

28th Montréal Process Working Group Meeting

Kumamoto, Japan

22nd – 25th October 2019



AIDE- MÉMOIRE

The Montréal Process Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests held its 28th meeting in Kumamoto, Japan, October 22 – 25, 2019. The Montréal Process includes Argentina, Australia, Canada, Chile, China, Japan, Republic of Korea, Mexico, New Zealand, Russian Federation, United States of America, and Uruguay. Aide-Memoire followed by appendixes:

Annex A - 28th Montréal Process Working Group Meeting Provisional Agenda

Annex B - List of Participants

Annex C - Overview of the International Symposium of the Montreal Process

Annex F - UNFF regional/sub-regional partners reporting on progress towards the implementation of the UNSPF 2017-2030 and UNFI (agenda item 8)

Annex G - Montreal Process Technical Advisory Committee update (agenda item 9)

Annex I - GANNT chart of the synthesis report (agenda item 11)

Annex J - Cultural, Social and Spiritual Trees in the Montreal Process (agenda item 13)

Annex K - Text for Indicator Review and Adjustment Discussion (agenda item 14)

Annex L - Consideration of current set of indicators and discussion of process (agenda item 14)

Annex N - Text for Digital Communications Discussion (agenda item 16)

Annex O - Digital communication strategies (agenda item 16)

Annex P - Future work to be carried out by TAC (agenda item 17)

Annex Q - Sharing Canada's experience (agenda item 18)

Annex R - Transfer of the Liaison Office of the Montreal Process (agenda item 19)

Annex S - Terms of References

Agenda

The Liaison Office introduced the provisional agenda and proposed to put agenda items 5 and 6 (Overview of Japan, Japan's forest & forestry; and Country Experiences) before the agenda items 3 and 4 (Chair nomination, transfer and introduction; and adoption of the agenda). The proposal was agreed by the member countries, and the amended agenda was adopted by the Working Group later. The provisional agenda is attached as [Annex A](#).

Participation

The meeting included approximately 20 participants from 6 Montréal Process member countries (Australia, Canada, China, Japan, New Zealand and the United States of America) and an invited representative from UNFF Secretariat. The list of participants of the Working Group meeting is attached as [Annex B](#).

In conjunction with the Working Group meeting, Japan organized “the International Symposium of the Montreal Process —Contribution of forests to achieve SDGs: Use of forest Information and C&I—”, which was opened to the public to raise public awareness of the Montreal Process and Criteria and Indicators Processes on Monday 21 October, 2019. Details on the symposium are provided in [Annex C](#).

1) Opening Welcome

Ms. Tsukada Naoko, Director, International Forestry Cooperation Office, Forestry Agency of Japan welcomed the participants of the Working Group as the host country of the meeting with the appreciation for the fruitful discussion at the International Symposium held on 21 October prior to the Working Group meeting, which also raised public awareness about the activity of the Montreal Process in Japan.

She also briefly introduced the characteristic of the venue, Kumamoto in Kyusyu region, in terms of potential natural vegetation and relation with human activities on forests, and that the day (22 October 2019) is the special national holiday in Japan which was set only in 2019 to celebrate accession of the new Emperor.

2) Overview of Japan, Japan's Forest & Forestry

Japanese representatives presented a broad overview of the country's forest and forestry. ([Annex D](#))

3) Country Experiences in the Application and Utilization of Criteria and Indicators to Promote and Implement Sustainable Forest Management

Countries shared their progress and achievements since the 27th Working Group meeting related to application of criteria and indicators and implementing Sustainable Forest Management. Highlights included progress in preparing country reports, new strategic frameworks for data collection, analysis, and streamlined reporting, and utilization of Montréal Process criteria and indicators at regional and sub-regional levels ([Annex E](#)). Although the Russian Federation did not participate in the meeting, they submitted their country experience presentation electronically for reference.

4) Chair nomination & introductions

Adam van Opzeeland, representing New Zealand, the former chair country, welcomed members and thanked Japan for hosting the current Meeting. Ms. Tsukada Naoko, Director, International Forestry Cooperation Office, Forestry Agency, Japan was nominated to serve as Meeting Chair of the Montréal Process Working Group's 28th Meeting. The Montréal Process Working Group unanimously endorsed her nomination. She expressed gratitude for New Zealand's leadership and efforts since the last Working Group meeting and thanked the Liaison Office for its work.

5) Nomination of meeting officers (Aide Memoire drafting group)

Representatives from Australia, Canada, New Zealand, the USA and the TAC Convenor volunteered to serve on the Aide Mémoire Drafting group.

6) Adoption of agenda

The chair introduced the amended Agenda to the Working Group meeting and it was adopted by the members.

