Montréal Process
Criteria & Indicators as a policy instrument to evaluate and report progress towards SFM

Dr. Maria Palenova
ARISMF, Federal Forestry Agency, Russia
Montréal Process is one of the few regional and international undertakings where the participating countries are striving to use C&I to achieve the SFM.
Montréal Process - focus on sustainable development of boreal and temperate forests

- Argentina
- Australia
- Canada
- Chile
- China
- Japan
- Mexico
- New Zealand
- Republic of Korea
- Russian Federation
- USA
- Uruguay

Participating countries account for:

- 83% of the world's temperate and boreal forests
- 49% of all forests on the globe
- 33% of the world's population
- 45% of world trade in wood and wood products
Montréal Process Graphic Timeline

- 1992: Rio Earth Summit Consultation to develop C&I framework
- 1993-94: MP C&I framework released
- 1995: Capacity report on C&I
- 1997: Reporting
- 2000: Reporting
- 2003: Consultation to refine C&I framework
- 2004-08: Strategic Action Plan Reporting
- 2008-09: Joint Activities Reporting
- 2010-12:
- 2012-13:

- 1992: Seminar of experts on sustainable development of boreal and temperate forests
- 1993-94: Santiago Declaration
- 1995: First approximation report
- 2000: MP country reports and Overview Report
- 2003: TAC undertakes indicator review
- 2004-08: WG develops SAP MP country reports and overview Report
- 2008-09: Gain joint activities with regional C&I Processes and UN FAO
- 2010-12: Third round of MP country reports
- 2012-13:

- Québec City Declaration

- 7 criteria and 67 associated indicators
- 7 criteria and 54 associated indicators
How does MP work?

- **Working Group (WG)**
  - decision-making body of MP

- **Technical Advisory Committee (TAC)**
  - to study and recommend on technical issues under MP WG including C&I improvements
How does MP work?

Through free and open forum for sharing knowledge and experience among forest experts, MP created a common basis for SFM in member countries and resulted in capacity-building.

MP Secretariat:

1994-2006: Canada
2007- to date: Japan
Exploring a way forward with Criteria & Indicators – Opportunities for the Montreal Process Working Group

What is the mandate of the Working Group?

– our Purpose Statement

The purpose of the Working Group (MPWG) is to advance the development and refinement of internationally agreed criteria and indicators (C&I) for the conservation and sustainable management of temperate and boreal forests.

The MPWG fosters consensus among its members on a common understanding, language and definition of what constitutes conservation and sustainable management of those forests with the intention of wider application of the MPWG C&I framework and of working with other C&I processes and global forestry forums.
How does MP work? Review Process

Domestic stakeholder consultation

1st technical meeting

User and stakeholder validation

Working Group meeting to approve indicators

Domestic review of C&I

2nd technical meeting

Suggested Changes

Experts and International organizations

Stakeholders

Country 1

Country 2

Country n

TAC

TAC

WG

Revised C&I

Feb – July 2005

Aug 2005

Sept 2005

Nov 2005

Dec- Jan 2006

Feb 2006

June 2006

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- Consultation to develop C&I framework
- MP C&I framework released
- Capacity report on C&I
- Reporting
- Reporting
- Reporting
- Montreal Process: Year 2000 report
- MP country reports and Overview Report
- Consultation to refine C&I framework
- Strategic Action Plan
- Reporting
- Joint Activities
- Reporting

- Seminar of experts on sustainable development of boreal and temperate forests
- Santiago Declaration
- First approximation report
- Québec City Declaration
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- Gain joint activities with regional C&I Processes and UN FAO
- Third round of MP country reports

7 criteria and 67 associated indicators

7 criteria and 54 associated indicators

Criterion 1: Conservation of biological diversity

1.1. Ecosystem Diversity

1.1.a. Area of forest land available for timber production

1.1.b. Area of forest land managed primarily for protective functions (e.g. watersheds, flood protection, protection, riparian, etc.)

1.1.c. Value of investment, including land, labor, capital, and equipment used for timber production.

