

Table on Criterion 2 Refinements

This table shows recommendations for refinements to the Montreal Process indicators, the rationales for the indicators, and in selected cases, approaches to measurement. These recommendations were reached through discussion and general agreement at three technical workshops coordinated by the USDA Forest Service and the Roundtable on Sustainable Forests in April 2005 to obtain high-quality input from a diverse set of forest stakeholders. Column 1 shows the location of the text in the *Draft Document: Excerpts from the Montreal Process Technical Notes Modified for the Series of C&I Refinement Technical Workshops*. Column 2 presents the original language with any deleted text underlined and struck out; column 3 presents the refined text with any additional text underlined. Column 4 includes any comments made on the refinement.

Summary of Refinements

The introduction is modified to refer to goods and services that the land is capable of producing rather than what it now produces. Indicators 10, 11, and 12 are modified to align the indicators with the criterion, and Indicators 13 and 14 are modified for clarification. An addition also is made to the useful data under Indicator 10.

Overarching Observations About the Criterion

1. There is a concern that “Maintenance” in the title of Criterion 2 could be interpreted as a value judgment. What does maintenance mean? The current status may not be the desirable status to “maintain”.
2. The original indicators do not support an evaluation of the criterion with respect to productivity of forest ecosystems. Specifically, the indicators don’t explain the changes that might occur regarding productive capacity. The indicators don’t directly inform decision makers on the sustainability of systems. (e.g. stocking levels and area don’t address productive capacity)
3. The proposed changes in both indicators and related rationales now better measure productive capacity.

Breakout Group: Criterion 2 - Indicators 10 - 14:

Participants: Albert Abee, USDA Forest Service; Keith Argow, National Woodland Owners Association; Chris Cieszewski, Warnell School of Forest Resources, University of Georgia; Thomas Hoekstra, USDA Forest Service

Criterion Lead: Brad Smith, USDA Forest Service;

Facilitator: Lisa Norris, USDA Forest Service

Note Taker: Alex Welsch, Portland State University

Text in the Montreal Process Technical Notes	Original Language with Recommended Deletions Underlined and Struck Out	Refined Language with Recommended Additions Underlined	Comments on Recommended Change
Introduction	Many human populations depend on forests directly or indirectly for a wide range of extractive and non-extractive goods and services. Opportunities to provide goods and services sustainably are clearly linked to the productive capacity of the forest. If the productive capacity of the forest is exceeded, there is the risk of ecosystem decline. For forests to continue to function, it is necessary to maintain the presence of the forest itself; to understand the levels of goods and services <u>now provided</u> ; and to determine levels that are likely to be sustainable. The nature and degree of any changes and the factors that account for variations in productive capacity should be examined.	Many human populations depend on forests directly or indirectly for a wide range of extractive and non-extractive goods and services. Opportunities to provide goods and services sustainably are clearly linked to the productive capacity of the forest. If the productive capacity of the forest is exceeded, there is the risk of ecosystem decline. For forests to continue to function, it is necessary to maintain the presence of the forest itself; to understand the levels of goods and services <u>the land is capable of producing</u> ; and to determine levels that are likely to be sustainable. The nature and degree of any changes and the factors that account for variations in productive capacity should be examined.	The current context (i.e., the word “now”) may not be the desired reference.
Indicator 10 (2.a) Title	Area of forest land and net area of forest land available for timber production	Area of forest land and net area of forest land available for timber production	The indicator language remained the same.
Indicator 10 (2.a) Rationale	This indicator provides information fundamental to calculating the timber productive capacity of existing forests. It shows how much land is available for timber production, compared with the total forest area of a country. The difference between total area and net area demonstrates that some forests are not going to be harvested for a variety of reasons. Statistics on plantation forests may be identified and presented separately.	This indicator provides information fundamental to calculating the timber productive capacity of existing forests. It shows how much land is available for timber production <u>by productivity class</u> , compared with the total forest area of a country. The difference between total area and net area demonstrates that some forests are not going to be harvested for a variety of reasons. Statistics on plantation forests may be identified and presented separately.	The addition aligns the context of the indicator with the criterion.

