

**Comparing Forest Management
Certification Systems
and
the Montreal Process
Criteria and Indicators**

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EXECUTIVE SUMMARY

The *Montreal Process Criteria and Indicators* for the Conservation and Sustainable Management of Temperate and Boreal Forests (MP C&I) represent a commitment by the United States and eleven other countries with temperate and boreal forests to move towards sustainable forest management. Participants in the Montreal Process have developed an agreed-upon framework for determining the status of the condition of forests that includes seven criteria and sixty-seven indicators. It is hoped that by establishing a better understanding of these trends and conditions, policy makers and stakeholders will be able to make better-informed decisions about forest management.

Another process, *forest management certification*, offers a distinct but related approach to sustainable forest management. Forest management certification is the process by which forest management practices are evaluated against a set of standards. It is a tool that benefits both landowners, in terms of market share, as well as consumers, who are assured that their purchase comes from a forest whose management meets certain standards.

These two approaches to achieving sustainable forest management share several commonalities, including their voluntary approach, their commitment to data collection and reporting, their inclusion of the three key elements of sustainability – social, economic, and environmental – and their contributions to society through enhancing our understanding of sustainable forest management.

However, there are significant aspects that distinguish these approaches from one another, including scale, outcome, orientation, audience, and participation. A key difference is the fact that the C&I address conditions in a descriptive manner, while certification offers a prescriptive orientation.

In response to some confusion about the relationship between C&I and certification, this paper seeks to explain their respective backgrounds, objectives, and current applications, and clarify their similarities and differences. These differences are highlighted by examining two major certification systems in the United States, and comparing the language to the MP C&I.

In addition, the paper explores future directions for C&I and certification. Both are likely to evolve, due to their increased presence in policy discussions and in the marketplace. They may become more integrated over time, as they each enhance dialogue about the other. But because they serve different functions, with distinct goals, it is unlikely that one will convert into the other. Instead, policy makers, landowners, and land managers will be able to utilize two tools that will each serve to promote progress towards sustainable forest management.

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INTRODUCTION

Forestry professionals, environmentalists, governments, and landowners increasingly are working to define and implement sustainable forest management. From their efforts, two distinct but related tools have emerged that help guide and measure forest management decisions and outcomes. Processes utilizing *Criteria and Indicators* (C&I) provide a framework for determining the status of ecological, economic, and social conditions of forests. *Forest Management Certification* evaluates forest management practices against a set of standards. In response to some confusion about the relationship between C&I and certification, this paper seeks to explain their respective backgrounds, objectives, and current applications, and clarifies their similarities and differences.

There are various “Criteria and Indicator” systems and numerous certification systems around the world. This paper focuses on those systems used in the United States. In particular, we highlight the Montreal Process Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (MP C&I), and discuss some related C&I efforts. We compare these systems of C&I to two forest certification systems: certification accredited by the Forest Stewardship Council[®] (FSC), and third-party independent verification by the Sustainable Forestry Initiative[®] (SFI).

CRITERIA AND INDICATORS

Montreal Process Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests

(Source: RSF 2001; McWilliams et al. 2001)

“Sustainable Development” emerged as a popular concept in the mid-1980s after years of dialogue about how to address vital global issues, and it was defined in 1987 by the Brundtland Commission as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” During the ensuing decade and a half, the idea of sustainable forest management evolved as the widely accepted manifestation of sustainable development applied to the forest resource. Sustainable forest management has at its heart three elements: ecological health, economic vitality, and social values.

In 1992, countries participating in the United Nations Conference on Environment and Development (also known as the “Earth Summit”) endorsed a comprehensive set of “Forest Principles” that gave political recognition to the multiple values of forests, and further recognized forests as one of the keys to sustainable development worldwide. In 1993, a meeting was held in Montreal that led to what is now called the Montreal Process. Participants in this process, which includes the U.S. and other countries with temperate and boreal forests, have developed an agreed-upon framework for measuring national progress toward sustainable forest management that includes seven criteria and sixty-seven indicators, known collectively as the Montreal Process Criteria & Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (MP C&I).

