Collaboration for Environmental Evidence

Systematic Review No. *74*

WORKING TITLE:
IS SYSTEMATIC CONSERVATION PLANNING AN EFFECTIVE STRATEGY FOR DESIGNING AND IMPLEMENTING REGIONAL BIODIVERSITY PROJECTS?

Draft Review Protocol

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Cover Sheet

Title	**Working title:** *Is systematic conservation planning an effective strategy for designing and implementing regional biodiversity projects?*
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1. Background

Over the last two decades, the field of systematic conservation planning, the process of locating and managing conservation areas with explicit objectives (Margules & Pressey 2000) has expanded rapidly. It has influenced conservation priorities by international organisations (Groves et al. 2002; Sanderson et al. 2002), guided policy decisions by government agencies (Airame et al. 2003; Pressey et al. 2009), and resulted in hundreds of publications in the academic literature. Despite substantial financial investment in developing frameworks for planning, refining of decision support tools and application of management activities, there has been limited evaluation of the benefits (or costs) of investing in large-scale planning exercises. Several prominent success stories have demonstrated real conservation gains from planning processes (Fernandes et al. 2005; Finkel 1998; Raynor et al. 2001), but to date there has been no comprehensive assessment or retrospective reporting on the merits of conservation planning.

Conservation planning has evolved considerably since its earliest applications (Kirkpatrick 1983) to be inclusive of both expert assessments and interactive software applications, with a growing recognition of the interdisciplinary processes required to negotiate networks of conservation areas (Cowling & Wilhelm-Rechmann 2007). Systematic conservation planning is characterised by setting of explicit objectives which guide decisions about the spatial and temporal distribution of conservation areas (Margules & Pressey 2000). Beyond integration of data and objectives in a planning framework, there are few standards or guidelines on what works, and what does not work, in the design, implementation or management of a conservation plan. Healthy debate has accompanied the progress of conservation planning (see Brooks et al. 2004; Higgins et al. 2004; Pressey 2004), but two closely related issues stand as persistent challenges to the relevance of existing approaches to systematic planning. The first pertains to the gap between research and implementation of conservation actions (Knight et al. 2008; Prendergast et al. 1999); the second to the capacity of conservation plans to address real-world challenges (Whitten et al. 2001). Current frameworks and processes have been charged with underestimating the socio-economic opportunities and constraints that shape implementation (Knight & Cowling 2007), simplifying the complexity of socio-economic conditions (Meijaard 2008), promoting "grand designs" which ignore contextual and historical trajectories (Sayer et al. 2008), and generally distracting from the business of doing conservation. To be relevant, conservation planning needs to address these criticisms and provide evidence that investment in planning is worth the cost and effort.

Established approaches to evaluating impacts of activities, applied frequently in the public sector, measure program effectiveness by assessing goals, but can also address the adequacy of strategies (e.g., conservation planning) to meet the needs of users (e.g., conservation scientists) (Owen 2006). Simply qualifying success of conservation plans as whether goals were met by conservation designs on maps fails to confront issues around implementation. It also fails to weigh up the expectations of what plans might achieve and have achieved and potentially underestimates the unintended benefits (or costs) of outcomes. This review takes a holistic view of the whole process of planning which include framework design, data inputs, delivery of outputs – the products generated by the planning process (e.g., a schedule of conservation actions) and outcomes – the change brought about by planning to the

state of features of interest in a planning region. We hope therefore that the review will provide evidence not only on what works or does not work, but on the reasons for success or failure.

2. Objective of the Review

To evaluate the effectiveness of systematic conservation planning as a strategy for designing, implementing and managing regional scale conservation projects.

2.1 Primary question

Is systematic conservation planning an effective strategy for designing and implementing regional biodiversity projects?

Table 1. Definitions of components of the systematic review questions

Subject	Intervention	Comparators	Outcomes
Geographic region of conservation interest at a regional scale (e.g., ecoregion, landscape, seascape, bioregion or corridor)	Systematic conservation planning	Desirable. (Where possible, counterfactual evidence will be collected through interviews with expert planners)	Any reported change in condition of biodiversity, level of threat, level of knowledge, level of capacity, change in socio-economic context (e.g., leverage, legislation), etc.

