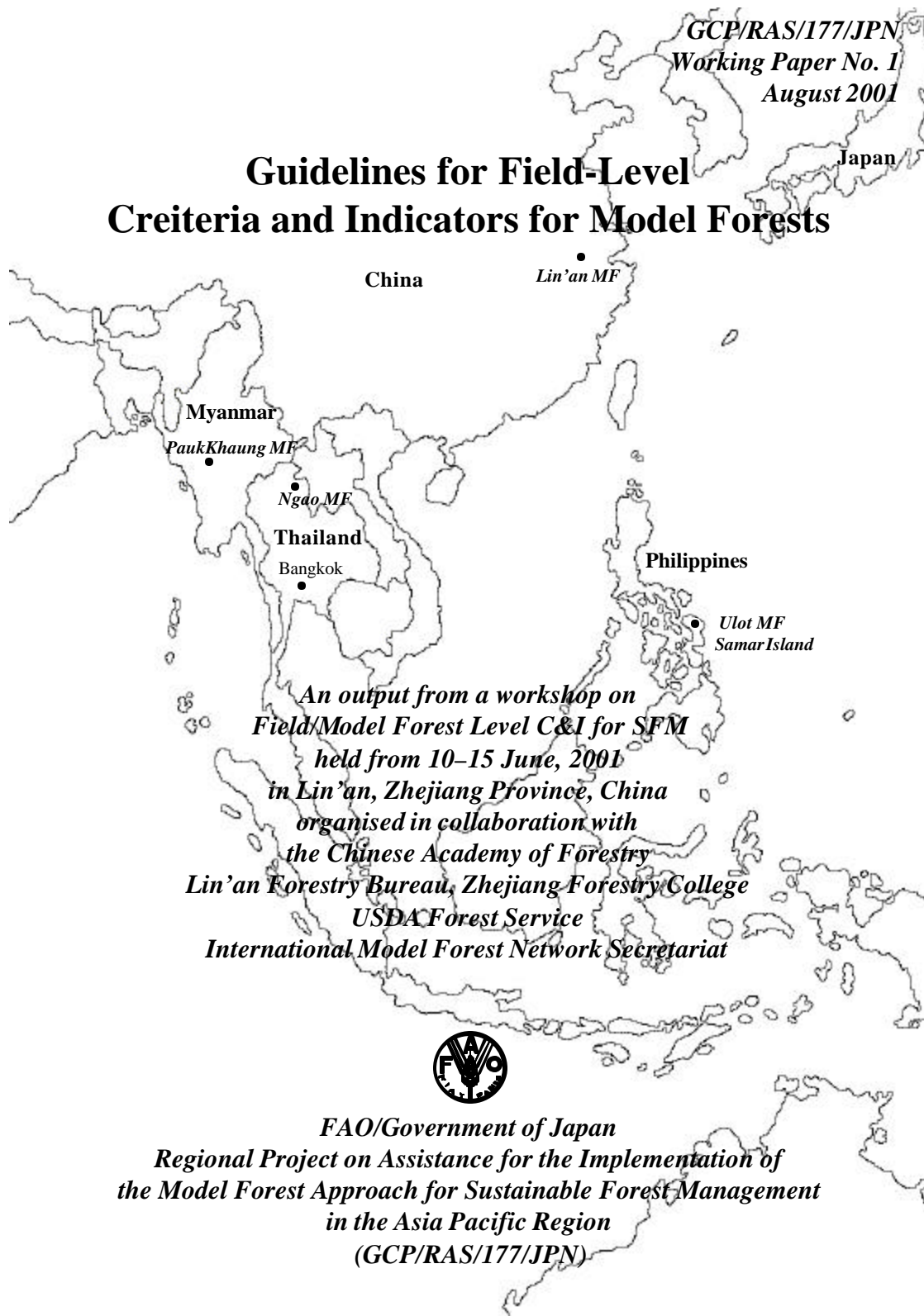


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Working Paper No. 1
August 2001*