1.1.d. Area and percent of forest land managed for general recreation and tourism.

1.1.e. Area and percent of forest land managed for conservation and maintenance of productive capacity of forest ecosystems.

1.2. Species Diversity

1.2.a. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

1.2.b. Area and percent of forest land managed for conservation and enhancement of forest ecosystems.

1.2.c. Area and percent of forest land managed for conservation and enhancement of soil and water resources.

1.3. Genetic Diversity

1.3.a. Number of forest species identified and classified, including those of global significance.

1.3.b. Number of species at risk of extinction, or population of species at risk of not maintaining viable breeding populations.

1.3.c. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

1.3.d. Area and percent of forest land managed for conservation and enhancement of productive capacity of forest ecosystems.

1.3.e. Area and percent of forest land managed for conservation and enhancement of soil and water resources.

1.4. Conservation and maintenance of productive capacity of forest ecosystems

2.a. Area of forest land available for timber production

2.b. Total growing stock of both merchantable and non-merchantable tree species on forest land available for timber production.

2.c. Area and growing stock of plantations of native and exotic species.

2.d. Annual removal of wood products compared to the volume determined to be sustainable.

2.e. Area and growing stock of plantations of native and exotic species.

2.f. Area and growing stock of plantations of native and exotic species.

Criterion 2: Maintenance of productive capacity of forest ecosystems

2.a. Area of forest land available for timber production

2.b. Total growing stock of both merchantable and non-merchantable tree species on forest land available for timber production.

2.c. Area and growing stock of plantations of native and exotic species.

2.d. Annual removal of wood products compared to the volume determined to be sustainable.

2.e. Area and growing stock of plantations of native and exotic species.

2.f. Area and growing stock of plantations of native and exotic species.

Criterion 3: Maintenance of forest ecosystem health and vitality

3.a. Area and percent of forest land affected by processes or agents beyond the range of historic variation (e.g. by insects, disease, competition from exotic species, fire, storm, land clearance, permanent flooding, salinization, and domestic animals).

3.b. Area and percent of forest land subject to levels of specific air pollutants (e.g. sulfates, nitrate, ozone) or ultraviolet B that may cause negative impacts on the forest ecosystem.

3.c. Area and percent of forest land with diminished biological components or indicators of changes in fundamental ecological processes (e.g. soil, nutrient cycling, seed dispersion, pollination) and/or ecological continuity (monitoring of functionally important species such as fungi, arthropods, nematodes, beetles, wasps, etc.).

3.d. Area and percent of forest land with significantly diminished soil organic matter and/or changes in other soil chemical properties resulting from human activities.

3.e. Area and percent of forest land with significantly diminished soil organic matter and/or changes in other soil chemical properties resulting from human activities.

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3.m. Area and percent of forest land with significantly diminished soil organic matter and/or changes in other soil chemical properties resulting from human activities.

3.n. Area and percent of forest land with significantly diminished soil organic matter and/or changes in other soil chemical properties resulting from human activities.

Criterion 4: Maintenance of forest ecosystem health and vitality

4.a. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

4.b. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

4.c. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

4.d. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

4.e. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

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4.m. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

4.n. Area and percent of forest land managed for protection of species at risk of not maintaining viable breeding populations.

Criterion 5: Maintenance of forest ecosystems

5.a. Total forest ecosystem biomass and carbon pool, and if appropriate, by forest type, age class, and successional stage.

5.b. Contribution of forest ecosystems to the total carbon budget, including absorption and release of carbon (standing biomass, coarse wood debris, peat and soil carbon).

5.c. Contribution of forest products to the global carbon budget.

Criterion 6: Maintenance and enhancement of long-term forest multifunctional socio-economic benefits

6.1. Production and Consumption

6.1.a. Value and volume of wood and wood products production, including value added through downstream processing.

6.1.b. Value and quantities of production of non-wood forest product.

6.1.c. Supply and consumption of wood and wood products, including consumption per capita.

6.1.d. Value of wood and non-wood products production as percentage of GDP.

6.1.e. Degree of recycling of forest products.

