia, Spain in M. Hockings, S. Stolton, N. Dudley, F. Leverington, and J. Courrau, editors. Evaluating effectiveness: a framework for assessing the management of protected areas second edition. IUCN Best Practice Protected Area Guidelines Series, Gland, Switzerland and Cambridge, UK.

System of Sustainable Development Indicators for the Natural Parks of Asturias, Spain (INDESPAR)

Organisation

University of Oviedo (Northern Spain): http://www.uniovi.es/

Primary methodology reference

INDUROT (2007): "El sistema de indicadores de desarrollo sostenible de los Parques Naturales de Asturias (INDESPAR) Cálculo para el Parque Natural y Reserva de la biosfera de Redes. (I. Memoria metodológica)", Consejería de Medio Ambiente, Ordenación del Territorio e Infraestructuras del Principado de Asturias.

Brief description of methodology

The INDESPAR takes into account all the dimensions of sustainability, assuring at the same time that all legislation and protection requirements are properly integrated. It was also necessary to have exhaustive documentation in order to understand the depth of other Spanish experiences of sustainability indicators in natural parks (NPAs). Furthermore, the indicators are classified into two groups in order to evaluate management effectiveness:

- Indicators directly related with management actions in the natural park
- Indicators (mostly) non-related with management. Such variables depend, above all, on external drivers or global trends (such as climate change, demographic dynamics, etc.). They allow the monitoring of the dynamics and trends of certain natural and social processes and complement the interpretation of the management indicators.

The individual evaluation of every indicator was one of the most difficult tasks of the project. On one hand, most natural park legislations have no quantitative or clear objectives established (very often, they are generic aims or qualitative objectives) and on the other hand, given the particular characteristics of these sites[12], it was impossible to take "optimal values" or "desirable levels" that are generally accepted for the rest of the territory. Therefore, to address this first step of evaluation, it was necessary to establish the following criteria:

- Identify "desirable trends" for each indicator, taking into account the protection and management objectives included in the legislation of the NPA, as well as sustainability principles promoted by MAB-UNESCO.
- Pay attention to "reference levels" that guide the contextual interpretation and comparative evaluation of every indicator (for example, regional averages for rural municipalities, total values or average values for the NPA´s, etc.). In some cases, the protection, management and sector legislation include these kinds of levels.

The final evaluation of every indicator is represented with a symbol that, in some cases, goes with another "complementary symbol" (a signal of attention about some risk or some optimistic data).

[12] They are small surface areas, with strong rural and mountain conditions and heavy problems of isolation (up to 80´s). As well, the NPA boundaries are not always area coincident with the administrative limits of the municipalities.

Purposes

- To become a reference of information for the natural parks of the region. Such tools are often explicitly required by legislation of protection and the management instruments (*Use & Management Plans*).
- To evaluate to what extent the protection and management objectives have been reached.
- To analyse the effectiveness of the policies and programmes implemented in the NPA.

Objectives and application

In 2006 the Regional Government (Environmental Regional Authority) promoted a pilot research project to develop a system of sustainable development indicators for the Somiedo Biosphere Reserve in Asturias (Spain). This Natural Protected Area (NPA) was declared a natural park in 1988 and was later declared a Natura 2000 site and a biosphere reserve. In 2007 this initial study was improved and extended in order to design an integrated system of sustainable development indicators for all the natural parks in Asturias, which has been called INDESPAR[13].

In 2006 Somiedo Natural Park was evaluated for the first time. In 2007 the improved and definitive INDESPAR was implemented in Redes Natural Park, and at the same time, the Somiedo assessment was revised. It was considered that INDESPAR should be applied to one different natural park per year to evaluate the same protected area once every 4 or 5 years. This period is the same length of the "*Use & Management Plan*" of every natural park, so the final purpose was to assess the system prior to finishing the Plan and evaluate the progress towards sustainability and management effectiveness, thus supporting the development of the next (new) Plan.

For the project, an individual and specific methodology was developed, based on the following criteria:

- The objectives and management actions established in the protection legislation of every natural park
- Main values, processes and risks of these areas
- European legislation related to Natura 2000 Network
- Criteria, recommendations and methodological documents from MAB Programme-UNESCO referred to biosphere reserves and from the EUROPARC-Spain (Work Plan for the Natural Protected Areas in Spain)

The INDESPAR applications are:

- The monitoring and continuous register of the natural and social dynamics, as well as environmental pressures and impacts that might take place inside parks.
- To have at the disposal of the managers, authorities and scientists an integrated tool that provides an improvement to the collection, organization and register of data generated by all these different agents in the area (as well as NGO´s, technical staff, local authorities, etc.).
- A specific tool to analyse, discuss and evaluate the management effectiveness and the degree of scope of such aims. INDESPAR should be a supporting tool for decision makers in the NPA, especially when the Use & Management Plans are about to finish and a new instrument has to be approved.

[13] There are 5 Natural Parks declared in Asturias: all of them also belong to Natura 2000 European Network and 3 of them recently being recognised as Biosphere Reserves by UNESCO.

Origins

The project was commissioned by the Regional Ministry of Environment (Government of the Principality of Asturias), under a wider *Research Framework Agreement* signed with University of Oviedo (named *Management of socioeconomic and environmental information from the Natural Parks of Asturias. Sustainable Development Indicators*).

Strengths

- It checks progress over time and reveals trends, risks, needs and achievements. It also allows comparisons between dynamics and management issues across these regional sites.
- It provides an integrated in-depth evaluation of some key elements of the IUCN-WCPA Framework and MAB-UNESCO Sustainability Monitoring in Biosphere Reserves. It looks comprehensively at cultural and social dynamics, environmental issues, logistic and institutional arrangements in an integrated framework of analysis. It links protected area management with regional development and local communities' progress. It provides a lot of information for accountability and reporting the state of the parks.
- It works as a flexible integrated system of information which different stakeholders can use (by combining groups of indicators) in order to evaluate management effectiveness, progress towards sustainability, sectoral advances, etc., depending on their fields of application or interests.
- The design of the system and the plan of assessment for each natural park are coordinated with the management activities in the sites and the rhythm of implementation of legal and institutional management instruments. The final objective is giving useful conclusions and recommendations to improve natural protected area management.
- A high level of detail and a lot of quantitative and qualitative information. Results are presented in an illustrative and "friendly" format.