Table 1 – Montreal Process Criteria

Criterion 1	Conservation of Biological Diversity 1.1 Ecosystem diversity (5 indicators) 1.2 Species diversity (2 indicators) 1.3 Genetic diversity (2 indicators)
Criterion 2	Maintenance of Productive Capacity of Forest Ecosystems (5 indicators)
Criterion 3	Maintenance of Forest Ecosystem Health and Vitality (3 indicators)
Criterion 4	Conservation and Maintenance of Soil and Water Resources (8 indicators)
Criterion 5	Maintenance of Forest Contribution to Global Carbon Cycles (3 indicators)
Criterion 6	Maintenance and Enhancement of Long-term Multiple Socio-Economic Benefits to Meet the Needs of Societies 6.1 Production and consumption (6 indicators) 6.2 Recreation and tourism (3 indicators) 6.3 Investment in the forest sector (4 indicators) 6.4 Cultural, social, and spiritual needs and values (2 indicators) 6.5 Employment and community needs (4 indicators)
Criterion 7	Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management 7.1 Legal framework (5 indicators) 7.2 Institutional framework (5 indicators) 7.3 Economic framework (2 indicators) 7.4 Measure and monitor changes (3 indicators) 7.5 Conduct and apply research and development (5 indicators)

The Montreal Process countries are now focused on implementing the MP C&I by collecting data and improving and developing data-collection methodologies, as well as by integrating the MP C&I into their assessment, monitoring, reporting, and policy making. Other groups of countries have also developed similar sets of C&I to monitor progress towards sustainable forest management. In the United States, a multi-institutional Roundtable on Sustainable Forests formed in 1998 to support adoption of the MP C&I. The Roundtable is a forum for dialogue regarding how the MP C&I can contribute to improving forest management.

The MP C&I are a *framework for determining the status of the condition of forests*, and are designed to enhance national dialogue about sustainable forest management. They can also be used to assess trends at the regional or local scale, as appropriate. They describe individual elements of sustainable forest management (social, economic, and environmental) that need to be assessed to determine national and sub-national trends in forest conditions. C&I provide a common language with which to examine our understanding and measure the current state of the three elements of sustainable forest management. It is hoped that by establishing a better understanding of these trends and conditions, policy makers and stakeholders will be able to make better-informed decisions about forest management.

Several efforts are underway to adapt MP C&I or to develop new C&I systems for use at the regional or local level. The Oregon Department of Forestry is using MP C&I as a framework for management of state forestlands in Oregon. A multi-state effort of the Great Lakes Forest Alliance is developing C&I for guiding forest management across the region. Their criteria are based on a “three-pillar” system including economic, environmental, and social criteria. Additionally, several local community efforts exist (e.g., Wallowa County, Oregon) that are adapting MP C&I for use in county level planning.

FOREST MANAGEMENT CERTIFICATION

Forest management certification is the process by which forest management practices are evaluated against a set of standards. The term “certification” is now commonly understood to be “independent verification” (SAF 1999; Pinchot Institute 1999) of conformity to those standards, generally by a third party. It is a tool designed to document and reward specific forest management practices, and to assure consumers of forest products that their purchase comes from a forest whose management meets certain standards. A critical aspect of certification is the fact that it is a voluntary, non-regulatory approach to improving forest management practices. Certification is designed to allow products flowing from certified forests to gain favor in the marketplace.