6.1.f. Supply and consumption/use of non-wood products.

6.2. Recreation And Tourism

6.2.a. Area and percent of forest land managed for general recreation and tourism, in relation to the total area of forest land.

6.2.b. Number and type of facilities available for general recreation and tourism, in relation to population and forest area.

6.2.c. Number of visitor days attributed to recreation and tourism, in relation to population and forest area.

6.3. Investment in the Forest Sector

6.3.a. Value of investment, including investment in forest growing, forest health and management, forested landscapes, forest related planning, and ecological continuity.

6.3.b. Level of expenditure on research and development, and education.

6.3.c. Execution and use of new and improved technologies.

6.4. Cultural, Social and Spiritual Needs and Values

6.4.a. Area and percent of forest land managed for protection of cultural, social and spiritual needs and values.

6.4.b. Non-consumptive-use forest values.

6.5. Employment and Community Needs

6.5.a. Area and percent of forest land managed for protection of employment as a proportion of total employment.

6.5.b. Average wage rates and injury rates in major employment categories within the forest sector.

6.5.c. Viability and adaptability to changing economic conditions, of forest dependent communities, including indigenous communities.

6.5.d. Area and percent of forest land used for subsistence purposes.

6.6. Economic and social contribution to global carbon cycles

6.6.a. Total forest ecosystem biomass and carbon pool, and if appropriate, by forest type, age class, and successional stage.

6.6.b. Contribution of forest ecosystems to the total carbon budget, including absorption and release of carbon (standing biomass, coarse wood debris, peat and soil carbon).

6.6.c. Contribution of forest products to the global carbon budget.

6.7. Legal, institutional and economic framework for forest conservation and sustainable management

6.7.a. Clarifies property rights, provides for appropriate land tenure arrangements, recognizes customary and traditional rights of indigenous people, and provides means of resolving property disputes by due process.

6.7.b. Provides for periodic forest-related planning, assessment, and policy review that recognizes the range of forest values, including coordination with relevant sectors.

6.7.c. Provides opportunities for public participation in public policy and decision making related to forests and public access to information.

6.7.d. Encourages best practice codes for forest management.

6.7.e. Provides for the management of forests to conserve special environmental, cultural, social and/or scientific values.

6.7.f. Supports the conservation and sustainable management of forests, including the capacity to:

6.7.g. Provide for public involvement in forest-related planning, assessment, and policy review including cross-sectoral planning and coordination.

6.7.h. Develop and maintain human resource skills across relevant disciplines.

6.7.i. Develop and maintain efficient physical infrastructure to facilitate the supply of forest products and services and support forest management.

6.7.j. Enforce laws, regulations and guidelines.

Criterion 7: Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services, including:

7.1. Extent to which the institutional framework supports the conservation and sustainable management of forests, including the capacity to:

7.1.a. Provide for public involvement in forest-related planning, assessment, and policy review including cross-sectoral planning and coordination.

7.1.b. Develop and maintain human resource skills across relevant disciplines.

7.1.c. Develop and maintain efficient physical infrastructure to facilitate the supply of forest products and services and support forest management.

7.1.d. Enforce laws, regulations and guidelines.

7.2. Extent to which the economic framework (economic policies and measures) supports the conservation and sustainable management of forests through:

7.2.a. Investment and taxation policies and a regulatory environment which recognizes the long-term nature of investments and permits the flow of capital into and out of the forest sector in response to market signals, non-market economic valuations, and public policy decisions in order to meet long-term demands for forest products and services.

7.2.b. Non-discriminatory trade policies for forest products.

7.3. Scope, frequency and statistical reliability of forest inventories, assessments, monitoring and other relevant information.

7.4. Compatibility with other countries in measuring, monitoring and reporting on indicators.

7.5. Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services, including:

7.5.a. Development of scientific understanding of forest ecosystem characteristics and functions.

7.5.b. Development of methodologies to measure and integrate environmental and social costs and benefits into markets and public policies, and to reflect forest related resource depletion or replenishment in national accounting systems.