Constraints and weaknesses

- It needs highly qualified staff and is quite time consuming. It requires expert supervision and interpretation to ensure a technically robust implementation.
- It is neither a rapid nor simple method, expensive implementation (not very affordable in all situations). Further and institutionalized applications would require simplifications.
- Low stakeholder participation in the evaluation process may affect the acceptance of results and conclusions reached for a future internalization and institutionalization of the method.
- Even though a clear framework and methodology for the evaluation of indicators was developed, it requires a clearer definition of site management objectives, key values and standards.

How the methodology is implemented

The methodology was developed and implemented by the technical and scientific staff of INDUROT. This same working team carried out the evaluations. The working team was made up of environmental and resource economists, geographers, geographic information system and remote sensing experts, biologists and ecologists. Furthermore, several Professors, Doctors and Lecturers attached to the Institute have participated under the direction of the INDUROT Director.

Managers of the natural parks were also involved in evaluating, and technical staff from the regional government (environmental public administration) contributed to the study and to the evaluations with their own guidelines, experiences of management, administrative data and expert criteria.

The collection of external data (not available in the Institute environmental databases) and coordination with managers and other technical staff of the Parks were made through direct interviews, working meetings and periodic contact.

Elements and indicators

The INDESPAR indicators are classified into four groups:

- Biodiversity & environmental conservation
- Economic and human development
- Logistic support
- Institutional and administrative affairs.

Table 25: 61 indicator questions belonging to 4 groups, 14 themes and 30 sub-themes.

Nr.	Indicator question
1	Population
2	Density of inhabitants
3	Population structure
4	Available household income (per capita)
5	Sectorial value added
6	Activity: number and type of productive units
7	Vitality of the livestock activity
8	Characteristics of the livestock farmers
9	Evolution of building activities
10	Handcraft, traditional and high-quality products
11	Development of rural tourism
12	Touristic vitality
13	Changes in the environmental value of land uses
14	Forestry productions
15	Extensive and traditional management of cattle
16	Hunting intensity
17	Visitors satisfaction
18	Visitors: characteristics and pressures
19	Situations of overload and saturation
20	Damages caused by wild species
21	Employment: levels and sectoral distribution
22	Unemployment
23	Quality and coverage of basic social services
24	Selective management of urban waste

25 Use of new technologies of information and communication
26 Development of facilities, infrastructure and technological resources
27 Studies, research projects and scientific publications
28 Dedication to environmental monitoring activities
29 Participation in activities of environmental education
30 Actions to improve the professional qualification of local inhabitants
31 Actions to widespread the values and resources of the site
32 Local associations
33 Participation in elections
34 Local community's satisfaction with site protection
35 Conservation of cultural heritage
36 Cultural vitality
37 Control of activities with risk of cause environmental damages
38 Compliance of legislation and permissions given for certain activities
39 Budget: programming and annual execution
40 Temperature and rainfall
41 Biologic quality of streams
42 Risk of water pollution
43 Fragmentation and artificial barriers
44 Definition of protection zones and correspondence with the most valuable habitats
45 Environmental restorations
46 Impact of forest fires
47 Richness of fauna and level of threat
48 Richness of amphibians
49 Chamois status
50 Brown hare status
51 Trends of ungulates
52 Wolf status
53 Reproductive success of brown bears
54 Capercaille status
55 Reproductive success of raptors
56 Presence of high-quality species in fresh water ecosystems
57 Density of brown trout
58 Trends of common reproductive birds
59 Threatened and endangered flora
60 Non native fauna
61 Invading flora

Scoring and analysis

The global statistics referring the INDESPAR assessment are the following:

- Almost 80% of indicators belong to the biodiversity & environmental conservation and economic & human development groups.
- More than 90% of indicators have been calculated. Less than 10% did not have any available data.
- Fort-six percent of indicators are directly related with NPA management.
- Almost 80% use data that was considered highly reliable.
- Seventy-five percent of indicators were able to be evaluated since they had a series of data long enough and a "desirable trend" could be identified.

The general evaluation of the system (once the individual indicator evaluation was addressed) has followed several levels of diagnosis and different types of analysis, depending on their aim:

- Monitoring and evaluation of 20 "core indicators" selected under the MAB Programme criteria (sustainability key indicators).
- Brief report about the indicators that show the most satisfactory results in terms of progress towards sustainability and NPA conservation objectives. The same process was completed for those that showed the worse results.
- Analysis and report of trends and the main dynamics in each thematic and sub-thematic group of indicators (for example, human demography, water, land use, tourism, monitoring of activities, compliance of legislation, etc.).
- Evaluation of management effectiveness: results, achievements, needs for improvement.

Further reading and contact

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Management Effectiveness Evaluation Tenerife, Spain

Organisation

Excmo. Cabildo Insular de Tenerife (the Island Government of Tenerife), Canary Islands, Spain

Purposes

- **To improve management (adaptive management)**
- For accountability/audit
- For prioritisation and resource allocation

Brief description of methodology

Management effectiveness is monitored at three levels by the Planning Unit of the Environment Division, after making an appropriate diagnosis:

- First level: Assessment of protected area management plans (each protected area has its own management plan over several years), implemented since 2006 with the aim of annual reporting. The objective is to check if planned activities have been carried out, if activities are on time and within the planned budget, and to record what difficulties have arisen and what measures must be taken to correct them. Several indicators will be regularly measured to work at this level.