Guidelines for Field-Level Criteria and Indicators for Model Forests



*An output from a workshop on
Field/Model Forest Level C&I for SFM
held from 10–15 June, 2001
in Lin'an, Zhejiang Province, China
organised in collaboration with
the Chinese Academy of Forestry
Lin'an Forestry Bureau, Zhejiang Forestry College
USDA Forest Service
International Model Forest Network Secretariat*



*FAO/Government of Japan
Regional Project on Assistance for the Implementation of
the Model Forest Approach for Sustainable Forest Management
in the Asia Pacific Region
(GCP/RAS/177/JPN)*

This Working Paper is one of a series of publications prepared during the implementation of the FAO/ Government of Japan Regional Project on Assistance for the Implementation of the Model Forest Approach for Sustainable Forest Management in the Asia Pacific Region (GCP/RAS/177/JPN, or Regional Model Forest Project, RMFP).

The RMFP is funded by the Government of Japan and executed by the Food and Agriculture Organisation (FAO) of the United Nations. It is based at the FAO Regional Office for Asia and the Pacific in Bangkok, covers four countries, i.e. China, Myanmar, Philippines and Thailand, and will run for 30 months (February 2000 to July 2002). The project aims to assist the four countries to strengthen national and community-level capacities in the development and implementation of field-level model forests, and thus contribute to their efforts to use and manage their forest resources on a sustainable basis. The field-level model forests will promote partnerships among stakeholders in the planning, use and management of the model forests; “*best practices*” for SFM, taking into account the multiple uses and functions of forests, diverse demands of the stakeholders, need to balance economic, social and environmental considerations, and special needs and priorities of each country; and local, national and regional networks to facilitate collaboration and cooperation among agencies and persons involved in SFM. It will also provide technical, training and other support; and assist in the development of appropriate field manuals and guidelines.

The conclusions and recommendations given in this Working Paper are those considered appropriate at the time of its preparation. They may be modified in the light of further knowledge gained in the subsequent stages of the Project.

The designations employed, and the presentation of the materials and maps in this document, do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organisation (FAO) of the United Nations (UN), the Government of Japan, the RMFP or the four Project countries concerning the legal status of any country, territory, city or area, or if its authorities, or concerning the delimitations of its frontiers or boundaries.

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Foreword

The development of criteria and indicators (C&I) for Sustainable Forest Management (SFM) gained prominence during and after the United Nations Conference on Environment and Development (UNCED) in 1992. Among the C&I and related initiatives that followed were the Helsinki, Montreal and Tarapoto Processes, the Inter-Governmental Panel (and the succeeding Forum) on Forests (IPF/IFF), and work by the International Tropical Timber Organisation (ITTO). Much of the work to date has been on C&I at the national level. However, we must ensure that the situation at the field level is consistent with the situation at the national level. Therefore, it is just as important to develop and apply C&I for SFM at the field level.

One of the outputs of the *FAO/Government of Japan Regional Model Forest Project (RMFP, GCP/RAS/177/JPN)* is the preparation, testing and evaluation of C&I for SFM in the model forest areas. The 2nd Project Steering Committee (PSC) meeting of the RMFP in February 2001 in Chiangmai, Thailand, recommended that the theme for the 3rd regional model forest workshop, that will precede the 3rd PSC meeting in Myanmar in November 2001, be “*C&I for Sustainable Model Forest Management*”.

As all four RMFP countries are still in the early stages of C&I work, a workshop was convened from 10-15 June 2001 in Linan, China, supported by resource persons from Canada, USA, Japan, China, Malaysia, RECOFTC (Regional Community Forestry Training Centre) and CIFOR (Centre for International Forestry Research), to discuss the concepts, issues, constraints and opportunities of C&I, particularly at the model forest level, and to develop practical guidelines for use by RMFP countries. The “*Guidelines for Field Level Criteria & Indicators for Model Forests*” was the main output of the workshop, and is being published as a RMFP Working Paper so that it can be made available to a wider audience. The report of the workshop, which includes these Guidelines as Annex 5, and the papers presented, will be published in the Proceedings of the workshop.