7.5.c. New technologies and the capacity to assess the socioeconomic consequences associated with the introduction of new technologies.

7.5.d. Enhancement of ability to predict impacts of human intervention on forests.

7.5.e. Ability to predict impacts on forests of possible climate change.

www.mpci.org
Montreal Process Criteria and Indicators (third edition - 2009)

Criterion 1: Conservation of biological diversity

1.1. Ecosystem Diversity
1.1.a Area and percent of forest by forest ecosystem type, successional stage, age class, and forest ownership or tenure
1.1.b Area and percent of forest in protected areas by forest ecosystem type, and by age class or successional stage
1.1.c Fragmentation of forests

1.2. Species Diversity
1.2.a Number of native forest-associated species
1.2.b Number and status of native forest-associated species at risk, as determined by legislation or scientific assessment
1.2.c Status of on site and off site efforts focused on conservation of species diversity

1.3. Genetic Diversity
1.3.a Number and geographic distribution of forest-associated species at risk of losing genetic variation and locally adapted genotypes
1.3.b Population levels of selected representative forest-associated species to describe genetic diversity
1.3.c Status of on site and off site efforts focused on conservation of genetic diversity

Criterion 2: Maintenance of productive capacity of forest ecosystems
2.a Area and percent of forest land and net area of forest land available for wood production
2.b Total growing stock and annual increment of both merchantable and non-merchantable tree species in forests available for wood production
2.c Area, percent, and growing stock of plantations of native and exotic species

2.d Annual harvest of wood products by volume and as a percentage of net growth or sustained yield
2.e Annual harvest of non-wood forest products

Criterion 3: Maintenance of forest ecosystem health and vitality
3.a Area and percent of forest affected by biotic processes and agents (e.g. disease, insects, invasive alien species) beyond reference conditions
3.b Area and percent of forest affected by abiotic agents (e.g. fire, storm, land clearance) beyond reference conditions

Criterion 4: Conservation and maintenance of soil and water resources

4.1 Protective Function
4.1.a Area and percent of forest whose designation or land management focus is the protection of soil or water resources

4.2 Soil
4.2.a Proportion of forest management activities that meet best management practices or other relevant legislation to protect soil resources
4.2.b Area and percent of forest land with significant soil degradation

4.3 Water
4.3.a Proportion of forest management activities that meet best management practices, or other relevant legislation, to protect water related resources
4.3.b Area and percent of water bodies, or stream length, in forest areas with significant change in physical, chemical or biological properties from reference conditions

Criterion 5: Maintenance of forest contribution to global carbon cycles
5.a Total forest ecosystem carbon pools and fluxes
5.b Total forest product carbon pools and fluxes
5.c Avoided fossil fuel carbon emissions by using forest biomass for energy

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits

6.1 Production and Consumption
6.1.a Value and volume of wood and wood products production, including primary and secondary processing
6.1.b Value of non-wood forest products produced or collected
6.1.c Revenue from forest-based environmental services
6.1.d Total and per capita consumption of wood and wood products in round wood equivalents
6.1.e Total and per capita consumption of non-wood forest products
6.1.f Value and volume in round wood equivalents of exports and imports of wood products
6.1.g Value of exports and imports of non-wood forest products
6.1.h Exports as a share of wood and wood products production, and imports as a share of wood and wood products consumption
6.1.i Recovery or recycling of forest products as a percent of total forest products consumption

6.2 Investment in the Forest Sector
6.2.a Value of capital investment and annual expenditure in forest management, wood and non-wood forest product industries, forest-based environmental services, recreation and tourism
6.2.b Annual investment and expenditure in forest-related research, extension and development, and education

6.3 Employment and Community Needs
6.3.a Employment in the forest sector
6.3.b Average wage rates, annual average income and annual injury rates in major forest employment categories

6.4 Recreation and Tourism
6.4.a Area and percent of forests available and/or managed for public recreation and tourism
6.4.b Number, type, and geographic distribution of visits attributed to recreation and tourism and related to facilities available