- Second Level: Assessment of the Annual Work Program for Protected Areas, the plan which contains all the actions undertaken by the different Administrative Units to manage the protected area system. First reporting was in 2006, but the plan is to obtain annual reports. The assessment looks at what activities have been carried out and their degree of completion; what activities are within the management plan, other plans or not planned; the real budget distribution, by services, subjects and themes; and whether budgets are being spent effectively and efficiently. A specifically designed computer application is used.

- Third level: Quality criteria (efficiency criteria) to apply to the protected area management in relation to ISO 9001/2000, ISO 14001/2004 and EMAS criteria. On this base, each Administrative Unit has its own indicators for quality management, which were created between 2003 and 2005. The indicators are designed to assess the efficiency of the different processes and are measured every six months or every year. Reporting began in 2006. Now, this system, designed for the third level assessment, is under review and some indicators for levels 1 and 2 are under development.

Finally, since 2004, there has been a permanent system to monitor the civic fulfilment of conditions included in impact assessment, authorizations, etc.

First and second levels would correspond with several elements of the IUCN-WCPA Framework: Context, Planning, Inputs and Outputs. Third level would correspond to Process and Outputs. It is necessary to further consider Outcomes.

Objectives and application

The assessment covers the entire system of protected areas in Tenerife, Canary Islands, Spain, 42 protected areas in all, 98.910 hectares and divided into 7 categories.

The Cabildo is responsible for natural resources conservation, management and use; recreational and educational policies; and local development for the whole PA system. The Environment Division has created three kinds of Administrative Units:

- Territorial units: The island is divided into 7 territorial units. All of them have the same authority within their own territories (e.g. surveillance, building works, promotion of local development, wildlife conservation, recreational facilities), and every unit manages several protected areas together;
- Island units: They have powers over the whole island (e. g. Prevention and fight against forest fire, Biodiversity and Hunting, Environmental Education, Volunteering Office) in order to achieve an efficient management system of these policies, avoiding the allocation of superfluous resources and striving for good coordination; and
- Structural units: They manage resources for the whole system (e.g. Budget and Account Department, Contracts Unit, Planning Unit, Vehicles Unit).

Objectives of the evaluation system include:

First and second levels:

- To understand the implementation of protected area plans and take remedial action where necessary;
- Identify human, material and economic needs;
- Inform public opinion and to produce a feed-back in participative processes. This will result in the improvement of the investments based on public preferences and complaints;
- Achieve good policies in several subjects (wildlife conservation, surveillance, building works, promotion of local development, recreational facilities…);
- Control budgetary deviations;
- Understand the pressures from excessive development in each protected area;
- Report to the European Union on management activities carried out inside the NATURA 2000 Network; and
- Urge the Regional Government (the planning agency) to make more appropriate protected area plans in the future, and plans adapted to the funds and resources available in the Cabildo (the management agency).

Third level:

- Apply the same quality criteria to all protected area management, not only qualitative, but quantitative ones in a process of continuous improvement;
- Establish common procedures for all protected area managers;
- Know the efficiency of the different processes within the organization;
- Understand the budget distribution all over the protected area network in different issues and budgetary subjects;
- Compare performance across Administrative Units;
- Speed up administration processes and activities; and
- Understand the pressures from excessive development.

Origins

Management effectiveness assessment has been instituted to adhere to the laws of the Canary Islands on protected area management and conservation (Ley 19/2003, Directrices 16 y 18, and Decreto Legislativo 1/2000). Assessments also fit well with the aims of the Planning, Technical Coordination and Management Control Unit, belonging to the Cabildo Insular de Insular de Tenerife, to develop a continuous process of improved performance, which is certified according to the International Standards Organisations (ISO) 9001/2000, ISO 14001/2004 and Eco-Management and Audit Scheme (EMAS) of European Union (an integrated quality system).

Strengths

- A great part of the work can be concentrated into one department: the Planning, Technical Coordination and Management Control Unit of the Environment Division.
- A great part of the work can be also developed by means of computer applications.
- The assessment has three scopes which covers all the needs: protected area management plans, Annual Work protected area Program, and Efficiency Indicators for all processes.
- The system enables assessment of each protected area and the whole system.
- The system has external and internal evaluators

Primary constraints and weaknesses

- The system requires different teams of staff involved to become fully aware of the need for assessments of management effectiveness and it is crucial that all the departments are very well coordinated by one authority. This is the only way to ensure full staff collaboration in the process.
- It is necessary to start with a better diagnosis of the protected area system in order to check outcomes properly.
- The system needs to be applied better with stakeholders in order to obtain a feed-back from them (better outcomes from the community).
- At this time, the system needs better and systematic methods to evaluate conservation state (of flora, fauna, geological resources, etc.), design adequacy, civic satisfaction, economic activity, etc.

How the methodology is implemented

The following steps are used in the assessment:

- Present the project to the protected area managers;
- Set up the working team;
- Design the indicators to be applied for the three assessment levels and the record cards for Level 1 (one card for each protected area plan) and for Level 2;
- Develop a pilot assessment in at least three different categories of protected area;
- Design the system;
- Set up the evaluation team;
- Data capture;
- Reporting;
- Analysis and feed-back measures; and
- Send the reports to the Regional Government.

Elements and indicators

The Environment Division of the Cabildo has three main scopes of authority over the protected area system in Tenerife:

- Natural resources conservation, management and use;
- Recreational and educational policies; and
- Local development.

There are three different ways (three kinds of processes) the administration applies these controls:

- Planning (all the plans and programs about protected area)
- Public works, management and services
- Legal control and security (authorisations, impact assessment, official reports, sanctions)

Indicators have been devised for all combinations of these (e.g. planning indicators for local development; legal control and security indicators for recreational and educational policies, and all the other different combinations). These indicators can be calculated for the whole protected area system or for each single protected area.