2.2 Secondary question *(if applicable)*

- What are the expectations of those involved in conservation planning?
- What outcomes emerge from the process of conservation planning?
- To what extent, are outcomes unintended or implicit?
- Do the outcomes from planning match the expectations of those involved in conservation planning?
- What factors influence the outcomes of conservation plans?
- What factors influence the reporting of outcomes of conservation plans?

This set of secondary questions is based on our inclination that quantitative and qualitative data on the effectiveness of systematic conservation planning is rarely explicitly reported. There are a number of obstacles to evaluating outcomes from planning, in particular the long time horizons for effects to be seen, the fact that monitoring of planning objectives is often inadequate, a lack of control areas to compare outcomes in the absence of plans, few accounts of implementation in peer-reviewed literature (Knight et al. 2008), and a general lack of reporting of outcomes in accessible documentation.

There is uncertainty about how effectiveness of conservation planning is defined and measured and about the extent to which outcomes are reported. In general,

effectiveness is often defined as whether a conservation plan led to implementation of conservation actions. Other definitions might also be applicable. This review will provide the opportunity to examine the frequency of outcomes reporting in planning-related publications and the measures used to define effectiveness of planning. In addition, it has the potential to offer recommendations on the types of data needed to adequately measure effectiveness.

3. Methods

3.1 Search strategy

3.1.1 Electronic database and internet searches

The databases we will use are: ISI Web of Knowledge; Conserve Online; Nature Serve; JSTOR; Google Scholar and University of Queensland library catalogue.

Search terms we will use are as follows:

(*Subject search terms*)	+	(*Intervention search terms*)
Ecoregion		Systematic conservation planning
Bioregion		Conservation plan
Landscape		Conservation assessment
Seascape		Conservation action
Corridor		Land use planning
Region		Spatial planning
Catchment		Conservation zoning

These terms will be searched for only in English language documents inclusive of journal papers, book chapters and unpublished reports and reviews. For the web searches, the first 100 results of each of the searches will be considered.

3.1.2 Other literature-based searches

We will also search websites and documents by organisations, government agencies, research institutions, and international non-government organisations involved in biodiversity conservation, particularly those with an emphasis on planning. We will search citations in bibliographies of selected literature such as Groves (2003), Bottrill and Pressey (in prep), Moilanen, Wilson and Possingham (2009). In addition, we will source recommendations from colleagues associated with the IUCN World Commission on Protected Areas (WCPA) Task Force on Conservation Planning which we lead.

One of our assumptions is that there is little explicit reporting of outcomes from conservation planning. We therefore propose to supplement the search strategy with interview and questionnaire surveys to collect evidence on conservation outcomes generated by planning. Through the search strategy, a list of individuals and/or organisations involved in conservation planning will be compiled from the authors of these documents. In addition, individuals or organisations that are part of our extended network of conservation planners, scientists and academics linked through

the WCPA task force will also be invited to participants in interviews or respond to our questionnaire.

3.1.3 Semi-structured interviews

We will conduct a series of semi-structured interviews (~20 interviews) by which to document the personal experiences of planning experts, inclusive of donors, planners, conservation scientists, academics and managers. This qualitative approach generates knowledge about individuals' attitudes, views and experiences from participating in planning processes, as well as the institutions they represent (Mason 2002). In particular, the interviews will be a useful method by which to gather information on possible benefits of planning (e.g. improved capacity, indirect influence on biodiversity outcomes, individual or institutional learning from involvement in process), costs of planning (e.g., burnout of stakeholders involved in process, conflict with resource users, negative perceptions of successive planning exercises), expectations of planning, which factors influenced outcomes, and the extent to which planners have applied their experience to future planning exercises. A draft interview script is provided in Appendix 1. Interviewees will be sourced through the network of conservation scientists engaged in the IUCN task force on conservation planning (Bottrill & Pressey in prep) and from respondents to the questionnaire. In concordance with the University of Queensland's policy on research ethics, we will apply for ethical approval of the questionnaire and interview designs prior to conducting any surveys. This will be done through the UQ School of Integrative Systems ethics committee. For more information, see details at www.uq.edu.au/research/services/human.