6.5 Cultural, Social and Spiritual Needs and Values
6.5.a Area and percent of forests managed primarily to protect the range of cultural, social and spiritual needs and values
6.5.b The importance of forests to people

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

7.1.a Legislation and policies supporting the sustainable management of forests
7.1.b Cross sectoral policy and programme coordination
7.2.a Taxation and other economic strategies that affect sustainable management of forests
7.3.a Clarity and security of land and resource tenure and property rights
7.3.b Enforcement of laws related to forests

7.4.a Programmes, services and other resources supporting the sustainable management of forests
7.4.b Development and application of research and technologies for the sustainable management of forests
7.5.a Partnerships to promote the sustainable management of forests
7.5.b Public participation and conflict resolution in forest-related decision making
7.5.c Monitoring, assessment and reporting on progress towards sustainable management of forests
Montreal Process: 7 Criteria & 54 Indicators

1: Conservation of Biological Diversity
   - Forest area by ecosystem type, successional stage, age class and ownership, etc.
   - 9 indicators

2: Productive Capacity of Forest Ecosystem
   - Total growing stock and annual increment of tree species in forests available for wood production, etc.
   - 5 indicators

3: Forest Ecosystem Health and Vitality
   - Forest area affected by biotic processes and agents (e.g., disease, insects, invasive species, etc.)
   - 2 indicators

4: Soil and Water Resources
   - Forest area whose designation or land management focus is protection of soil and water resources, etc.
   - 5 indicators

5: Global Carbon Cycles
   - Total forest ecosystem carbon pools and fluxes, etc.
   - 3 indicators

6: Multiple Socio-Economic Benefits
   - Indicators on wood production, forest investment, forest employment, forest communities, cultural values, etc.
   - 20 indicators

7: Legal, Institutional & Economic Framework
   - Legislation and policies supporting sustainable management of forests, etc.
   - 10 indicators
Major Developments of MP

• Development a set of Criteria and indicators to measure status and progress toward sustainable forest management
  – 7 criteria and 67 indicators (1st version in 1995)
    • refinement and improvements
  – 7 criteria and 54 indicators (2009 - present)

• Reporting as application of MP criteria & indicators
  – MP overview reports (2003 and 2009)
    • Not a cross-cutting analysis of indicators, but demonstrating “success stories” of member countries in the use of C&I
    • Free formatting reports but challenging ones, contributed capacity building of member countries in C&I data collection and reporting
Montréal Process from country to country: Some Examples
Australia’s Forests

Total land area
769.2 million hectares

Total forest area
149.4 million hectares (19%)

Plantation area
2 million hectares

Native forest area
147.4 million hectares

- **Eucalyptus** 78%
  - over 700 species
- **Acacia** 7%
  - over 1000 species
- **Rainforest** 2.2%
The MP supports the requirement to:

• National Forest Policy Statement
  – Agreed to by State and Territory Governments with the Australian Government
  • “...to produce and publish a ‘state of the forests’ review every five years...”
Forest related reporting

National

• Australia’s State of Forests
• Forests at a Glance (annual)

• 2013 - the fourth in the five-yearly series of national reports
Regional Forest Agreements

The MP supports public reporting under the Regional Forest Agreements:

“Parties agree to establish an appropriate set of sustainability indicators to monitor forest changes. Any indicators established will be consistent with the Montreal Process Criteria (as amended from time to time),...”
Regional Forest Agreements Act 2002

“Parties agree to establish an appropriate set of sustainability indicators to monitor forest changes. Any indicators established will be consistent with the Montreal Process Criteria (as amended from time to time),...”
Reporting implementation

The MP criterion and indicators are used by some Australia states to produce state-based State of the Forests Reports.

