

# Conservation Action Planning

A Review of Use and Adaptation in  
Protected Area Planning and Management



Final Report  
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## **Preface: why review the CAP?**

The Nature Conservancy's Conservation Action Planning (CAP) process is one of the most widely used conservation planning tools in the world, both through TNC projects and increasingly by partners and by people unrelated to TNC, who have come across the methodology through word-of-mouth, searching the web, or by accident. The very success and widespread use of the CAP system means that there is a large onus on making sure that it delivers the maximum conservation benefits. At the same time, the twin aims of extending and improving management effectiveness of the world's protected area system have received an important boost as a result of a *Programme of Work on Protected Areas* adopted by the Convention on Biological Diversity. One element of the programme is a requirement that protected area management plans are completed or where necessary updated, and CAP is recognised globally as a tool that could help this process.

This review attempts to show (1) the geographic extent to which the CAP has been used, both within TNC and beyond its immediate influence, and (2) the degree to which CAP has been developed, adapted to different contexts and circumstances, and modified – in particular for protected area management planning. We started this research with the assumption that there are lessons to be learnt from this that could be relevant to TNC in general and to the application of CAP to protected areas in particular. The review also aims to learn from the innovations applied to the CAP system that can be replicated or further adapted to make the CAP an effective tool for protected area management planning.

This report has been commissioned with the aim of sharing best practice amongst the conservation community and collaborating both in the current application of the CAP methodology and in future use.

One limitation of this study is that it is still too early to assess the effectiveness of CAP-influenced management plans on conservation in the long-term. The CAP and 5S methodologies have only begun to be used formally as tools in management planning fairly recently. As most management plans are for periods of about 10 years, and large-scale ecoregional programmes often have far longer timescales, it is only when the impact of these are assessed in the future that the usefulness of using the CAP will really be known.

### **Acknowledgments**

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## Summary

A review of TNC's CAP methodology was undertaken with three main aims, to:

- ✓ Get an idea about the reach and uptake of the CAP
- ✓ See how much and why it had been modified
- ✓ Identify a methodology for a CAP protected areas manual as a contribution to the Convention on Biological Diversity's *Programme of Work on Protected Areas*

**Reach and uptake:** the methodology has been used globally, including in many countries where TNC is not active. It is also being adopted as an official methodology by some government protected area agencies and NGOs. Its use is at a range of scales, including:

- ✓ **Ecoregional** or equivalent: e.g. WWF ecoregions, AWF heartlands etc
- ✓ **Landscape/seascape:** watersheds, priority conservation areas, fishery regions
- ✓ **Site:** complexes of protected areas, single protected areas and other targeted priority conservation areas
- ✓ **"Concept":** e.g. for setting research priorities

**Modification:** CAP has been extensively modified both inside and outside TNC. These modifications are mainly to the content of the framework and additional to the tools related to CAP. Modifications come in two main forms:

- ✓ **Innovations:** changes to the *content* of the CAP:
  - Adaptation to sites with cultural targets or exclusively to cultural sites
  - Stronger emphasis on social and economic issues
  - Incorporation of business plans
  - Integration of protected area management effectiveness assessment
  - Use of new tools for measuring ecological integrity
  - Use in different landscapes and seascapes, or for specific elements of ecosystems
  - To aid development of zoning
- ✓ **Adaptations:** changes to the *process* by which CAP is applied:
  - Simplification
  - Use of only part of the methodology
  - Increasing participation and relating more closely to the needs of local people
  - Addition of opportunity analysis as counterpart of threat analysis
  - Stronger emphasis on use of situation analysis diagrams
  - Changing terminology to fit into accepted norms in particular locations
  - CAP as part of a group of other methodologies

Nine detailed case studies and many other examples highlight and discuss these changes.

**Use for protected area management plans:** CAP does not supply *all* the elements needed in a management plan. However, certain core ingredients of any management plan would benefit greatly from CAP. We propose that its best contribution would be as a series of specific **tools** to help development of high quality management plans, relating to:

- ✓ **Targets:** Features on which conservation actions will focus and/or for which the protected area exists. Targets are usually chosen that represent all species and ecosystems across multiple scales and biological realms.
- ✓ **Assessments:** Viability/Ecological Integrity Analysis and Threat Assessments using best available science and stakeholder involvement. Used to direct and prioritise strategies and management.

- ✓ **Strategies:** Using a situation analysis to compile assessment data and develop measurable objectives and specific strategies that will maintain target integrity and abate threats.
- ✓ **Measures:** Indicators that could be used to measure management effectiveness in particular both outputs and outcomes, and the effectiveness of strategies.

Given the strong emphasis by the Convention on Biological Diversity (CBD) on social and cultural issues, further work is needed to strengthen CAP in this regard. Steps to achieve this are outlined.

## Section 1: Introduction

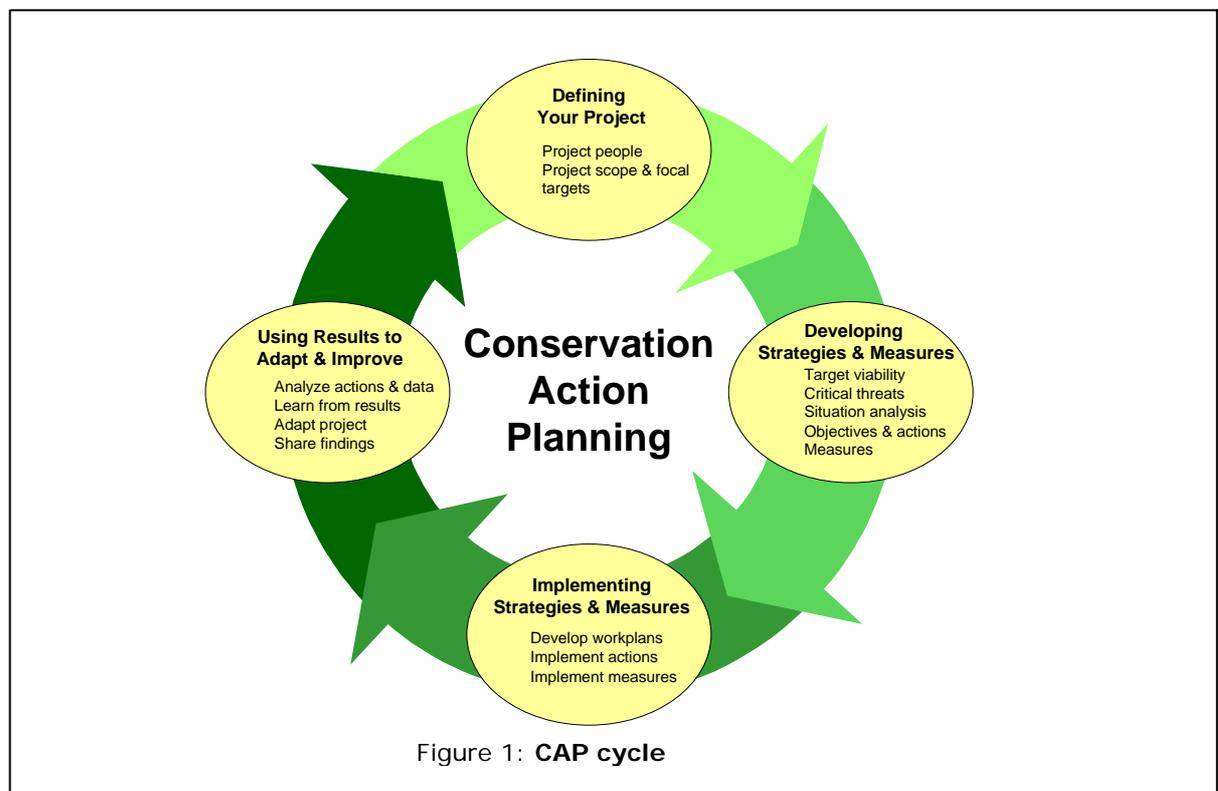
### 1.1 A short history of Conservation Action Planning

Over the past 15 years, The Nature Conservancy (TNC) has developed an integrated approach to planning, implementing and assessing conservation projects. Now known as Conservation Action Planning (CAP), the system builds upon earlier TNC planning tools such as **Site Conservation Planning**, **Conservation Area Planning** and the **5-S Framework**.

The 5-S framework, probably the most well known and well used iteration of the TNC planning tools before the development of the CAP, is a set of guiding principles for making strategic conservation decisions and measuring conservation success at sites. The conservation goal of the framework is to develop conservation planning and assessment which maintains viable occurrences of key conservation targets and thus ensuring the maintenance of a functional site. The framework is designed to be adapted to meet the needs of local planning teams while maintaining the integrity of the guiding principles.

The tool is named after the 5-S's of conservation planning represented in the framework:

- ✓ *Systems*: the conservation targets occurring at a site, and the natural processes that maintain them, that will be the focus of site-based planning.
- ✓ *Stresses*: the types of degradation and impairment afflicting the system(s) at a site.
- ✓ *Sources*: the agents generating the stresses.
- ✓ *Strategies*: the types of conservation activities deployed to abate sources of stress (threat abatement) and persistent stresses (restoration).
- ✓ *Success*: measures of biodiversity health and threat abatement at a site<sup>1</sup>.



## 1.2 CAP features

The CAP is based on a four-step project cycle summarised in Figure 1 and described in more detail below. For the purposes of the following analysis we have sub-divided the approaches in CAP into three different “features” as outlined below:

- ✓ *conservation assessment*, which includes target viability, threat analysis and situation analysis;
- ✓ *strategies that guide conservation action*, based on agreed conservation targets, and viability, threat and situation analyses; and
- ✓ *best practice in conservation*, e.g. participation, implementing work plans and using the results.

The first two of these correspond closely to the earlier 5-S approach, while more recently Conservation Action Planning has been further expanded to include elements of best practice. Table 1 overleaf summarises some of the elements that are included in each of the main features. CAP is now a large and very comprehensive planning methodology; users can either adopt this in its entirety or select particular elements that they need in a given situation.

Table 1: Different elements of CAP

Conservation advice	CAP Element
1. Conservation assessment methodologies	<ul style="list-style-type: none"> <li>✓ Target viability</li> <li>✓ Critical threats</li> </ul>
2. Strategies that guide conservation action	<ul style="list-style-type: none"> <li>✓ Project targets</li> <li>✓ Situation analysis</li> <li>✓ Measures</li> <li>✓ Objectives and actions</li> <li>✓ Develop work plans</li> </ul>
3. Best practice in conservation	<ul style="list-style-type: none"> <li>✓ Project people</li> <li>✓ Project scope</li> <li>✓ Implement conservation actions</li> <li>✓ Implement measures</li> <li>✓ Analyse actions and data</li> <li>✓ Learn from results</li> <li>✓ Adapt project</li> <li>✓ Share findings</li> </ul>

This report focuses primarily on the first two areas of advice, as these show particular innovation and have most to offer in terms of experience and expertise in conservation.

## 1.3 Different ways of applying the CAP

In part because the CAP methodology has developed organically, over time, it is difficult to identify a single, concrete and permanent “CAP methodology”. Instead, CAP represents a framework that has been used in quite different ways, even within TNC. We distinguish four different ways of applying the CAP, as illustrated in Table 2 below, and later draw on these to help shape our analysis.

Table 2: Different ways of applying CAP

Concepts	Framework	Methodology	Workbook
Basic concepts, for instance: ✓ Targets ✓ Key attributes ✓ Threats ✓ Conservation action		A series of tools, for instance: ✓ Identification of critical threats ✓ Situation analysis	An Excel workbook to record & analyse core CAP elements such as conservation targets, threats, strategies, monitoring & resource analysis

These do not represent a precise or comprehensive division: for instance some users have only focused on threats and targets. However, the general point is that users can draw on the CAP in a variety of forms, ranging from just using the underlying concepts to following a highly detailed workbook and recording system. As we shall see, all levels of complexity have been utilised by different users.

### 1.4 Basic Principles of CAP<sup>i</sup>

Adaptive management is based on a circular – rather than a linear – process, which allows information concerning the past to feed back into and improve management in the future<sup>2</sup>. All protected areas are likely to be undertaking management practices with the intention of following this type of cycle.

The fundamentals of effective management (Figure 2) are mirrored in the CAP cycle (Figure 1 above). What makes the CAP unique is the work undertaken by conservation scientists and practitioners at TNC and its partners to develop, test and verify a range of planning strategies and methodologies for assessing conservation outcomes. It is these that have inspired managers to adopt or adapt elements of the CAP in protected area planning. The various elements listed in Table 1 are elaborated below, ordered in a logical series of steps as suggested by TNC. More detail is given of the ‘conservation assessment methodologies’ and ‘strategies that guide conservation action’, while the various ‘best practice elements’ of the CAP are described more briefly.

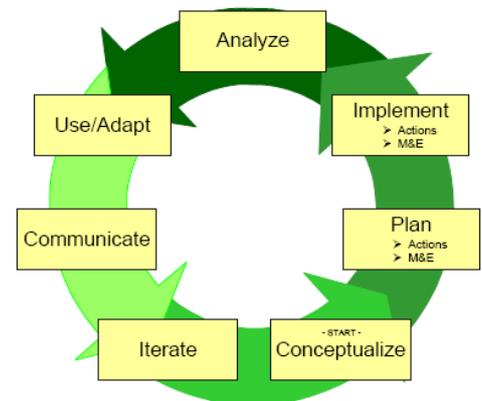


Figure 2: Adaptive management cycle

Source: Conservation Measures Partnership (2004)

#### Step 1: Defining your project

- ✓ *Project people*: advice on identifying key people to involve in a conservation project
- ✓ *Project scope*: reaching consensus on the overall goal and scale of the project
- ✓ *Project targets* (5S = Systems): Conservation managers are unlikely to be able to manage every element of the ecosystem (e.g. every separate species and ecological interaction). The CAP therefore suggests the identification of a series of conservation targets that together represent the core values of the ecosystem and that these are used to plan a series of actions and to measure the results of these actions. CAP uses an iterative process to guide the identification and measurement of conservation targets, based around three different types of target:

<sup>i</sup> Note this is a précis of the CAP system, for a full explanation of the CAP system see: <http://conserveonline.org/workspaces/cbdgateway/cbdmain/cap/resources/>

- ✓ *Ecological Systems*: e.g. assemblages of communities that occur together in a landscape/seascape which are linked by environmental processes.
  - ✓ *Ecological Communities*: e.g. globally threatened vegetation associations.
  - ✓ *Species*: e.g. threatened, endangered or of special concern; species' assemblages with similar conservation needs and/or globally significant aggregations of species.
- CAP recommends identifying no more than eight targets, due to issues of feasibility of planning and resources for site implementation.

### **Step 2: Developing strategies and measures**

- ✓ *Critical threats* (5S = Stresses & Sources): Strategies need not only the identification of targets, but also the threats facing them – including both their impacts on the targets (*stresses*), the human-caused direct threats (sources of stress) and underlying root causes identified in the situation analysis. Criteria for ranking the severity and scope of stresses have been developed, which are combined to determine the overall stress facing each target. Sources of stress are also ranked according to importance and irreversibility. Overall threat is worked out by combining assessments of stress and source of stress.
- ✓ *Target viability* (related to the first 5S = Systems): Targets not only help to focus management, but also form the basis for measuring outcomes. The methodology to assess the *viability* (also known as “biodiversity health” and “ecological integrity”) of targets starts by determining the characteristic ecological attributes of each target (e.g. biological composition, biotic interactions and connectivity) along with measurable indicators for each. Indicators reflect the “health” of each target; provide a basis for analysing threats and an early warning system for action. Success is measured by assessing the viability of attributes and thus progress against achieving the status that they represent. Ranges of acceptable variation (or thresholds) can be defined for indicators of each ecological attribute, to determine if the indicator is in or out of an acceptable range of variation.
- ✓ *Situation analysis* (5S = Strategies): Prioritising actions is helped by using an analytical approach which aims to build a picture – either as a narrative or a diagram – of the linkages that exist between indirect threats, opportunities, sources of stress, stresses and targets.
- ✓ *Objectives and actions* (5S = Strategies): Once targets and threats have been agreed and assessed and a situation analysis undertaken, a series of objectives are identified and strategic actions can be identified to guide management. The CAP provides a system for ranking each strategic action, based upon assessments of nine criteria related to benefits, feasibility and cost, which aims to help select the most effective actions to implement with available resources.
- ✓ *Measures* (5S = Success): Monitoring the condition of indicators can provide data to make assessments, but will only be effective if the right things are monitored using replicable protocols. The CAP provides guidance on developing effective monitoring plans, which are linked to objectives, threats and key ecological attributes.

### **Step 3: Implementing strategies and measures**

- ✓ *Develop work plans*: Once strategic actions and monitoring plans have been agreed a work plan is needed to ensure their effective implementation. The CAP includes a guide to carrying out a resources analysis to ensure that resources match work loads.
- ✓ *Implement actions and measures*

### **Step 4: Using results to adapt and improve**

- ✓ *Analyse actions and data; Learn from results; and Adapt project*

## Section 2: Review

### 2.1 Why review CAP for protected areas?

In February 2004, the Convention on Biological Diversity (CBD) agreed to a *Programme of Work on Protected Areas*, aimed at completing a global, ecologically-representative network of protected areas – one of the most far-reaching and ambitious conservation programmes in history. Amongst the 92 activities suggested for governments is Goal 1.4: “*To substantially improve site-based protected area planning and management*”, which suggests that countries should “no later than 2010, develop or update management plans for protected areas...” TNC believes that CAP provides a coherent approach based on strong concepts and has many useful techniques to help Goal 1.4. Whilst the CAP review will hopefully be generally useful for TNC, its main aim is to inform and support the development of a “CAP Protected Areas Manual” and gives emphasis to the following:

- ✓ **Reach and influence:** TNC has spent considerable time collecting and collating results of CAP assessments within areas in which TNC is operating. However, it has become clear that the tools and concepts within the CAP system have reached a far wider audience and are influencing an even wider range of conservation activities.
- ✓ **Adaptation and innovation:** the CAP has been adapted to fit a wide range of uses, outside of its original objective of project planning. This review thus also has specifically aimed to look at these adaptations and in particular identifies interesting innovations to CAP which could be replicated in a diversity of other protected areas.

From this review two main outcomes are discussed in subsequent chapters:

- ✓ **Defining the core principles of CAP**
- ✓ **Guidance on use of CAP in developing protected area management plans**

### 2.2 Methodology

The site level review, which included interviews with users and visits to institutions and protected areas, particularly in Latin America, Kenya, Tanzania and Madagascar, was approached from two directions:

- ✓ A short global review, focusing particularly on use by institutions other than TNC, particularly in Eastern and Southern Africa where TNC does not have a strong presence but where the CAP has been widely used (undertaken by Sue Stolton)
- ✓ A review in Mexico, Central America and the Caribbean, focusing on use by TNC and its partners (undertaken by Oscar Maldonado)

In addition, we have been able to draw on literature and analysis by some TNC staff members, in particular:

- ✓ A “clinic” to develop a strategy to help governments adapt/adopt 5S/CAP for protected area management plans at the Efrogmson Coaches Rally in May 2005
- ✓ A survey of CAP use in 49 conservation projects carried out by Dan Salzer and Terry Frederick in 2005
- ✓ Observations during the process of researching 17 conservation area plans for the “CAP Roll Up” for six Central American countries by Angela Martin
- ✓ Analysis of new uses of CAP in South America by Tarsicio Granizo

The results of the global and Latin American studies were combined to present a coherent analysis, which is summarised below (nine detailed case studies of the reviews findings can be found at the end of this report and are reviewed in section 3.1).