Once the interview process is approved by the UQ ethics committee, we will conduct a pilot study among a subset of planning studies from which we will test and adapt our interview design. Where possible, we hope to be able to conduct face-to-face interviews, in particular at the 2009 Society of Conservation Biology annual meeting held in Beijing, China, which some of our target group of participants are likely to attend. Otherwise, interviews will be held over the telephone or Skype, and where possible, in person.

3.1.4 Survey questionnaire

The questionnaire survey will be conducted to query participants about their expectations of planning, investment of resources in planning and the types of outcomes from plans they were or are involved in. An online survey tool, such as Survey Monkey (www.surveymonkey.com), will be used to disseminate the questions to participants. A web-based approach is preferable to postal mail-outs due to the global distribution of participants. A questionnaire survey can produce quantitative data, not present in existing documents, by which to develop a full representation of the patterns of participants' perceptions (Oppenheim 1992). A draft script of the questionnaire is outlined in Appendix 2 and will be adapted following findings from initial interviews.

3.2 Study inclusion criteria

For inclusion in the literature review, selection criteria will be based on a sequential assessment by first scanning document titles, followed by reading the abstract of

articles with relevant titles, followed by reading the full-text of articles with relevant titles and abstracts. Studies will be deemed relevant based on the presence of the desired subject, intervention and outcome elements as listed below. Repeatability of the article selection process will be determined through sampling the literature database (or subset thereof) by two investigators (MCB and RLP) working independently. The congruence of study selection by the investigators will be assessed by kappa analysis.

3.2.1 Relevant subject(s):

Conservation plans have been developed and applied to diverse contexts across multiple scales. This review focuses upon geographic areas of conservation interest at a regional scale inclusive of terrestrial, marine and freshwater realms. Definitions of regional scale conservation extents includes, but is not limited to:

- Ecoregions
- Land -, sea- or island-scapes
- Regions
- Bioregions
- Some national boundaries
- Corridors
- Networks of protected areas
- Catchments

Conservation action at this scale acknowledges that particular biodiversity features and threatening processes have to be addressed across areas that site-scale efforts alone cannot deal with. Regional projects are also at or close to the scale at which conservation actions are applied. This contrasts with global or continental planning exercises that typically use very large areas (e.g. whole countries or half-degree grids) that can only be tenuously related to units of implementation.

3.2.2 Types of intervention

There is a diversity of conservation planning processes of varying complexity applied to different environments and contexts (Redford et al. 2003). For inclusion in our review, a conservation plan must meet the following criteria:

- Use of a systematic approach to conservation planning defined by two key principles (Margules & Pressey 2000);
    - Explicit statement of goals related to the conservation or restoration of biodiversity and other natural values; and/or the sustainable use of natural resources; and/or the maintenance of ecosystem services;
    - Consideration of *complementarity*, or a measure of the contribution an area in a planning region makes, in combination with other areas, to the full complement of biodiversity features (e.g., species) or conservation goal.
- Spatially explicit;
- Conducted between 1990 and 2006.

3.2.3 Types of outcomes

Our review aims to report any quantitative and/or qualitative outcomes that emerged through the process of planning. We are interested in outcomes that fall under three broad categories:

- **Knowledge/capacity, e.g.**

    - New information about ecological or social systems;
    - Institutional or personal learning applied in future plans;
    - Devolved control of decision making to implementing agency;
    - Competence in a new technology;
- **Socio-political-economic context, e.g.**
    - Social attitudes or behaviour towards biodiversity and/or conservation;
    - Collaborative projects with partner organisations;
    - Burnout of involved stakeholders in lengthy process;
    - Land use or development legislation;
    - Leverage with government or other partners;
- **Conservation, e.g.**
    - Condition of biodiversity features;
    - Reduction in threats, improved condition of features of conservation concern.

The first two categories are outcomes that facilitate the effective implementation and sustainability of conservation plans, and the third includes outcomes that contribute to the overall goal of biodiversity conservation.