- **Western Australia** - Forest Management Plan
- **New South Wales** - SEEing Reports
- **Tasmania** - State of the Forests Report
- **Victoria** - State of the Forest Report
Policy development

Australia has used indicators from the Montreal Process to support the development of policy
Canada’s C&I Linkages

Montréal Process

CCFM Framework 6 SFM Criteria

Guidelines, Regulations

Model Forest Local Level Indicators

Provincial C&I

Legislation

Industry (Certification)

- International
- National
- Regional
- Local (DFA, FMU)
National Level - Reporting

Progress towards SFM

- CCFM National C&I Reporting
- Montréal Process National C&I Reporting
- National Coordination: collection and management of C&I data
- Consolidating C&I reporting for various audiences
- Links of SFM C&I to other federal government initiatives
- C&I as guide to National level research
National Level - C&I support to Policy and Decision making

- International trade
- Federal Social agenda
- State of Forest Reports to Parliament
Provincial Level - C&I guide
implementation of SFM

- Provincial and Territorial use of C&I
  - Legislation
  - State of Forest Reports
  - Resource Evaluation Framework
  - Forest Planning Manuals
  - Forest Management Units
Local Level Indicators

- Operating plans – industry and parklands
- Setting local targets
- Certification: public and private lands
- Effective public consultation and planning
- Reporting local level progress to SFM
- Province wide application of LLI
- Engaging Stakeholders
USA: National Level

- Very strong support for Montreal Process from many forestry interests
  - Roundtable on Sustainable Forests has 115 participants

- Success of forest C&I led to formation of two more roundtables; both using C&I
  - Sustainable Rangelands Roundtable
  - Sustainable Water Resources Roundtable

- Broader Federal Government Interest in environmental indicators
  - State of the Nation’s Ecosystems project
    * Partnership of federal government, industry, academia, organizations
    * Forests were one of six sectors
  - National Environmental Status & Trends (NEST) Indicators project
Building a set of environmental indicators for the Nation

- Similar to current economic indicators

Beginning with indicators of water

- Quantity
- Quality
- Use
- Ecological Conditions

Forest Service asked to lead the project because of the success of the Montreal Process C&I and sustainability reporting
USA: State Level

- 20 States in northeastern U.S. are using 18 indicators, based on MPWG C&I
- Maryland and Oregon have integrated indicators into State forest management plans
- In the southern U.S., a regional roundtable on sustainable forests has begun
  - Covers 14 States
  - *Indicators are a key component of their work*
China
The 1st MP National Report
✓ submitted in 2002
✓ Only 7 indicators were covered
SFM has become one of several urgent and most important things in China

Montreal Process
Seven Indicators’ Report from China
State Forestry Administration, P. R. China
July, 2002

Introduction

A national forest resources inventory conducted between 1994 and 1998 has revealed a forest cover of 158.9 million hectares, only 16.55% of the total land area of China, and the total growing stock of forest resources is 12,488 million cubic meters. The most extensive forest area and comprising the largest industrial wood resources in the country are natural forests in the northeast provinces. Other important forests are natural forests in southwest and plantations in southern provinces. Forest ownership is mixed, about 41.6% of the total forest cover are State land and administrated by the State Forestry Administration, and 58.4% are the collective-owned although managed under the authority of forest laws and monitored by the State Forestry Administration. Forestry activities are labour intensive and the sector is a large employer of both men and women, over 2.5 million employees.

China is one of the most species diverse countries in the world. There is about 32,800 flowering plant species, of which 9,410 are woody species or 40% of the total in the world. The forest and other vegetation are home to about 499 species of mammals, 1,244 species of birds, 391 species of reptiles, 260 species of amphibians, and millions of invertebrates. Furthermore, China is one of the three major origin centres of cultivated plants in the world, with a number of related wild species.
MP National report on SFM 2013

1. Most relevant SFA departments involved
2. Steering committee
3. Editorial committee – authors from multiple disciplines
4. Case study

All indicators covered

Scientific
Objectivity
Comprehensive
Typical case study
Prospective
Qualitative description
Quantitative analysis
A rapid change from traditional forest management to modern SFM in China