Some indicators are qualitative and their structure and measurement method are variable. But many of them are quantitative and their structure is always the same, as follows in this example:

Indicator (name)	Type of control	Measurement frequency	Historic data	Range		Unit responsible for measurement	Current state (e.g. December 2006)
				Min	Max		

Levels 1 and 2: protected area plan and Annual Work Program fulfilment
Each action included either into the protected area management plan or the Annual Work protected area Program is monitored under this framework:

Action	Current state	Starting date	Ending date	Planned cost	Total cost

The Planning Unit also compares quantitatively actions made with actions planned, and budgets spent with budgets planned, as follows:

Actions included into the pa management plan and budget balances	
Total actions balance	Actions made/Actions planned
	Budget spent/Budget planned
Actions balance for conservation, management and use of natural resources	Actions made/Actions planned
	Budget spent/Budget planned
Actions balance for recreational and educational policies	Actions made/Actions planned
	Budget spent/Budget planned
Actions balance for local development	Actions made/Actions planned
	Budget spent/Budget planned

Level 3: Efficiency indicators (Quality criteria for protected area management)

Planning indicators

Additionally, there are some indicators to evaluate the effectiveness of the fulfilment of these plans and other plans or programmes. These are indicators to apply to each protected area:

Planning indicators	
Conservation, management and use of natural resources	Budget for Conservation / Service Total Budget
	Funds invested / Hectare per year
Recreational and Educational policies	Budget for Recreational Policy / Service Total Budget
	Budget for Educational Policy / Service Total Budget
	Funds invested / Hectare per year
	Funds invested / visitor per year
Local development	Budget for Conservation / Service Total Budget
	Funds invested / Hectare per year
	Jobs created into the protected area per year

Legal Control and Security indicators

These indicators correspond to different procedures for which the Environment Division of the Cabildo is responsible. These procedures are authorizations, official reports, impact assessments and sanctions:

Legal control and security indicators
Number of cases processed per year
Number of urgent cases processed per year
Number of cases unsolved per year
Total average time for cases resolution
Average time for the characterization stage
Average time for the technical proposal stage
Number of complaints per year

Public works, management and services indicators

These are some indicators to evaluate the efficiency of the ordinary work in every administrative unit.

Public works, management and services indicators	
Conservation, management and use of natural resources	Number of injured animals cured and released in the Recovery Centre
	Number of trees and plants produced in nurseries
	Percentage of failures in reafforestation
	Number of partridges released for hunting
	Number of wild fires
	Number of wild fires in a year in comparison with last ten years
	Forest surface burnt
	Cost of fire extinction
	Average cost of vehicles and machinery repairing
	Average cost of vehicles and machinery maintenance

Recreational and Educational policies	Number of Educational campaigns
	Number of citizen who have been served in their questions
	Number of publications
	Number of educational material lendings
	Number of citizens who have used recreational facilities
	Kilometres of arranged and signposted footpaths
	Number of volunteers

Scoring and analysis

The staff responsible for each indicator must interpret each measurement or result, and propose measures to correct them accordingly to the planned objectives for each protected area.

Evaluation of Swedish County Administrative Boards

Organisation

Naturvårdsverket (Swedish Environmental Protection Agency)

Primary methodology reference

Naturvårdsverket (2005) Riktlinjer för utvärdering av förvaltning av skyddade områden

Brief description

Since 2003, Naturvårdsverket, the Swedish Environmental Protection Agency, has evaluated the work of the County Administrative Boards (CABs), which are the main bodies responsible for the management of government-owned protected areas in Sweden. The assessment is funded by Naturvårdsverket.

Purposes

- Accountability and external audit
- Self-assessment and improvement (adaptive management)
- Raising awareness and support

Objectives and application

Assessments are mainly driven by the question: Is management cost-effective? At the same time, the evaluation is seen as a learning process that is meant to identify and disseminate good experiences and best practices and to evaluate the appropriateness of Naturvårdsverket's own guidelines and policies. In 2009, all CABs in Sweden had been evaluated at least once, thus covering the whole of Swedish government-owned protected areas.

Origins

The methodology has been developed from scratch by Naturvårdsverket and is being improved on a learning-by-doing basis.

How the methodology is implemented

Naturvårdsverket envisages assessing five of 21 CABs per year, which translates into a re-assessment cycle of about 4 years. It essentially comprises the following steps:

1. Self-Assessment: Evaluation questions (below) are administered to the CABs prior to the visit of the evaluation team.
2. Visit: An evaluation team of Naturvårdsverket visits the CAB. In-depth interviews and discussions are held with responsible staff. Field visits are encouraged.
3. Drafting of action plan: The evaluation team and CAB agree on an action plan indicating major directions for improvement of management performance. Fulfilment of the action plan is assessed in the following evaluation cycle.

Extent and ambition of the evaluation shall be gradually increased:

- During the first evaluation cycle (2005-2009), interviews were largely limited to managers, protected area staff and "trustees" to which management tasks had been delegated by the CAB. Subsequent evaluation cycles envisage the inclusion of other stakeholders (e.g. donors, businesses, citizens).
- It is accepted if not all questions can be answered satisfactorily in the first cycle (e.g. for lack of data), but CABs are responsible to assure that all available data sources (e.g. monitoring, accounting, supervision) are used. Naturvårdsverket is developing a GIS tool (SkötselDOS) which shall facilitate the collection and presentation of relevant information.

Joint evaluation of several CABs is also possible.

Elements and indicators

Table 26: The following questions guide the assessment.

Impact of management measures	- In how many projects did past or present management measures lead to an achievement of conservation goals? Why is that so? (Note: question can only answered if the sites have management plans with measurable goals)
Economy	- What does administration cost?
Steering instruments	- How do you see Naturvårdsverket's role in monitoring and evaluating management? Why? - What expectations to you have towards the guidelines and guide (books) of Naturvårdsverket? - Which governing documents of Naturvårdsverket do you use in the management? Why and why not? - Are they good tools? Why and why not?
Administrative organization	- Are ways of working and organizing effective? Why and why not? - Are numbers and skills of administration personnel sufficient to carry out planning, administration and regional coordination? Ev. why not? - Are contractors sufficient and sufficiently competent to carry out their tasks? Ev. why not? - Is capacity development adapted to the tasks? Ev. why not?
Action Plan	- Have the measures of the last action plan been carried out? Ev. why not?