### 2.3 How and where CAP has been applied to protected areas management

Over 500 CAPs have been undertaken in North America, Latin America and the Asia-Pacific, with a smaller number in Africa and Europe; the greatest use so far has been in the USA, then Latin America, in the latter case mainly through the *Parks in Peril* programme. Sites range from tiny protected areas to large landscapes and watersheds to entire ecoregions and also include non-traditional uses such as cultural sites and fisheries assessment, as outlined in Table 3 below.

Table 3: Different geographical scale and uses of CAP

Type of application	Example	Notes and institutions
<b>For protected areas</b>		
Small protected areas	Bear Island, Potomac River, (65 hectares – USA)	TNC
Large protected areas	Reserva de la Biosfera de Vizcaíno, (2,546,790 hectares – México)	TNC and CONANP (Mexican Protected Areas Commission)
Natural World Heritage sites	Serengeti National Park (Tanzania)	Tanzania National Parks Authority working with CDC consultancy
Natural and Cultural World Heritage sites	Tikal National Park	TNC, IDAEH (Guatemalan Institute of Anthropology and History)
Nested protected areas – Biosphere reserves and core zones	Maya Biosphere Reserve (Guatemala), core zones (Lacandón National Park, Tikal National Park, Yaxhá Cultural Monument); areas within core zones (Piedras Negras Archaeological area)	TNC, IDAEH, CONAP (Guatemalan Protected Areas Council), Defensores de la Naturaleza (Guatemalan NGO)
Nested protected areas – Multiple use areas	Lake Atitlán (Guatemala), municipal parks and private reserves	TNC, CONAP, local authorities, private landowners
Protected area complexes	Calakmul-Balam Kin-Balam Ku (México)	TNC and PRONATURA
Parks in Peril sites	La Amistad (Costa Rica)	TNC and USAID
Ecological corridors	Tariquía-Baritú Binational corridor, (Argentina/Bolivia)	
Identification of new protected areas	<i>Podocarpus</i> region of Ecuador	
National PA systems	Madagascar	Government and NGOs (not TNC)
Participatory protected area planning	Komodo National Park (Indonesia)	TNC and local partners
Development of monitoring and evaluation system	Bwindi Impenetrable Forest Reserve (Uganda)	UNESCO through the <i>Enhancing our Heritage</i> project
<b>Beyond protected areas</b>		
Watersheds	Madre de las Aguas (Dominican Republic)	TNC
Landscapes	African heartlands	African Wildlife Federation

Type of application	Example	Notes and institutions
Ecoregions	Northern Great Plains Ecoregion	TNC and WWF
Cultural areas	Macchu Pichu (Peru)	Mixed natural and cultural area (also World Heritage site)
Fisheries	Fisheries assessment (Ecuador)	
Municipal areas	Bolivia and Guatemala	TNC and local municipalities
Research priorities	Pemón territory (Venezuela)	
Species	Guatemalan Beaded Lizard, <i>Heloderma horridum charlesbogerti</i> (Guatemala)	TNC, CONAP, local stakeholders and national and international experts

✓ **Overview of CAP in PA management planning in MesoAmerica and the Caribbean**

The review covered eight countries in the region (Mexico, Guatemala, Honduras/Nicaragua, Costa Rica, Panama, the Dominican Republic and Jamaica), with partial information on the Eastern Caribbean and Belize.

In these eight countries CAP has been or currently is being applied specifically to develop management plans in 64 protected areas, of which 25 are in Guatemala and 16 in Mexico. Other protected areas in the region have benefited indirectly from CAP planning when the methodology has been applied to broader landscapes, such as watersheds, Parks in Peril sites, multiple use areas including biosphere reserves and protected area complexes. The size of protected areas involved varies from less than 100 hectares to over 2.5 million hectares and use application has on occasion been modified to include issues related to cultural heritage and values, economic and productive targets, and to include more participatory processes.

✓ **Overview of CAP in PA management planning in Africa**

The review looked how the CAP, or elements of the CAP, have been used, or are intended to be used, in management planning in several countries, mainly without direct from TNC.

The CAP influenced approach has been used in three of the 14 National Parks administered by TANAPA. In total National Parks cover over 40,000 km<sup>2</sup> of Tanzania and include some of Africa's most well-known parks such as Serengeti and Mount Kilimanjaro. Interest in the approach used to develop the new management plans in Tanzania has also been growing in the Kenya and a similar planning process in the Masai Mara National Park to that carried out in Serengeti is currently underway; it is hoped that using a consistent methodology in both the Serengeti and the Mara will provide some degree of synergy between the management of these adjacent and ecologically connected areas.

The Nairobi-based consultancy CDC is also currently developing and piloting a Protected Area Planning Framework (PAPF) with the Kenya Wildlife Service. The PAPF, which includes elements of the CAP, provides an outline of the planning process and final plan structure for all future protected area management plans in Kenya. The approach is being piloted in two planning initiatives in Kenya; one covering four protected areas (Meru and Kora National Parks and Bisanadi and Mwingi National Reserves) known collectively as the Meru Conservation Area and the other covering three adjacent national parks (Tsavo East, Tsavo West and the Chyulu Hills). The PAPF is due to be rolled out to other priority protected areas in Kenya during 2007. The Frankfurt Zoological Society is also using the PAPF methodology in the Bale Mountains National Park in Ethiopia.

In 2003, the President of Madagascar committed to tripling the areas under protection in the country from 1.7 million hectares to 6 million hectares. A joint government-NGO task force – the Durban Vision Group – is helping implement this ambitious scheme and is using CAP-based planning methods in developing management plans for the new protected areas. WWF, a core member of the Durban Vision group, has been working with Madagascar protected areas agency, l'Association Nationale pour la Gestion des Aires Protégées, using Enhanced 5-S and CAP approaches. Overall it was felt that the approach was fairly low on community involvement and user-friendly guides were developed to help use the planning tool and software and databases. WWF has also been working with NGOs and communities in Madagascar on a similar planning process, beginning with an 'internal' science-based planning process followed by integration of community perceptions and priorities<sup>3</sup>.

## **2.4 CAP as a national methodology for protected areas planning**

Of particular interest is the decision by a number of governments to use CAP or CAP-related processes as a central part of management planning for all the protected areas in the country. Amongst those countries that have decided or are considering such a development are:

- ✓ **Peru:** CAP has been used in Peru since 2001. Two years later, TNC and the Peruvian agency for protected areas and natural resource management (Intendencia de Áreas Naturales Protegidas del Instituto Nacional de Recursos Naturales, IANP-INRENA) started an agency-wide training programme on the use of CAP in order to promote it as a leading methodology for protected area management plans. By recognising the methodology's virtues, IANP-INRENA now recommend its use for the dossiers leading to protected areas declaration, and has included CAP in the official "Methodological Guidance for Making Master Plans." A systematisation and documentation of the use of CAP for protected areas is now needed in order to learn on its application.
- ✓ **Chile:** The National Environmental Commission CONAMA has demonstrated a strong interest in exploring CAP as one of the methodologies to develop an Integrated National System of Protected Areas. Part of the application of CAP in this context is the identification of priority sites at sub-national level.
- ✓ **Tanzania:** the consultancy CTC (based in Nairobi) used some of the CAP principles to develop the new General Management Plan for Serengeti National Park. CAP was identified as a particularly useful tool during this process as none of the previous plans had included overall targets to direct management decisions. The Tanzania National Parks Authority (TANAPA) has now said that it intends to use the methodology developed by CDC for completing or revising all management plans for National Parks in the country. The methodology is thus currently being used in the Mahale Mountains National Park and Kilimanjaro National Park.
- ✓ **Madagascar:** At the invitation of WWF, TNC conducted a CAP training workshop for government officials. The government agency ANGAP intends to use CAP for all new protected area management plans.

## Section 3: Drawing lessons from case studies

### 3.1 Review of the case studies

Case studies were selected to investigate the range of actors using CAP and the ways in which CAP has been modified; from this research it is clear that there are many varied applications of the CAP methodology. The TNC method has evolved over 20 years and continues to do so as more and varied uses find new ways of applying the core concepts. This also brings responsibilities – with more and more conservation decisions being impacted by CAP there is a huge onus to ensure that it is adequate for the task. TNC maintains and regularly updates a “standard” practice, much the same way that open source software companies maintain and update a basic version of their software. Most users change and adapt this “basic” practice to suit the purposes of their planning processes, the protected area objectives and the stakeholders’ level of technical sophistication and needs.

Nor is CAP altogether unique. The part of CAP referred to here as “best practice in conservation” (Table 1) includes guidelines largely available elsewhere. Sections on “conservation assessment” and “strategies” are more original but also have parallels. For instance the UK government developed common standards for monitoring conservation sites in the 1990s<sup>4</sup> and introduced the system nationwide in 1999<sup>5</sup>. Concepts of targets and key attributes mirror the TNC system: *“The basis of the common standards for site monitoring is that the condition of the feature for which the site is designated is assessed against the conservation objective for that feature... [these] are developed by identifying the key attributes which make up or support the feature ... and setting targets for them. Each attribute is then measured and compared against the target value set.”*<sup>6</sup> Except for terminology, concepts here are near identical for parts of the UK and CAP approaches.

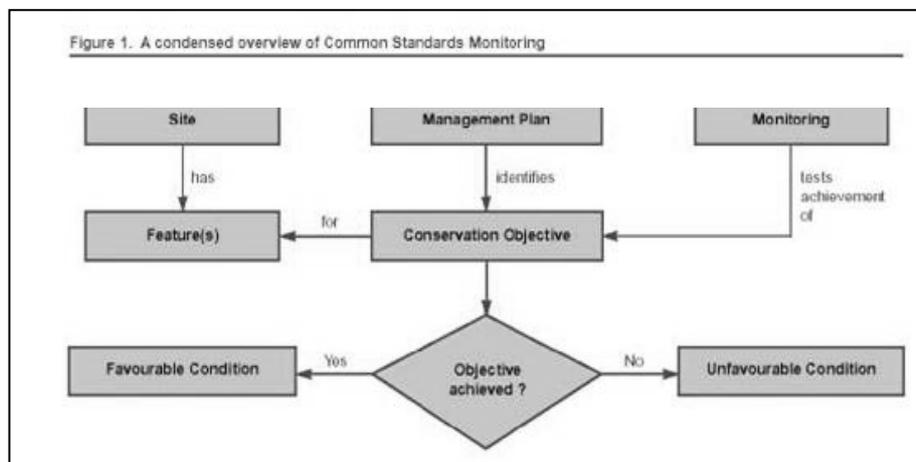


Figure 3: Schematic of UK conservation site monitoring system

What makes the TNC system for biodiversity conservation management unusual is: (1) the extent to which it has been used, developed and refined; (2) its geographical reach; and (3) the level of organizational commitment and support in terms of training, guidance materials and on-going development.

Case studies are presented in some detail in the appendix and are summarised in Table 6. In this section we look at some of the general findings with respect to: why the cap was used; how the cap was used and adapted; and why a series of innovations and adaptations were introduced

### 3.2 Why the CAP was used

In many cases CAP or precursors were applied because this was official TNC policy or a project requirement, as in the case of the *Parks in Peril* programme in Latin America. We have not attempted to analyse how enthusiastic participation was in these circumstances, but several case studies highlight the positive response of partners using the approach with TNC. CAP has also been picked up and used enthusiastically by people who had no pressure to do so except the desire to carry out good conservation, including TNC partners and others. Adoption by WWF, for instance, suggests that CAP fills an important gap in this NGO's planning capacity, after the broadscale identification of priority conservation areas within ecoregions. CAP has been used at a variety of scales and for several different types of planning as outlined below.

### 3.3 How the CAP was used and adapted

**Geographical scale of use:** Table 3 has listed many uses of CAP. One way that these can be categorised is by the different **scales** as outlined below and in Figure 4 following:

- ✓ Ecoregion or equivalent (e.g. ecoregion, bioregion, heartlands)
- ✓ Landscape or seascape (e.g. watershed, fishery area)
- ✓ Site (e.g. protected area, production forest)
- ✓ Concept (e.g. research needs for a country – likely to apply outside conventional geographical boundaries)

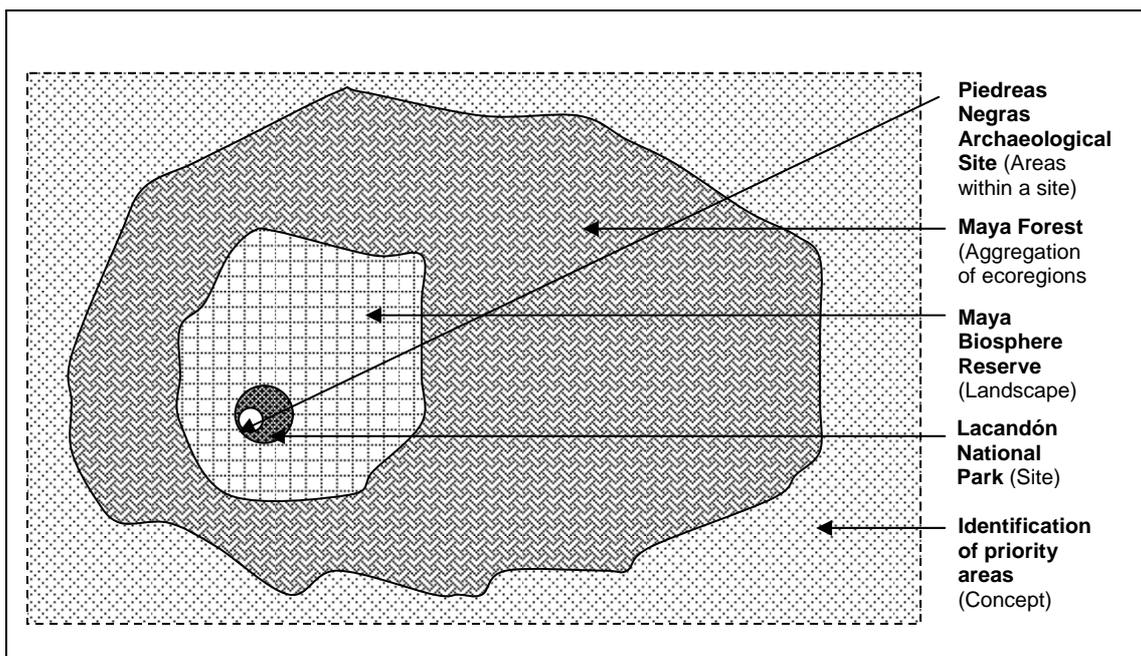


Figure 4: Levels of application of CAP: Using the Maya Forest/Maya Biosphere Reserve as an example

**Modifications to use:** although someone observing CAP for the first time may assume that it is a fixed and permanent methodology, as we have already mentioned this is by no means the case and it might better be regarded as *a framework around which many modifications take place*. For the sake of simplicity, we divide modifications into two:

- ✓ Changes to the *content* of the CAP – particularly widening the natural sciences base of CAP to strengthen social, economic or cultural elements
- ✓ Changes to the *process* by which CAP is applied – particularly making the system more participatory

Table 4 gives a summary of the main changes found and what they imply in terms of the need to incorporate new tools and approaches. The table is a summary of the case studies outlined in greater detail in the appendix, and attempts to capture key lessons from each in summary form. It does not claim to be a comprehensive review of every adaptation, but to provide an overview of the ways in which CAP has been adapted.

Table 4: **Modifications to CAP**

<b>Modifications</b>	<b>Examples</b>	<b>Adaptation/additions</b>
<b>Innovations</b> – mainly to <i>content</i> and what the CAP is used for		
Addition of cultural targets	Tikal National Park, Guatemala	Adaptation of CAP tools and terminology for analyses of cultural targets, integrity and threats,
Greater emphasis on social and economic issues	Pantanos de Centla Biosphere Reserve and Laguna de Términos Fauna and Flora Protection Area, Mexico	Threat-focused stakeholder analysis and use of maps for zoning strategies
Incorporation of business plans	Sandy Island/Oyster Bed Marine Protected Area, Grenada	Business planning integrated into the CAP process
Integration in protected area management effectiveness assessment	UNESCO <i>Enhancing our Heritage</i> project in several natural World Heritage sites	CAP elements linked to development of specific tools to fully assess all elements of the WCPA framework for assessing management effectiveness
Use of new tools for measuring ecological integrity	Serengeti National Park	Adaptation of CAP, Parks Canada and other best practices to develop methodology
Use in different landscapes and seascapes	Planning watershed management in Latin America; use in urban areas	
Use to plan strategic priority zones in protected areas or ecoregions	African Wildlife Foundation <i>Heartlands</i> programme	Incorporation of zoning conservation priorities
Use for a targeted species	Guatemalan Beaded Lizard, <i>Heloderma horridum charlesbogerti</i> , Guatemala	
<b>Adaptations</b> – mainly to <i>process</i> and the way in which a CAP is applied		
Simplification	UNESCO <i>Enhancing our Heritage</i> project	Core concepts used in adaptation for assessing management effectiveness
Selection of part of the methodology	Serengeti, Tanzania, and other East African sites	Target and threat analysis used in development of management plan
Increasing participation	Lore Lindu National Park, Sulawesi, Indonesia	Development of ‘new’ methodology based on CAP
Changing terminology to meet local context needs	Sandy Island/Oyster Bed Marine Protected Area, Grenada and African Heartlands	Terms linked to basic CAP concepts redefined
Use of opportunity analysis	Atitlán Multiple Use Zone, Guatemala	“Opportunity Analysis” as opposed to “Threat Analysis”.

These changes have not taken place equally throughout all levels of the CAP. If we reprise the breakdown given in Table 2, modifications are clustered around the “middle” levels of complexity of CAP as shown in Table 5 below.

Table 5: **Where modifications have taken place in the CAP process**

<b>Concepts</b>	<b>Framework</b>	<b>Methodology</b>	<b>Workbook</b>
<p>No change</p> <p>Basic concepts considered to be strong</p>	<p><b>Innovation</b></p> <p>E.g. social, cultural, zoning etc</p>	<p><b>Adaptation</b></p> <p>E.g. simplification participation, etc</p>	<p>No change, however the workbook has experimentally been adapted for cultural targets and translated into multiple languages</p> <p>People either use or ignore entirely</p>

## Section 4: Analysis

### 4.1 Identification of strengths and weaknesses of the CAP for use in Protected Areas management planning

The case studies developed for this review and other examples were discussed at a workshop in Quito in July 2006. The analysis below draws on these inputs, as well as interviews and key literature (see appendix 2).

**Strengths:** many of the commonly identified strengths relate to the role of CAP in bringing greater science to conservation practice, a better understanding of the needs of the site as they relate to biodiversity, order and consistency to conservation and creating projects based around clear and measurable targets that embrace the principles of adaptive management. In particular strengths relate to:

- ✓ The concept of “**conservation targets**” as the driving force behind conservation programmes: many users found that having biodiversity targets as the focus throughout the planning process have helped align and focus projects.
- ✓ Encouraging users to **measure success of actions based on objectives**, thus promoting both **adaptive management** and greater transparency.
- ✓ Providing a more systematic analysis of **threats** to identify those that pose the largest challenges to the conservation strategy.
- ✓ Prioritising **actions** and, in the process, helping set realistic conservation agendas.
- ✓ A methodology based on **science**, which has credibility with professional conservation biologists and with government agencies.
- ✓ Applicable at different **scales**, with applications ranging from site to ecoregions.
- ✓ A “**living tool**” to provide information for implementing official management plans and developing annual operating plans.
- ✓ Flexible and **adaptable** to tasks that go beyond traditional conservation concerns into wider sustainable development strategies.
- ✓ Capable of generating highly participative, multidisciplinary processes.
- ✓ Having a high level of support for implementation, commitment to training and sharing of experiences amongst practitioners.