From timber production oriented, to classified forest management, to ecosystem-development-oriented, to both of the ecological and the livelihood, and to Eco-civilization development.
Joint Activities
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<th>MCPFE Criteria</th>
<th>Montreal Process</th>
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<td>1. Extent of forest resources.</td>
<td>1. Maintenance &amp; appropriate enhancement of forest resources and their contribution to global carbon cycles</td>
<td>2. Maintenance of Productive Capacity of Forest Ecosystems</td>
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<td>5. Maintenance of Forest Contribution to Global Carbon Cycles</td>
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<td>2. Biological diversity</td>
<td>4. Maintenance, conservation &amp; appropriate enhancement of biological diversity in forest ecosystems</td>
<td>1. Conservation of Biological Diversity</td>
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<td>4. Productive functions of forest resources.</td>
<td>3. Maintenance and encouragement of productive functions of forests (wood and non-wood)</td>
<td>6. Maintenance and Enhancement of Long Term Multiple Socio-Economic Benefits to Meet the Needs of Societies</td>
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<td>5. Protective functions of forest resources.</td>
<td>5. Maintenance and appropriate enhancement of protective functions in forest management</td>
<td>4. Conservation and Maintenance of Soil and Water Resources</td>
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<tr>
<td>7. Legal, policy and institutional framework.</td>
<td>[MCPFE qualitative indicators could be interpreted as the 7th criterion]</td>
<td>7. Legal, Institutional and Economic Framework for Forest Conservation and Sustainable Management</td>
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Joint activities 2004-2013

• Increasing interactions with other C&I Processes and UN FAO
• Streamlining and aligning – GFRA 2015
• Communication of Sustainable Forest Management
• **March 2011 – Tokyo meeting:** Japan hosted the International Seminar on Challenges of Sustainable Forest Management – Integrating Environmental Social and Economic Values of Forests in Tokyo. This country-led initiative in support of UNFF was co-hosted by Indonesia and co-organized by the Montréal Process, ITTO and FOREST EUROPE.

• **October 2011 – Victoria meeting:** Canada, as Chair of the Montréal Process Working Group, hosted a Workshop of International and Regional Criteria and Indicator Processes. At the Victoria workshop the Montréal Process, ITTO, FOREST EUROPE and UN FAO endorsed a joint statement in January 2012 to streamline global forest reporting through enhanced collaboration.

• **February 2012 – Sendai meeting:** “Ad-hoc meeting of sub-committee of MPWG on collaboration with FRA2015 and other C&I processes for SFM” concept of “CFRQ” which will be shared among the six partner organizations/processes.

• **August 2012 – Jacksonville meeting:** the workshop on streamlining forest-based reporting

• **December 2012 – Tokyo meeting:** “14th MP TAC meeting” and “CFRQ partners meeting”

• **September 2013 – Kyoto meeting:** “Sub regional capacity building workshop for Southeast, East Asian and main Pacific island countries (FRA2015).
Future Directions: Some Thoughts
The future

The Montreal Process needs to remain current. To do that we need to:

− evolve to meet and address emerging issues,

− maintain relevance in the international forestry context,

− maintain relevance to our audience.
Recent Activities

- Evolution of the Indicator set
- Reporting activities
- Network of knowledge
- Joint initiatives – streamlining
- Use of Indicators for thematic analysis
  - Forest Degradation
  - Water
  - Soil
- Future watch – use of C&I for planning
Cross reference of 2009 Montreal Process indicators with FAO Forest Degradation indicators

Criterion 1: Conservation of biological diversity

1.1. Ecosystem Diversity
1.1.a Area and percent of forest by forest ecosystem type, successional stage, age class, and forest ownership or tenure
1.1.b Area and percent of forest in protected areas by forest ecosystem type, and by age class or successional stage
1.1.c Fragmentation of forests

1.2. Species Diversity
1.2.a Number of native forest-associated species
1.2.b Number and status of native forest-associated species at risk, as determined by legislation or scientific assessment
1.2.c Status of on site and off site efforts focused on conservation of species diversity

1.3. Genetic Diversity
1.3.a Number and geographic distribution of forest-associated species at risk of losing genetic variation and locally adapted genotypes
1.3.b Population levels of selected representative forest-associated species to describe genetic diversity
1.3.c Status of on site and off site efforts focused on conservation of genetic diversity