We would like to thank the Government of Japan for their generous funding of the RMFP; the Government of China for hosting the C&I workshop; the USDA Forest Service and International Model Forest Network Secretariat for co-sponsoring the workshop and providing resource persons; RECOFTC, CIFOR, Chinese Academy of Forestry (CAF) and Forestry Department, Peninsular Malaysia for providing resource persons; CAF, Lin'an Forestry Bureau and Zhejiang Forestry College for providing invaluable organisational and other support; Mr. Jiang Chunqian of the CAF for his never-ending work and support as the local focal point for the workshop; Mr. Martin von Mirbach for being the lead resource person for the workshop and the *Guidelines*; and all the participants for their active inputs into the workshop, and into the *Guidelines*.

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Guidelines for field-level C&I for model forests

These guidelines were developed by participants at the *Workshop on Field/Model Forest Level Criteria and Indicators for Sustainable Forest Management*, which took place in Lin'an, China from 10-15 June 2001. They are intended for use by the four model forests in the FAO/Government of Japan Regional Model Forest project.

1. Introduction

Since the early 1990s there has been a growing number of initiatives aimed at identifying C&I of sustainable forest management (SFM). These initiatives are intended to:

- provide a common understanding of what is meant by SFM;
- provide a common framework for describing, assessing and evaluating a country's progress toward sustainability at the national level;
- help provide a reference for policy-makers;
- provide a basis for international cooperation aimed at supporting SFM; and
- help clarify ongoing dialogues related to international trade in products from sustainably managed forests.

Much of the initial interest in criteria and indicators arose from a need to report both nationally and internationally on progress made towards SFM. However, it soon became apparent that the ability to demonstrate national advancement towards SFM rests largely with actions that are carried out at the field level. If these actions are to be assessed it will require indicators that are particularly suited to local needs.

A MF is a place where the best SFM practices are developed and tested at the field level. At the heart of each MF is a group of partners having different perspectives on the social, economic and environmental dynamics within their forest – perspectives that are necessary to make more informed and fair decisions about how to manage the forest.

A MF is ideally suited to develop and effectively apply widely acceptable indicators of SFM at the local level because of its broad partnership base and perspectives representing a diversity of forest values. For this reason MFs around the world have responded to the challenge of developing and implementing criteria and field-level indicators of SFM.

2. Basic elements of the MF approach to C&I

2.1 Scale

MF work on C&I will be primarily focused at the scale of each MF area. For some indicators, however, it will be necessary to use a different scale. For example, indicators of water quality may be most practical at the watershed scale, and indicators of community well-being most meaningful when applied to specific communities. In these cases, it may be more appropriate to report on case studies within the MF area rather than to try and measure the indicators across the entire MF. When using case studies, however, it should be kept in mind that the overall intent is to make SFM meaningful at the MF level. Therefore, care should be taken to balance case studies with information that is more fully representative of the MF as a whole.

2.2 Role of partners and partnerships

Partnerships are key to the success of MFs, and to the success of C&I work carried out by MFs. MF partners can make valuable contributions to C&I work at the field level in a number of significant ways:

- a) They provide perspectives to ensure that the framework of C&I encompasses the full range of forest values.
- b) They bring specific information that can assist in the identification of relevant indicators.
- c) They can assist in gathering data and in forest monitoring.
- d) They can help to communicate to the people they represent about SFM.

All MF partners should have an opportunity to be involved in selecting, refining, testing and implementing field-level C&I. MFs should also seek to form alliances with new partners that have not necessarily been involved in the past, but who have specific contributions to make.

MFs will normally use all three of the following methods for ensuring broad involvement in the C&I process, as well as other methods that they may devise:

- a) formation of a MF committee for work on C&I;
- b) holding one or more workshops or special events at which a broad range of interests are included, including ones that are not regular contributors to the model forest; and
- c) specific outreach to targeted stakeholders or sectors of society.

MFs should seek input from as broad a group as possible, and should consider inviting representatives from the following interests, which is not intended to be a definitive list:

- Forest department

- Other governmental agencies
- Timber enterprises
- Other forest-dependent businesses
- Federations of forest-dependent associations (Philippines)
- Sub-stations of the Central Administration (Thailand)
- Collective members (China)
- Farmers
- Tourism organizations
- Local communities
- Military
- Environmental NGOs
- Students
- Youth organizations
- Academic institutions
- Religious leaders
- Influential individuals
- Donors

It is important for the MF to seek to ensure that the people who participate in the process are able to effectively represent a particular interest. Participants should be informed at the outset what their role will be in the process, both in terms of the degree of commitment expected as well as the decisions that will be taken. It may be important to specify that the MF does not in any way supplant existing legislated authority and responsibility.

