Conservation Action Planning (TNC)

Organisation

The Nature Conservancy (TNC)

Primary references

The latest material on the CAP methodology is available at
www.conserveonline.org/workspaces/cbdgateway/cap/practices

The Nature Conservancy (2007) 'Conservation Action Planning: Developing Strategies, Taking Action, and Measuring Success at Any Scale. Overview of Basic Practices Version: February 2007.'

Purposes

✓ Adaptive management

Brief description of methodology

The Conservation Action Planning (CAP) methodology is one of three key analytical methods that support the application of The Nature Conservancy's strategic framework for mission success, called *Conservation by Design (The Nature Conservancy 2006)*. The basic concepts of this conservation approach follow an adaptive management framework of setting goals and priorities, developing strategies, taking action and measuring results. These basic concepts are reflected in each of the three key methods, which in addition to CAP include Major Habitat Assessment and Ecoregional Assessment. In general, Major Habitat and Ecoregional Assessments focus on setting goals and priorities; CAP focuses on developing and implementing strategies to address the priorities and achieve the goals, and all three methods incorporate aspects of measuring results' (Esselman 2007).

The CAP process includes aspects of management effectiveness evaluation – primarily assessing context (values and threats) and outcomes (conservation status), but integrates this into a wider process of developing and implementing conservation strategies. It is not primarily designed for protected areas, but can be applied to any conservation site. CAP is thus not a comprehensive MEE methodology in itself, but some of its tools and approaches are very useful for MEE. TNC is in some case applying CAP in conjunction with other tools to enable a more complete management effectiveness assessment.

The CAP methodology is implemented by a project team which works through a series of steps (see section 0) to develop objectives and strategies for site conservation. The components of the process most relevant to management effectiveness evaluation include:

- Clearly defining the 'conservation targets' or most critical values;
- Clearly identifying and rating threats to these targets;
- Using monitoring data and other information to allocate a current conservation status (poor, medium, good or very good) to the conservation target; and
- Applying the findings to adaptive management.

Objectives and application

Conservation Action Planning is designed to help develop and implement strategies to conserve key targets in conservation sites.

The CAP methodology has been applied by TNC in protected areas and other conservation sites around the world. The methodology is also being adapted and applied by WWF, and is being used by a range of other NGO and government agencies.

Origins

The CAP methodology has been in development by staff of The Nature Conservancy for some 20 years and has been progressively improving.

Strengths

From the MEE viewpoint, strengths of the CAP methodology include:

- integration of context and outcome evaluation with planning and strategic actions;
- strong and clear framework provided for analysis of threats;
- focus on key values;
- clear framework for evaluating status of values;
- adaptability of the methodology to look at social and cultural values, though the original design was for biodiversity;
- capacity to use it in conjunction with other more rapid, process-focussed methodologies to provide a good overview of management effectiveness; and
- A good network of trained practitioners exists to assist people in implementing the methodology.

Constraints and weaknesses

The CAP methodology has not been specifically designed for protected areas or for management effectiveness evaluation. It does not cover all elements of management effectiveness.

How the method is implemented

The following table shows the overall CAP process. Steps which relate to management effectiveness are Steps B3, 4 and 6, and D9.

Table 1: The CAP process. Source: (The Nature Conservancy 2007)

A. Defining Your Project

1. Identify People Involved in Your Project
- Selection of core project team members and assignment of roles
- Identification of other planning team members and advisors as needed
- Identification of a process leader

2. Define Project Scope & Focal Conservation Targets (5S = Systems)
- A brief text description and basic map of your project area or scope
- A statement of the overall vision of your project
- Selection of no more than 8 focal conservation targets and explanation of why they were chosen

B. Developing Your Conservation Strategies and Measures

3. **Assess Viability of Focal Conservation Targets** (5S = Systems)
- Selection of at least one key ecological attribute and measurable indicator for each focal target
- Your assumption as to what constitutes an acceptable range of variation for each attribute
- Determination of current and desired status of each attribute
- Brief documentation of viability assessments and any potential research needs

4. **Identify Critical Threats** (5S = Stresses & Sources)
- Identification and rating of stresses affecting each focal target
- Identification and rating of sources of stress for each focal target
- Determination of critical threats

5. **Develop Conservation Strategies** (5S = Strategies)
- A situation analysis that includes indirect threats/opportunities and associated stakeholders behind all critical threats and degraded attributes
- A "picture" – either in narrative form or a simple diagram – of your hypothesized linkages between indirect threats and opportunities, critical threats, and focal targets
- At a minimum, good objectives for all critical threats and degraded key

ecological attributes that your project is taking action to address and if useful, for other factors related to project success
- One or more strategic actions for each conservation objective

