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# About Sustainable Forest Management

*Forestry isn't rocket science. It is much more complicated.*

- Fred Bunnell  
(Professor, University of British Columbia)

## Sections:

[The Concept](#)

[Definition](#)

[Criteria, Indicators and Forest Certification](#)

[Reporting on Sustainable Forest Management](#)

[Assessing Sustainable Forest Management](#)

## The Concept

Forest practices have addressed aspects of sustainability for centuries, but “sustainable forest management” is a relatively recent concept. It is more comprehensive than earlier concepts such as “sustained yield of timber,” explicitly encompassing environmental, economic and social dimensions. Like the broader concept of sustainable development, sustainable forest management is widely supported and viewed as a global goal. However, exactly what sustainable forest management entails is (just as for sustainable development) somewhat contentious and not always clear.

The concept of sustainable development, first given prominence by the Brundtland Commission’s 1987 report, “Our Common Future,” emphasizes the interdependence of environmental integrity and economic development in meeting the needs of current society and future generations. This interdependence is often portrayed with one of the two models illustrated in Figure 5. The first is a “three-legged stool” with legs representing the

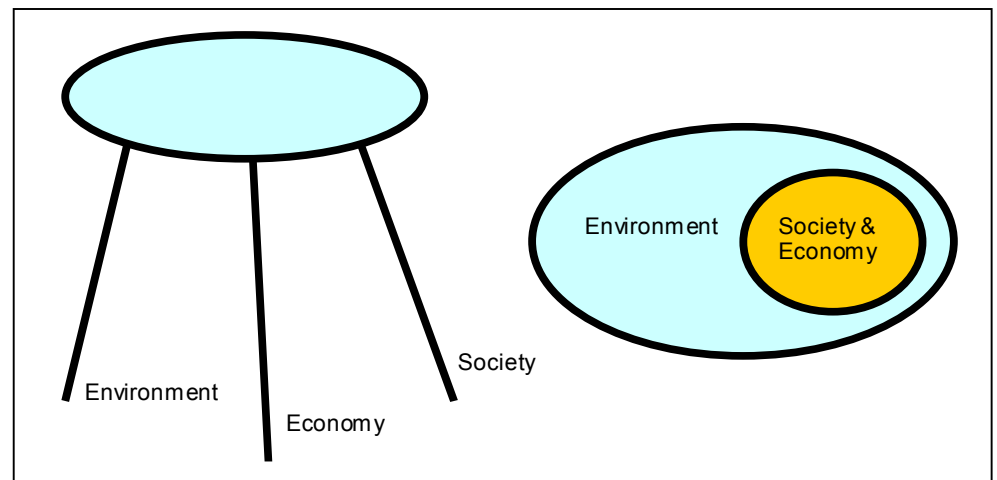


FIGURE 5. Sustainable development models.

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environment, economy and society, and all three legs needing to be sound to prevent the stool from falling over. The second is an egg – society and the economy being the yolk surrounded by the egg white of environment, illustrating that humans act within, and depend on, the environment.

Concepts of sustainable development are being applied in numerous industries and are sometimes referred to in a business context as the “triple bottom line” or “the three Ps” of people, place and profit.

## Definition

This report uses the vision statement in Canada’s National Forest Strategy as its definition of sustainable forest management:

*The long-term health of Canada’s forest will be maintained and enhanced, for the benefit of all living things, and for the social, cultural, environmental and economic well-being of all Canadians now and in the future.*

– National Forest Strategy Coalition,  
[National Forest Strategy, 2003–2008](#)

## Criteria, Indicators and Forest Certification

Sustainable forest management gained prominence at the 1992 Earth Summit, or United Nations Conference on Environment and Development (UNCED), in both the [Forest Principles](#) and in [Chapter 11: Combating Deforestation](#) of the conference’s programmes for the 21<sup>st</sup> century, called Agenda 21.

Two streams of global action followed from UNCED:

1. governments committed themselves to developing and using indicators to define, assess and promote progress towards sustainable forest management at the national level; and
2. non-government organizations (NGOs) – some of them dissatisfied with government-led efforts to address forestry – developed forest certification systems to promote sustainable forest management at the operational forestry level.

Both streams use indicators to measure or describe aspects of sustainability and their trends (for more details, see the section [About Indicators](#)).

Governments have typically grouped indicators into categories, referred to as criteria of sustainable forest management.