7) Report from the liaison office, including the future of liaison office

The Liaison Office reported that there was an offer made by China to host the Liaison Office in place of Japan on 12 October 2019.

8) Input from Montreal Process to other meetings

Barbara Tavora Jainchill, representing the Secretariat of United Nations Forum on Forests (UNFF), outlined the enhanced relationship between UNFF and regional and sub-regional entities since 2015. She welcomed the opportunity to reconnect with the Montreal Process Working Group. She outlined the establishment of expert group meetings in Tehran, Nairobi and Bangkok and other joint activities in the Asia Pacific region. Another expert group meeting is planned for after UNFF15. She outlined the background to the voluntary reporting process and noted the format was as close as possible to the country reporting format ([Annex F](#)). The Montreal Process Working Group supported the enhanced interactions, reporting initiative and development of the Flagship report, but noted the difficulty of meeting the end of November 2019 timeline. The WG also noted that it may submit a more general narrative report as the current template does not fit well. The MP would welcome the opportunity to provide input to the next version of the reporting template, and to engage with the Flagship steering group.

<i>Action Item 1 -</i>	The Montreal Process WG members are encouraged to engage with UNFF Flagship report steering group and explore ways to link Flagship report to MP Website.
------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------

<i>Action Item 2 -</i>	The Liaison Office to collate information on Regional Group report and submit to UNFF Secretariat by December 31 2019.
------------------------	------------------------------------------------------------------------------------------------------------------------

9) Report on TAC activities

The TAC Convenor reported back on activities at the 17th TAC meeting held in Uruguay in February 2019 and subsequently as outlined in the aide memoire from the meeting. He covered the Overview and Achievement report; the synthesis report being developed for the XV World Forestry Congress in Korea in 2021; and emerging issues, advances and developments in criteria and indicators ([Annex G](#)).

Overview and achievement report:

The Working Group approved the overview and achievement report subject to a number of final actions. The table of contents to be updated to reflect contents of the main body of the report with country reports to be contained in an annex. This will better enable publication and dissemination of the report. Countries will have until the end of November to submit any final updates or content. The report and annex will be published on the MP website by 15th December 2019 and promoted through country networks. Publication will be initially in English, Canada noted they would investigate opportunities for translation into Spanish. The meeting thanked the UNFF representative for her offer of assistance with distribution of the report through other regional entities ([Annex H](#)).

<i>Action Item 3 -</i>	TAC Convenor to update the report Table of Contents and layout to move the country reports into annexes. Countries to make any updates to their country reports by the 30th November 2019 and TAC Convenor to finalise the report.
------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<i>Action Item 4 -</i>	Publish the Overview and Achievement report and annexes on the Montreal Process website by 15th December 2019.
------------------------	----------------------------------------------------------------------------------------------------------------

<i>Action Item 5 -</i>	Canada investigate and produce of possible Spanish translation of the document by January 2020, with review and input from Spanish speaking member countries.
------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

Synthesis report:

The Convenor presented the TAC's recommendations for the synthesis report from the 17th TAC meeting. He covered scope and content, indicator data and the approach to analysis and presentation, the report outline, audience, style, launch activities and logistical considerations (see TAC Convenor presentation).

Emerging Issues, and advances and developments in C&I:

The TAC identified two main areas at the 17th meeting: 1. Ongoing refinement and adaptation of the C&I framework, and 2. Exploration and development of new communications strategies. Outcomes of discussions on both of these topics are covered by agenda items at this meeting.

10) Appointment of a TAC Convenor

The Liaison Office reported that one nomination had been received from New Zealand for Prof. Tim Payn to hold the role of Convenor for the next term.

The Working Group discussed the appointment of the TAC Convenor for the next term. As only one nomination was received, as well as considering the ongoing work of the TAC including the synthesis report, the candidate was appointed by acclamation. The WG noted with appreciation the ongoing work of the TAC Convener in undertaking his duties in the past three years and thanked New Zealand and Scion (as the host agency of the TAC Convener) in supporting the TAC Convener.

The WG also noted that Prof. Tim Payn may not be able to work on TAC Convenor after the MPWG29.

11) Planning of the WFC and the synthesis report

Preliminary production plan for a synthesis report

The Working Group discussed the synthesis report proposal as developed by the TAC plus a detailed GANNT chart (Annex I) developed by Canada at this meeting. The Working Group approved the approach and directed the TAC to proceed. A number of steps were identified as critical to the successful development of the report and delivery at the WFC in 2021.

Not all countries have yet submitted the completed data questionnaire. Now that the 2020 GFRA data submissions have been finalised by the UNFAO countries will have until the 31st of December 2019 to submit their questionnaires. If not submitted at this date the report will utilise whatever data is publicly available.