6. **Establish Measures** (5S = Success)
   - A list of indicators and methods to track the effectiveness of each conservation action
   - A list of indicators and methods to assess status of selected targets and threats you are not currently working on

C. Implementing Your Conservation Strategies and Measures

7. **Develop Work Plans**
   - Lists of major action steps and monitoring tasks
   - Assignments of steps and tasks to specific individual(s) and rough timeline
   - Brief summary of project capacity and a rough project budget
   - If necessary, objectives and strategic actions for obtaining sufficient project resources

8. **Implement**
   - Action
   - Monitoring

D. Using Your Results to Adapt and Improve

9. **Analyze, Reflect & Adapt**
   - Appropriate and scheduled analyses of your data
   - Updated viability and threat assessments
   - Modifications to objectives, strategic actions, and work plans, as warranted
   - Regular updates of project documents

10. **Learn & Share**
    - Identification of key audiences and appropriate communication products for each

Detailed instructions for implementing the methodology are provided in the CAP training materials available online and in training courses.

The Excel 'Conservation Action Planning Workbook' which is available on the internet, is an essential tool for this methodology and contains instructions, hints, examples and embedded tools for rolling up and analyzing information.

Elements and indicators

As discussed above, CAP measures the WCPA elements of context and outcome only.

There are no fixed indicators, as these are defined according to the CAP process. The part of the CAP methodology which is relevant to MEE defines:

Conservation targets (equivalent to key protected area values): Focal conservation targets are a limited suite of species, communities, and ecological systems that are chosen to represent and encompass the biodiversity found in the project area. They are the basis for setting goals, carrying out conservation actions, and measuring conservation effectiveness. In theory – and hopefully in practice – conservation of the focal targets will ensure the conservation of all native biodiversity within functional landscapes (The Nature Conservancy 2007).

Key ecological attributes and indicators: Each focal conservation target has certain characteristics or key ecological attributes that can be used to help define and assess its ecological viability or integrity. These attributes are critical aspects of the target's biology or ecology that, if missing or altered, would lead to the loss of that target over time. The broad categories of size, condition, and landscape context can be used to inform the selection of specific key ecological attributes. Each key ecological attribute can either be measured directly, or will have an associated indicator that can be measured to represent its status (The Nature Conservancy 2007).

Threats (stresses and sources) to those targets:
Threats are defined according to the unified threat terminology (IUCN – Conservation Measures Partnership 2006).

Scoring and analysis

A key component of the CAP methodology is its rating system, which has been widely used and adapted.

Threat rankings
Threats (which are divided into stresses and sources in the more detailed methodology) are scored as: Very High, High, Medium or Low for their scope (extent), severity and reversibility.

Meanings of these rating are:
Severity – The level of damage to the conservation target that can reasonably be expected within 10 years under current circumstances (i.e., given the continuation of the existing situation).

Very High: The threat is likely to destroy or eliminate the conservation target over some portion of the target's occurrence at the site.
High: The threat is likely to seriously degrade the conservation target over some portion of the target's occurrence at the site.
*Medium***:** The threat is likely to moderately degrade the conservation target over some portion of the target's occurrence at the site.
Low: The threat is likely to only slightly impair the conservation target over some portion of the target's occurrence at the site.

Scope – Most commonly defined spatially as the geographic scope of impact on the conservation target at the site that can reasonably be expected within 10 years under current circumstances (i.e., given the continuation of the existing situation).

Very High: The threat is likely to be widespread or pervasive in its scope and affect the conservation target throughout the target's occurrences at the site.
High: The threat is likely to be widespread in its scope and affect the conservation target at many of its locations at the site.
Medium: The threat is likely to be localized in its scope and affect the conservation target at some of the target's locations at the site.
Low: The threat is likely to be very localized in its scope and affect the conservation target at a limited portion of the target's location at the site.
(The Nature Conservancy 2007)

The method for 'rolling up' and combining results is embedded in the worksheet and has been detailed in unpublished TNC material (Salzer 2007). Four basic threat rank combinations are needed:

Type I: Combining the base level variables (e.g., Severity X Scope) to assess a single threat to a single target.
Type II: Rolling up assessments of the impact of different threats to a single target.
Type III: Rolling up assessments of the impact of one threat across multiple targets.
Type IV: Rolling up threat assessments for multiple targets into an overall threat status for a project.

In brief, the scores are combined to give a threat magnitude rating as shown in Figure 1.