**Weaknesses:** conversely, some users observed that although innovations have taken place in the field relating for instance to cultural objectives, social issues and participatory processes, CAP has not as yet developed or institutionalised such innovations. It is therefore as a whole often perceived as being too narrowly biodiversity focused for the new paradigm which views conservation as a part of sustainable development. In particular:

- ✓ The exclusive focus on **biodiversity and conservation** ignores the fact that many conservation projects also need to address cultural heritage, stakeholders’ wellbeing, poverty reduction and/or recreational and educational issues.
- ✓ The lack of a systematic framework to develop the **human component** of CAP with people generally being perceived as “threats” rather than considering their positive role in conservation, the opportunities that they present for conservation or their rights to land, water and natural resources. Explicit directions for how to think about the existing needs and rights and the opportunities that different stakeholders or human activity might present are not forthcoming.

- ✓ Insufficient attention to the development of budget, **business plans** or **capacity building plans** for the sustainability of the project, thus developing a vision, targets and plans without giving users enough information about how to put these into practice.
- ✓ Complex **terminology** that some users do not understand – for instance the concept of “stresses” and “viability” are confusing especially for non-English speakers. The desire for catchy acronyms may have increased the confusion.
- ✓ Frequent failure to implement CAP results, so that they remain as paper exercises

In addition, several other potential or actual problems were identified. (Some of these are probably common to most current planning tools addressing broadscale planning.)

- ✓ Lack of concrete guidance for **zoning** within the protected areas.
- ✓ Identification of ecological “thresholds” can be difficult particularly in protected areas, which frequently do not encompass whole ecosystems.
- ✓ Frequent failure to implement CAP results, so that they remain as paper exercises.

#### **4.2 Summary of best practices**

Users identified the main strengths of CAP as it being a *credible, science-based tool to help users set comprehensive and measurable conservation targets* at a variety of geographic scales. CAP has also proved flexible in its ability to be applied beyond traditional conservation concerns. Conversely, the main weaknesses of CAP are perceived to be its relatively *narrow focus on biodiversity, and a consequent weakness on social, cultural and economic issues*, all of which increasingly have to be addressed within conservation approaches.

## Section 5: Application to protected area planning

### 5.1 Comparison with the IUCN-WCPA guidelines on protected area management plans

Based on the observations of adaptations of CAP for use in protected areas, and on what was learned regarding the methodology's strengths and weaknesses, we analysed the extent to which CAP could be used as a tool for writing protected area management plans by comparing it with a standardised planning methodology<sup>7</sup> developed by the IUCN World Commission on Protected Areas<sup>ii</sup>.

Table 6: **Overlaps between the IUCN management planning process and CAP elements**

IUCN Management planning steps	Appropriate CAP elements to fulfil these	Appropriate CAP elements with adaptation
1. Pre-planning (scope, team building, define process)	<ul style="list-style-type: none"> <li>✓ Project people</li> <li>✓ Project scope</li> </ul>	
2. Data gathering – issues identification, consultation	(Implicit in viability and threats analysis)	
3. Evaluation of data and resources	<ul style="list-style-type: none"> <li>✓ Viability</li> <li>✓ Situation Analysis</li> </ul>	
4. Identification of constraints, opportunities and threats	✓ <b>Critical threats</b> (5S = Stresses & Sources)	✓ Situation analysis
5. Developing management vision and objectives	<ul style="list-style-type: none"> <li>✓ Vision Statement</li> <li>✓ Objectives</li> </ul>	✓ <b>Project targets</b> (5S = Systems): social, economic and cultural adaptation
6. Developing options for achieving vision and objectives, including zoning	<ul style="list-style-type: none"> <li>✓ <b>Situation analysis</b></li> <li>✓ <b>Objectives and actions</b> (5S = Strategies)</li> </ul>	
7. Preparation of a draft Plan	✓ <b>Measures</b> (5S = Success): re development of monitoring plan	✓ <b>Target viability</b> (5S = Systems) re developing monitoring plan: social, cultural and economic adaptation
8. Public consultation on the draft Management Plan		
9. Assessment, revision and finalisation of Management Plan and reporting on consultation		
10. Approval of Mgt. Plan		
11. Implementation	<ul style="list-style-type: none"> <li>✓ <b>Develop work plans</b></li> <li>✓ Implement actions</li> <li>✓ Implement measures</li> </ul>	
12. Monitoring and evaluation	<b>Measures</b> (5S = Success): re development of monitoring plan	✓ <b>Target viability</b> (5S = Systems), as above
13. Decision to review and update Management Plan; accountability considerations	<ul style="list-style-type: none"> <li>✓ Analyse actions and data</li> <li>✓ Learn from results</li> <li>✓ Adapt project</li> <li>✓ Share findings</li> </ul>	

<sup>ii</sup> The model was chosen because of its direct link to the World Commission on Protected Areas. Other models for planning exist and the use of this model in this report does not infer any preference for this approach. TNC currently developing its own protected area planning methodology.

## 5.2 What can the CAP offer protected area planning?

Protected area management plans have a mixed reputation in conservation circles – recognised as capable of playing a key role in developing effective management strategies but also all too often top-down, simplistic and gathering dust on the manager’s bookshelf. There has been no comprehensive analysis of the strengths and weaknesses of management plans, but common complaints include:

- ✓ Lack of clear direction or any measurable way of assessing progress
- ✓ Plans drawn by bureaucrats or consultants that have little connection with the realities of management or the lives of local communities
- ✓ Fixed plans that are difficult to apply in rapidly changing situations

There has been a major effort to address such shortcomings over the past few years. Management plans are becoming more exclusive and more adaptable. Electronic publishing has allowed the development of a new generation of plans that are not set in stone for ten years, but combine a strong strategic message with the flexibility to be modified as conditions alter.

The CAP approach can fit into this new paradigm. CAP has already been used to write many protected area management plans so its applicability is not open to doubt (see case studies). But the comparison given in Table 6 suggests that CAP alone does not offer all the elements that would be needed in such a plan. In fact, CAP can contribute to management planning in two ways:

- ✓ By drawing plans for a particular area out of a larger CAP exercise (that might cover a much wider geographical area than the protected area), which can help place a protected area’s goals and management in an appropriate ecological context.
- ✓ By taking elements of the CAP and applying these within a wider protected area management planning exercise.

Both are possible. Given the current emphasis of the CBD in developing plans, we have examined the second approach here – namely looking to see what elements of CAP could usefully contribute to writing protected area management plans. From the above analysis we suggest that CAP can offer advantages in four distinct areas to a protected areas management plan as outlined in the table below:

Table 7: **Elements of CAP that could contribute to protected area management planning**

Element	Details
Targets	Features for which the protected area exists. For a protected areas biodiversity features targets are chosen to represent all species and ecosystems across multiple scales and biological realms.
Assessments	Viability/Ecological Integrity Analysis and Threat Assessments using best available natural and social science sciences and stakeholder involvement. Used to direct and prioritise strategies and management.
Strategies	Using a situation analysis to draw together assessment data and develop objective-based strategies that will maintain target integrity and abate threats.
Measures	Indicators that could be used to measure management effectiveness in particular both outputs and outcomes, and the effectiveness of strategies.

Figure 5 below shows this in a different way, as a schematic for developing such a plan.

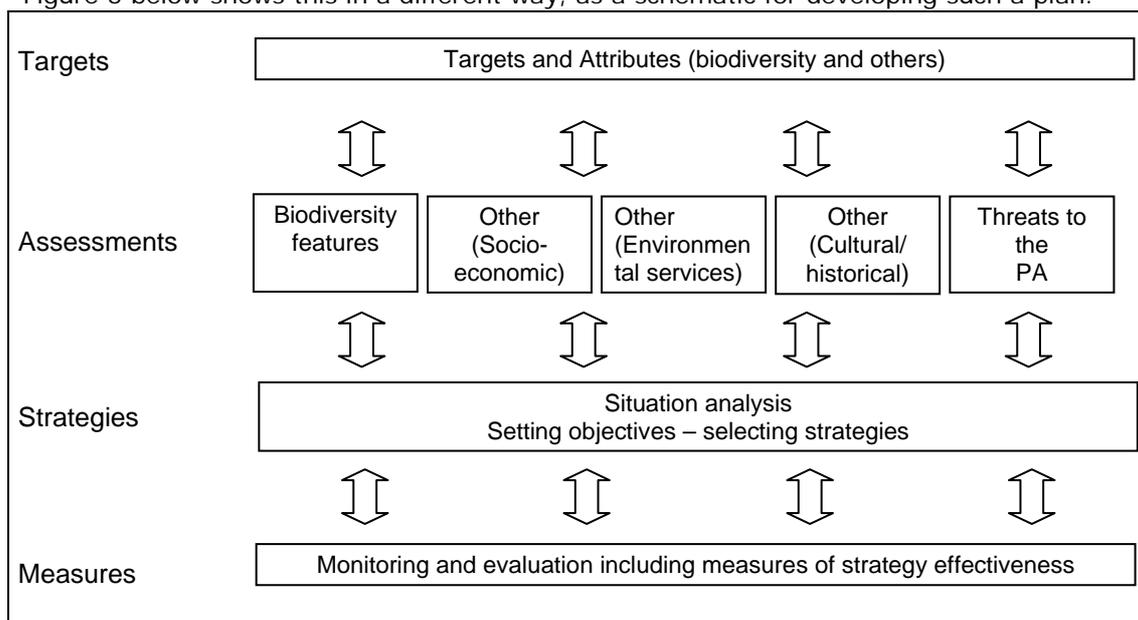


Figure 5: Important elements that CAP can bring to a protected areas management plan

### 5.3 Further adaptations needed by CAP for use in protected area management planning

CAP offers strong, well-tested methodologies to help implement protected area management plans as outlined in Table 7 and Figure 5. But even in these areas some further modifications will be needed, particular with respect to fulfilling the CBD's strict requirements for participatory approaches, prior informed consent and benefit sharing. Many of these adaptations would not be starting from first principles: TNC would be able to draw on experience and existing modifications in use and from the innovations developed by many talented CAP practitioners in the field, as outlined in our survey.

Table 8 below outlines some minimum adaptations that we think would be necessary to make the CAP fully suitable for using in protected area management planning.

Table 8: Minimum adaptations needed to help CAP contribute fully to PA planning

Element	Steps
Targets	Agreed methodology for identifying non-biodiversity targets
Assessment	Assessing socio-economic issues (legal, institutional and context)
	Assessing environmental services
	Assessing cultural issues
	Standardising participatory approaches
Strategies	Developing situation analysis to address non-biodiversity issues

Although there is much to be learnt from what has gone before, we suggest that several further steps are needed to develop these new aspects of CAP:

- ✓ A literature review of experiences integrating socio-economic issues in protected area planning
- ✓ A literature review and expert consultation to propose guidelines to increase stakeholders' involvement and benefit sharing as key strategies for protected area planning
- ✓ A workshop to integrate socio-economic and cultural influences into the CAP

- ✓ Liaison with ongoing work on wider valuation of protected area benefits to ensure that these, including particularly environmental services, are also integrated
- ✓ A consultation to address context assessment as integral part of protected area planning
- ✓ A workshop with key experienced protected area managers from different countries to review a proposed structure for a management plan

#### **5.4 Developing a manual for use of CAP in protected area management plans**

This review began with the specific task of making recommendations about how TNC could support efforts of the CBD *Programme of Work* in encouraging countries to improve protected area management plans, by the production of a manual that explained how elements of the CAP could assist this process. Following our own review and discussions at a workshop in Puenbe, Ecuador, we suggest the following might be suitable:

**Contents:** the manual will have four main sections (not all the same length):

- ✓ **Management planning framework:** a short description of all the elements needed for a good management plan
- ✓ **Contribution of Conservation Action Planning:** the longest section – a brief introduction to CAP as a whole, followed by detailed guidance on how the key elements of CAP can help to build a good management plan (including both simple and more complex ways of applying each): targets, assessment, strategies and measures
- ✓ **Level of detail:** guidance on when to choose different levels of complexity for each of the elements described
- ✓ **Case studies:** brief examples of how CAP has helped to develop high quality protected area management plans, lessons learned and both light and complex applications

The manual will aim to be accessible and provide tools that can be used at once, rather than being too theoretical or conceptual.

## 6 Conclusions and recommendations

Conservation Action Planning has developed into a globally respected planning tool, which is being taken up spontaneously by both government and non-governmental institutions. The Nature Conservancy rightly sees it as a significant contribution to worldwide efforts to protect biodiversity and natural ecosystems.

Over its almost twenty year history, CAP has and will continue to evolve and our review has identified some areas ripe for further development and innovation. In many cases this has already been started or well progressed through informal adaptations and innovations. The more widely CAP is used, the less TNC can hope to influence the way in which it is used and as there is a lot of room for local adaptation of CAP, we can expect to see a continued diversity of its application under different situations.

From the short-term goal of producing a guide to the CBD process – which given the very tight deadline of the whole CBD *Programme of Work on Protected Areas* is necessarily an urgent task.

Much of the material is already available and just needs to be adjusted for protected areas, but some additional development needs have been identified, including in particular:

- ✓ Human/cultural dimensions
- ✓ Integrating biological and other (cultural, social and economic) targets
- ✓ Environmental services
- ✓ Zoning
- ✓ Management effectiveness
- ✓ Capacity/staff skills

## Appendix 1: Case studies

The table below provides a summary of the case studies outlined in greater detail in the following appendix. It attempts to capture key lessons from each but is not a comprehensive review of every adaptation.

Protected area	Objectives	Reasons for using CAP	Influence	Adaptations	Innovations	Actors in planning	Actors in implementing	Impressions of CAP	Major outcomes	Lessons learned
Serengeti National Park	Developing General Management Plan (GMP)	Found on ConserveOnline by consultants	Planned for use in all PAs in Tanzania, interest in Kenya	Including ecological integrity system from Parks Canada	Some simplification, including stakeholder review	TANAPA (govt. PA agency), tour operators & local communities	TANAPA	First GMP for Serengeti to include explicit mgt. targets	GMP completed	The basic elements of the CAP can be used in management planning tools without involvement or training from TNC
Enhancing our Heritage: used in World Heritage sites in Africa, South Asia and Latin America	Improving a monitoring system	TNC involvement in developing the methodology	Plans to extend to all PAs in Uganda and Ecuador, as well as roll-out plan in UNESCO and IUCN	Use for management effectiveness assessment	Simplification of methodology	National PA agencies, local communities	PA agency	Argued strongly for some simplification in the approach	Ongoing monitoring programme, firm targets	Many of the CAP elements used in system developed to assess management effectiveness, which in turn has been used in some areas as the basis of management planning. Again, the CAP was used with only minimal involvement from TNC; much of the terminology and some of the methodologies were simplified for use.
African Heartlands; which include several protected areas	Landscape approaches in East & Southern Africa, including state & private PAs	TNC partner in Africa (African Wildlife Foundation)	Very broad-scale approach touching many countries in the region	Changes to terminology	Use for zoning and also inclusion of socio-economic analysis	Partnership of organisations & stakeholders to make conservation decisions	AWF and partners			
Lore Lindu NP Sulawesi, Indonesia	Planning protected area	TNC one of the partners	Used in courses for NGOs & forestry dept. Also used by TNC in Texas	Working with local people in participatory approach		TNC, government, local communities	TNC, government, local communities			(From Texas) Promoted trust, communities now know reasons for planning & gave a reality check
Atitlán Guatemala	Management and Development Plan for a Protected Area	TNC's Parks in Peril site Opportunity of developing a	Different kind of organisations and stakeholders related to the	Opportunity analysis at the same level of hierarchy of threat	Addressing socio-economic issues including economic &	Official agencies (natural resource management, tourism), local	Since the management plan represents also a sustainable use	Good analyses and adaptability for including cultural targets,	Management plan completed and pending of approval	CAP provides a good framework for decision-making for natural and cultural conservation actions, and sustainable

Protected area	Objectives	Reasons for using CAP	Influence	Adaptations	Innovations	Actors in planning	Actors in implementing	Impressions of CAP	Major outcomes	Lessons learned
		second and enhanced new iteration of CAP	fields of biodiversity and cultural conservation, sustainable development, and economic activities.	analysis Ad-hoc terminology for cultural intangible targets	productive targets	municipalities, NGOs, relevant local stakeholders, private owners and entrepreneurs	plan, it involves in its implementation most of the actors participating in planning	natural targets and productive activities in an integrated manner		development. There is a need for tested and proven planning methods that incorporate other variables besides only biodiversity. A thorough opportunity analysis permits to have an integral and objective approach for the strategy development
Chagres Panama	Management plan for the protected area, Measures mechanism Solid science-based platform for debt-swap negotiations	TNC's Parks in Peril site Adoption as multi-purpose planning tool	Protected Areas System of Panama, ANAM, USAID	Use of CAP as main methodology and logical framework among other methods and approaches	Implementing with socio-economic assessment & official guidelines  Zoning	TNC, ANAM, NGOs, local communities	ANAM, TNC, NGOs	Multi-purpose tool that permits obtaining multiple by-products	Management Plan Annual Operative Plans Measures mechanism Debt-swap agreement	The use of CAP creates a leverage effect among biodiversity conservation authorities and practitioners. CAP results can be used for more than one purpose
Tikal Guatemala	Management Plan for a World-Heritage Protected Area that combines cultural and natural conservation objectives	Requested to TNC after a first embryonic use of cultural and natural approach in the Maya Biosphere Reserve	Endorsement by national and international agencies related to biodiversity and cultural heritage conservation. Use by other TNC programs, and partners for sites combining natural and cultural features	Specific analyses for cultural targets integrity and threats Ad-hoc terminology for cultural targets. Combination of strategies for cultural and natural targets	Including cultural values – tangible & intangible – with peer-review	Experts, field personnel and all relevant stakeholders of cultural and natural conservation, including national official agencies and UNESCO,	Mainly IDAEH (Institute of Anthropology and History) and CONAP (National Council of Protected Areas)	Good adaptability to including cultural targets and develop an integrated planning process along natural targets	Management plan approved and in practice Systematized methodology	Represents a possible and necessary approach for many PAs across the world. Can be conducted in more participatory and multidisciplinary ways. Creates novel synergies for better conservation gains.
Eastern Caribbean	Using CAP for a co-managed Marine Protected area	TNC'S Parks in Peril site	Training for a diversity of stakeholders, including local governmental agencies, natural resource users, communities and NGOs. To be used throughout	Terminology adapted to a broader audience  Decisions made on ecological and socio-economic considerations	Importance of stakeholders participation Key Ecological Attributes (KEA) selected as indicators for viability, threat status, and management effectiveness.	Local authorities (police) and agencies (fishery and forestry officers), local NGOs, academia, and natural resource users (fishermen, tour operators, hotel owners, diver	Government of Grenada, Caribbean Regional Environmental Programme (CREP) and a local NGO, the Carriacou Environmental Committee	CAP represents a consistent framework and logical progression of steps that is easily understood by a wide range of stakeholders	Management Plan Leverage to other Caribbean states	CAP terminology often is difficult to understand in a broad audience and sometimes needs to be adapted to particular circumstances. Facilitators need to be spoke-persons of the process itself and its results, informing on the rationale of each step and the connection with the previous and next ones Even though CAP makes useful

Protected area	Objectives	Reasons for using CAP	Influence	Adaptations	Innovations	Actors in planning	Actors in implementing	Impressions of CAP	Major outcomes	Lessons learned
			different Eastern Caribbean States		Socio-economic analysis Addition of a business plan Zoning conservation actions	operators, hotel and restaurant owners and youth groups).				information available for developing business plans and zoning proposals, a process that can lead to these products is not necessarily automatic, thus planners need to use additional methods and tools in order to effectively use the information generated through CAP.
Laguna de Términos/Pantanos de Centla, Mexico	Management Plan for 2 contiguous protected areas using a landscape approach	Proven credibility of the method in South East Mexico	Partnership between two different but adjacent protected areas administrations  Leverage in other areas of South East Mexico on developing a similar landscape approach	Including rigorous situation & actor analysis	Threat-focused stakeholder analysis  Use of maps for zoning strategies implementation and impacts	TNC, PPY, local, state and federal authorities and agencies, academic institutions, and NGOs.	CONANP	Thorough methodology	Management plans for 2 adjacent protected areas under a landscape approach	CAP represents a good platform that allows combining planning processes for adjacent protected areas under a landscape approach. A shared set of strategies is possible for addressing common threat in 2 or more contiguous protected areas, leveraging the strategies' impact.