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Criteria and indicators have been developed by nine regional groups of nations that contain most of the world's forests. One of these groups, known as the [Montréal Process](#), involves 12 nations including Canada. Its goal is to define and promote the conservation and sustainable management of temperate and boreal forests. In 1995, the Montréal Process published its framework of 67 indicators, grouped under seven criteria that address the environment, economy, society, and institutional and other frameworks that support sustainable forest management. The framework was re-issued in 1999 with a new numbering of the indicators ([MP 1999 indicators](#)). Some of the member countries have published national reports based on these criteria and indicators.

The [Canadian Council of Forest Ministers](#) (CCFM) also developed a framework of criteria and indicators to reflect the unique aspects of Canadian forests and values of particular concern to Canadians. This framework of six criteria and 83 indicators was also published in 1995 ([CCFM 1995 indicators](#)). The first full report based on these indicators was published in 2000. A revised framework of 46 indicators was published in 2003 ([CCFM 2003 indicators](#)), reflecting experience from use of the framework and advances in scientific knowledge.

This report, *The State of British Columbia's Forests – 2004*, cross-references relevant indicators of the Montréal Process (1999), CCFM (1995) and CCFM (2003) for the convenience of readers.

While many governments were developing criteria and indicators, several NGOs and a few nations developed forest certification systems to encourage companies to practise sustainable forestry at the operational level. These systems share many aspects of the governmental criteria and indicators frameworks. Both are based on the concepts of sustainable development: both use indicators to report on progress and trigger appropriate actions; and both share the goal of sustainable forest management.

The two streams of action have interacted in several ways. The use of criteria and indicators has spread from the national level to the operational level, NGOs and governments have advised each other on indicators, and some governments have obtained certification for their forest management. For example, the CCFM's 1995 criteria and indicators were the basis for the Canadian Standards Association's forest certification system published in 1996 and revised in 2002. This and other forest certification systems are now used widely in British Columbia, as discussed in the indicator on [Certification](#).

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## Reporting on Sustainable Forest Management

Reporting on sustainable forest management is challenging.

Sustainable forest management is not just about trees. It involves other plants, as well as wildlife, soil and water, air quality and greenhouse gases; all economic activities that depend on the forests; the communities that depend on those economic activities; and other social and cultural activities and values related to forests.

For these reasons, the scope of reports on sustainable forest management is typically broader than that of the direct accountabilities of a single government agency or the actions of individual forest industry operators.

### ***Ensuring relevance and credibility***

The Montréal Process and CCFM criteria and indicators offer a good starting point for selecting relevant indicators for any jurisdiction in Canada, since they were developed through consultation with experts on all aspects of sustainable forest management. To be locally relevant, however, reporting must also reflect the unique aspects of the nature, history and culture of a jurisdiction and its forests.

The credibility of reporting depends on the use of the best science-based information available and the inclusion of both positive and negative findings. Credibility is further supported by identifying knowledge gaps and, where possible, using information from public sources.

### ***Challenges in reporting***

Several factors pose practical challenges to finding and presenting relevant, useful information and data on the indicators. This report attempts to address and balance all of these challenges:

- *Cost* – The cost of detailed inventories of all forest resources is high and data may be unavailable.
- *Time* – Assembling and analyzing extensive datasets to provide meaningful information is time-consuming, making presentation of recent information difficult.
- *Technical/scientific* – Exactly what to measure and how to measure it are the subjects of technical debate, and all of the potential approaches have different technical merits and problems.
- *Administrative* – Access to information, as well as permission to report on it, is sometimes limited by proprietary concerns (e.g., information related to commercial interests and private land) or the sensitivity of information (e.g., rare ecosystems that might be threatened by vandals or nature lovers if their locations were made public).

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## Assessing Sustainable Forest Management

Assessing sustainable forest management is difficult because of the complex and intertwined nature of its many aspects. Nonetheless, questions about sustainability need to be asked, and answered, to help inform future actions.

The conditions of forests and societies continually change, as do interactions between the two. Perceptions of what is sustainable or unsustainable change over time.

An indicator may be assessed relative to historical conditions, technical or scientific thresholds, and desired targets. Where these reference values are unknown, unclear or disputed, meaningful assessment of the indicator is difficult.

Assessment of several indicators collectively is conceptually even more problematic. First, indicators that use different units of measure cannot simply be added together unless they are converted to a common unit. Conversion may be technically problematic or wholly inappropriate. Second, the relationships between indicators are often complex, making interpretation of their interactions unreliable. Third, because the importance of any one indicator relative to another depends on the values and perspective of the assessor, even experts have trouble developing a consensus on overall assessments.

While various approaches have been developed to assess multiple indicators collectively, no one approach is entirely satisfactory.