		Scope			
		4-Very High	3-High	2-Medium	1-Low
Severity	4-Very High	4-Very High	3-High	2-Medium	1-Low
	3-High	3-High	3-High	2-Medium	1-Low
	2-Medium	2-Medium	2-Medium	2-Medium	1-Low
	1-Low	1-Low	1-Low	1-Low	1-Low

Figure 1: Combining scope and severity scores

This magnitude is then combined with an 'irreversibility' measure as shown to derive an overall threat ranking.

		Irreversibility			
		4-Very High	3-High	2-Medium	1-Low
Magnitude	4-Very High	4-Very High	4-Very High	4-Very High	3-High
	3-High	4-Very High	3-High	3-High	2-Medium
	2-Medium	3-High	2-Medium	2-Medium	1-Low
	1-Low	2-Medium	1-Low	1-Low	1-Low

Figure 2: Combining magnitude and irreversibility scores

Multiple threats to individual targets and multiple target threat scores are summed together using the 3-5-7 rule:

3 High ranked threats are equivalent to 1 Very High-ranked threat;
5 Medium ranked threats are equivalent to 1 High-ranked threat;
7 Low ranked threats are equivalent to 1 Medium-ranked threat

Once multiple threats scores are summed together, the overall threat status for a single target, for a threat, and the overall threat status for the whole project is calculated using the 2-prime rule. This rule requires the equivalent of two Very High rankings (e.g., one Very High and at least three High rankings) for the overall ranking to be Very High and the equivalent of two High rankings for the overall ranking to be High.

The "majority rank override" rule states that if a majority (more than 50%) of the targets within a project have a Very High (or High, or Medium...) threat, then the Threat Status of the project would be Very High (or High, or Medium...).

Occasionally, the "2-prime" rule yields a higher rank than the "majority rank override" rule. The matrix ensures that in all cases, the higher rank is selected.

An example of a threat assessment summary is shown in Figure 3. This example is adapted from the TNC-WWF Bering Sea Project.

Summary of Threats to Targets **Project-specific threats**	Seabirds	Pinn-ipeds	Pelagic Fish	Sea Ice Ecosys-tem	Sea Otter	Whales	Coral & Sponge Gardens	Bottom Dwelling Fish & Crab	Overall Threat Rank
Climate change	High	High	High	V High	V High	-	-	High	V High
Excessive predation	-	-	-	-	V High	-	-	-	High
Oil spill	High	Med.	Med.	Med.	High	-	-	-	High
Competition with fisheries	High	High	-	-	-	-	-	-	High
Overfishing	-	-	Med.	-	-	-	-	High	Med.
Fisheries	-	-	-	-	-	-	High	-	Med.
Introduced predators	High	-	-	-	-	-	-	-	Med.
Whaling (historic)	-	-	-	-	-	High	-	-	Med.
Contaminants	Med.	Med.	-	-	-	-	-	-	Med.
Fishing bycatch mortality	Med.	-	Med.	-	-	-	-	-	Med.
Fishing gear damage	-	-	-	-	-	-	-	Med.	Low
Aquaculture	-	-	Med.	-	-	-	-	-	Low
Roads & infrastructure	Med.	-	-	-	-	-	-	-	Low
DLP killings (polar bears)	-	-	-	Med.	-	-	-	-	Low
Overhunting	-	-	-	Med.	-	-	-	-	Low
Threat Status for Targets and Site	High	High	Med.	High	V High	Med.	Med.	High	V High

Figure 3: Example of a Threat Rating Summary. Source: (The Nature Conservancy 2007)