In order to secure commitment from participants it is important to ensure that there is some benefit to the participant. This can include access to information, enhanced credibility and profile, participation in joint projects, access to resources, the chance to influence decision-making and the opportunity to form good working relationships with other agencies and stakeholders. While it can be helpful to offer these benefits as an incentive to encourage broad participation, care must be taken to avoid raising false expectations, and to deliver any commitments that are offered.

Finally, it will be extremely important for MFs to make sure that multistakeholder events are carried out in a way that respects and accommodates the different ways that people engage effectively in consultation processes. MFs can avail themselves of resources to help them with participatory learning, and should especially seek to support and build on local capacity in this regard. Some of the considerations to be addressed include:

- creating a balanced environment that is not dominated by one individual or group;
- creating environments in which minority or dis-empowered interests feel

- comfortable about participating;
- accounting for cultural and gender differences; and
- recognizing and accounting for different learning styles.

MFs are encouraged to be innovative in how they conduct meetings, allowing for flexibility in meeting format, timing and location. Games and other active exercises can help to vary the pace of meetings, and provide opportunities for participants to discuss and reflect on the process itself.

2.3 Role of networking and information-sharing

The strength of MFs lies in the strengths of their partnerships, and in their relationships with other collaborators. MFs should seek to expand and build upon these formal and informal networks wherever possible. Where there are existing initiatives that are relevant to C&I MFs should strive to collaborate with and add value to these initiatives.

In particular, MFs should collaborate closely with national level C&I initiatives. MFs can benefit from the information, experience and knowledge gained as a result of national-level initiatives, and by associating with national initiatives can achieve greater profile and credibility. At the same time, national initiatives can benefit greatly by collaborating with MF C&I initiatives, since these field-level activities can result in valuable information and case studies relevant at the national level. As well, MFs can serve as test sites to explore methods and approaches that can be applied more broadly.

MFs should also seek to work with local level or community-based initiatives that are relevant to C&I, such as community-based assessment, objective-setting and forest monitoring programs.

MFs are in an ideal situation to knit together the insights and experience gained through community-based (bottom up) approaches with the information and benefits that result from national level (top down) initiatives.

3. Outcomes and desired impacts

Although there is a general appreciation within the forestry community of the significance of C&I as a tool to measure progress towards SFM it is important as well for MFs and MF partnerships to be clear about their specific interests in C&I. This is because experience in other MFs has shown that there are many possible applications for C&I, but that the appropriate approach to C&I development will be influenced by the intended application. As well, MF partnership members will in many cases not be familiar with the concept of C&I, and a discussion of desired outcomes or benefits can be a useful way for model forest partnership committees to understand and

support the concept.

Possible benefits or long-term impacts of C&I in MFs might include the following:

Improved management planning

- Framework to ensure that the full range of values is addressed
- Framework to set baselines and targets
- Improved on-the-ground practices
- Ability to set priorities for further actions
- Prioritization of needs for resources

Review, assessment and analysis

- Tool to link actual performance with stated goals and objectives
- Assessment of the benefits that forests provide to people
- Structured way of examining activities
- Tool for self-assessment
- Identify gaps in information
- Tool for adaptive management

Consistency, comparability and comprehensiveness

- An objective perspective that includes in its scope the full range of forest values
- A common language; a shared framework
- Ability for stakeholders to see how they are contributing to national goals
- Comparability to internationally credible standards
- Identify commonalities among model forests, as well as their uniqueness

Accountability

- Link actual performance with stated goals and objectives
- Increased transparency
- A framework for healthy debate

Capacity building

- Strengthened visibility and profile for model forests
- Communication to the public about SFM
- Enhanced collaboration and learning from others

Planning for the future

- Set priorities for future action
- Identify priorities for financial resources and assistance needs
- Set priorities for research efforts
- Design specific activities to promote community well-being

Enhanced well-being

- Ensure healthy ecosystems
- Promote social benefits and community well-being
- Generate economic benefits

At an early stage in the C&I process the MF should call on its partnership to discuss the potential benefits of C&I. One way to do this is to gather as many ideas as possible about the potential benefits of C&I (such as in a brainstorming exercise) and then to prioritize them. At the end of this exercise the MF should have a clear statement of intent about why it is working with C&I, and a clear focus for its work. This statement of intent will help to focus and guide C&I activities.