Scoring and analysis

Analysis is largely qualitative. Observed results are compared with official stipulations (e.g. bills, regulations, management plans, guidelines etc.). Self-satisfaction of staff and managers is also included as evidence (e.g. "we are / are not satisfied with this aspect of our work").

All questions and results are disseminated amongst CABs and protected area managers. In aggregated form, results are also shared with central agencies responsible for protected areas (such as the National Heritage Board and the Board of Forestry).

Best practices and good examples are disseminated on Naturvårdsverket's website: http://www.naturvardsverket.se/sv/ (viewed 8.05.2010)

SkötselDOS (Protection GIS Sweden), Sweden

Organisation

Swedish Environmental Protection Agency (SEPA)

Primary reference

Swedish Environmental Protection Agency: Projektplan SkötselDOS (2009)

Purposes

- Facilitating and improving cost-efficient management of protected areas in Sweden.
- Helping regional/site managers to store management plan data in a systematic way, including geographical, economical, and temporal data on management areas and management actions.
- Helping regional/site managers to organize, plan, set budgets, and report fulfilment/outcome of management actions, also including financial reporting of management cost of different Natura2000 habitat types.
- Helping regional/site managers to keep track of all devices and buildings used for visitor management (information signs, parking places, bird watching towers, border markings, trails, shelters, etc.) and to keep track on their status, so that they can more easily be kept in good order (to avoid visitors getting hurt by damaged infrastructure); all devices are entered as geometries in the GIS data base.
- Helping regional/site managers to keep track on which nature values that should be continuously monitored in different areas, which methods that should be used, and when these monitoring actions should be performed.
- Helping regional/site managers to develop financial and management action reports to the central Swedish Environmental Protection Agency (SEPA).
- Helping SEPA to report actions and costs of management in Natura 2000 habitats to the European Commission.

Brief description of methodology

SkötselDOS ("Management Data Base") is a GIS database, serving as a tool for management of protected areas in Sweden. The management database is an integrated part of other databases used by Swedish environmental protection authorities. Other databases keep track of which land is owned by the state, where different habitats (including EU Annex habitats) and species are located, which areas are currently being designated, etc.

References and contact

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Countryside management system for National Nature Reserves in Wales

Organisation

Countryside Council for Wales (CCW)

Primary methodology reference

Methodology: http://www.esdm.co.uk/?tabid=63
Review form (internal document of the CCW)

Brief description of methodology

The evaluation process is carried out during site visits of a CCW team. During the visits a special review form, developed by the CCW, is discussed and filled out in cooperation with the site manager.

Purposes

- Improvement of management effectiveness
- Avoid any damage to Natura 2000 and other protected area sites (status quo)

Objectives and application

Although only half of the NNRs are managed by the CCW, all of them use the review form to evaluate their management. On average every three years the CCW team visits each NNR. Nevertheless, the time span between the visits depends on the need of improvement (result of last evaluation) and the probability of change within the NNR.

Origins

CMS Consortium (CMSC) has produced a set of core planning principles identified at the workshop "Establishing and Confirming Management Planning Principles on Natura 2000 and other conservation sites"

Strengths

- Interactive evaluation (no external "judgement")
- Flexible time span between evaluation

Constraints and weaknesses

- Difficult to compare (no scoring/results are descriptive)

How the methodology is implemented

The evaluation process has started about 12 years ago (1997). Within that time all NNRs of Wales have been evaluated by the CCW at least once.

Elements and indicators

Table 27: Question themes of management review form

1. Background Information
2. Wider Designation and Management Planning
3. Site Inspection
4. Features Status, required management & management issues, etc
5. Access to the NNR
6. Community Engagement & Public Liaison in Relation the Management of the NNR
7. Resources
8. Status of the Site Management Plans & An Assessment of the Plan on CMS (Planning, Recording,..)
9. General comments & 'signing off'
10. Countryside Council for Wales - NNR/MNR Site Management Review - Management response

Recommendations from last management review /environmental audit

Scoring and analysis

Review form is discussed by CCW team and site managers. A 'recommendation section' is included in the review form. Thus, the results of the evaluation process are descriptive.

Further reading and contacts

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Evaluation of Local Nature Reserves, Scotland

Organisation

Land Use Consultants (LUC)

Primary reference

Land Use Consultants (2006). Evaluation of Local Nature Reserves. Scottish Natural Heritage Commissioned Report No. 174 (ROAME No. F05AB03).

Purpose

- To examine the effectiveness of Local Nature Reserves in Scotland in relation to policy contexts such as greenspace, community, participation and environmental and social justice.

Brief description of methodology

The assessment of Scottish Local Nature Reserves was commissioned by the Scottish Natural Heritage (SNH) in September 2005 and conducted by the Land Use Consultants. The study included:

- Overview of existing research related to LNR
- Review of 11 management plans
- Review of 14 Local Biodiversity Action Plans
- Volunteer evaluation with response of 41 stakeholder (13 LNR site manager, 5 local policy officer with LNRs, 5 local policy officer without LNRs, 9 SNH officer and 9 user groups)
- Strategic evaluation of LNRs against various environmental, social and economic criteria
- Case studies of six representative LNR
- Group discussion with different site manager and policy officer
- Resource evaluation to identify funding sources for LNRs

Objectives and application

Since 2010 there are 56 Local Nature Reserves in Scotland.

Table 28: List of LNR that have participated the evaluation

LNR name	Local authority
Den of Maidencraig	Aberdeen City
Donmouth	Aberdeen City
Kincorth Hill	Aberdeen City
Scotstown Moor	Aberdeen City
Arnhall Moss	Aberdeenshire
Waters of Philorth	Aberdeenshire
Montrose Basin	Angus
Blackford Hill/Hermitage of Braid	City of Edinburgh
Castle and Hightae Lochs	Dumfries and Galloway
Wigtown Bay	Dumfries and Galloway
Aberlady Bay	East Lothian
Birnie and Gaddon Lochs	Fife
Eden Estuary	Fife
Straiton Pond	Midlothian
Dumbreck Marsh	North Lanarkshire
Mull Head	Orkney Islands

Origins

In 2005 Land Use Consultants (LUC), an environmental consultancy (conservative association) was commissioned by the Scottish Natural Heritage (SNH) to undertake an evaluation of Local Nature Reserves (LNRs) in Scotland.