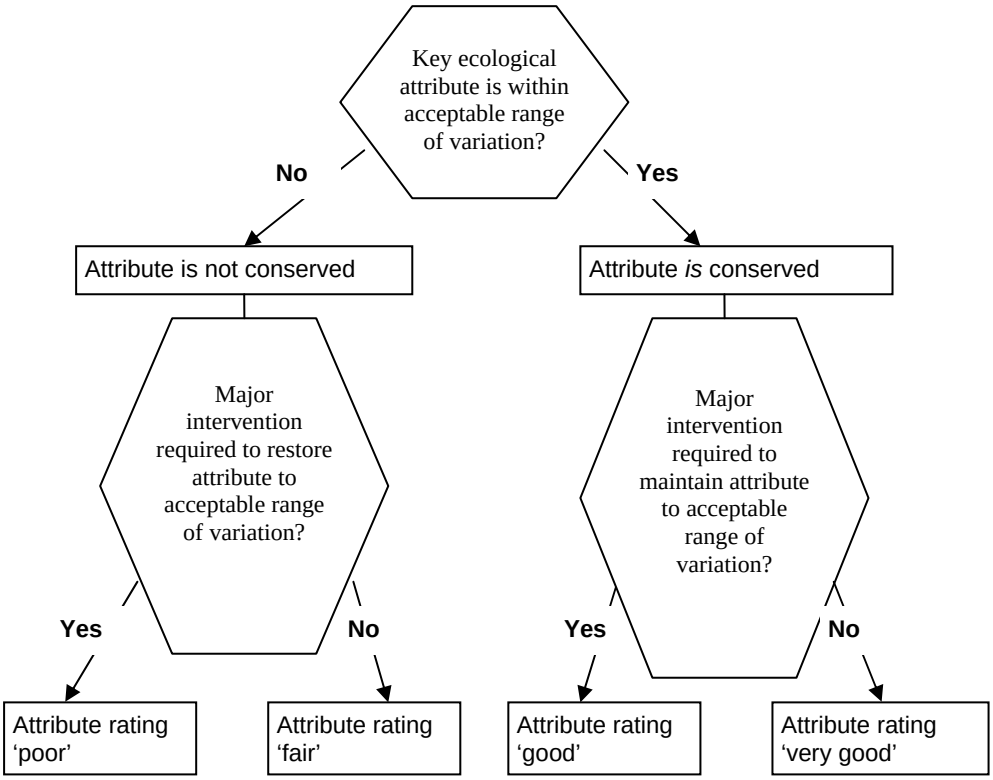
Conservation target condition

The conservation condition of a target is rated according to a four-level scheme which has been described and published (Parrish *et al.* 2003) and discussed in more detail in other documents (Braun 2005).

As discussed above, before status can be assessed, the project team has defined the targets or key values for conservation in a site and has identified key ecological attributes and indicators for that target.

This method then defines whether the attribute of the target values lies within a defined level of acceptable variation, and on the level of intervention necessary to improve or maintain its status.

> ***Very Good***: The indicator is functioning within an ecologically desirable status, requiring little human intervention for maintenance within the natural range of variation (i.e., is as close to "natural" as possible and has little chance of being degraded by some random event).
> ***Good:*** The indicator is functioning within its range of acceptable variation, although it may require some human intervention for maintenance.
> ***Fair:*** The indicator lies outside of its range of acceptable variation and requires human intervention for maintenance. If unchecked, the target will be vulnerable to serious degradation.
> ***Poor:*** Allowing the indicator to remain in this condition for an extended period will make restoration or prevention of extirpation of the target practically impossible (e.g., too complicated, costly, and/or uncertain to reverse the alteration).



igure 4: TNC target conservation rating system. Source: (Braun 2005)

An example of a condition assessment, including the criteria for the ratings, is shown in **Error! Reference source not found.**.

Table 2: Example of target condition assessment

Conservation Target	Key Attribute	Indicator	Poor	Fair	Good	*Very Good*	Current Indicator Status	Current Rating	Desired Rating
CO Plateau Cliff and Canyon	Actively breeding peregrine falcons	Number of active nests	1 breeding pair (3 year running average)	2 - 4 breeding pairs (3 year running average)	5 -10 breeding pairs (3 year running average)	*10 breeding pairs (3 year running average)*	3 B; 2 C and 2 unranked occurrences	Good	Very Good
CO Plateau Cliff and Canyon	Characteristic Species - Dolores River Skeleton-plant	high quality occurrences of Dolores River skeleton-plant	some of needed occurrences are not viable	At least one of needed occurrences are marginally viable (ranked C)	*Needed occurrences are high quality (ranked A and B)*	Needed occurrences are mostly very high quality (ranked mostly A; a few B)	2 B; 2 C and 2 unranked occurrences	Fair	Good

Figure 5: Example of target condition assessment

References

For further information, see the websites maintained by TNC which include a large volume of material explaining the methodology.

www.conserveonline.org/workspaces/cbdgateway/cap/practices

Braun, D.P. (2005) It's not fair: understanding the viability rating framework: Prepared for the conservation measures and conservation action planning groups. The Nature Conservancy.

Esselman, R. (2007) Conservation Action Planning: Introduction. The Nature Conservancy, available at http://conserveonline.org/workspaces/cbdgateway/cap/practices/index_html.

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

Parrish, J., D.P. Braun and R.S. Unnasch (2003) Are we conserving what we say we are: measuring ecological integrity within protected areas. *BioScience* **53**, 851-860.

Salzer, D. (2007) The Nature Conservancy's Threat Ranking System (14 February 2007). TNC (unpublished material).

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