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Indicator 10 (2.a) Approaches to Measurement	<p>Data for this indicator should be consistent with the information collected under Criterion 1. Useful data may include the following (collected across all land tenures and forest types):</p> <ul style="list-style-type: none"> • Area of potential forest land (where applicable) • Area of forest land • Area of forest land available for timber production • Area of plantation forests 	<p>Data for this indicator should be consistent with the information collected under Criterion 1. Useful data may include the following (collected across all land tenures and forest types):</p> <ul style="list-style-type: none"> • Area of potential forest land (where applicable) • Area of forest land • Area of forest land available for timber production <u>as modified by ownership and their objectives</u> (1) • Area of plantation forests • <u>Area of forest land by site productivity class and forest type (e.g. cubic feet per acre)</u> (2) 	<p>(1) This change introduces the concept of ownership and objectives; ownership will influence productivity. (2) This addition increases the detail of measurement of productive capacity.</p>
Indicator 11 (2.b) Title	<p>Total growing stock of both merchantable and non-merchantable tree species on forest land available for timber production</p>	<p>Total growing stock <u>volume and growth</u> of both merchantable and non-merchantable tree species on forest land available for timber production <u>in relation to productive capacity as determined by management objectives</u></p>	<p>This change aligns the indicator with the criterion with better measures of productivity (i.e., growth) and accounts for ownership.</p>
Indicator 11 (2.b) Rationale	<p>Growing stock is a fundamental element in determining the productive capacity of the area identified under indicator 2. Knowledge of growing stock and how it changes is central to considerations of a sustainable use of wood products by industry. In addition, knowledge of the growth rates of forests may assist with the interpretation of this indicator and of Criterion 3–forest ecosystem health.</p>	<p>Growing stock <u>on forest land, including plantations</u>, is a fundamental element in determining the productive capacity of the area identified under Indicator 2. Knowledge of growing stock and how it changes is central to considerations of a sustainable use of wood products by industry. In addition, knowledge of the growth rates of forests <u>by productivity class</u> may assist with the interpretation of this indicator and of Criterion 3–forest ecosystem health.</p>	<p>The rationale needs a context of the area and productivity as it applies to forest land, which includes other forest land such as plantations.</p>

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Indicator 12 (2.c) Title	The area and growing stock of plantations of native and exotic species	The area and growing stock of plantations of native and exotic species	The indicator language remained the same.
Indicator 12 (2.c) Rationale	This indicator is a measure of the degree to which forest management agencies/organisations are establishing plantations in response to increasing demand for forest products. The provision of forest products from intensively managed plantations may impact on biodiversity and demands for similar, or other, services from native or natural forests. The use of both native and exotic species in plantation management may enhance the potential <u>range and quantity</u> of goods and services available from the forest sector but, under certain circumstances, may produce unintended environmental effects.	This indicator is a measure of the degree to which forest management agencies/organizations are establishing plantations in response to increasing demand for forest products. The provision of forest products from intensively managed plantations may impact on biodiversity and demands for similar, or other, services from native or natural forests. The use of both native and exotic species in plantation management may enhance the <u>productive</u> potential of goods and services available from the forest sector but, under certain circumstances, may produce unintended environmental effects.	This change aligns the rationale with the criterion to better reflect productivity.
Indicator 13 (2.d) Title	Annual removal of wood <u>products</u> compared to the volume determined to be sustainable	Annual removal of wood <u>volume</u> compared to the volume determined to be sustainable	This change clarifies what is being compared.
Indicator 13 (2.d) Rationale	This indicator compares actual harvest level against the sustainable level of harvesting permitted by forest management plans as a measure of the forest's ability to maintain its productive capacity over time.	This indicator compares actual harvest level against the sustainable level of harvesting permitted by forest management plans as a measure of the forest's ability to maintain its productive capacity over time. <u>“Sustainable” refers to the distribution of volume removed over time, as described by site productivity class and forest type (e.g., cubic feet per acre), assuring a continuity of volume produced over time.</u>	This addition clarifies the meaning of “sustainable.”

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Indicator 14 (2.e) Title	Annual removal of non-timber forest products (e.g., fur bearers, berries, mushrooms, game), compared to the level determined to be sustainable	Annual <u>amount</u> of non-timber forest products <u>removed</u> (e.g., fur bearers, berries, mushrooms, game, <u>firewood</u>), compared to the <u>amount</u> determined to be sustainable	This change specifies a measure of quantity, and provides an additional example.
Indicator 14 (2.e) Rationale	This indicator compares actual removal of non-timber products against the level of removal permitted by forest management plans as a measure of the forest's ability to maintain its productive capacity over time.	This indicator compares actual removal of non-timber products against the level of removal permitted by forest management plans as a measure of the forest's ability to maintain its productive capacity over time.	The rationale language remained the same.