## 1. East Africa: Management Planning for Serengeti National Park, Tanzania

Reach	Influence	Adaptation	Innovation
Used by East African specialist consultancy to develop general management plan (GMP) for Serengeti National Park and World Heritage site	Approach approved for developing GMPs in Tanzania's national parks (three GMPs developed to date) in general and interest in approach for use in Kenyan national parks	Simplified application of some elements of the CAP	Review of stakeholder involvement

### ✓ Overview

In the western Great Rift Valley of East Africa, the plains of Serengeti provide habitat for immense herds of herbivores and their predators. The 14,763 km<sup>2</sup> Serengeti National Park (SENAPA) aims to: *conserve and protect the Serengeti ecosystem, its habitats, biodiversity, migrations of large mammals and birds, and its endemic and threatened species.*

Despite being inscribed in the 1950s, SENAPA has not had consistent or well documented management planning. In 2003, SENAPA embarked upon a process of developing a new 10 year General Management Plan (GMP). Critical elements of the plan's development included the identification and inclusion of stakeholders in the process and the agreement of conservation targets, undertaking a threat assessment, and developing monitoring and evaluation for the plans targets and implementation.

### ✓ Why the CAP was used

The current GMP is the third management plan to be written for SENAPA and covers the 10-year period from 2006 to 2016. The 1991-1995 management plan was the first single document to guide SENAPA's management and to set management objectives for the whole Park as well as for individual SENAPA departments. This plan was followed by a Management Zone Plan (1996-2000), which covered management issues and objectives grouped by theme and management actions established for each zone.

A SWOT (Strengths, Weakness, Opportunities and Threats) analysis of these two previous planning instruments was carried out prior to developing the 2005 GMP. The main weaknesses in the first plan were summarised by the fact "*that the departmental objectives and activities were not clearly formulated, structured, nor linked to the overall Park objectives and secondly, that practical considerations, such as financial constraints, were not accounted for*<sup>8</sup>". The zone plan was seen as lacking "*higher-level objectives to provide an overall framework, with the result that some of the stated management objectives were unachievable or beyond the scope of SENAPA management, whilst others were present at inappropriate levels or missing completely*<sup>9</sup>".

From this analysis it was agreed that the process for developing the 2005 GMP required the establishment of "*long-term strategies and management objectives and targets for*

*addressing SENAPA's management problems and issues*<sup>10</sup>". These objectives once agreed would then provide the framework for determining management actions identified in three-year rolling action planning.

The 2006 GMP was developed with planning/technical assistance and facilitation from the Conservation Development Centre (CDC), Nairobi<sup>11</sup>. The concept of developing conservation targets was well known by CDC, from earlier work carried out by TNC (i.e. the 5S system). It was decided to investigate whether it would be possible to adapt the TNC CAP system for use in the development and overall structure of the new GMP.

#### ✓ **Details of process**

CDC used the TNC CAP methodology primarily to identify conservation targets, the primary focus of this case study, and to assist in the threat assessment. CDC staff downloaded and reviewed the CAP material from Conserve On-line and incorporated the key principles from these documents in a series of workshops to develop the conservation targets.

A participatory approach was adopted to develop the GMP. The process involved a series of specialist working groups and interdisciplinary planning team meetings and workshops. The specialist working groups were organised around SENAPA's four management programmes:

- Ecosystem Management Programme (Ecology and Protection Departments)
- Tourism Management Programme (Tourism Department)
- Community Outreach Programme (Outreach Department)
- Park Operations Programme (Protection, Administration and Stores/Works Departments)

The first phase in developing the overall GMP was an intensive period of information collection and stakeholder consultations leading to the production of a Resource Base Inventory report, providing a synthesis of key background information and the state of knowledge on SENAPA.

Three workshops of the Ecosystem Management Programme Working Group were held to identify the conservation targets and confirm the targets after consultation and consideration:

- ✓ The first two-day workshop defined the "Exceptional Resource Values" and developed the Park Purpose Statement leading to Management Objectives. The workshop then developed initial conservation targets, management guidelines and prescriptions and carried out a threat analysis.
- ✓ The second two-day workshop further discussed the targets and developed key ecological attributes and indicators.
- ✓ The final meeting of the Working Group finalised the targets, attributes and indicators.

Following the agreement of these elements the Ecosystem Management Programme is currently developing a thorough monitoring plan, including the agreement of thresholds for the attributes.

The eight agreed targets and key ecological attributes are outlined in the table below.

#### **Targets of the Serengeti Management Plan with associated subsidiary targets and key ecological attributes**

Conservation target	Subsidiary targets	Key ecological attributes
<b>Ecosystem Level</b>		
The migration	<ul style="list-style-type: none"> <li>✓ Migration species</li> <li>✓ Mara River system</li> <li>✓ Short-grass plains</li> <li>✓ Long-grass plains</li> <li>✓ Migratory birds</li> </ul>	<ul style="list-style-type: none"> <li>Intact migratory routes</li> <li>Access to critical areas (e.g. Lake Victoria, short-grass plains, Maswa, <i>Terminalia</i> woodland)</li> <li>Population size of key species</li> <li>Productivity (recruitment)</li> <li>Forage quality and spatial availability</li> </ul>
Mara River		<ul style="list-style-type: none"> <li>Water flow</li> <li>Water quality</li> <li>Forage extent / size</li> </ul>
<b>Community Level</b>		
Riverine forest	<ul style="list-style-type: none"> <li>✓ Colobus monkey</li> <li>✓ Several bird species</li> <li>✓ Amphibians</li> <li>✓ Hill-top thicket</li> </ul>	<ul style="list-style-type: none"> <li>Size / fragmentation</li> <li>Indicator species (e.g. colobus monkey, denderohyrax, B&amp;W casked hornbill)</li> <li>Recruitment rate of key forest species</li> </ul>
Acacia woodland	<ul style="list-style-type: none"> <li>✓ Community of birds and mammals</li> <li>✓ <i>Tabora</i>, <i>Cisticola</i>, rock hyrax, pancake tortoise</li> </ul>	<ul style="list-style-type: none"> <li>Density of key tree species</li> <li>Fauna (birds, reptiles, insects etc)</li> </ul>
<i>Terminalia</i> woodland	<ul style="list-style-type: none"> <li>✓ Community of birds and mammals</li> <li>✓ Oribi</li> <li>✓ Roan antelope</li> </ul>	<ul style="list-style-type: none"> <li><i>Terminalia</i> spp. tree density</li> <li>Fauna (birds, insects etc)</li> </ul>
Kopje habitat	<ul style="list-style-type: none"> <li>✓ Pancake tortoise</li> <li>✓ Rock hyrax</li> <li>✓ Klipspringer</li> <li>✓ Agama (reptiles)</li> <li>✓ Kopje plants</li> </ul>	<ul style="list-style-type: none"> <li>Xerophytic plants</li> <li>Key fire-sensitive species</li> <li>Key mammal species</li> </ul>
<b>Species Level</b>		
Black rhino		<ul style="list-style-type: none"> <li>Woodland</li> <li>Population size</li> <li>Productivity (recruitment)</li> <li>Genetic diversity</li> </ul>
Wild dogs		<ul style="list-style-type: none"> <li>Disease prevalence (threat)</li> <li>Population size</li> <li>Productivity (recruitment)</li> <li>Genetic diversity</li> </ul>

✓ **How the CAP used/adapted**

The GMP's Ecosystem Management Programme is based on a simplified ecological management and monitoring approach that was adapted from elements of the CAP. Although the principles of the approach were used, CDC did not use the excel workbook developed by TNC. The main strength of the TNC excel sheets are the permanent recording of the planning and decision process ... as well as, within TNC, the ability to aggregate and synthesis results over TNC's area of influence. As the SENAPA GMP<sup>12</sup> provides a detailed account of the planning process, this record of activity is achieved in the GMP itself.

During the initial workshop to draft conservation targets the basic principle of targets was introduced; participants were then asked to fill out on cards the eight targets they thought most important. Cards were then grouped and initial targets identified. Participants were then asked to vote on the final draft eight targets. Similar processes were used for identifying ecological attributes and the threat assessment. The development of thresholds and assessment of targets was carried out by appropriate park staff and circulated for comment.

### ✓ **Additional planning tools**

The CAP system has relatively little guidance on stakeholder analysis, which is usually necessary to develop effective conservation planning. In protected areas the involvement and participation of key stakeholders is particularly important, especially in the development of long-term planning instruments such as a General Management Plan.

In the development of the SENAPA GMP a simple stakeholder analysis was carried out at the start of the GMP process. A list of stakeholders was developed and these were then assigned to categories according to their anticipated degree of participation in the planning process. Four categories of participation were identified:

- **Involve:** key stakeholders forming the Serengeti Planning Team, who were invited to participate in and contribute to the main GMP planning workshops and, as appropriate, the management programme working groups.
- **Consult:** important stakeholders who were actively consulted during the planning process, and whose inputs were directly incorporated. Consultation was carried out through one-on-one interviews.
- **Raise Awareness:** stakeholders who were kept informed about progress in the planning process and given an opportunity to provide feedback, but who were not directly involved or consulted.
- **No Action:** stakeholders for whom there was no immediate benefit in targeting for involvement in the planning process<sup>13</sup>.

### ✓ **Impressions of CAP use**

A brief survey of CDC staff, the SENAPA ecologist and staff from the Frankfurt Zoological Society (who are based in SENAPA and who funded the development of the GMP) found general agreement that the approach used to develop park targets was clear, relatively simple and resulted in appropriate targets.

### ✓ **Conservation and non-conservation outcomes**

Despite being one of the best researched protected areas and ecosystems on earth the identification of the eight conservation targets for Serengeti highlighted some interesting gaps in knowledge – both in terms of research and on-going monitoring. In particular it was recognised that policies and activities beyond the boundaries of the park are having, and will increasingly have, a major impact on the park's ability to maintain biodiversity. The target of 'wild dogs' is interesting in this respect. African wild dogs (*Lycaon pictus*) are an endangered species with only around 5000 individuals left in the wild. In the Serengeti-Mara ecosystem, wild dogs have been in decline since the 1960s and after successive outbreaks of disease became locally extinct in the early 1990s. It is well recognised within the park that one of the major ways to ensure that a wild dog population becomes established once more in the park is to work closely with local communities. There are currently three known packs of dog in the ecosystem but outside the park and SENAPA is developing strategies to work with local communities to resolve issues of human-wildlife conflict which can result when dogs are present outside the park<sup>14</sup>.

### ✓ **CAP impacts and sustainability**

The SENAPA GMP is pioneering the revised strategic planning process of the state agency responsible: Tanzanian National Parks (TANAPA). The process for developing the GMP had to go through a lengthy process of approval by TANAPA and is now being used to develop at least one other GMP for Mahale Mountains National Park. Across the border, the Kenya Wildlife Service is also interested in the TNC approach through links both with TANAPA and CDC, the consultancy which led the process in SENAPA.

## 2. Natural World Heritage: UNESCO Enhancing our Heritage Project

Reach	Influence	Adaptation	Innovation
Used to develop systems for assessing management effectiveness in nine natural world heritage sites in three continents	UNESCO, IUCN and partners are currently planning to implement in many more natural World Heritage sites globally (initial 'roll-out' in Sub-Saharan Africa; plus major funding proposal with EU and funding confirmed for 'roll-out in West Africa by IUCN regional office). In individual countries plans to roll out methodology to all PAs in Uganda and Ecuador	Measures for assessing and reporting biodiversity health/ecological integrity adapted	Incorporating CAP in assessment of management effectiveness of protected areas

### ✓ Overview of project

The UNESCO *Enhancing our Heritage* (EoH) project grew out of the work of the World Commission on Protected Areas (WCPA) to develop a framework for the assessment of protected area management effectiveness, published in the year 2000 as the book *Evaluating Effectiveness*. The project is collaborating with nine natural World Heritage sites in Africa, South Asia and Central and Latin America to develop monitoring and evaluation systems, based on the framework.

### ✓ Why CAP was used

The EoH project is producing a set of tools that can together, or in part, be used to develop or refine systems for assessing the management effectiveness of protected areas. Several separate elements of the CAP were used in an edited and simplified format in the toolkit; in particular those relating to the identification and measuring of targets and assessment of threats.

The project also incorporated elements of the 5S tool for identifying biodiversity health in the first edition of its project workbook and asked sites to follow this methodology as part of the initial assessment of management effectiveness carried out in the first year of the project. Although most of the project sites tried to complete the assessment it was generally judged that this method did not produce particularly satisfactory results. The main reason seemed to be that, despite training (but with only limited involvement from TNC) in the use of the methodology, the system remained poorly understood. The system being developed by the EoH project needs to be effective with only minimal training if it is going to be applied in natural World Heritage sites around the globe, and to other protected areas and perhaps even cultural sites, thus the tools need to be robust enough

to produce results with only minimal training and back-up. Some sites felt that the system developed by EoH using the 5S system as a basis was too complex for their needs. The project thus decided to review the TNC system, and other similar systems, to draw out lessons learned from various attempts to assess biodiversity outcomes/ecological integrity and develop a generic tool for assessing conservation outcomes which can be more easily applied in the field. The resulting process and adaptation is discussed below.

✓ **Details of project process**

Experts in outcome monitoring came together in a workshop in Washington DC (organised with the assistance of TNC) to compare three existing systems: Parks Canada Ecological Integrity, TNC 5S (including an initial adaptation made by EoH) and the monitoring system developed in Kruger National Park in South Africa. Each system was reviewed and the key elements identified as the basis for agreeing a 'generic model' for monitoring drawing on the strengths of all three and on other experience within the group<sup>15</sup>.

As it is planned that the EoH Toolkit will eventually be used in World Heritage sites and other protected areas around the world, it was agreed that the 'generic tool' should be able to address three different levels of assessment:

- ✓ Sites with very little existing data available and few resources
- ✓ Sites with some data and resources but nothing like enough to undertake a fully comprehensive ecological integrity monitoring
- ✓ Sites with good data and capacity for monitoring

In practice, of course, sites may be at different levels for different stages of the assessment or for different indicators. The principle therefore was to develop a monitoring system that is strong enough to operate in situations of only very limited information and capacity but which is designed in such a way that it can be enhanced and added to as data and resources become available. Such a system should allow sites to start monitoring immediately, without being scared off by a perceived lack of resources or knowledge, but also to improve the strength of the system over time.

✓ **How the CAP used/adapted**

The current TNC CAP worksheet includes several columns that represent information about the particular key ecological attribute, including:

- *Conservation Target* – the focal target (number and name) that the key ecological attribute describes.
- *Category* – the broad category of Size, Condition or Landscape Context to which the key ecological attribute can be assigned.
- *Key Ecological Attribute* – the name of the key attribute.
- *Indicator* – measurable entity used to assess the key attribute.
- *Indicator ratings* – Very Good, Good, Fair, and Poor rating descriptions.
- *Current Indicator Status* – the current status of the key ecological attribute in the context of the described indicator ratings.
- *Current Rating* – the current indicator rating for the key ecological attribute.
- *Desired Rating* – the desired indicator rating for the key ecological attribute.
- *Date of Current Rating* – the date associated with the Current Rating assessment.
- *Date of Desired Rating* – date by which desired rating is expected to be met.

The EoH workbook has adapted the TNC system of target viability to develop a comprehensive tool to assess the outcomes of protected area management, which

incorporates the process for identifying targets, developing monitoring plans and assessing outcomes using the results of monitoring.

The main difference between the TNC system and the EoH system is the method of assessing and reporting status of indicators and how this information is 'rolled up' to evaluate the overall health of the targets. A comparative table (Table 11) of the different assessment systems and the elements of the generic tool identified by the workshop participants is given overleaf.

Both systems of assessment involve two basic tasks:

- 1) Collect and analyse monitoring data; and
- 2) Use results of this analysis to determine the status for each indicator.

Ranking of each indicator and the value to assign (Parrish et al. 2003)

Rating	Description
<b>Very Good</b>	The indicator is in an ecologically desirable status, requiring little human intervention for the maintenance of the natural ranges of variation.
<b>Good</b>	The indicator is within a range of acceptable variation, although some human intervention for its maintenance may be required.
<b>Fair</b>	The indicator is outside the range of acceptable variation and requires human intervention for its maintenance. If follow-up does not occur, the conservation target will be vulnerable to severe degradation.
<b>Poor</b>	If the indicator is allowed to stay in this category in the long term the restoration or prevention of disappearance of the target will be made practically impossible for conservation (e.g., complicated, expensive in economic, social or cultural terms and with little certainty to revert the alteration process).

As shown above in Table 12, the TNC system ranks each indicator as 'Very good', 'Good', 'Fair' or 'Poor' in relation to pre-determined values. The EoH system also assesses monitoring data against the indicator's minimum integrity threshold (also known as "range of acceptable variation") but the proposed rating system uses a diagrammatic format for showing the status and trends of indicators, which can help provide a simply understood summary of the health of an indicator.

The two part system, based on a similar system used by Parks Canada, uses tinted boxes to summarise the status of the indicator, and arrows to summarise the trend (i.e. whether the condition is getting better or worse) which thus relates to the urgency of the management interventions.