There are a number of reasons for certification’s recognition within the field of forestry. Motivations on the part of landowners and forest managers may include: improving auditing and assessments of the performance of forest management, strengthening credibility and public acceptance of forestry, improving overall business and forest practices, exploring market incentives through development of demand for forest and wood products, and reducing the “threat” of regulation (SAF 1999). Advocates of certification believe that its application can lead to improvements in forest management on the ground and can strengthen efforts to achieve sustainable forest management. The use of certification as a tool to address concerns over forest management shares some history with the development of the Montreal Process Criteria and Indicators, growing out of several of the same developments in the 1980s and 1990s. Building on the recognition of sustainability, certification responds to the three aspects of sustainability: social, economic, and environmental. Certification links these elements by providing a mechanism for market pressures to be exerted on companies competing for market access and market share. For example, several major US retailers of forest products now prefer certified products where available. This has the potential to make certification an imperative for getting products to market, but it is too early to tell if this strategy for forest conservation will succeed.

Certification Examples:

Forest Stewardship Council and Sustainable Forestry Initiative

To better describe the differences between the Criteria & Indicators and forest certification, two major certification systems are examined in more detail. They are

presented here for the purpose of providing specific examples of how most certification systems differ from C&I. This paper is not intended to be an in-depth comparison of certification systems; however, several efforts are currently underway that seek to do this (see *Comparative Analysis of the Forest Stewardship Council and the Sustainable Forestry Initiative Certification Systems*, Meridian Institute, 2001).

Forest Stewardship Council Certification

(Source: FSC website www.foreststewardship.org)

The Forest Stewardship Council (FSC) is an independent, non-profit, non-governmental organization founded in 1993 by a diverse group of representatives from environmental and conservation groups, the timber industry, the forestry profession, indigenous peoples' organizations, community forestry groups and forest product certification organizations from 25 countries. The goal of the FSC is to promote environmentally responsible, socially beneficial, and economically viable management of the world's forests, by establishing a worldwide standard of recognized and respected Principles and Criteria of Forest Stewardship.

FSC certification involves an on-the-ground assessment of a landowner's forestry practices by an independent interdisciplinary team of experts. The assessment evaluates the ecological, economic and social aspects of the operation in accordance with the FSC-approved certification standards of the region. If the forest management meets the certification standards, then the operation may be certified. Forest products coming from forest operations certified using FSC-endorsed standards can carry the FSC label, provided their "chain of custody" is also independently certified.

The FSC defines "forest stewardship" in a set of ten Principles and fifty-six Criteria for Forest Management. The Principles cover the following subjects:

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|---------------|--|
| Principle 1: | Compliance with Laws and FSC Principles |
| Principle 2: | Tenure and Use Rights and Responsibilities |
| Principle 3: | Indigenous Peoples' Rights |
| Principle 4: | Community Relations and Worker's Rights |
| Principle 5: | Benefits from the Forest |
| Principle 6: | Environmental Impact |
| Principle 7: | Management Plan |
| Principle 8: | Monitoring and Assessment |
| Principle 9: | Maintenance of High Conservation Value Forests |
| Principle 10: | Plantations |

Flowing from each of these principles is a set of more specific criteria. Standards, which are set regionally through a collaborative process among diverse stakeholders, are used at the forest management level to determine if a forest is well managed. FSC accredits certification bodies, which then conduct assessments against the standards.

Sustainable Forestry Initiative

(Source: SFI website www.afandpa.org/forestry/sfi_frame.html)

The Sustainable Forestry Initiative (SFI)[®], a program created by the American Forest & Paper Association in 1994, is a system of principles, objectives and performance measures that integrates the long-term, sustained growing and harvesting of trees with the protection of the environment in which they grow.

The *SFI Standard* (SFIS) spells out the requirements of compliance with the program. SFI program participants are required to support sustainable forestry practices on the lands they manage and actively promote such practices on other forestlands. At the heart of the SFI Standard are the *SFIS Principles*. These Principles call upon SFI participants to meet market demands while using environmentally responsible practices that promote the protection of wildlife, plants, soil, air and water quality to ensure the future of the nation's forests.