Our literature review of conservation plans is likely to provide general information on the context for planning, design of frameworks or planning processes, and outputs produced during the process (e.g., a map of priority conservation areas or schedule of conservation actions to be implemented). In addition, there might be indicators that can provide information on progress towards eventual outcomes (e.g., direct implementation of identified priority areas, influence on development decisions that led to improved conditions for biodiversity).

3.2.4 Types of study

All documents will be assessed and categorised based on the type of information they contain.

3.3 Potential effect modifiers and reasons for heterogeneity

Region of conservation interest (subject)

- Environmental context (e.g., freshwater, marine and terrestrial)
- Socio-economic context (e.g., governance, patterns of threats)
- Inherent distribution of biodiversity (e.g. narrow endemism, environmental gradients)

Systematic conservation planning (intervention)

- Planning approach
- Data availability and state of knowledge about systems
- Budget and other resources
- Institutional capacity

3.4 Study quality assessment

The primary researchers (MCB and RLP) will together determine which documents fulfil the selection criteria for inclusion in the study. All documents that meet the general inclusion criteria will be assessed. In addition, the documents will be categorised based on the purpose of document and the type of information they contain. As this review is primarily interested in data on outcomes from outcomes from conservation plans, the quality of methodology will be assessed on the extent to which outcomes are reported in an explicit and transparent manner, using standard evaluation methodologies. A comprehensive evaluation, which explores quantitative and qualitative data on outcomes from a plan, is therefore rated more highly than a personal descriptive account of what came out of a plan. Mode of dissemination (e.g., published article, unpublished report or short communication) might be an additional variable used to assess quality of documents. There are, however, inherent biases associated with publication in academic literature (e.g. government agencies or NGOs infrequently publish in peer-reviewed journals) that would need to be considered. To present this diversity, a preliminary hierarchy of methodology categories is provided below which is likely to be adapted over the course of the review:

	Document type	Document purpose	Mode of dissemination
1	Evaluation	Audit or review of outcomes from conservation plan which might have been conducted externally (i.e., by someone other than planning team) or internally (i.e., by planning team or affiliated organisations);	1.1 Peer-reviewed publication 1.2 Internally reviewed publication 1.3 Unpublished report or webpage
2	Report on whole or majority of planning process	An overview that describes most of the stages represented in the planning framework	2.1 Peer-reviewed publication 2.2 Internally reviewed document 2.3 Unpublished report or webpage
3	Report on part or one stage of process	A description of one stage (i.e., compilation of spatial data on biodiversity features) or particular innovation or technology applied during planning process (i.e., decision support tool)	3.1 Peer-reviewed publication 3.2 Internally reviewed publication 3.3 Unpublished report or webpage
4	Anecdote, opinion or article	A subjective description of a conservation plan	4.1 Peer-reviewed publication 4.2 Internally reviewed publication 4.3 Unpublished document 4.4 Short communication (e.g., email, conversation)

To address the potential bias between information collected from different methods across multiple plans, we will test the reliability of the source. A subjective anecdote will therefore need to be validated with additional supporting evidence such as from planning documents or interview findings.

3.5 Data extraction strategy

A survey protocol, or code, will be designed to extract data from relevant studies. One researcher (MCB) will initially code the data extracted from each paper. A small group of researchers (RLP and others in our respective labs) will each take a subset of papers to code. Names of additional researchers are to be confirmed. All researchers will then meet to discuss their findings. When coders disagree, each will make a case for their decision and the most appropriate (i.e., ultimately agreed upon) response will be chosen. Coders will base their assessments on the information stated within the paper and will not draw on any other external information. This is important due to the involvement of several of the researchers in a number of the conservation planning exercises covered by the literature being reviewed. Coders will be given only papers in which they have had no involvement in the conservation plan which the article discusses. The relevance of fields in the code book will be tested using a sample article (selected article to be determined).

3.6 Data synthesis and presentation

Information extracted from the three collection methods (e.g., search, questionnaire and interview) on selected studies of conservation planning will be compiled into a codebook. The codebook will be designed to incorporate both quantitative and qualitative data from each of the studies. Appendix 3 outlines a preliminary list of fields to be included in the codebook. Data columns are colour-coded according to information likely to be collected by search strategy, questionnaire or interviews.