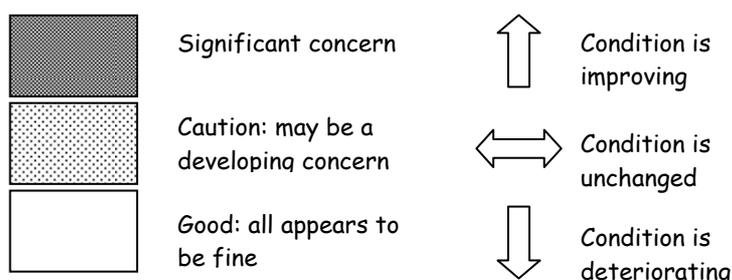
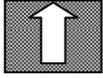
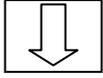


Table 11: Comparison of different approaches to ecological monitoring

TNC 5S Model	Parks Canada Model	Kruger National Park Model	Generic Model for EoH
Develop overall goals for protected areas	Develop park vision	Develop a vision and objectives hierarchy for the park	Develop vision and goals
Define project scope and targets	Set the context (agree glossary, identify stakeholders, scale etc)		Agree objectives, stakeholders, terminology
Identify focal targets	Develop ecosystem model	Choose which of the objectives will be monitored	<b>Step 1:</b> Setting the management objectives (see tool 1) has already identified a group of attributes and agents of change that need to be monitored
Develop ecological models		Develop a conceptual ecological model	
Identify key ecological attributes	Choose measures (both core indicators and specific threats)	Choose indicators	<b>Step 2:</b> Make an initial choice of measures / indicators to reflect the management objectives
Identify indicators for key ecological attributes			
Identify acceptable range of variation	Develop assessment rules	Set thresholds of potential concern (TPC) for each of the chosen objectives	<b>Step 3:</b> Refine this draft list of indicators and determine their thresholds and power to detect change
Identify indicator rating values	Undertake scientific validation that M&E really detects change		
		Identify responses to thresholds	<b>Optional step 3a:</b> Identify responses to a potential breach of the thresholds
			<b>Step 4:</b> Finalise indicators
	Inventory existing data and compare against selected measures		<b>Step 5:</b> Compare data needed with existing monitoring processes / data and identify gaps
	Develop a detailed protocol for each measure	Establish monitoring protocols to show current status in relation to the TPCs	<b>Step 6:</b> Develop a detailed monitoring protocol
Use Excel workbook and central information system	Develop data management system	Develop data management system	<b>Step 7:</b> Develop a data management system
Measure targets and roll-up current attribute status; target status and project / PA status	Develop index (aggregating several indicators into a single measure)		<b>Step 8:</b> Assess management outcomes (initially to establish a baseline and then to monitor against this baseline)



Thus the symbol on the right would summarise an indicator the status of which is of significant concern but which is showing an improving trend, thus indicating that management interventions were succeeding and should continue at the current level.



Whilst this symbol would depict an indicator which despite its status still being within the minimum integrity threshold, and thus good, was overall showing a deteriorating trend and thus should be subject to urgent management actions.

✓ **Lessons learned**

The EoH methodology for measuring the outcomes of protected area management was first tested in World Heritage sites in Africa and is currently being used in natural World Heritage sites in South Asia and South America. So far the methodology has been well received, but further use will provide further feedback on the methodology.

### 3: East and Southern Africa: African Wildlife Federation Heartlands

Reach	Influence	Adaptation	Innovation
Using CAP to plan landscape level conservation interventions across East and Southern Africa, including in government run and private protected areas	Working in partnership with many organisations and stakeholders using the CAP to make decisions about conservation actions	Adaptations mainly confined to use of terminology	<ul style="list-style-type: none"> <li>✓ Importance of stakeholders in the planning process</li> <li>✓ Socio-economic analysis</li> <li>✓ Zoning conservation actions</li> </ul>

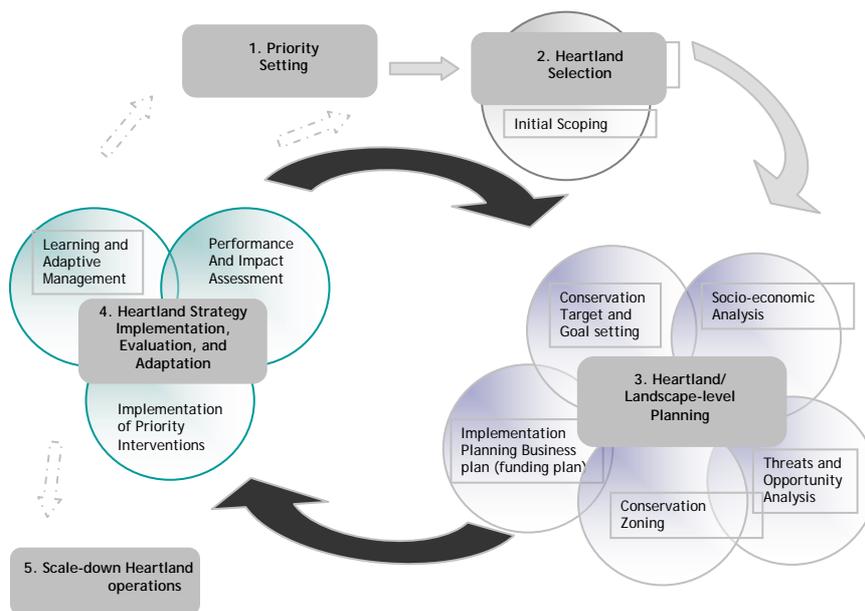
#### ✓ Overview of project

The African Wildlife Foundation's (AWF) African Heartlands programme is a collaborative, landscape-level management approach to conservation. The Heartlands programme includes support for protected area management, resource monitoring, participatory land use planning, wildlife tourism development, securing local livelihoods and community-owned businesses, capacity building with local institutions and enabling local leadership of wildlife and natural resource management.

AWF adapted the 5-S Framework (i.e. an earlier iteration of the CAP) for planning its work in landscape conservation. AWF has used the approach for planning throughout Southern Africa, including in Samburu, Kenya; the Lower Zambezi, the southeast Low Veld in Zimbabwe and the Maasai Steppe in Tanzania.

#### ✓ Why the CAP was used

The Heartland Conservation Process (HCP) is the framework developed by AWF to plan, implement and measure the conservation impact of its programmes.



**AWF Heartland Conservation Process**

AWF worked with TNC staff specifically to develop the HCP Step 3 – Heartland/Landscape-level planning (see figure above).

✓ **How the CAP is used/adapted**

As part of its Heartland/Landscape-level planning AWF uses the main elements of the TNC system as detailed below, with only small adaptations.

- *Conservation targets:* i.e. TNC's Focal Target
- *Threats and Sources of Threat:* TNC's 'stress' is synonymous with AWF's 'threat' and TNC's 'source of stress' is the same AWF's 'source of threat', however AWF has found when working both with partners and internally, that the stress/source terminology was problematic, thus adapted the terminology for their own use.
- *Conservation Goals:* AWF's conservation goals are intended to move conservation action toward the desired future condition of a target, i.e. a goal specifies the characteristics for a viable occurrence of the conservation target and thus incorporates TNC's methodology for assessing target viability through the agreement of the range of acceptable variation.
- *Opportunities:* AWF's main goal when planning conservation in a particular landscape is to highlight potential livelihood-improvement options through conservation of natural resources, such as identifying conditions that lead to improving production potentials through better land management. The process for identifying these opportunities is akin to the situation analysis in the CAP.<sup>16</sup>

✓ **Additional planning tools**

Three additional planning tools are included in the planning process: socio-economic analysis, conservation zoning and implementation/business/funding planning.

*Socio-economic analysis:* Research and participatory meetings help build up a socio-economic profile of the site. Though not necessarily directly linked to the identification of targets and goals, AWF feel that a clear understanding of the social and economic status of local human populations and the dynamics of human use of site resources are essential stages of the HCP. The social and economic impact of AWF interventions on communities is assessed by measuring the improvements in the productivity of communities' assets and the consequent impact on their livelihood security and sustainability. AWF looks at the following information to build the socio-economic profile of the site:

- Assess communities' existing wildlife and other natural resource assets (e.g. land ownership, use rights, quality of wildlife resources, access to enterprise opportunities etc.) and asset building opportunities.
- Assess existing community capacity to undertake community based wildlife management and enterprise development, and any constraints to supporting and building that capacity
- Assess and prioritise natural resource enterprise development to date, and future opportunities.

*Conservation zoning:* Zoning conservation priorities and strategies for maximum impact is important when large landscapes are the focus of project activity. The conservation zoning element of the HCP process takes the situation analysis a step further, by identifying key areas where several opportunities exist together both in terms of achieving goals and managing threat. These areas are zoned for priority interventions and maximum project impact.

**Box: Similar landscape approaches in Latin America.** The challenge of working in large landscape was also discussed in the use of the CAP in the Condor Biosphere Reserve in Ecuador (which covers six protected areas and buffer zones); as was the need to identify and prioritise strategies.

*The strategic planning approach still left us with one main question without answer. How can we have an impact on such a large area, with limited resources? We recognized that we needed to have actions broadly as well as locally. But we did not have the capacity to work locally throughout an area of more than 21,000 km<sup>2</sup>. Our analysis showed us that, as part of the planning process, we needed to identify those key areas where conservation impact must occur in order to maintain the functionality of the whole area. In this way we could prioritize where to focus our local action.*

*The key areas were identified based upon the conservation targets chosen for the area. The criteria used to identify key areas was based upon: core areas for conservation targets, capture environmental gradients by including different vegetation types, presence of large tracts of natural habitat, existing protected areas, and areas important for connectivity using landscape-species (e.g. Andean Bear) as indicators. In addition to these criteria, threats and institutional presence were chosen to select among two areas of similar importance.<sup>17</sup>*

*Implementation planning:* The fifth element of the HCP's Heartland planning looks at implementation in particular through business planning and developing a funding plan. AWF's Heartlands comprise a mixture of land uses and governance types – many are large farms or ranches where tourism-related income activities are very important. However, even in protected area management it is becoming clear that some form of business planning is required to help ensure a site's sustainability.

#### ✓ **Process**

AWF stresses that in early planning phases, it is critical to build support for its involvement, particularly at sites where AWF has no history. The first step in the planning process is thus to build a mandate and acceptance of AWF by local stakeholders. This phase allows a multi-disciplinary AWF team to get to know partners and stakeholders, and to prepare communities for the next step – the participatory Heartland planning meetings. The Heartland coordinator and team develop a stakeholder engagement plan to guide introductions and foster the cultivation of reciprocal relationships with stakeholder groups, partners and key individuals.

Heartland planning is an iterative process of participatory meetings with stakeholders to develop a shared implementation vision for the landscape. From these meetings the information is gathered which helps develop the:

- Site conservation target and goal setting
- Socio-economic analysis
- Threat and opportunity analysis
- Implementation planning

#### **Important lessons learned**

The CAP (in its 5-S incarnation) has clearly provided a useful input into the planning processes developed by AWF. The process is ongoing and the HCP continues to be refined based on the needs of AWF staff working in Heartlands, along with inputs from the wider conservation community.

The role of stakeholders in the process is particularly stressed, and the results from encouraging wider participation in the planning process may result in slightly different conservation targets (this is further discussed in the next case study), and potentially also different conservation strategies and activities. Such observations are important when it comes to developing more participatory CAP approaches for guiding protected area management. To date the scientific rigor of the CAP has been seen as one of the system's major strengths. The challenge of promoting a more participatory approach, which is undeniably necessary in protected area management, is to ensure that the CAP is robust enough to balance a wide range of opinions and inputs and still result in effective conservation planning.

#### 4: Indonesia: Conservation Training and Resource Center's Participatory Conservation Planning

Reach	Influence	Adaptation	Innovation
Developed for one protected area in Indonesia, subsequently used in several sites	Included in Conservation Training and Research Center's courses for Indonesian NGOs and the forestry department. The approach has also been used by the Texas Chapter of The Nature Conservancy	Adaptations to relate system more to local people	Using the CAP as a basis for encouraging local people to take part in protected area/conservation planning

##### ✓ **Overview of project**

In many parts of the world the natural systems and associated biodiversity conserved in protected areas provides the source of economic activities for the surrounding populations. A reduction in the quality of these systems can result in negative impacts for local economies, and can raise the potential for conflict over natural resource use. Protection itself can also result in negative impacts if access to previously available resources (cultural or economic) is restricted.

The need to engage partners and communities in protected area planning, and to introduce them to the concepts of conservation planning has been recognised by many working in the field of conservation. It has however been noted that CAP has not placed enough emphasis on the engagement of a diverse group of local people and stakeholders in a site.

In Indonesia TNC has worked with partners to create a CAP process for developing management plans which are easily understood and approved by stakeholders. To distinguish this approach from the conventional CAP, the process is referred to as Participatory Conservation Planning (PCP). It should be noted that PCP is not an alternative to an ecological analysis, but rather should be seen as one component of a more detailed management planning process.

##### ✓ **Why the CAP was used**

TNC has been working in Lore Lindu National Park and Man and Biosphere Reserve in Central Sulawesi since 1992, in particular helping to develop 5 and 25-year management plans. The park is highly diverse; there are for example 227 recorded bird species 77 of which are endemic, and it contains montane, cloud and monsoon forests. More than 40,000 people live in 60 villages surrounding the park<sup>18</sup>. Given this large human presence it is clear that conservation planning needs to include more than looking at the ecological needs of the park, but to also should address the needs of local communities and their potential contribution to effective conservation management.

✓ **Details of process**

The CAP adaptation was developed by the site conservation planning team already implementing the CAP/5S system in Lore Lindu. The methodology developed was field tested in Lore Lindu, as well as in Komodo Marine National Park and in Berau District, East Kalimantan. A peer review team including Indonesian conservation and development specialists and TNC staff commented on the methodology. The system has since been used in other areas in Indonesia, i.e. Bintuni Bay Nature Reserve, Papua Province<sup>19</sup>. A more streamlined version of the PCP has been used by the Texas Chapter of The Nature Conservancy. The methodology has been fully documented in a training manual produced by the Conservation Training and Resource Center in Indonesia<sup>20</sup>; adaptations made by the Texas Chapter of TNC for using the methodology in the Blanco River conservation area are also available<sup>21</sup>.

✓ **How was the CAP used/adapted**

The premise behind this adaptation, and for the future use of adapted tool PCP, is that:

- ✓ *“Community support and acceptance is the most important factor in designing successful management strategies: the early identification of acceptable strategies, and the elimination of unacceptable ones, is a valuable management objective;*
- ✓ *The use of qualitative data in the PCP analysis is a strength, allowing discussions to be inclusive, involving a range of people with varying levels of technical skills, rather than the exclusive preserve of ‘experts’. It also allows for issues to be resolved on the basis of existing information, and can easily be reviewed when more detailed information becomes available; and*
- ✓ *In general, major threats identified by expert ecologists will act on a wide range of systems across a protected area, so the same threats will also be acting on the systems identified by communities, and vice-versa. Comparison with the conventional SCP analysis indicates that this assumption is valid, and that the PCP methodology generates similar results.”<sup>22</sup>*

The CAP has thus been adapted to allow for more effective local community involvement in protected area planning and decision making processes. The overall structure of the CAP methodology is maintained in the PCP, but some concepts have been adapted to ensure comprehension by local stakeholders and to allow full engagement of the community in establishing priorities and in identifying potential conservation strategies. For example, as well as the using the three normal CAP target groups of landscapes, communities and species a fourth group of “resources” was considered by the local community. The text below summarises the main elements of the PCP manual, corresponding elements of the 5S system are provided in brackets after each step<sup>23</sup>.

Step 1: Identifying targets (systems)

Participants are asked to write on one or more cards what they think are the most important aspects of the reserve. The cards are collected and grouped into 4-6 prioritised *systems*, i.e. targets, representing species, communities, landscapes and resources, with a generic locally understandable name being allocated to each group.

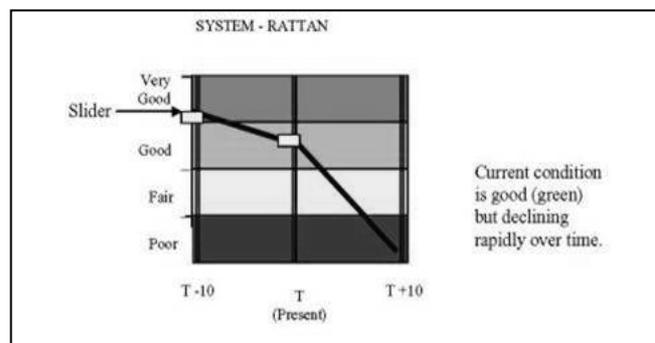
The authors of the PCP note that: *“Systems that are chosen do not always correspond with biological or ecological systems, and are very unlikely to correspond with conservation objectives – examples might be ‘traditional lands’, or ‘water sources’ – but this does not matter! Often the threats acting on these systems are the same as those acting on, say, charismatic species, and we should remember that the aim of the process is to establish what the community values most about the protected area.*

*This is the basis for their participation in a management strategy. In communities with low literacy skills, systems have been represented by pictures or cartoons. Sometimes systems may be referred to as 'elements', which may produce clearer understanding"<sup>24</sup>.*

### Step 2: Assess condition (systems)

For each system the methodology goes on to develop the current condition and discuss perceptions of trends in their condition. This is similar to the assessment of target viability, but much simplified. Attributes and thresholds are not set and the assessment is made by comparing stakeholders' perceptions on the condition of the systems agreed in step 1 over an agreed timeline.

Thus a timelines for each system is first agreed. Then participants are asked to grade each system's condition using a (prepared) chart. The chart has four coloured zones on it: poor = red; fair = yellow; good = light green; very good = green. A slider is located at three



positions representing, for instance, 10 years ago (T-10), the present (T) and 10 years into the future (T+10) (see figure #<sup>25</sup>).

The participants are then asked to rank the condition of the system by moving the slider up or down the colour gradients; starting first with the current condition, then the condition 10 years ago. Given the

results of these two rankings the participants are then encouraged to discuss their views on the likely condition of the system in the future. A line is then drawn between the points for each system to provide a trend in condition.

*"Carefully promoted questions considering the context of the protected area can help prompt the ranking exercise, in the context of Indonesia suggestions include:*

- ✓ *Is a resource harder to obtain – more distance to walk, more hours' effort?*
- ✓ *Is the system only degraded locally but still abundant in the wider area?*
- ✓ *Are particular varieties of plant in short supply?*
- ✓ *Is the animal seen/eaten more often or less often?<sup>26</sup>*

### Step 3: Determine critical threats (stresses and sources)

To determine threats the PCP methodology suggests dividing participants into four working groups, with each addressing two distinct systems. On a flipchart or board, a circular "Systems" card is placed and participants debate *stresses* acting to degrade this system, which are written on yellow cards and placed in a circle around the System card. After stresses are completed, *Sources* of stress are developed, written on red cards and placed in a circle next to the stress that they cause.

The authors of the methodology note that: *"We have found that it is initially difficult for groups to distinguish between Stresses and Sources. It may help to run through one or two examples with the group beforehand. The facilitator plays a key role in the discussion. It is useful to have working definitions beforehand, we used: Stress = damage or degradation of a system that reduces its capacity to exist and to grow; Source = an activity that causes a stress, or factors which drive that activity."<sup>27</sup>*

Participants are then asked to estimate on the chart the extent of damage a stress is currently causing to a system, with different sized arrows, used to indicate relative size of impacts (with larger arrows representing larger stresses). The contribution of the source is then also ranked using the same technique. Working groups then present their findings to the whole group for discussion and consensus.

#### Step 4: Stakeholders (stresses and sources)

The fourth step identifies the groups or individuals contributing to stresses or sources, or who are likely to be impacted (positively or negatively) by conservation actions. This step aims to create a situation diagram showing stakeholder relationships to critical threats. It is suggested that this assessment is also completed through the creation of a diagram with only the top six critical threats being assessed and the various relationships added around the threat with, again, arrows used to indicate level of impact.