The *SFI Standard Objectives* translate these Principles into action by providing forest managers with a specific roadmap to expand the practice of sustainable forestry and to visibly improve performance. The Objectives promote:

1. Broadening the practice of sustainable forestry.
2. Ensuring prompt reforestation.
3. Protecting water quality.
4. Enhancing wildlife habitat.
5. Minimizing the visual impact of harvesting.
6. Protecting special sites.
7. Contributing to biodiversity.
8. Continuing improvements in wood utilization.
9. Continuing the prudent use of forest chemicals to help ensure forest health.
10. Fostering the practice of sustainable forestry on all forestlands.
11. Publicly reporting on their progress.
12. Providing opportunities for public outreach.

Auditors licensed by the American National Standards Institute (ANSI) carry out SFI verification processes. Like FSC, these verifications occur at the forest management unit or ownership level. Within the objectives are performance measures and indicators for gauging compliance.

SIMILARITIES BETWEEN C&I AND CERTIFICATION

Tracing most certification systems and C&I back to their roots, it becomes apparent that, although their objectives differ, they have several things in common:

- **Broad Goals:** Certification and C&I both incorporate a common broad goal of sustainable forest management.

- **Contribution to Society:** Both are intended to contribute to society's ability to understand conceptually, and achieve practically, sustainable forest management.
- **Key Elements of Sustainability:** Both incorporate elements of social, economic, and environmental considerations germane to the sustainable management of forests – some of those common elements include biodiversity, water quality, forest cover, long-term impacts, and forest planning.
- **Focus on Data:** Both stress the notion of better and consistent data.
- **Approach:** Both are voluntary, non-regulatory approaches to understanding and facilitating sustainable forest management.
- **Use of C&I:** Certification assessments are gauged against standards that include criteria and indicators, specific to that certification system, as their framework.

DIFFERENCES BETWEEN C&I AND CERTIFICATION

Despite these common elements, there are several significant distinctions between C&I and certification systems.

- **Scale:** The C&I are intended to be a framework for all forests, crossing ownership boundaries, while certification is intended for a single ownership or group of ownerships. While C&I systems exist for local, regional, and national analysis, the MP C&I are specifically intended for application at the national scale.
- **Outcome:** The C&I contain no target standards or performance expectations, while certification's intent is to provide an assessment against performance standards.
- **Orientation:** The C&I address conditions and processes in a descriptive way, while certification addresses goals in a prescriptive way.
- **Audience:** The C&I are oriented toward the policy-making community as a framework for analysis within a country and comparison between countries, while certification is directed toward the marketplace in the interest of differentiating companies or landowners and the products that flow from their forests.
- **Participation:** C&I benefit from and rely on collaboration among public agencies and private organizations, while certification standards are set privately, without the influence of the federal government.

ISSUE-BASED COMPARISONS

To better understand how C&I differ from forest certification, it is useful to consider how the MP C&I and specific certification systems specifically address a sample number of key issues in forest management. For each issue, there may be multiple principles, criteria, or objectives that address it, but only one is chosen to suggest language. This is not intended to be a full accounting of how these tools relate.

The following charts allow one to see MP C&I Indicators, FSC Criteria, and SFI Objectives listed side by side. The language itself is indicative of the differences in treatment of these issues. Note that the C&I are not prescriptive, and that there are no words implying “intent” or “level,” but simply objective verbiage to clarify what kind of data are being sought.

Water Quality

Criteria and Indicators	Forest Stewardship Council	Sustainable Forestry Initiative
Indicator 4.c: Percent of stream kilometers in forested catchments in which stream flow and timing has significantly deviated from the historic range of variation.	Criterion 6.5: Written guidelines shall be prepared and implemented to: control erosion, minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.	Objective 4.1.3.1.1: Program Participants shall use Best Management Practices developed under EPA approved state water quality programs and meet or exceed all applicable state water quality laws and regulations, and the requirements of the federal Clean Water Act.