How the methodology is implemented

The evaluation was based on a combination of desk review, consultation with a broad range of stakeholders and a series of case studies. Desk analysis and synthesis was used to draw key conclusions and develop recommendations, in consultation with the SNH client group. The evaluation is not planned to be repeated.

Elements and indicators

Indicators of the case study of Kincorth Hill, Aberdeen City:

- Site description
- Key issues
- Management
- Voluntary management committee
- Targets and monitoring
- Educational and volunteer involvement
- Educational involvement
- Access
- Reducing fire raising
- Future plans and resources
- Future LNR designation
- SWOT analysis (strength, weaknesses, opportunities, threats)
- Social inclusion and community empowerment
- LNRs and economic development

Questions of the evaluation of stakeholder:

- Name
- Position and organisation
- Name of LNR you are involved in managing
- What were the reasons for its designation?
- What are the key environmental assets of the site?
- What type of management practice is in use on the site – please summarise key aspects of the approach and highlight examples of innovation or good practice?
- How have habitats and species improved since the site was designated an LNR?
- What monitoring is being undertaken in relation to the site?
- What are the key problems with managing the site – are you experiencing particular challenges?
- Do you think that the LNR designation has helped to achieve any of the following goals…?
- What are the future plans and priorities for the site?
- What are the sources of funding which are used to support the LNR – capital investments, maintenance support, funding for staffing?
- Have you successfully secured resources for the LNR from unexpected sources?
- Are there enough resources available to achieve what you would like to achieve within the LNR? Please describe key gaps or shortfalls.
- If not, what are your ideas for overcoming these barriers?

Scoring and analysis

The methodology was based on a combination of desk analysis, questionnaire survey and discussions with stakeholders. The aim was to collect and evaluate information under the standard headings of:

- Environment
- Health
- Social inclusion and community empowerment
- Economic development
- Sustainable communities and housing areas / neighbourhood regeneration
- Local identity and civic pride
- Education
- Management
- Resources

The varying character, size, age and nature of the LNRs in Scotland, and the lack of a standard dataset describing them meant that we were reliant on a qualitative analysis, informed by discussion with key stakeholders. We did not develop or use a formal scoring process. This also reflected the objectives of the review which were more about the reasons for the relatively low number of LNRs in Scotland compared to other parts of the UK rather than on a species based analysis. The work used case studies to explore different issues.

Further reading and contact

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Land Use Consultants: glasgow@landuse.co.uk

Scottish Natural Heritage (2007): Local Nature Reserve Management Planning Guidance- The Process & the Plan, SNH Communities and Greenspace Group, Clydebank.
Available online (29.01.10): http://www.snh.gov.uk/pdfs/lnr/ManPlanGuidFeb07.pdf

Scottish Natural Heritage (2000): Policy Summary – Local Nature Reserves, Policy Note Services, SNH, Edinburgh.
Available online (29.01.10): http://www.snh.gov.uk/pdfs/polsum/A147572.pdf

Raising Standards on National Nature Reserves in Scotland

Organisation

Scottish Natural Heritage (SNH)

Primary methodology reference

Internal documents of the SNH

Brief description of methodology

Scottish Natural Heritage is running a programme 'Raising standards on National Nature Reserves' from 2006 to 2011. Within five years all NNRs need to meet minimum standards. Additionally, 16 so called "spotlight" NNRs need to meet advanced standards by the end of March 2011. Every six month (in April and October) staff assesses each of the 17 minimum and 15 advanced standards on every NNR and provides a progress report. The baseline year was in 2005. The SNH analyses the results of the assessment and provides guidance and financial support to improve standards which are not achieved yet.

Purposes

- Raise former standards (2005) and achieve consistent minimum standards for Scottish NNRs
- Ensure that NNRs deliver the policy for National Nature Reserves in Scotland (specific attributes and purposes need to be fulfilled)

Objectives and application

All Scottish National Nature Reserve participate the programme to achieve minimum standards. The 16 spotlight NNRs must also achieve the advanced standards; other NNRs are encouraged to achieve higher standards if they can. The spotlight reserves get additional funding to establish a high quality management, which is required because of their special values or location. The list of spotlight NNRs will be reviewed and updated after 3 years.

Table 29: Current list of 'spotlight' NNRs

NNRs owned and managed by SNH	Beinn Eighe
	Caerlaverock
	Flanders Moss
	Forvie
	Isle of May
	Knockan Crag
	Loch Leven (with RSPB)
	Loch Lomond
	Noss
	Rum
	Taynish
	Tentsmuir
Others	St Abbs Head
	Ben Lawers
	Glen Affric
	Abernethy

Origins

Idea and process was developed by the Scottish Natural Heritage.

Strengths

- Evaluation results are immediately used for improvement via resource allocation

Constraints and weaknesses

- Restricted time span for programme

How the methodology is implemented

The Programme started in 2006, with 2005 as the baseline year. Every six month the NNR staff evaluates minimum and advanced standards separately and reports back to the Scottish Natural Heritage. By referring to current status and recent development of the NNR a resource allocation strategy is worked out. By adaptive resource allocation the SNH has so far achieved continuous improvement of standards in their National Nature Reserves. The programme will finish in 2011.

Elements and indicators

The three basic requirements that all NNRs should meet are:

- Well-managed: Minimum standards 1- 5
- Easy to find, welcoming and informative: Minimum standards 6 – 11
- Facilities are safe, clean and well-maintained: Minimum standards 12-18

The advanced standards are focused on enhanced provision for visitors but also cover environmental education and involving the local community and volunteers.