#### Step 5: Strategies (strategies)

This step formulates strategies that can help to mitigate the critical threats acting on the priority systems. Conservation strategies are discussed in light of the assessments made in previous steps and can then be ranked according to likely effectiveness in achieving the desired outcome.

The PCP manual recognises that this can be a difficult task for community members and notes that "*The development of strategies does not have to take place immediately at a community consultation – sometimes this can produce very general strategies, ones that are difficult to implement, or ones for which there are no resources available. Strategies could be developed by the relevant institution, and then taken back to the community to review before implementation*"<sup>28</sup>.

When the methodology was used in the Texas Chapter of TNC this ranking exercise was not implemented. In general in a community context ranking exercises were seen as "*overly formulated and complicated*"<sup>29</sup>.

#### Step 6: Measures of Success (success)

The final step in the PCP methodology enables participants to assign indicators of success for each strategy developed in step 5, and to help develop programmes for monitoring these indicators. Asking stakeholders to help develop measures can highlight areas where existing or new community monitoring activities can be incorporated into protected area monitoring plans, and highlight issues where communities feel more attention is needed for monitoring in general.

#### ✓ **Discussion on impressions of use of the CAP**

The clear strength of PCP methodology is that it asks managers to consider conservation planning from a human perspective, by asking communities what they most value about a protected area. These kinds of interactions can however bring difficult issues to the forefront and managers or conservation organisations running PCP exercises need to ensure that they have strategies in place to consider how to manage any conflicts which may arise from the discussions. Whatever the difficulties, however, involving stakeholders in the management of conservation or protected areas from planning through to implementation of conservation activities is clearly an important step towards achieving management objectives with wide local support. A two or three day workshop looking at the elements described in the PCP methodology may prove to be a very good investment for successful management.

The box below summarises lessons learnt from the Texas application of the methodology. This highlights the importance of asking people for their input into planning management interventions, which can increase trust in conservation activities and build understanding of overall missions and objectives.

Important lessons learned from the use of PCP in Texas:

- *Quickly build support and trust among stakeholders. The methodology provided a forum in which we could listen openly to stakeholders and immediately incorporate their issues into strategic planning.*
- *Expose community members to our conservation methods. Folks who came to the meeting had very different ideas about what the Conservancy was about, how we worked and what we did. By the end of the process there was a better understanding of our mission, scope, and methods.*
- *Provide a reality check. We invited a range of individuals to this meeting, including some we knew were opposed to the Conservancy's presence here. The PCP methodology helped us surface and understand many issues that community members were concerned about that were not necessarily aligned with our mission and objectives but that were nonetheless critical to our success in community-based conservation. A planning session that provided only the natural resource perspective in a setting with only people who agreed with the Conservancy might well have failed to surface these issues.*
- *Produce a higher quality conservation plan. There is great value in having a large and diverse group working on these plans, and PCP makes engaging such groups easier<sup>30</sup>.*

Overall, the success of using this system will depend on thorough preparation and ensuring that the stakeholders who are asked to participate in workshops are as representative of the local populations as possible (i.e. balanced participations from all local communities, ethnic groups, gender, age groups and income source).

### **Conservation and non-conservation outcomes**

In 2003 Participatory Conservation Planning was offered as one of the courses provided by the Conservation Training and Research Center, involving a number of Indonesian NGO and forestry department agencies in first training then carrying out PCP at locations across Indonesia.

## 5: Guatemala: Multiple Use Reserve of Lake Atitlán Watershed

Reach	Influence	Adaptation	Innovation
Using CAP to develop a management plan for complex multiple use reserve that represents a landscape of high natural and cultural value	Working in partnership with a wide range of organisations and stakeholders related to the fields of biodiversity, cultural conservation, sustainable development and economic activities. Using CAP for decision-making on conservation actions for natural and cultural elements, and sustainable development	<ul style="list-style-type: none"> <li>✓ Opportunity analysis workshop</li> <li>✓ Terminology for intangible cultural targets</li> </ul>	<ul style="list-style-type: none"> <li>✓ Importance of stakeholder participation in the planning process</li> <li>✓ Incorporation of tangible and intangible cultural conservation targets</li> <li>✓ Incorporation of productive economic activities</li> </ul>

### ✓ Overview of project

The Lake Atitlán watershed represents one of the first generation of protected areas in Guatemala. Erroneously declared a National Park in 1955, the watershed is, one of the most densely inhabited areas of Guatemala, with human presence and land use that dates back over 3,000 years ago. The protected area was re-categorized in 1997 as a Multiple Use Reserve (IUCN category VI) by an official decree.

The Atitlán's watershed is part of the Western Volcanic Chain of Guatemala, considered a priority area for biodiversity conservation, and a priority site for TNC. The 1,225 km<sup>2</sup> of the multiple use reserve comprise the watershed and surrounding areas (including three monumental Volcanoes), as well as the lake itself, which compose all together one of the most beautiful and spectacular natural landscapes in the world. In addition to its impressive scenic beauty and natural richness (which includes high local endemism), the area also possesses great cultural value, particularly because of the presence of three indigenous Mayan groups (the Tz'utujil, the K'iche' and the Kaqchikel), who have inhabited the area for millennia. Together these values make Atitlán the second most important tourist destination in the country.

Since 2001, TNC has played an important role in the conservation area, working with a diversity of stakeholders including local municipalities, private landowners and local NGO's.

### ✓ Why the CAP was used

The watershed of Lake Atitlan is a priority site for TNC and part of its Parks in Peril (PiP) project. In 2001 TNC carried out the first CAP process for determining its main strategies. When the Guatemalan Protected Areas Council (CONAP), the management authority for the area, required an updated management plan, TNC developed a second iteration of the

CAP, with the inclusion of cultural conservation targets (tangible and intangible) and productive economic activities, as well as stronger stakeholder participation.

✓ **How the CAP was used/adapted**

*Intangible cultural targets*

The Atitlán watershed is a landscape that encompasses three Mayan groups and their living cultural practices, expressions and representations. These are considered “intangible” cultural features and most of them, if not all, are somehow related to nature. Even though the adaptation of CAP for tangible cultural targets was applicable to elements such as archaeological sites and remains, as well as colonial buildings dating from the XVII century, such an adaptation was not fully applicable for intangible cultural targets. As with cultural tangible elements, the addition of intangible cultural target required the development of a terminology, which is summarised in the following tables:

<b>Biological targets</b>	<b>Cultural tangible targets</b>	<b>Cultural intangible targets</b>
Viability analysis	Integrity analysis	Significance analysis
Stress	Deterioration	Deterioration
Source of stress	Cause of deterioration	Cause of deterioration
Strategies	Strategies	Strategies
Measure of success	Measure of success	Measure of success

The viability analysis for natural targets and integrity analysis for cultural tangible targets were adapted into a significance analysis for intangible cultural targets, as showed below:

<b>Natural targets: Viability analysis<sup>31</sup></b>	<b>Cultural tangible targets: Integrity analysis<sup>32</sup></b>	<b>Cultural targets: Significance analysis<sup>33</sup></b>
<b>Size:</b> Measure of the area or abundance of the conservation target's occurrence	<b>Conceptual meaning:</b> Extent to which an element reflects the socio-cultural values of the historical period from which it originates, its authenticity, age, information, messages and meanings its transmits	<b>Correspondence:</b> The degree to which the target is functional for communities and groups and the degree to which it is compatible with the ideology that gave it origin
<b>Condition:</b> Measure of the composition, structure and biotic interactions that characterize the occurrence	<b>Physical condition:</b> Comparison between the element's original and current state, based on: ✓ How intact it remains, compared to its original state ✓ How fragmented it is (extension, volume, number of elements) ✓ How altered it is on a spatial level by justified and not-justified changes and attachments ✓ How degraded material and shapes are	<b>Transmissibility:</b> The existence of effective mechanisms for the transmission of knowledge and practices related to the target

<b>Natural targets: Viability analysis<sup>31</sup></b>	<b>Cultural tangible targets: Integrity analysis<sup>32</sup></b>	<b>Cultural targets: Significance analysis<sup>33</sup></b>
<b>Landscape context:</b> Ecological processes that maintain the target occurrence and connectivity.	<b>Social and natural context:</b> Social and natural surrounding, which includes natural and/or social factors that contribute or impinge upon the conservation of the cultural targets	<b>Context:</b> The contextual factors that contribute to or impede the conservation of the target

*Productive economic activities*

More than just a management plan, the participants in the process wanted to have a sustainable development blueprint for the region. The productive economic activities were thus included into the plan and followed a similar analysis to the one carried out for the conservation targets. No specific terminology was adapted for this purpose, however in lieu of "threat analysis," planners analysed the "comparative disadvantages" of the productive economic activities. Only sustainable activities related to nature and culture conservation were in this analysis and therefore in the plan (i.e. coffee plantations, tourism, handicrafts, vegetable gardens, fruit culture, forest management etc).

*Opportunity Analysis*

In order to balance the positive and negative sides related to the conservation targets, the Atilán management plan process included a thorough opportunity analysis, counterbalancing the threat analysis.

For the purpose of the plan, an opportunity was defined as "*a positive situation or condition that allows achieving one or several conservation objectives, maintaining the viability/integrity of our conservation targets, contributing to threat abatement or strengthening the capacities to implement strategies.*" The opportunity analysis specifically linked to the conservation targets (so they had to be defined beforehand).

For identifying and analysing opportunities in this planning exercise, they were classified in three different categories, as follows:

<b>Category</b>	<b>Definition</b>	<b>Example</b>
Intrinsic opportunities	Opportunities that have allowed our conservation targets to still exist	Traditional use of firewood as the main factor for conserving forests
Threat-abatement opportunities	Opportunities that abate a threat or diminish their effect	New income activities that prevent deforestation
Enabling opportunities	Opportunities that allow implementation of conservation actions	Existing funds and technical capacities

The opportunity analysis allowed participants in the process to transcend the traditional threat-oriented analysis and have a more integral and objective approach for the strategy development phase of the process. In addition, the opportunity analysis also provided an instance for including the social component into the management process.

✓ **Additional planning tools**

The Atitlán's management plan includes a zoning proposal, which was developed through a cartographic analysis of actual land use, location of towns and settlements, forest cover with conservation areas (municipal parks and private preserves), hydrological recharge zones and disaster vulnerability. As a result, six different zones were determined and mapped, and a set of norms was created for each zone.

✓ **Process**

The planning process was enormous in terms of activities and participation, principally because of the need to include the diversity of stakeholders that play a role or have a role to play in the use and conservation of the areas natural and cultural resources, as well as in economically sustainable activities. Up to 17 workshops and 19 work meetings were carried out, which included in total 233 participants in the course of the process.

Three main subjects (natural resources and biodiversity; cultural tangible and intangible heritage, and sustainable economic activities) drove the process. They were developed in a parallel way so that each one reinforced and informed the others in an integrated approach. The planning activities were divided in three phases:

Phase 1: Preparation

- ✓ Formation of planning team
- ✓ Work plan
- ✓ Information gathering

Phase 2: Planning

- ✓ Vision and target identification
- ✓ Viability, integrity and significance analyses
- ✓ Threat analysis and prioritization
- ✓ Opportunity analysis and prioritization
- ✓ Strategy development and prioritization
- ✓ Zoning and norms
- ✓ Monitoring plan
- ✓ Action plan and budget
- ✓ Institutional analysis and institutional blueprint

Phase 3: Public presentation and validation

- ✓ Public presentations to critical stakeholders
- ✓ Editing and peer review
- ✓ Official approval
- ✓ Publication and dissemination

✓ **Important lessons learned**

The Lake Atitlán Watershed Multiple Use Area is an example of the need of applying tested and proven planning methods that incorporate variables other than only biodiversity<sup>34</sup>. Many protected areas in the world encompass cultural features, and furthermore, many are cultural landscapes in which living cultures, considered "intangible" cultural resources, are intrinsically related to nature. Although it is still being tested, the CAP adaptation for intangible cultural resources is revealing the potential for conservation gains that a combined nature-culture approach can provide.

Similarly, including sustainable productive economic activities was fundamental for incorporating important aspects of sustainable development, a critical approach for a protected area that is densely populated and where the majority of its inhabitants live in poverty.

In the same way, the inclusion of the opportunity analysis permitted to have a different perspective of the context that surrounds the conservation targets. By carrying out this analysis participants in the process (some of them would have the potential of been considered as "threats") has a more integral and objective approach for the strategy development phase of the process. Transcending the traditional threat-oriented analysis of CAP also allowed to better including the social component into the management process. Last but not least, it is important to mention that at the end of the planning process the Lake Atitlán region was devastated by the Stan storm, the most destructive natural disaster in Guatemala since the 1976 earthquake. After a brief analysis, the plan incorporated strategies of mitigation, restoration and prevention, letting planners to combine social and environmental sustainability issues and conservation actions with the response to these tragic events, something would be difficult to make if the human component was not strong enough in the plan.

## 6: Panama: Chagres National Park

CAP use summary			
Reach	Influence	Adaptation	Innovation
Use of CAP for developing the management plan for a protected area of national and international importance, covering a significant part of the Panama Canal watershed	<ul style="list-style-type: none"> <li>✓ Use of CAP by request of ANAM, the National Environmental Authority of Panama</li> <li>✓ Solid science-based platform for debt-swap negotiations</li> <li>✓ Influencing planning methods for other protected areas in Panama</li> </ul>	Use of CAP as main methodology and logical framework among other methods and approaches	Zoning conservation actions

### ✓ Overview of project

The High Chagres basin project is a collaborative conservation venture between the Panama Authority for the Environment (ANAM), TNC and the US Agency for International Development (USAID), under the Parks in Peril (PiP) programme. Though principally focused on the National Park (125,491 ha), the project also includes its buffer zone, a portion of Portobelo National Park, as well as the South-west section of the Corregimiento de Narganá Wildlife Area (Kuna Yala), an area that represents 30 per cent of the Alajuela Lake basin and contributes with 45 per cent of its water flow.

The project objectives included, among others, the preparation of a Conservation Plan that would guide the conservation priorities and investments, as well as the establishment of a long-term finance mechanism, the creation of a model of co-management, and the design of a programme for measuring the progress of the conservation actions. As part of these project objectives, a debt-swap agreement facilitated by TNC was subscribed between the governments of Panama and the United States in 2003. Seven per cent of the annual investment of the fund is to be utilized in monitoring the management capacity, threat abatement and biodiversity health.

### ✓ Why the CAP was used

The CAP is TNC's primary project planning tool, however in this case there was also a specific request from ANAM to use a credible, scientific framework to plan, implement and measure the conservation impact of the proposed work.

### ✓ How the CAP was used/adapted

The CAP provided most of the information and analyses that were subsequently translated into the official technical guidelines and template provided and required by ANAM for official management plans. In general, planners in charge of the Chagres National Park management plan used CAP for organising and analyzing scientific information that aided

the identification of conservation targets and design of strategies. More specifically, three major outputs of CAP were very important for the park management plan:

- ✓ Threat analysis and threat prioritization
- ✓ The linkage between threats and strategies
- ✓ The measurable strategic objectives

These outputs were, in turn, the main input for developing the conservation programmes and create a measures mechanism for the park. Moreover, CAP was also used for developing the first Annual Operative Plan (AOP). In sum, participants in this process and authorities in Panama considered that "*CAP has more than one use and it's the base for any other further project proposal in the protected area.*"

#### ✓ **Additional planning tools**

As mentioned, CAP provided the majority of information that was later translated into official technical guidelines and template. However, other additional tools were needed in order to fulfil ANAM's specifications:

##### *Socio-economic analysis and community participation*

Two organisations (local NGOs: CEASPA and SONDEAR) participated in the process, facilitating the work with local communities and carrying out socio-economic research and participatory meetings. The rationale for including deeper socio-economic analyses in the planning process was rooted in three main issues:

- ✓ The need to better understanding the economic and living activities of the people inside the park and in the buffer zones, particularly in terms of their relation with conservation targets and threats
- ✓ The need to better include local people in the design and implementation of strategies and programmes
- ✓ ANAM's requirement for community participation in the planning process and validation of the final results

##### *Zoning*

The zoning blueprint for the park was developed following the methodological process for Protected Area Planning suggested by ANAM. It is important to mention that zoning was not only defined by conservation targets and critical habitats, but also by the protected area objectives, which includes conservation of natural and cultural resources (though none of strategies was developed specially for the conservation of the later), the actual land use and the current public use of the area. Zoning in Chagres was defined as a land management tool, and not only a protected area interior delimitation.

#### ✓ **Process**

The process that lead to the completion of the Chagres National Park Management Plan went through three major phases over the two years of its development:

- ✓ *The CAP process*, carried out in 2003 under the PIP programme, which established strategies for addressing the conservation of eight fine and coarse filter targets. It defined the measures mechanism as an immediate action in terms of assessing the effectiveness of the proposed strategies
- ✓ *The management plan process*, officially approved by ANAM in 2005. At the request of ANAM, CAP was the major information and analysis provider for the management plan because of its rigorous and logical framework, particularly in terms of linking strategies to conservation targets.

- ✓ *The Measures Mechanism process.* Completed in 2005, this process reviewed the conservation targets and strategies, reducing the targets from eight to five. The measures plan was supported by the collection of socio-economic information, and social indicators were included for monitoring

- ✓ **Important lessons learned**

In Chagres, the CAP was not utilised as synonym for management planning. Rather planners made the most of its strengths, but also identified its limitations when it is applied to protected areas management planning, and complementing the process with other methodologies. Nonetheless, CAP is the platform on which the current management plan lies, and the source of other outputs, including annual operative plans, funding proposals and the measures plan. Moreover, the use of CAP for debt-swap negotiations demonstrated that it represents a robust scientific platform that ensures credibility, particularly when the key actors in those negotiations (USAID, ANAM and TNC) were directly involved in the planning process.

The good use and adaptation of the methodology has created a leverage effect among biodiversity conservation authorities in Panama. The complete CAP planning circle and approach, starting with target identification, passing through strategy design and implementation and culminating with measures is being adopted in other protected areas and promoted by national authorities using Chagres as a best practice example.

## 7: Guatemala: Tikal National Park

CAP use summary			
Reach	Influence	Adaptation	Innovation
Application of CAP for a Natural and Cultural World Heritage Site of national relevance in Guatemala (considered national symbol)	The CAP process included stakeholders related to both biodiversity and cultural heritage conservation. The natural/cultural approach developed for this plan was endorsed by the Guatemalan Institute of Anthropology and History (IDAEH) and UNESCO, and subsequently promoted by them. Other TNC programmes, practitioners and partners have used this approach for sites with natural and cultural features. Effroymsen classes (TNC peer-review sessions) have been developed for applications at TNC sites.	<ul style="list-style-type: none"> <li>✓ Specific analyses for cultural targets integrity and threats, carried out in a parallel way to the viability and threat analyses for natural targets</li> <li>✓ Terminology for cultural targets.</li> <li>✓ Combination of shared strategies with gains in cultural heritage and biodiversity targets</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use of CAP for addressing biodiversity and cultural heritage conservation.</li> <li>✓ Development of conservation actions for cultural and natural targets.</li> <li>✓ Use of potential synergies between agencies focusing on cultural heritage and biodiversity conservation for mutual strategy development</li> </ul>

### ✓ Overview of project

Tikal is one of Guatemala's first protected areas; it was created by official decree in 1956. While Tikal is not specifically a project site for TNC, it lies within the Maya Biosphere Reserve (MBR) of which it is a core zone. The MBR has been an important focus for TNC for the last 10 years, although most work has been in the Sierra del Lacandón National Park. In 2000, TNC lead the MBR Master Plan planning process, one of the first applications of CAP in Guatemala. As the biosphere reserve includes the conservation of the rich cultural and monumental Mayan heritage within its objectives, planners included two cultural targets among its conservation targets: i.e. a) Ancient Maya cities and Archaeological Vestiges, and b) Living Culture.