4. Potential Conflicts of Interest and Sources of Support

The research is supported by a Northcote Graduate Scholarship (The British-Australia Society) awarded to MCB, the Applied Environmental Decision Analysis Centre (MCB) and James Cook University (RLP). There are no potential conflicts of interest declared.

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Appendix 1. Draft interview script

Interview number

Date

Interviewee

Organisation

Job title

This study is focused on reviewing the effectiveness on strategies using "systematic conservation planning". [Provide definition for participant]. Here we define systematic conservation planning as a process for designing, locating and managing conservation actions in space and time in which explicit goals are stated, stakeholders are involved in decision making, and for which a degree of complementarity is desirable. Complementarity is a measure of the contribution an area in a planning region makes, in combination with other areas, to the full complement of biodiversity features (e.g., species) or conservation goal.

The purpose of this interview is to gather information about outcomes that have emerged from plans you have been involved in, and what factors influenced these outcomes. The interview is made up of two main parts. In the first part, I will ask you about conservation planning in general. In the second part of the interview, I will ask you to discuss your experiences working on one conservation plan in more detail.

The interview will take up to an hour. Would you be willing for me to contact you with follow up questions if there is information we are unable to cover in the time allocated for the interview?

PART ONE: PLANNING IN GENERAL

1. Can you briefly describe how you first became involved in using conservation planning in your role as [*insert job title*]? What subsequent roles in conservation planning have you held? *Prompt to describe environmental context, location, etc.*

2. Based on your experiences, what do you think is the primary purpose of systematic conservation planning ? *Prompt with definition provided above.*

3. "*Conservation action is more effective as a result of conservation planning*". Do you agree or disagree with this statement? *Prompt to provide an example to support response.*

4. What are your expectations, positive or negative, of what conservation planning can achieve?

5a. How would you define an "effective" conservation plan? What constitutes success in planning?

5b. What do you think constitutes failure in conservation planning? *Prompt for an example if appropriate.*

6. "Investment in planning decreases the resources available for conservation action." Is there a "reasonable" level of funds or time that should be dedicated to planning at the expense of conservation action? Can you provide an example of when you might have faced this trade-off in planning versus action?

PART TWO: INVOLVEMENT IN SPECIFIC PLANS

In the second part of the interview, I would like to ask you to discuss your experiences with the development of a specific conservation plan.

Which conservation plan would like to discuss today?

7a. Plan name

7b. Location

8. Is there documentation available on the planning process that you could share with me?
… citation
… URL

9. What agency(ies) or organisation(s) were involved in the design of the plan? Were they also the agency(ies) responsible for delivery of the conservation actions?

10a. In what capacity were you involved in the planning process?

10b. What was the extent of your involvement in different stages of the planning process?

- ☐ plan inception
- ☐ stakeholder negotiation
- ☐ data collection
- ☐ target setting
- ☐ design of new conservation areas
- ☐ implementation of conservation actions
- ☐ monitoring and evaluation of outcomes

11a. Can you briefly describe the impetus for planning – how the plan came about, and the main goals of the plan?

11b. What were the main goals of the plan?

12. What was the duration of the planning process from inception of plan to the development of spatial recommendations?

Inception of plan:

Spatial recommendations:

Implementation of actions:

13. Is the planning process still ongoing?

14a. What were the main outcomes to emerge from the process? *Prompt: If only biodiversity outcomes are discussed, prompt about other changes in knowledge or capacity…or socio-political context. Are they listing outputs or outcomes?*

14b. What information supports your statement?

- ☐ Observation
- ☐ Monitoring survey
- ☐ Expert assessment
- ☐ Other

14c. To what extent are these outcomes recorded in documents? *Note if other form of communications were used (e.g., workshop, public forum)* If not well–recorded, what has prevented outcomes from being recorded comprehensively?