Statements of intent that can be derived from the efforts of other MFs include the following:

- C&I will be used by the MF and its partners to guide forest management planning.
- The MF will use C&I to monitor the implementation, success and impacts of its projects.
- The MF will use C&I to measure and report on the overall state of forest health and SFM in the MF area.
- The MF will use C&I to communicate to the public about what SFM means and its relevance in the MF area.
- The MF will use C&I to measure and record the success of its partnership.

It is important that the statement of intent be strongly supported by all partners, so as to ensure that there is a high degree of commitment to the C&I initiative. The statement can be used to help develop specific work plans, and will also influence the selection of appropriate indicators. For example, if the primary intent is to guide forest management planning then the indicators will be directly related to management actions, but if the intent is to communicate about SFM then the best indicators to use will be the ones that are most meaningful to the chosen audience.

4. Principle tasks in developing and refining indicators for MFs

4.1 Adopting a framework of criteria

Criteria are important because they outline the broad categories of issues that are included in the concept of SFM, linking ecological, social and economic considerations in a single framework. MFs will use as a starting point the criteria that have been adopted (or provisionally accepted) for use at the national level, which are generally adapted from internationally recognized ITTO or Montreal Process frameworks. These criteria will in many cases need to be modified slightly in order to

make them more relevant at the model forest level, but it is important to show where the linkages exist. If, for example, a model forest decides to delete one of the national criteria or to reword it substantially, then the model forest should demonstrate how the issues addressed under the deleted or altered criterion are being addressed in the new framework.

4.2 Assembling an initial set of indicators

When beginning the indicator selection process it is usually better to be inclusive, and to start with a long list of indicators. This increases the likelihood of capturing suggestions for indicators that will be most useful at the model forest level. Any or all of the following three approaches can be used:

- a) National indicators. It can be useful to consider the national indicators developed for both the ITTO and the Montreal Process frameworks, regardless of which particular framework has been adopted as the national framework. Both frameworks have distinctive approaches to the selection of indicators. However, many national-level indicators may not be relevant or practical at the model forest scale.
- b) Other indicators. There are a number of sets of indicators that have been identified as relevant at the sub-national scale, including indicator sets developed for other model forests and examples such as the CIFOR generic template of indicators. There will be many useful indicators included in these lists.
- c) Model forests can choose to solicit suggestions for indicators directly from their partnership members. This can, for example, be done in a workshop format, when participants agree on a set of values or goals pertaining to each criterion, and are then asked to suggest ways to measure the extent to which that value or goal is being achieved. For example, under the criterion “Soil and water” a group of workshop participants might agree on the following goal: “Ensure the continuous supply of safe drinking water.” The indicator to measure whether this goal is being achieved might be the degree of protection from logging activities in critical headwaters.

4.3 Refining and screening indicators

It will always be necessary to reduce the number of indicators, and this is best done through a screening process that assesses each indicator according to a number of factors. Model forests can do this by assembling a master list of indicators resulting from step 4.2 above, and then assessing each indicator according to several factors. The sample set of questions below has been adapted from work done by the Canadian Model Forest Network and CIFOR:

1. Understandable: Is the indicator readily understandable to the appropriate audience?

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2. Relevant: Does the indicator tell us something meaningful about the criterion?
3. Responsive: Is it responsive to management actions, and will it show trends over time?
4. Measurable: Is the indicator measurable at an appropriate scale, and with sufficient accuracy to be useful?
5. Cost-effective: Is the cost of measuring this indicator justified by the value of the information it provides?
6. Critical: Does the indicator provide insight into an important issue of concern, and is therefore a priority for the model forest?