Because of its natural and cultural relevance, its significance for Guatemalan people and its value as one of the principal tourist destination in the country, Tikal National Park is one of most important protected areas of the Guatemalan Protected Areas System (SIGAP).

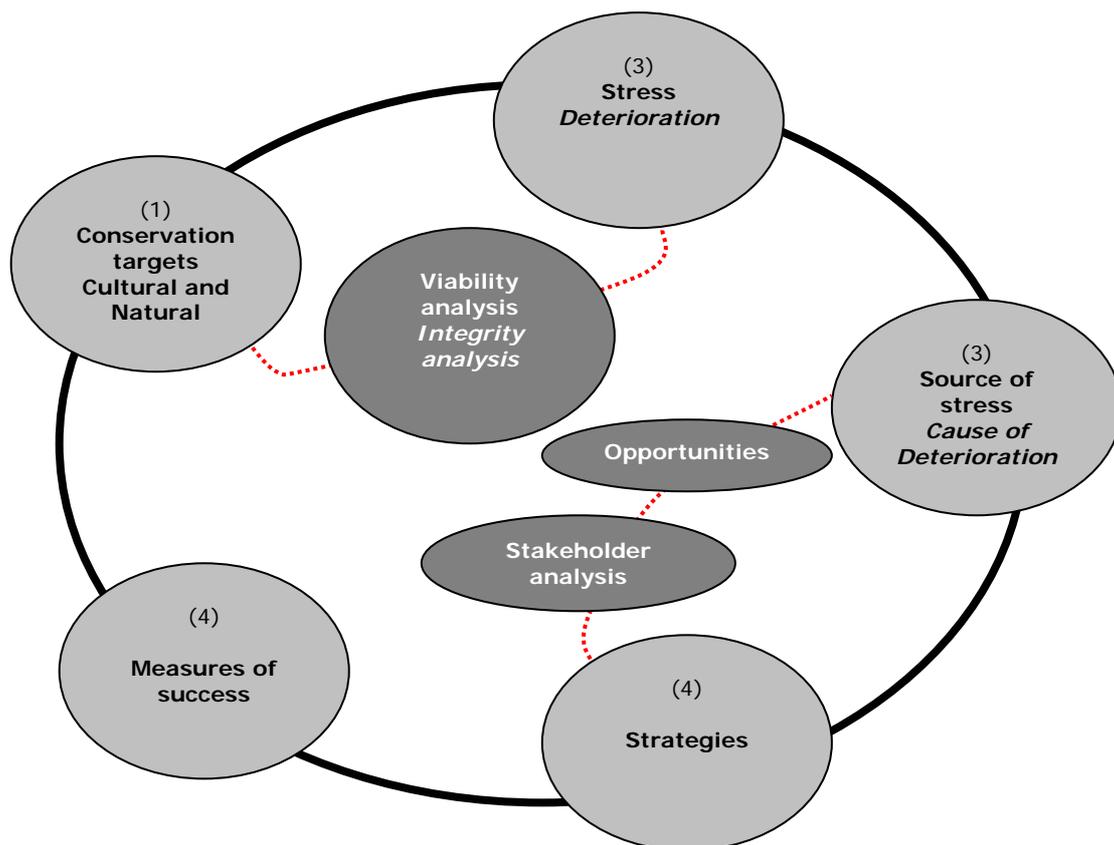
It is managed by the Institute of Anthropology and History (IDAEH) of the Ministry of Culture, and in 1979 it was the first site to be declared both Natural and Cultural World Heritage Site by UNESCO.

✓ **Why the CAP was used**

The MBR Master Plan was developed with the strong participation of authorities from the IDAEH, the official agency in charge of cultural heritage and a major actor in the Guatemalan protected areas arena since most of the sites combine nature and culture conservation objectives. IDAEH valued the effort of using the methodology for cultural and natural targets in the MBR planning exercise, as well as integrating a group of cultural conservation experts. Building on that experience IDAEH, along with UNESCO, requested the use of the same approach for the Tikal National Park Master Plan<sup>35</sup>.

✓ **How was the CAP used/adapted**

As noted in the case study on Lake Atitlán Watershed above, the terminology used in CAP for natural targets was not fully applicable to cultural elements, so an adaptation was needed. In summary, the overall scheme of the application of CAP for sites containing cultural and natural conservation targets looks like this (note the adapted terminology for cultural targets is in italics):



**Figure 1:** Integrated Methodology for Biodiversity and Cultural Heritage Sites

✓ **Additional planning analyses**

The process leading to the park's management plan was completed with other analytical processes such as the analysis of organisational arrangements and of the park services current status. Both were carried out by independent consultants, and the information they provided was incorporated in the development and refinement of the non-threat focused strategies. A plan for public use, jointly carried out by RARE Center (with financial assistance of UNESCO and UNEP: United Nations Environment Programme) was also of importance for developing strategies on public use. This set of strategies is considered a crucial component of the park and the plan, particularly in terms of developing the educational potential and cultural identity of the protected area.

✓ **Process**

The procedure that led to the Tikal National Park Master Plan for 2004-2008 comprised two parallel processes: a) the adaptation of CAP for sites combining cultural and natural components, and b) the management planning process itself.

*The adaptation process*

The CAP adaptation for cultural targets was not developed casually, the methodology followed an exhaustive process of bibliographic research on other planning methodologies, exercises and experiences for cultural heritage conservation. In addition such an adaptation required a thorough participation of experts in monument conservation and restoration and cultural heritage, including archaeologists, anthropologists, architects, cultural promoters and historians among others. A specific cultural terminology was developed, as mentioned above, because the CAP terminology developed for natural elements is not necessarily applicable to cultural targets,. Once this terminology and the methodological/analytical process were agreed among the experts, it was tested and refined while developing the management plan of the park.

Some unexpected discoveries were included right away into the process, such as combining strategies that were developed separately for cultural and natural targets, taking advantage of institutional synergies.

The methodology has been fully documented and endorsed by IDAEH and UNESCO<sup>36</sup>. Similar efforts have been replicated in other sites that combine cultural and natural conservation objectives, such as Sierra del Lacandón and Parque Nacional Yaxhá, both within the Maya Biosphere Reserve, as well as specifically to archaeological sites, such as Piedras Negras and Quiriguá.

*The management planning process*

The management planning process went through six different steps, as follows.

Step 1: Preparation

- ✓ Preliminary meetings for organising the planning process (7 sessions)
- ✓ Formation of the planning team
- ✓ Selection of participants
- ✓ Information gathering
- ✓ CAP training for the planning team (1 workshop)
- ✓ CAP adaptation to cultural targets (2 expert workshops, see "The Adaptation Process," above)

## Step 2: Planning

Seven workshops that included:

- ✓ Definition of the Park's vision and objectives (1 workshop)
- ✓ Identification of natural and cultural targets, conservation goals and threat analysis (2 workshops)
- ✓ Stakeholder analysis and strategy development (2 workshops)
- ✓ Monitoring plan and Annual Operative Plan for 2004 (2 workshops)
- ✓ Prioritization of conservation areas and restoration buildings (1 workshop).

## Step 3: Institutional context

- ✓ Institutional context analysis and institutional arrangement blueprint (2 workshops)

## Step 4: Sustainable public use

- ✓ Public use (4 workshops)
- ✓ Services (2 workshops)

## Step 5: Drafting and review

- ✓ Plan review
- ✓ Peer review
- ✓ Presentations
- ✓ Official approval

## Step 6: Publication and dissemination

- ✓ Printed version
- ✓ Public presentations

### ✓ **Important lessons learnt**

Many protected areas worldwide, and particularly in Latin America, have the mandate of conserving the viability of ecosystems and species as well as the integrity of cultural resources. The adaptation of CAP to protected areas and sites with these twofold objectives arose from the need of having proven and tested tools to plan natural and cultural resources conservation in an integrated manner. The case of the Tikal National Park in Guatemala demonstrated that integrated planning for cultural and natural resources are not only possible, but necessary and much needed. In addition to having an integrative and integral approach to conservation, this adaptation of CAP also revealed that such a process can be conducted in a more participatory manner that includes multidisciplinary teams with the active involvement of experts, field personnel and all relevant stakeholders. Moreover, it also showed that combining experts, staff and agencies that have traditionally worked separately, novel synergies are developed for better conservation gains.

These benefits have allowed this combined approach of conservation planning to be replicated in Guatemala not only in other sites of the culturally and naturally rich Maya Biosphere Reserve (Piedras Negras Archaeological, Yaxhá-Nakum-Naranjo National Park, Sierra del Lacandón National Park) and World Heritage Sites (Quiriguá Archaeological Site), but also in other areas of the Guatemalan Protected Area System, in other countries (Colombia, Dominican Republic, Mexico, Nicaragua, Peru) and in UNESCO Cultural and Natural World Heritage Sites.

## 8: Grenada: Sandy Island/Oyster Bed Marine Protected Area

CAP use summary			
Reach	Influence	Adaptation	Innovation
Using CAP for a Marine Protected area (800 ha) co-managed between a local NGO and the Government of Grenada	CAP used as the main tool for developing the management plan with a diversity of stakeholders, including local governmental agencies, natural resource users, communities and NGOs. During the process, fishery agencies and NGOs were trained in the use of CAP for further use in other sites.	<ul style="list-style-type: none"> <li>✓ Terminology was adapted for a broader understanding</li> <li>✓ Process based on both ecological and socio-economic considerations</li> </ul>	<ul style="list-style-type: none"> <li>✓ Importance of stakeholders in the planning process</li> <li>✓ Key Ecological Attributes (KEA) selected as indicators for viability, for threats status, and management effectiveness</li> <li>✓ Socio-economic analysis: survey of economic activities of fishermen</li> <li>✓ Addition of a business plan</li> <li>✓ Zoning conservation actions</li> </ul>

### ✓ Overview of project

Located in the island of Carriacou in Grenada, the Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA) is an IUCN-Category VI marine protected area (MPA) that includes no-take areas. SIOBMPA was initially proposed for protection in 1988, by the Grenada's *Plan and Policy for a System of National Parks and Protected Areas*. Later on, in 2001, the Caribbean Regional Environmental Programme (CREP) initiated a project aiming to increase the capacity of Carriacou to manage and utilise the resources of SIOBMPA in a sustainable manner, partnering with a local NGO, the Carriacou Environmental Committee (CEC).

TNC and the Government of Grenada have signed a Memorandum of Understanding to ensure the implementation of the Programme of Work (PoW) on Protected Areas in Grenada. As part of that agreement, TNC was tasked with the development of a management plan for the SIOBMPA<sup>37</sup>. Along with various local environmental organisations and partnerships that have worked towards establishing the SIOBMPA, the government of Grenada has signed international agreements and enacted numerous legislative initiatives that have led to the development of the SIOBMPA.

Currently, SIOBMPA is co-managed by a local NGO, the Carriacou Environmental Committee (CEC) and the Government of Grenada. Its main objectives are:

- ✓ Conserving the coastal and marine ecosystems through effective management for current and future generations;
- ✓ Ensuring that all stakeholders and communities are empowered and fully engaged in the management of the MPA;
- ✓ Ensuring that SIOBMPA is an integral part of an MPA network in Grenada, the Caribbean and more broadly the world;
- ✓ Increasing socio-economic benefits to the community of Carriacou and the wider Caribbean while preserving the cultural value of the SIOBMPA; and
- ✓ Increasing awareness and knowledge about the resources of the SIOBMPA.

✓ **Why CAP was used**

Under the agreement, TNC was required by the Government of Grenada to develop a management plan, so TNC proposed CAP as the main methodology for that purpose. Other aspects of the management plan that were required by the Government were developed following auxiliary methodologies.

✓ **How the CAP was used/adapted**

Since the Sandy Island/Oyster Bed management plan process included a diversity of stakeholders of different levels of education, it was required to use a methodology that could be understood by all of them. The following concepts frequently used along the process were part of this adapted terminology:

Terms adapted in the application of CAP	
CAP term	Adapted term
Targets	Priority resources
KEA	No term used but rather explained the concept
Viability	Condition of the resource
Strategies	Actions

A Resource User Assessment was included in order to provide more information to the analyses of threats and stakeholders as well as strategy design. A correlation between socioeconomic data and biological data and analyses determined the decisions along the CAP process (see below).

✓ **Additional planning tools**

In January 2006, the Fisheries Biology Unit of the Grenada Division of Fisheries in conjunction with CREP and CEC conducted a Resource User Assessment. This assessment revealed the types of activities occurring in the park and the intensity and purpose of each of those activities. In order to provide information for the workshops analyses, the places of occurrence of these activities was determined. Additionally, activities were categorised in four levels of usage, from “very heavily used” to “lightly used.”

The activities occurring in the park mainly include: Recreational diving, recreational use, water taxi/charter craft usage, anchoring, pot fishing, spear fishing and seine fishing.

The planning process concluded with the production of a business plan for the SIOBMPA. For that purpose, planners adapted the *Center for Park Management’s Business Planning Methodology*, a participatory approach by which the staff, community and local stakeholders identify the resources needed to meet the protected area’s mission and goals.

The resources needed are related with management activities and organised by functional areas and programmes<sup>iii</sup>. For determining their cost, a first assessment is done at two levels:

- ✓ The level of operations and the amount of resources that are necessary to meet the most important goals and objectives (*mission critical*)
- ✓ The level of operations and the amount of resources that are necessary to fully meet the goals and objectives (*mission optimal*)

Subsequently, the results of this two-level assessment are compared to the current financing to identify the gap in funding. In the case of SIOBMPA, however, the cost of potential activities – most of them identified through CAP, was only estimated, since it was not an operational park at the moment when CAP was carried out. This estimation was completed through interviews with different stakeholders, including community members, private business owners, fishermen, the CEC, the project manager of CREP, the Ministry of Agriculture, and the Grenada Board of Tourism, most of them members of the SIOBMPA stakeholders' board.

Finally, the process moved to identifying the potential financing mechanisms and prioritising them by complexity of implementation, impact on natural resources and revenue generation. The financial gap analysis lists the first steps to implement the financing mechanisms and also outlines a marketing plan, highlights the benefits and services offered by the protected area, and analyses their economic impact on the park (the latter roughly estimated, since no actual park visitation data or spending data relative to the park exists).

#### ✓ **Process**

The management plan process was lead by TNC through the USAID-sponsored Grenadines PiP; the Government of Grenada, CREP and CEC were key stakeholders collaborating in the process. The process included a series of workshops that were attended by an average of 25-30 participants who represented a comprehensive diversity of stakeholders: local authorities (police) and agencies (fishery and forestry officers), local NGOs, academia, and natural resource users (fishermen, tour operators, hotel owners, diver operators, hotel and restaurant owners and youth groups). The process itself generated a good constituency and as a result more participants joined the workshops.

The first workshop was a good example of a participatory assessment and group consensus. In that activity, participants selected the conservation targets emphasizing that all of the characteristic ecosystems of the area were to be included in the management plan. The number of targets varied in each of the three working groups of the workshop, with five targets common to all of the groups. The final list was completed by nesting some targets in others so that all of the resources selected by participants were fully addressed. This selection of targets represented multiple levels of biological organisation and ensured the functionality of the system as a whole.

During the second planning workshop, participants identified and ranked the human activities that are sources of stress on the conservation resources. As the CAP methodology proposes, these activities were ranked based on their contribution and irreversibility.

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<sup>iii</sup> In the case of SIOBMPA, the management plan was organized in six functional areas: Resource Management and Protection, Tourism and Recreation, Commercial and Commodity Uses, Management and Administration, Community Development and Outreach, and Facility Operations and Maintenance.

A third stakeholder workshop was carried out in order to determine conservation objectives and design strategies to accomplish them, following two rationales: 1) preventing or reducing human activity impacts and/or 2) improving the condition of the resource. For doing so, stakeholders took into account the objectives, the conservation targets, the current uses and the users of the resources. Subsequently, this workshop developed a zoning component, aimed to support determined objectives that can be achieved or assisted by utilizing a zoning plan. A separate workshop was held to focus solely on the development of the zoning plan. Particular importance was placed on the feasibility of the zoning and the ease of enforcement and compliance. Three zones were identified and the restrictions for each zone were agreed upon by all participating stakeholders: 1) Restricted Fishing Zone, 2) Recreational Non-extractive Zone, and 3) Reef Fish Protection Zone.

A final workshop was held to develop the business plan, known in the final report as the Sustainable Financial Plan.

#### ✓ **Important lessons learned**

CAP provides a consistent framework and logical progression of steps that is easily understood by a wide range of stakeholders, from local natural resource users to academic persons. Nonetheless, the terminology still remains difficult for a broad comprehension and often needs to be adapted to particular circumstances.

As the process moves forward, facilitators need to be spoke-persons of the process itself and its results. Informing on the rationale of each step and the connection with the previous and next ones, as well as on the obtained results ensures confidence in the process, generates constituency and enhances participation. As James Byrne, one of TNC's facilitators of this process mentions, "*CAP reveals a story [of the relationship of people with their surrounding natural resources], and one needs to give this story back to the people.*"

Even though CAP makes useful information available for developing business plans and zoning proposals, the process that can lead to these products is not necessarily automatic. Planners therefore need additional methods and tools in order to effectively use the information generated through CAP. Additional studies, particularly in socioeconomic areas such as natural resource assessments, are invaluable elements that facilitate and ensure the quality of analyses – particularly for threats, stakeholder assessment and zoning, as well as for the design of strategies.

**9: Mexico: Pantanos de Centla Biosphere Reserve and Laguna de Términos Fauna and Flora Protection Area**

<b>CAP use summary</b>			
<b>Reach</b>	<b>Influence</b>	<b>Adaptation</b>	<b>Innovation</b>
CAP used at landscape level to develop management plans for two contiguous interconnected protected areas	Partnership between two different protected areas administrations for identifying common issues and developing shared strategies. Leverage in other areas of South East Mexico on developing a similar landscape approach.	Landscape approach for two joint protected areas for: ✓ Better understanding of interrelated issues between the two areas ✓ Developing analyses for same/similar threats ✓ Developing a joint set of strategies	✓ Threat-focused stakeholder analysis ✓ Use of maps for zoning strategies

✓ **Overview of project**

The Pantanos de Centla Biosphere Reserve and Laguna de Términos Fauna and Flora Protection Area compose a complex system that forms one of the largest wetland areas in Mesoamerica. This wetland complex is of remarkable importance because of its role as a wildlife refuge, particularly for migratory birds, in addition to being an essential reproduction area for numerous species of economic value. This area's wellbeing is threatened by the potential construction of dams on the Usumacinta river, habitat loss due to deforestation and cattle ranching, road construction, over-fishing and incompatible fisheries, channelization and retention of water and fire, among other threats. And since it is located at the mouth of the Gulf of Mexico, the whole complex receives the nutrients and pollutants transported by one of the major hydrological systems in Mexico formed by the lower basins of Grijalva and Usumacinta rivers. The area's ecosystems include mangroves, evergreen- and deciduous- seasonal forests, swamp forests, freshwater wetland vegetation, coastal dunes, riparian systems and water bodies, including the Términos Lagoon.