Plantations

Criteria and Indicators	Forest Stewardship Council	Sustainable Forestry Initiative
Indicator 2c: The area and growing stock of plantations of native and exotic species.	Criterion 6.10: Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion: entails a very limited portion of the forest management unit; does not occur on high conservation value forest areas; and will enable clear, substantial, additional secure long-term conservation benefits across the forest management unit.	<i>(Not addressed specifically)</i> Objective 4.1.5.1.4: Program participants shall use harvest methods, age classes, and judicious placement of harvest units to promote diversity across the forest landscape.

Biodiversity

Criteria and Indicators	Forest Stewardship Council	Sustainable Forestry Initiative
Indicator 1.2.b: The status (threatened, rare, vulnerable, endangered, or extinct) of forest dependent species at risk of not maintaining viable breeding populations, as determined by legislation of scientific assessment.	Criterion 6.2: Safeguards shall exist which protect rare, threatened, and endangered species and their habitats. Conservation zones and protection areas shall be established... Criterion 6.3: Ecological functions and values shall be maintained intact, enhanced, or restored, including... genetic, species, and ecosystem diversity...	Principle 4.1.4.1.3: Program Participants shall apply knowledge gained through research, science, technology, and field experience to manage wildlife habitat and contribute to the conservation of biological diversity.

Harvest Levels

Criteria and Indicators	Forest Stewardship Council	Sustainable Forestry Initiative
Indicator 2.d: Annual removal of wood products compared to the volume determined to be sustainable.	Criterion 5.6: The rate of harvest of forest products shall not exceed levels which can be permanently sustained.	4.1.1.1.4: Program Participants shall ensure that long-term harvest levels are sustainable and consistent with appropriate growth and yield models and written plans.

Chemical Usage

Criteria and Indicators	Forest Stewardship Council	Sustainable Forestry Initiative
<i>(Not addressed specifically)</i> Indicator 4.h: Area and percent of forestland experiencing an accumulation of persistent toxic substances.	Criterion 6.6: Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides.	Objective 4.1.2.1.3: Program Participants shall use forest chemicals prudently to improve forest health and productivity, while protecting employees, neighbors, the public, and the forest environment.

FUTURE IMPLICATIONS

Criteria and Indicator systems and forest management certification are complementary approaches to understanding and advancing sustainable forest management. Both are likely to evolve, and become more integrated over time. C&I add value because they provide a framework for gathering and presenting data on forest conditions at varying scales. Certification remains focused at the ownership level. The two approaches, while related, will likely continue to serve different functions. Given the disparity of perspectives on what sustainable forests really look like, and how we might achieve

sustainable forest management, attempting to convert C&I into standards at the national level would be difficult. Such a process would have to accommodate the relevance of sub-national trends. For example, a forest type could be declining in one region, but increasing nationally. Standards setting should remain a local enterprise, as is the spirit of certification.

Fulfilling the initial charge of collecting data to address the 67 indicators within the MP C&I is daunting, but the US is moving forward. Certification systems are evolving as international discussion raise questions regarding ways to merge systems and markets are beginning to respond to the availability of labeling programs tied to certification. Questions persist such as the impact that certification may have on adjacent, non-certified acreages, and ways in which benchmarks and standards can flow from C&I. Sub-national application of C&I may provide lessons in this regard.

Both C&I and certification offer different ways of approaching the question of sustainable forest management, but could certainly learn from one another. In fact, examples exist in which some of the criteria and indicators from the MP C&I are being used to inform certification systems. The complementary relationship between the C&I and certification should drive developments within both systems.

One worthy target for integrating C&I and certification systems would be a real-time database that would allow professionals and policy makers the ability to monitor forest conditions locally, regionally, and nationally. Such a system requires attention now, in order to build the components. While both certification and the C&I currently provide significant value to sustainable forest management, the greatest value will come when we are able to use better information, to make better decisions, on all of our nation's forests.

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