Discussion of the plan and GANNT chart identified the need to appoint leads for specific components of the report. These include 1. overall coordination of the work programme, 2. technical leads for the data sub group and writing team, 3. taking on responsibility to secure resources for design, layout and editing; and printing and shipping of the report, and 4. Responsibility for interactions with the MP team organising the event at the WFC and making sure that the development of the event goes hand in hand with the planning and organising of the report. Appointing these leads will provide clear responsibilities and accountabilities for the various aspects of the work.

Given the various difficulties faced in attending face to face meetings, the TAC will utilise as far as possible virtual meeting technologies such as Skype, and the TAC Convenor will set up a series of regular meetings to discuss progress. Document sharing technologies such as Google Docs, Dropbox or SharePoint will also be used as far as possible. The need for a face to face TAC meeting while the report development is underway will be reviewed regularly and a meeting held if appropriate.

The Working Group identified the need for a plan to develop alternative products if, for whatever reasons, progress with the report was not according to plan. A date for the decision as to whether this alternative was needed should be made well ahead of the WFC to allow the best event to be designed. This might be, at the least, a comprehensive presentation on the data and findings if a physical report is not achievable in the timeframe.

<i>Action Item 6</i> - Countries to identify availability of support resources for design, layout and editing; and printing and shipping of the report by end November 2019.

<i>Action Item 7</i> - TAC Convenor to initiate regular electronic meetings for TAC and support teams.

<i>Action Item 8</i> - TAC Convenor to encourage data submission from countries who have not yet submitted by final deadline of December 31st 2019.

<i>Action Item 9</i> - TAC Convenor to identify and appoint teams and leads for the data analysis team and the writing team.

<i>Action Item 10</i> - The TAC Convenor to coordinate the overall synthesis report development.

<i>Action Item 11</i> - Canada to coordinate both the data and writing team activities.

<i>Action Item 12</i> - The TAC Convenor to update the Working Group on a bi-monthly basis on progress with the report development.

<i>Action Item 13</i> - The report team to consider alternative products to the report in case circumstances affect the report development process to ensure the WFC event is as successful as it can be.

<i>Action Item 14</i> - The Working Group to support the holding of a TAC meeting in the period before the 29th meeting of the Working Group. This meeting may be virtual or physical and the location and date will be dependent on the work programme for development of the report.

<i>Action Item 15</i> - The TAC Convenor to present the final report to the 29th meeting of the Montreal Process Working Group.

12) Enable an international conference on applied remote sensing to enhance National Forest Inventories

Canada's Wood Fibre Centre was expected to host an international conference on enhanced forest inventory and remote sensing applications, but this conference was usurped by other activities. It was since been replaced with an e-lecture series currently underway that may be of interest to Montreal Process Working Group members.

The Canadian Institute of Forestry (CIF) is hosting the e-lecture series called: "An update on Canadian Applications of LIDAR and digital photogrammetry - the AWARE experience".

Details about the lecture series can be found at the following link: <https://www.cif-afc.org/wpcontent/uploads/2019/09/AWARE-E-Lecture-Series-Poster-2019.pdf>.

The series will cover:

- Digital soil mapping
- SPL (single photo LiDar) and multi-spectral LiDAR (light detection and ranging)

- Assessing non-timber values using LiDAR and advanced remote sensing data
- Digital photogrammetric applications to enhanced forest inventory.

The following site provides more information and registration details: <https://www.cif-ifc.org/electures/>.

In addition, open access e-lectures (PDF and video) on a variety of forestry related topics are available to everyone at: <https://www.cif-ifc.org/open-source-electures/>

13) Cultural, social and spiritual values of trees in Montréal Process countries

The Working Group considered the current draft of the report entitled “Cultural, social and spiritual values of trees, in the Montreal Process Countries” as Annex J. While noting the excellent work provided by Andrés Mezza in putting the document together, the Working Group felt that additional work was needed in some places, mainly in regards to text editing and verification of information. In line with the original intent to highlight individual trees on the website on a rolling basis, Canada agreed to supply finalized English and French versions of its significant tree report to be mounted by the USA in a featured position on the website. The USA agreed to mount subsequent tree reports on a rolling basis pending specific member country initiative, noting that it could provide limited editing services but hoped that other member countries will assist.