Pantanos de Centla and Laguna de Términos have been declared by the Mexican Commission of Biological Diversity (CONABIO) as terrestrial, marine and hydrological priority areas, in addition to being recognised as AICA (Alianzas para la Investigación sobre Conservación Aplicada/Partnerships for Applied Research in Conservation) sites and Ramsar sites. Because of the connectivity between them, both areas share the same ecological processes, threats and natural resource use by local inhabitants.

The Pantanos de Centla Biosphere Reserve and the Laguna de Términos Fauna and Flora Protection Area were created by federal decrees in 1992 and 1994, respectively, being both currently under federal administration, through the Comisión Nacional de Áreas Naturales Protegidas (CONANP). By mandate of the Mexican law, federal protected areas are required to have an Advisory Committee as part of their management structure.

However, such councils, which need to include different kinds of related stakeholders (i.e. local authorities, natural resource users, scientists) are not currently working in an efficient manner in the case of these two areas.

✓ **Why the CAP was used**

Because of the biological diversity and national importance of the region, TNC and its regional partner, Pronatura Península Yucatán (PPY), provided support to CONANP to conduct the planning process. Due to lack of capacity, this area has not been an active investment site for TNC or PPY so far. Therefore at this stage support from both organisations was restricted to set the baselines for updating the management plans for both reserves, through organising existing information, identifying information gaps, updating information with other regional stakeholders and generating an environment of collaboration among key stakeholders, as well as developing work proposals and action plans. While the process generated a good information base, the actual work of updating the management plans is the responsibility of CONANP.

Knowing that TNC has supported several protected areas in southeast Mexico, CONANP requested TNC and PPY's support. TNC and PPY have a history of success and reliability in assisting protected areas with the development of management plans, and are considered organisations without either a political and confrontational approach to projects.

The use of CAP was thus a logical choice. Even though reserve managers did not know specifically about CAP, both directors had learned about the successful application of CAP in protected areas from several CONANP peers.

✓ **How the CAP is used/adapted**

Despite the interest of TNC and PPY in leading a shared process through a landscape approach for these two contiguous areas, the CONANP administrations of Pantanos de Centla and Laguna de Términos preferred two "twin" processes by which two different, simultaneous analyses would develop a specific CAP for each protected area. However, while carrying out the first exercise for determining the conservation targets, the process demonstrated the existence of strong interrelations and high number of commonalities between the two protected areas. Workshop participants, and most importantly the site leaders, were therefore convinced of the benefits of performing a unified process, and looking at the whole landscape as one planning unit with two different administrations.

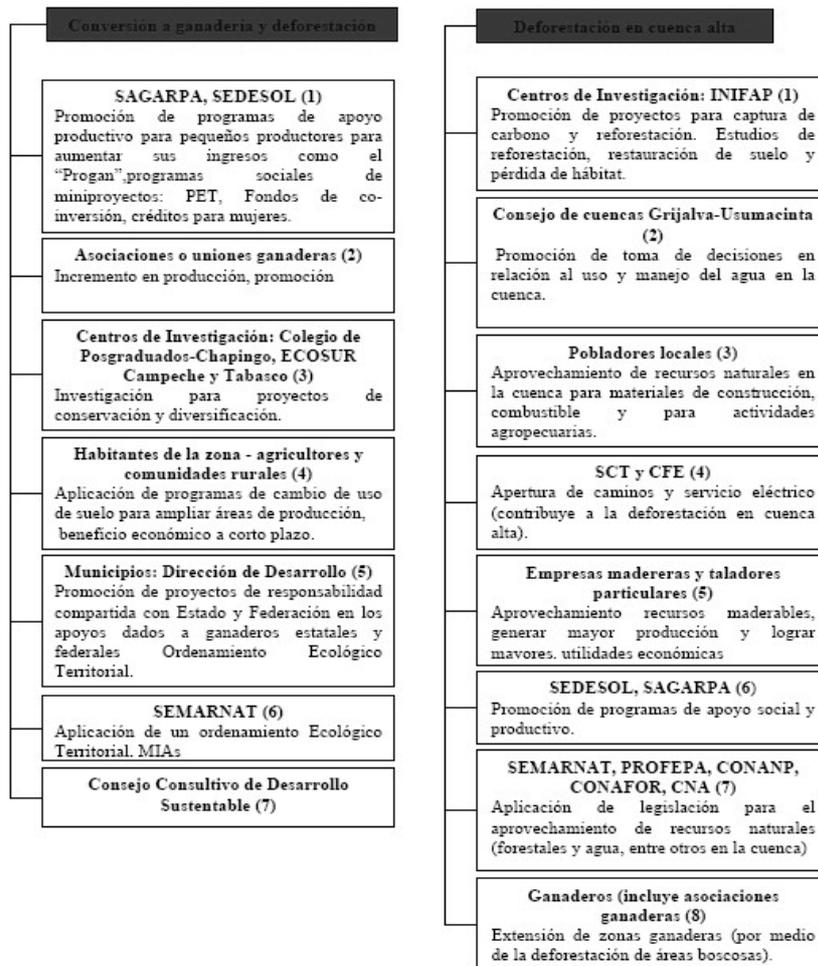
Thus, all the analyses along this planning process, from conservation targets to strategy development, were based on this landscape perspective. Developing a CAP under such an approach allowed planners to bring specialists together at less meetings and it helped develop a better understanding of the ecological processes that were shared by both protected areas. Conservation targets, threats, objectives and strategies were defined to address the needs of the entire natural complex, instead of being developed separately for each administrative area. This approach still however enabled the team to determine geographical areas of action, which was important for site managers.

It is important to mention that even though planners developed only one shared set of strategies for the whole landscape, it was understood that not all of them were to be implemented jointly. Indeed, because of the enormous size of the areas and the management jurisdictions, most of the resulting strategies were included in the annual operational plans for implementation in each of the protected areas.

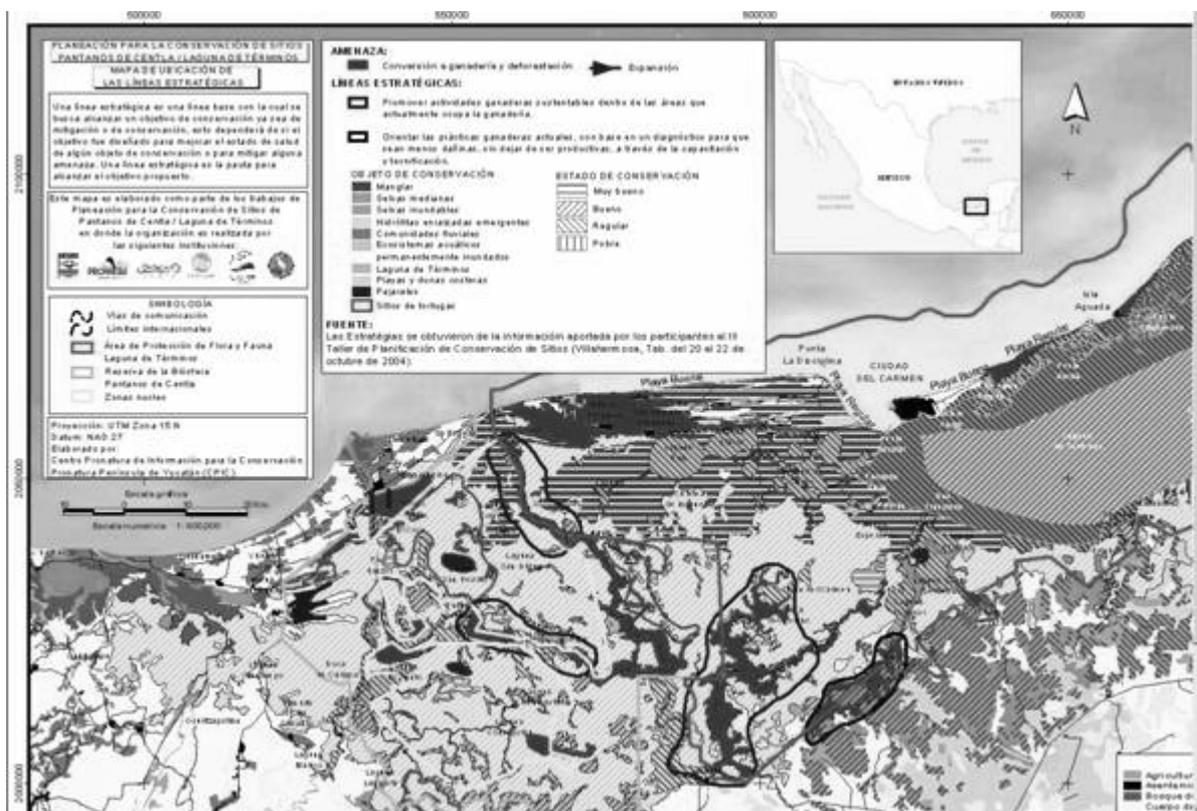
✓ **Additional planning tools**

Auxiliary methods were used along the Pantanos de Centla/Laguna de Términos planning process, particularly in those areas where CAP requires supporting tools. The situation analysis and the stakeholder analysis, for instance, were supported by a combination of a number of methods and tools that planners had previously applied and the application of which has been successful, including the guidelines provided by WCPA for participatory situation diagrams.

An important feature in these analyses was the direct linkage of the stakeholders with key threats. All activities related with a critical threat were examined, and through this analysis the major stakeholders were identified. This analysis a full understanding of the interactions and relationships that stakeholders have with the threats, both in positive terms (such as performing an action against the threat) or in negative terms (being a causal factor of the threat), and to rank them according to their level of importance. In addition, the information on the social and economic context helped identify the stakeholders that needed to be included in the strategies, either for implementing them or by being the target group during implementation. The result of the stakeholder analysis was a series of diagrams that summarise the role of each stakeholder within a given threat and which show stakeholders in order of their relevance within a specific threat, as the following examples for two different threats illustrate:



Similarly, a useful innovative tool in this planning process was the use of maps for identifying and selecting geographic areas of action. This was added to the process because while it is useful to know what needs to be done, the planning team considered that showing where it needed to be done, was important to help ensure an adequate scale of attention when implementing actions. Used for “mappable” threats, this tool allowed planners to overlap three different layers of information from the planning process in the same map: target occurrence, viability and conservation status; threat occurrence, and thus plot location of actions. This information allows for the graphical recognition of where activities need to be implemented, allows prioritisation of actions on the landscape and the ability to sequence them, and helps determine who the actors responsible for implementing the respective strategies are. On the map below, the dark lines show the boundaries where two actions which address the threat of conversion to agriculture/deforestation, will be implemented.



✓ **Process**

The process was promoted by the three institutions already mentioned: CONANP, through the administrations of Pantanos de Centla and Laguna de Términos protected areas; PPY, conservation NGO in South East Mexico and TNC’s Mexico Programme. CONANP requested the participation of these organisations for two main reasons: first, their renowned background in protected areas planning work, and second, their ability to build constituency among different stakeholder groups. This second aspect was of particular importance in one region where conservation organisations are politicized and where there is a vast array of involved and conflicting actors that include local users, such as fishermen, and powerful companies, such as the stated-owned oil company PEMEX. With that in mind, PPY and TNC called a selection of individuals to participate in the planning process, which encompassed local, state and federal authorities and agencies, academic institutions, and NGOs.

As mentioned above, the process was originally planned for developing two parallel but separate CAP processes, which would generate two independent reports. However, as soon as the process started, it was easy to recognise that the two protected areas, while under independent administration, compose one single ecological unit and that a common, shared approach would be richer for selecting the conservation targets, understanding the ecological dynamics related to targets, as well as analysing the threats and associated actors.

Thus, various stakeholders participated in one single iterative process, which was structured as most of other CAP processes in four workshops:

- ✓ Workshop 1: Introduction to the process and to the CAP methodology, delimitation of the project area, selection of conservation targets and viability analysis
- ✓ Workshop 2: Threat analysis, stakeholder analysis and situation analysis
- ✓ Workshop 3. Strategy design and evaluation, including mapped strategic actions and action steps; as well as capacity analysis
- ✓ Workshop 4. CAP revision and validation with key stakeholders

✓ **Important lessons learned**

The logical framework upon which CAP is based represents a good analysis platform that allows combining processes that were originally planned to be carried out in an independent way. This is particularly useful for merging planning processes of areas that are geographically interconnected, as the case of Pantanos de Centla and Laguna de Términos demonstrated. Moreover, merging these analyses in one single process, permits the selection of conservation targets, analysis of conservation factors (key ecological attributes, threats), and design of conservation strategies in a comprehensive way for an entire landscape, which might be difficult to do otherwise. In addition, even though not all strategies are meant to be implemented in a joint way, their design under the same shared set of strategies helps to ensure a better coverage of the conservation actions. Finally, having a common set of strategies which point towards landscape-scale results, facilitates communication with central CONANP and other key stakeholders to join forces for strategies which require a regional approach.

## Appendix 2: Sources, resources, literature review and references

The conclusions and recommendations made in this report are the result of many years of use of the CAP (and former iterations) in many sites across the world. Specific discussions on the use of the CAP in protected area management planning for this review took place in Africa, Central America and the Caribbean. Email correspondence and a questionnaire were also used to gather information from CAP practitioners globally, CAP workbooks were reviewed and many conversations on the use of the CAP took place. A workshop was held in Ecuador and experiences from a workshop held at the TNC Efraymson Coaches Rally in May 2005 were also part of the rich wealth of many people's experiences that were drawn together to form the backbone of this report. Finally a draft of the report was circulated widely. The report however remains the responsibility of authors, as do any errors.

The documents listed below all concern CAP use and adaptation and were some of the primary literature resources used in this review<sup>iv</sup>:

- ✓ **Workshop Report:** *Report of Site Conservation Planning and Manyara Ranch Implementation Planning: Work Done with African Wildlife Foundation*, July, 2001, L. Susan Anderson and Peter L. Warren  
Summary of activities during June and July 2001, when TNC assisted the African Wildlife Foundation in two conservation planning projects: "Four Corners" Heartland and Manyara Ranch.
- ✓ **Observations on use of CAP:** *The Condor Bioreserve: an Innovative Approach for Conservation on Montane Ecosystems*, Silvia Benítez, The Nature Conservancy-Ecuador  
Short paper on use of CAP in the 'functional landscape' known as the Condor Bioreserve in the North-eastern Andes of Ecuador.  
**File:** a\_2\_f\_1\_i\_condor\_intro
- ✓ **CAP adapted Manual:** *Participatory Conservation Planning Manual*, Conservation Training and Resource Center, Bogor, Indonesia, 2004  
An adaptation of CAP aimed at involving local communities in the planning process. The overall structure of the Site Conservation Planning methodology (i.e. an earlier version of CAP) has been adapted to suit rural conditions, with the aim of developing a tool that fully engages participants in establishing priorities and in identifying potential conservation strategies. The manual was tested and adapted following application in National Parks in Indonesia.  
**File:** PCP METHODOLOGY May 04
- ✓ **Review of CAP adaptation:** *Lessons Learned in Community-Based Planning: Using The Nature Conservancy's Participatory Conservation Planning Process*, The Nature Conservancy, San Antonio, Texas, 2004  
A discussion of the use of the *Participatory Conservation Planning Manual* use in the Texas Chapter of The Nature Conservancy.  
**File:** PCP Halstead report
- ✓ **Planning Processes using CAP:** *Heartland Conservation Process: A framework for effective conservation in AWF's African Heartlands*, April 2005, African Wildlife Foundation (AWF), Nairobi, Kenya

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<sup>iv</sup> Equilibrium has copies of all these documents and will happily copy to anyone requesting them.

This document describes the Heartland Conservation Process (HCP), by which AWF first prioritizes and selects Heartlands, then plans and implements activities in these priority landscapes, and adapts when and where necessary. AWF uses a science-based planning process developed with help of TNC to establish conservation goals for each Heartland, identify threats and to design interventions to address these threats. Heartlands large landscape areas including private land, communal ranches and protected areas.

**File:** AWF HCP--2005 Revision\_draft 27April

- ✓ **Review of CAP use:** *Conservation Area Plan Roll-up, 2004*  
Summary paper of the CAP roll up exercise conducted in Central America, with observations on the 17 CAPs (including several protected areas) from the region in terms of coverage, rigour and completeness.  
**File:** Central America overview re CAP Roll Up Report
  
- ✓ **Review of CAP use:** *Survey Results from the Implementation of The Nature Conservancy's Conservation Action Planning (CAP) Process for 49 Conservation Projects in 2004*, TNC  
Discussion of survey of 49 Conservation Project Teams application of the revised CAP, the review looks at the CAP process, guidance and workbook.  
**File:** 2004 CAP Feedback Report
  
- ✓ **Using CAP in PAs:** *A conservation project management process applied to mountain protected area design and management in Yunnan, China* in Harmon, D., and Worboys, G. (editors) *Managing Mountain Protected Areas: Challenges and Responses for the 21st Century*, Andromeda Editrice, Colledara, Italy  
A review CAP process and an illustration of how it is being applied to the design and management of two mountain protected areas in northwestern Yunnan Province, China.  
**File:** Yunnan CAP book chapter
  
- ✓ **CAP adapted manual:** *Conservation Area Planning for Tangible Cultural Resources*, TNC, 2003  
An adaptation of the CAP methodology developed to plan the conservation of cultural resources. The methodology was field tested in Tikal National Park, Guatemala,  
**File:** CAP\_Cultural\_Summary\_JRrev
  
- ✓ **Review of CAP Adaptation:** *Planning of Sacred Natural Sites in the Context of Protected Areas: An adaptation of a Methodology for Biodiversity and lessons from its application in the Highlands of Western Guatemala*, TNC, undated  
Following the adaptation for cultural sites discussed above, two management plans for two municipal parks in the highlands of Western Guatemala were developed using the revised methodology. In both cases, sacred natural sites were selected as conservation targets by the indigenous inhabitants.  
**File:** Estuardo Secaira paper
  
- ✓ **Using CAP in PAs:** *Conservation management and ecological monitoring in Madagascar's protected areas*, Status report, October 2002  
The CAP has been used in Madagascar to establish a system for the development of a Conservation Management Plans for the developing protected areas system in the country. The report describes how the CAP was used and modified.  
**File:** a\_4\_a\_pgc\_status\_report\_oct2002 (a second document provides details of which PAs the CAP has been applied in: a\_1\_d\_intro\_to\_5\_s\_in\_madagascar\_with\_map)

- ✓ **Using Cap in PAs:** *State of the Parks: Natural Resources Assessment and Ratings Methodology*, National Parks Conservation Association, USA, undated  
The State of the Parks programme aims to: provide accurate and timely information on natural and cultural resource conditions, as well as stewardship capacity, in US national parks. Three separate methodologies have been developed to determine park status; the one on natural resources is based on the CAP.  
**File:** National Parks Conservation Association - methodology1
  
- ✓ **Using Cap in PAs:** *Are We Conserving What We Say We Are? Measuring Ecological Integrity within Protected Areas*, paper in *BioScience Journal*, 2003  
Overview discussion of CAP use in PAs  
**File:** BioScience\_TNC\_Integrity\_Assessments and PAs

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- <sup>4</sup> <http://www.jncc.gov.uk/page-2198>
- <sup>5</sup> <http://www.jncc.gov.uk/page-3520>
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- <sup>9</sup> ibid
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