15. What benefits do you think the planning process produced? For whom or what? Were these benefits intentional?

16. Were there any negative outcomes that occurred as a result of the project? *Prompt with an example, e.g., burnout of stakeholders involved in lengthy negotiation processes.*

17a. What factors do you think influenced both these positive and negative outcomes? *Prompt participant to discuss whether factors were related to design of plan, or to the context of the planning region*

17b. What were these factors related to?
…design of plan
…approach to delivery of actions
…context of the planning region
…resources available for processes
…mix of stakeholders, which ones?
…expertise and/or capacity of planning team

17c. How might positive outcomes been enhanced?

17d. How might negative outcomes been reduced?

18. What would have happened to biodiversity features in the absence of a plan?

I would now like to ask you a few more questions about the resources used in planning

19a. How many staff work(ed) on the planning process?
Prompt, size of planning team or number of people days invested.

19b. Were people with experience in other planning processes actively invited to contribute?

20. What was the budget for planning? How much was allocated to implementation? Was this separate? *Follow-up by email if necessary*

21. Do you think that the benefits of planning justify the costs? Why or why not?

22a. What other resources – training, equipment, software, workshops, were used during the planning process?

22b. To what extent were techniques and other tools developed specifically for this process versus pre-existing methods or tools used?

OK. Now, I'm coming to the end of my interview. I just have a few more questions. I am interested in how your experiences from this plan (and others you've been involved in) have contributed to the way you view planning as a strategy and the way you apply planning.

23. In that part of your career involved with conservation planning, what do you think you have learnt that you have applied or could apply in future plans? Can you provide any examples?

24. Has your organisation changed its approach to conservation planning as a result of this planning exercise?

25. An additional component of this research will be the distribution of an online questionnaire which aims to gather information on general trends and patterns associated with conservation planning. This will be a brief exercise. Would you know of people or organisations involved in planning that might be willing to participate and that I might contact about this study?

I have now asked all my questions. Thank you for your time.

Appendix 2. Draft questionnaire outline

The format and content of the questionnaire will be informed by findings from a literature review and a series of semi-structured interviews with experienced conservation planners. The following draft outlines some of the main concepts and topics that the questionnaire intends to cover.

Questionnaire approach
The questionnaire aims to gather quantitative and qualitative data on the outcomes of systematic conservation plans from a large number of respondents. Sampling of participants intends to capture the diversity and distribution of organisations and individuals actively developing and applying conservation planning across multiple socio-economic and environments worldwide. The questionnaire will be distributed through an online survey tool, such as Survey Monkey: www.surveymonkey.com. To maximise the number of responses, the questionnaire aims to take less than 15 minutes.

Section 1. Research study information
- Brief overview of project
- Definitions of key terms (e.g., systematic conservation planning etc.)
- About the researchers
- Role of participant
- Confidentiality
- Informed consent (tick box)

Section 2. Participant background
- Geographic region of interest
- Environment
- Affiliation
- Current location

Section 3. Perceptions of conservation planning in general
- Expectations of conservation planning
- How would you define an effective conservation plan?

Section 4. Involvement in specific conservation planning
Part A. General information on planning exercise
- Name of particular conservation plan (optional)
- Impetus for plan
- Goals of conservation plan
- Type of approach
- Type of planning agency

Part B. Results from planning process
- New techniques or tools developed for process (tick all that apply)
- Outcomes from planning process
    - Tick list
    - Open ended
- Negative and positive outcomes

Part C. Resources for conservation planning

- Budget
- Staff (locally-based versus external)
- Duration
- Software
- Measure of adequacy

Section 5. Learning from conservation planning

- Extent of individual learning
- Extent of organisational learning

Section 6. End of questionnaire

- Feedback to participant (optional)
- Comments or questions for researchers

Appendix 3. Codebook (draft)

DOCUMENT OVERVIEW

1. Document type
    - Peer-reviewed journal article
    - Book or book section
    - Internal report
    - External report or evaluation
    - Conference proceedings
    - Presentation
    - Media article
    - Undefined

2. Document purpose
    - Descriptive, account or case study
    - Plan evaluation
    - Review of planning outcomes
    - Practical guidelines
    - Theoretical, position paper or review
    - Undefined

3. Author affiliation: what type of organization is the author affiliated with (three boxes for multiple authors)
    - University
    - International NGO
    - Government agency
    - Consultant
    - Research institute
    - Undefined