- Clear framework for visitor management: Advanced standards 1 - 8
- Visitor experience: Advanced standards 9 -11
- Environmental education: Advanced standards 11- 13
- Involvement of local community and volunteers: Advanced standards 14 -15

Table 30: Minimum and advanced standards for NNRs

No.	Minimum standards	Advanced standards
1	Best Practice and Good Condition	Visitor management plan or equivalent
2	Contribution to Scottish Biodiversity strategy	Visitor surveys and counts
3	Reserve Management Plan	Information in TIC
4	Monitoring Programme	Road sign
5	NNR colour leaflet	Orientation panel
6	NNR webpage	Information about other sites
7	Entry signs	Toilets or info about nearest
8	Car and cycle parking	Trained guides for visitors
9	Self-guided trail	Variety of visitor experiences
10	A named contact	Events programme
11	Maintained buildings and infrastructure	Interactive web page
12	Maintained visitor facilities	Education materials
13	Visitor Centre - GTBS	Education facilities
14	Safety System compliant	Local community opportunities
15	'Disability Discrimination Act' compliant	Volunteering opportunities
16	'Scottish Outdoor Access' compliant	
17	Legal documents in order	

Scoring and analysis

The NNR managers need to judge their standard in a three-coloured scale. The SNH has therefore provided a detailed scoring explanation for each standard and colour (green, amber, red). All assessment results are summarized by the SNH according to table 31.

Table 32: Scoring of standards by the SNH

Green	=	yes, NNR fully meets the standard
Amber	=	NNR partially meets the standard - unsatisfactory or work in progress
Red	=	no, NNR does not meet the standard
N/a	=	not applicable on this NNR
++	=	standard improved since last report
==	=	standard declined since last report

Further reading and contact

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Performance and management effectiveness of National Nature Reserves, Scotland

Organisation

Scottish Natural Heritage (SNH)

Primary methodology reference

"Performance and management effectiveness of National Nature Reserves in Scotland – Developing the Method", report of April 2009 by Sue Stolton, Nigel Dudley and Roger Crofts.

Brief description of methodology

This report proposes a method for the evaluation of National Nature Reserves in Scotland. The proposed method consists of a regular self assessment and a periodic external examination check (e.g. once every six years). The self assessment will be conducted by completing a questionnaire, with answers scored on a four-point scale. The results of the evaluation will inform the planning process for each NNR and also for the suite-level planning and reporting of the Scottish Natural Heritage. SNH is currently exploring whether this assessment should follow a five year programme to raise standards on NNRs in Scotland.

Purposes

- Promote accountability and transparency
- Improve community involvement, build constituency and promote protected area values
- Enable and support an adaptive approach to management
- Assist in effective resource allocation

Objectives and application

The site-level questionnaire was tested in January 2009 at three sites in Scotland (Loch Leven, Glenmore and Forvie). The suite-level questionnaire will be tested soon and afterwards the implementation for all 58 NNR will be initiated.

Origins

SNH is the statutory body responsible for National Nature Reserves. SNH owns and manages most NNRs, but some are owned and managed by other bodies- government organisations, NGOs and private landowners. The proposed system is based around the IUCN-WCPA Framework with references to methodologies used for evaluation of protected areas in Scotland and best practices in protected area management effectiveness worldwide.. The development of the methodology was complete in 2008-09.

Strengths

- Combination of internal and external assessment
- All IUCN-WCPA elements included

Constraints and weaknesses

- Involvement of stakeholder not prescribed

How the methodology is implemented

The managers of National Nature Reserves have to complete a questionnaire including indicators for different themes: statutory framework and policy, planning and reporting, heritage, people, property and resources. The self-assessment has to be repeated regularly and is checked by an external evaluator on a less regular base. The evaluation results will be used by site-manager as well as for reporting back to the SNH, responsible for financing. By now not all details of the evaluation process have been defined yet.

Elements and indicators

The assessment covers all elements of the IUCN-WCPA Framework.

Table 33: 37 subject areas as basis for evaluation questionnaires (Stolton et al., 2009)

Subject	Details
statutory framework and policy	
1. Policy and legislation	Site and agency (i.e. SNH) level assessments of compliance with national/international policies and legislation.
2. External political & civil envt.	Assessment of how key legislation/policy effects NNRs – can be assessed at site or (ideally) suite level.
3. NNR Policy	Site and suite level assessments of management of policy objectives
4. Law enforcement	Site and suite level assessments of appropriate regulations
5. External ass.	Site level assessment of assessment schemes such as UKWAS
planning and reporting	
6. Reserve design	Site level assessment of design (i.e. area) adequacy
7. Management planning	Site level assessment relating to whether a current management plan/system exists and whether this provides adequate guidance
8. Subsidiary plans	Site and suite level assessment of additional plans
9. Reserve reviews	Site aggregated to suite level assessment of reserve reviews/reports
10. Management approaches	Suite level assessment of whether NNRs as a whole are providing a representative range of conservation management approaches.
11. Work prog.	Site and suite level assessment of annual programmes achievement
heritage - natural/wildlife and cultural	
12. Level of significance	Using suite level assessment and site level data, to assesses how NNRs represent the 'jewels in the crown' of Scottish natural heritage.
13. Conservation of values – trend	Site level data aggregated to provide suite level assessment, providing an assessment of conservation *trend* of key features
14. Cons. of values – condition	Data as above, providing an assessment of conservation *condition* of key features
15. Threatened species	Status data based on Red Data lists, on threatened species per site to be aggregated to provide suite level assessment.
16. Threats	Site level assessment, which can be aggregated to suite level
17. Research and monitoring	Site and suite level assessments of research and monitoring of natural/ cultural management
18. Broadscale conservation	Site and suite level assessment of whether NNR management is exemplary and setting a standard for other land managers to follow