These questions can be answered with a yes/no or a simple scoring method. It will be possible to eliminate a great many indicators as a result of this screening process, but any scoring system has biases in it and should not be relied upon to produce a comprehensive final set of indicators. The screening process can produce a “short list” of indicators, which will then need to be discussed and refined further. In many cases model forests will choose to begin their data collection efforts on an even smaller core set. In this case there should be efforts made to ensure that the core set reflects the full range of criteria, even if only in a preliminary manner.

4.4 Gathering data and assessing the feasibility of indicators

No matter how carefully the indicators have been screened in the selection process described in Section 4.3 there will almost always be unforeseen difficulties in getting reliable information on certain indicators. That’s why the phase of data gathering includes provision for further refinement of the indicators.

Data gathering can refer to new data collection (such as through field monitoring programs) or simply getting access to existing data. Existing data has the significant advantage of being considerably cheaper to compile compared with gathering new data, especially field data. As well, existing data often includes historical records, making it possible to show long-term trends.

Attached as an appendix to these guidelines is a sample checklist for data requirements. This checklist is normally filled out when the refined set of indicators has been agreed to, and it requires people to consider technical aspects of the indicator (how it will be measured, its accuracy, etc) as well as to identify roles and responsibilities for data collection.

Model forests should also consider innovative ways to gather data, such as establishing volunteer citizen’s monitoring programs. These can be cost-effective and very informative.

4.5 Evaluating and interpreting data

In order for data to become meaningful it must be evaluated and interpreted. There is no single way to do this, since it depends on the indicators, the data obtained and the purpose of collecting the data in the first place. Quantitative data can be analyzed in detail, and can be given a numerical rating and compared with other scores. Qualitative or descriptive information, on the other hand, can be interpreted more generally, as telling part of the “story” of SFM.

5. Action Plan for C&I development, July 2001-July 2002

Each model forest will prepare and implement an action plan for carrying out the steps described above, using the following format and common outputs:

Activity	Schedule	Person/group responsible	Expected output	Resources needed	Source of assistance
			Statement of intent (deadline Oct 31/01)		
			Refined set of indicators (deadline Oct 31/01)		
			Action plan for gathering data (deadline Oct 31/01)		
			First status report on core indicators (deadline May 31/02)		
			First report on implementation of C&I (deadline May 31/02)		
			Draft 2002/03 Workplan (deadline May 31/02)		

Adopted by unanimous support of the participants at the Workshop on Field/Model Forest Level Criteria and Indicators for Sustainable Forest Management, Lin'an, China, June 15, 2001, 9:15am.

Sample checklist for data requirements

1. General information	
Higher-order information	<i>criterion, critical element, etc, that the indicator relates to</i>
Indicator	
Unit of measure	<i>If the indicator is not already expressed in this way</i>
Description	<i>simple description of why the indicator is relevant/important</i>
2. Relationship to management planning	
Value or goal	<i>value or goal associated with the indicator</i>
Objective or target	<i>objective, target, threshold, range, etc</i>
Policy requirements	<i>policies, legislation or regulations that relate to the indicator</i>
3. Measurement and monitoring protocols	
Scale	<i>the scale that is most appropriate to that indicator</i>
Interval	<i>the frequency with which the information will be gathered and updated</i>
precision required	<i>degree of precision required</i>
Sampling protocol	<i>How the data is to be gathered (sample plots, survey returns, etc)</i>
4. Data specifications	
Location	<i>agency that has the data</i>
Format	<i>technical specifications if computerized</i>
Availability	<i>note any restrictions</i>
Reliability	<i>note any gaps or inconsistencies</i>
Progress to date	<i>include current status</i>
Baseline	<i>any baseline measurements that are available</i>
Research needs	<i>note work that needs to be done to address inadequacies</i>
5. Responsibilities	
Lead person or agency	<i>responsible for ensuring that the data is acquired in a usable format</i>
Project leader	<i>for field work; this person may be different from the above</i>
Data management	<i>agency responsible for data storage on an ongoing basis</i>
Cost	<i>direct and in-kind; labour, equipment and other</i>
Agency(ies) to bear or share costs	