4. Academic discipline: what is the author's academic discipline (three boxes for multiple authors)
    - Ecologist
    - Conservation Biologist
    - Land use planner
    - Geographer
    - Social scientist
    - Undefined

5. Author location: country of association of author's affiliation

6. Date: date of release or publication

PLAN OVERVIEW

7. Case study name: the name the conservation plan is known by

8. Case study site:
    - Country name

9. Geographic location: choose the "terrestrial biorealm" (as indicated by the WWF at www.worldwildlife.org) in which the plan is located

- Neartic
- Oceanic
- Neotropical
- Antarctic
- Afrotropical
- Palearctic
- Indo-Malay
- Australasia

10. Environmental context:

- Terrestrial
- Marine
- Freshwater
- Land-Sea
- Undefined

11. Conservation goal: the primary purpose of the conservation plan. If there is more than one purpose, choose the primary one unless they are given equal weight, then choose mixed.

- Biodiversity persistence
- Restoration
- Ecosystem services
- Sustainable use
- Other (conservation)
- Economic
- Political
- Mixed (Persistence/Restoration/Services)
- Undefined

12. Project inception: the date the plan was initiated

13. Project impetus: where did the idea or concept for applying a conservation plan originate

14. Planning agency: who or what organisation is responsible for initiating and/or leading the conservation planning process

15. Implementing agency: who or what organisation is responsible for implementing the project

16. Level of centralization: what type (level) of organization is responsible for implementing the project (refers to the organization entered for *implementing agency*)

- International
- National
- Regional (state/province/district/locality)
- Mixed (National/International)
- Private foundation

Undefined

17. Type of planning approach: name of planning approach or framework if recognised (e.g., WCS Living Landscapes approach)

18. Duration of planning process (in years)
    Numeric value
    Ongoing
    Terminated (last complete stage)

CONTEXT OF PLANNING REGION

19. Ecosystem type: select one of the ecoregions from the WWF website (http://www.worldwildlife.org). If more than one ecoregion is represented, select the primary ecoregion. Three columns included for the most dominant 3 types.
    Tropical & Subtropical Moist Broadleaf Forests
    Tropical & Subtropical Dry Broadleaf Forests
    Tropical & Subtropical Coniferous Forests
    Temperate Broadleaf & Mixed Forests
    Temperate Conifer Forests
    Boreal Forests/Taiga
    Tropical & Subtropical Grasslands, Savannas & Shrublands
    Temperate Grasslands, Savannas & Shrublands
    Flooded Grasslands & Savannas
    Montane Grasslands & Shrublands
    Tundra
    Mediterranean Forests, Woodlands & Scrub
    Deserts & Xeric Shrublands
    Mangroves
    Marine
    Undefined

20. Geographic extent: extent of the area of concern of the conservation plan
    Numeric value (km^2)

21. Land tenure: who owns and manages the land; (three columns s
    Private (local)
    Private (non-local)
    Communal (indigenous)
    State/Regional
    National
    Joint – specify joint land tenure arrangements as they arise in articles

22. Use (utilization types): how are the resources used (three boxes so that multiple uses can be recorded)
    Grazing
    Commercial agriculture
    Subsistence agriculture
    Natural product collection

Industry
Urban
Peri-urban
Tourism
Protected area or other conservation arrangement
Commercial fishing
Subsistence fishing
Undefined

23. Affected groups: groups of stakeholders directly affected by the outcomes of conservation plan (e.g., establishment of conservation areas) (two columns)

24. Involved groups: what groups are involved but not directly affected by the outcomes of the conservation plan (three columns)

RESOURCES FOR PLANNING

25. Budget: The amount of funds allocated for the conservation plan from inception of process to implementation of actions
Numeric value (US$)

26. Software: extent to which software was developed and applied in planning process
Development of new software
Application of existing software
Adaptation of existing software
No software used in process

27. Staff
Number of staff

28. Other resources
Training
Equipment
Workshops
Undefined

OUTCOMES

29. Types of outcomes
Conservation
Knowledge/capacity
Socio-political-economic
Other

30. Evidence of outcomes
Survey result
Observation
Other