Subject	Details
19. Geographical spread	Suite-level assessment of the distribution of NNRs throughout Scotland
people – visitors, virtual visitors, education, local communities, volunteers	
20. Partners	Suite assessment of relationship the ABs and SNH
21. Communities and stakeholders	Site aggregated to suite level assessments of local community involvement
22. Communication programme	Site and suite/agency level assessments of communications programmes effectiveness in raising the profile of the suite of NNRs
23. Community benefit	Site level aggregated to suite level assessment looking at wider benefits of the site to the local community
24. Visitors	Whether visitors to sites are catered for and whether the NNR suite is providing a full range of experiences
25. Education	At site level linked to NNR advanced standards on education
property	
26. Reserve tenure	Site level assessment of security of tenure.
27. Governance	Site level assessment of the quality of governance
28. Resource information	Site and suite level assessments looking at the adequacy of information (e.g. resource inventories) to support decision making
29. Natural resource management	Assessment of existence and adequacy of responses to key natural management issues
30. Information management	Site and suite/agency level assessments of data and information management (e.g. storage, accessibility etc)
31. Safety management	Site level assessment to ensure adequate safety systems are in place for staff and visitors as laid out in NNR standards.
32. Assessment	Site and agency assessments of effectiveness assessment
33. Environmental management	Site/agency level assessment of whether operations are carried out according to high environmental management standards
resources – staff and costs	
34. Staff	Adequacy of numbers of site and support staff
35. Contractors	Mainly site level, assessing contractor requirements, etc
36. Finance	Adequacy of funding, security/ reliability and budgeting processes
37. Infrastructure, equipment etc	Site level assessment looking at adequacy of infrastructure and equipment

Scoring and analysis

The self-assessment questionnaire primarily uses a four-point-rating scale. The results are used for adaptive management (site- and SNH level).

Further reading and contact

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National Park Authority Performance Assessment (NPAPA), England

Organisation

National Park Authorities (NPAs) supported by the Department for Environment, Food and Rural Affairs (DEFRA)

Primary methodology reference

Lloyd, K., B. Hayes, et al. (2005). "Yorkshire Dales National Park Authority - Performance Assessment Report October 2005."
Online available:
http://www.yorkshiredales.org.uk/yorkshire_dales_national_park_authority_-_performance_assessment_report_-_october_2005.pdf

Brief description of methodology

The National Park Authority (NPA) Performance Assessment was a part of a central government programme. It shows how well the Park Authority achieves its strategic objectives and points out management weaknesses that can be improved.

The NPAPA system consists of three main components:

1. Desk based self assessment done by the staff of the park
2. Peer Review to examine the self-assessment plus discussion with staff, stakeholders and community members
3. Improvement plan and recommendations of the Peer Review Team

Self-assessment
Staff review the assessment criteria and assess effectiveness of park management for each specific field of work.

The Peer Review
The Peer Review Team includes a national park officer or chief executive, a serving local Authority chief executive, an NPA member and an NPA staff reviewer. They are supported by a SOLACE (Society of Local Authority Chief Executives) Enterprises facilitator. After an on-site inspection, a follow up meeting and an discussion of how to improve planning takes place. In total about 8 weeks are needed for the peer review. The entire performance assessment process takes about 6 month.

Information is gathered by the team through:

- Presentations and discussions with the chief executive and chairman of the Authority
- Interviews with several stakeholders
- Individual interviews with key managers and members
- Meetings with a cross section of members
- Group discussions with heads of service
- Staff workshop
- A tour for the team to observe the site

Results
The results of the self assessment and peer review are combined and an improvement plan with several recommendations for actions developed.

Purposes

- To fulfil obligations under the UK Government's assessment programme for Local Authorities
- For continuous improvement in the performance of National Park Authorities by showing its strength and weaknesses

Objectives and application

All national parks in England were evaluated throughout 2005 apart from New Forest National Park which was in the process of designation at that time. In total eight national parks covering an area of about 994,000 ha were assessed. It is intended that the assessment will be repeated every 5 years.

The evaluation was initiated by the government of Great Britain and the park authorities and carried out by a specialist team of staff from each national park, representatives of the local community, representatives of park users, key partners, peer reviewers from other national parks and local government and an Independent assessor.

Origins

Most of the elements for the assessment were used by the Audit Commission to assess other local authorities through the comprehensive performance assessment (CPA) regime. In addition to these elements, the National Park Authorities have used a peer assessment approach.

How the methodology is implemented

In 2005 all eight national parks of England carried out the assessment. One year later there was a voluntary re-visit in some national parks, e.g. Lake District National Park. Main purpose of the re-visit was to assess the process made since the evaluation in 2005. Updated key lines of enquiry for the assessment have been used for the revisit.

Elements and indicators

The bases for the assessment are Key Lines of Enquiry (KLOE) developed in cooperation with the national park authorities.

Table 34: NPAPA updated (2006) key lines of enquiry

KLOE Themes Assessment
What is the NPA trying to achieve?
1. Quality of vision
2. Quality of Authority's plans
3. Setting priorities
How has the NPA set about delivering its vision?
4. Organisational capacity
5. Working in Partnership
6. Performance management and Learning
What has the NPA achieved / not achieved to date?
7. Achievement in delivery of purposes and duties
8. Achievement of improvement in delivery of purposes and duties
9. Developing the effectiveness of the organisation

Scoring and analysis

Table 35: The scale according to the Yorkshire Dales report (2005)

Strong: High achieving with few outstanding improvement issues to address **Strengths outweigh weaknesses**: Making strong progress towards achieving the standard. Some improvements still required but these are minimal compared to the distance travelled so far. **Weaknesses outweigh strengths**: On the move with evidence of progress being made but there is further to go in making improvements than the distance travelled so far or in seeing the changes create an impact. **Weak**: Little evidence of achievement, considerable improvement required. Clear focus and a structured approach to improvement is necessary.

References and contact

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Stolton, S. (2008). Assessment of Management Effectiveness in European Protected Areas: Sharing Experience and Promoting Good Management. Bonn, BfN (German Federal Agency for Nature Conservation).