Criterion 2: Maintenance of productive capacity of forest ecosystems

2.a Area and percent of forest land and net area of forest land available for wood production
2.b Total growing stock and annual increment of both merchantable and non-merchantable tree species in forests available for wood production
2.c Area, percent, and growing stock of plantations of native and exotic species

2.d Annual harvest of wood products by volume and as a percentage of net growth or sustained yield
2.e Annual harvest of non-wood forest products

Criterion 3: Maintenance of forest ecosystem health and vitality

3.a Area and percent of forest affected by biotic processes and agents (e.g., disease, insects, invasive alien species) beyond reference conditions
3.b Area and percent of forest affected by abiotic agents (e.g., fire, storm, land clearance) beyond reference conditions

Criterion 4: Conservation and maintenance of soil and water resources

4.1 Protective function
4.1.a Area and percent of forest whose designation or land management focus is the protection of soil or water resources

4.2 Soil
4.2.a Proportion of forest management activities that meet best management practices or other relevant legislation to protect soil resources
4.2.b Area and percent of forest land with significant soil degradation

4.3 Water
4.3.a Proportion of forest management activities that meet best management practices, or other relevant legislation, to protect water related resources
4.3.b Area and percent of water bodies, or stream length, in forest areas with significant change in physical, chemical or biological properties from reference conditions

Criterion 5: Maintenance of forest contribution to global carbon cycles

5.a Total forest ecosystem carbon pools and fluxes
5.b Total forest product carbon pools and fluxes
5.c Avoided fossil fuel carbon emissions by using forest biomass for energy

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits

6.1 Production and consumption
6.1.a Value and volume of wood and wood products production, including primary and secondary processing
6.1.b Value of non-wood forest products produced or collected
6.1.c Revenue from forest based environmental services
6.1.d Total and per capita consumption of wood and wood products in round wood equivalents
6.1.e Total and per capita consumption of non-wood forest products
6.1.f Value and volume in round wood equivalents of exports and imports of wood products
6.1.g Value of exports and imports of non-wood forest products
6.1.h Exports as a share of wood and wood products production, and imports as a share of wood and wood products consumption
6.1.i Recovery or recycling of forest products as a percent of total forest products consumption

6.2 Investment in the forest sector
6.2.a Value of capital investment and annual expenditure in forest management, wood and non-wood forest product industries, forest-based environmental services, recreation and tourism
6.2.b Annual investment and expenditure in forest-related research, extension and development, and education

6.3 Employment and community needs
6.3.a Employment in the forest sector
6.3.b Average wage rates, annual average income and annual injury rates in major forest employment categories
6.3.c Resilience of forest-dependent communities
6.3.d Area and percent of forests used for subsistence purposes
6.3.e Distribution of revenues derived from forest management

6.4 Recreation and tourism
6.4.a Area and percent of forests available and/or managed for public recreation and tourism
6.4.b Number, type, and geographic distribution of visits attributed to recreation and tourism and related to facilities available

6.5 Cultural, social and spiritual needs and values
6.5.a Area and percent of forests managed primarily to protect the range of cultural, social and spiritual needs and values
6.5.b The importance of forests to people

Criterion 7: Legal, institutional and economic frameworks for forest conservation and sustainable management

7.1.a Legislation and policies supporting the sustainable management of forests
7.1.b Cross sectoral policy and programme coordination
7.2.a Taxation and other economic strategies that affect sustainable management of forests
7.3.a Clarity and security of land and resource tenure and property rights
7.3.b Enforcement of laws related to forests
7.4.a Programmes, services and other resources supporting the sustainable management of forests
7.4.b Development and application of research and technologies for the sustainable management of forests
7.5.a Partnerships to promote the sustainable management of forests
7.5.b Public participation and conflict resolution in forest-related decision making
7.5.c Monitoring, assessment and reporting on progress towards sustainable management of forests

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Thank You Very much!
Muchas Gracias!
대단히 감사합니다!
谢谢!
どうもありがとうございます！
Merci beaucoup!
Спасибо!