<p><i>Action Item 16</i> – Australia, Canada, NZ and the USA agreed to work interactively, on a rotational basis, to support English edits for those members whose the first language is not English upon requested.</p>

<p><i>Action Item 17</i> – Canada will submit both French and English versions of its tree report to the USA and will work with them to produce the first report to be reported on the Montréal Process website.</p>

<p><i>Action Item 18</i> – The Working Group invites countries to submit additional final tree reports to the USA to be posted on the Montreal Process website.</p>

14) Consideration of current set of indicators and discussion of process for indicator set adjustment if needed

Based on discussions held at the 17th meeting of the Technical Advisory Committee, USA led a discussion considering potential changes to the current set of MP indicators, including the inclusion of new indicators, and the adjustment or elimination of existing indicators (Annex K, Annex L). The Working Group noted the value of the C&I framework as a major accomplishment of the Montréal Process and the importance of continued review and

adjustment of its component indicators stressed as a means of assuring continued relevance and alignment with other indicator-based reporting initiatives. The group identified no specific candidate indicators for adjustment but recognized the need for further consideration of this issue in the future, suggesting that this item should be taken up again by the Working Group and Technical Advisory Committee after the conclusion of the 2021 World Forestry Congress.

15) The role of Montreal Process criteria and indicators in informing the post-2020 UN Biodiversity framework

New Zealand made a presentation on the current process underway at the United Nations to determine a UN post-2020 Biodiversity Framework and the possible role of Montreal Process in contributing to the process ([Annex M](#)). New Zealand outlined:

- what this process involves;
- the role of forests in the current framework and possible treatment of forests in the new framework;
- the treatment of forest biodiversity in Montreal Process criteria and indicators and how this compares to other existing criteria and indicators for forest biodiversity; and
- the opportunities for input into the process to determine the Post2020 Biodiversity framework.

The group acknowledged that the new UN Framework will have an important role in the future framing of sustainable forest management and the application of an ecosystem approach to forest management, and it thus warrants the attention of Montreal Process members. The group also acknowledged that the Montreal Process criteria and indicators can provide valuable input into the post2020 process, including by noting the importance of high quality criteria and indicators for understanding and improving outcomes of sustainable forest management on biodiversity and ecosystem services.

To this end, a submission made by Montreal Process to the Secretariat of the Convention on Biological Diversity would be an appropriate avenue to contribute. It was agreed that the submission should highlight the functions of the Montreal Process, the criteria and indicators (including noting those that they are particularly relevant to biodiversity), reiterating and referencing past declarations on sustainable forest management that Montreal Process has been associated with, and reiterating agreements that acknowledge sustainable forest management as a clear and agreed application of the ecosystem approach.

Several members offered suggestions on elements for the submission, which New Zealand welcomed, and it was noted that members should ensure that these elements are captured in the draft when circulated and provide comment to suit. Canada and Australia offered specific drafting support, should it be required.

<i>Action Item 19 – New Zealand to draft a submission capturing the elements agreed by the members at the working group meeting and to circulate to all members for their approval before February 10 2020.</i>

16) Discussion of digital communication strategies and opportunities to better communicate MP to different audiences

USA exhibited recent modifications to the Montréal Process website and led a discussion on digital communications strategies centered on website organization and the development of digital content ([Annex N](#), [Annex O](#)). The Working Group thanked the USA for its work managing the website, while noting that several modifications to the site were needed, notably the elimination of redundancies in member listings and meeting reports and the repositioning of MP Overview Reports in the Country Reports page. The USA agreed to undertake these adjustments in the near future and further requested countries to check meeting reports and MP member pages to ensure that the current postings on the site for their countries are up to date. The Working Group further discussed the production of a “Story map” describing the Montréal Process, and the USA agreed to pursue this objective with the help of other member countries. Other items considered under this agenda topic included the consideration of the inclusion of an interactive workspace on the website for MP members and the use of Google Analytics to track website activity.

<i>Action Item 20</i> – The USA to continue to provide refinements and adjustments to the website on the ongoing basis as needed.

<i>Action Item 21</i> – The working group requested New Zealand and the USA to update the strategic directions of the Montreal Process document on the website with the amended version approved at the 26th meeting in China and again at the 27th meeting at New Zealand.

17) Future work to be carried out by TAC

The important role of the TAC in progressing technical matters in support of the Montréal Process was acknowledged by the Working Group. The Working Group recognised the standing agenda items for all TAC meetings, ‘Sharing country experiences in C&I reporting and related activities’ and ‘Emerging issues, technical advances and developments in C&I’. The 17th meeting of the TAC (Uruguay) identified two emerging areas for discussion by the Working Group, 1) Review of indicators – ongoing refinement and adaptation of C&I, and 2) Communications. These were discussed in Agenda Items 09 and 16 of MPWG-28 respectively ([Annex P](#)).

The Working Group discussed the TAC proposal for a review of indicators. However, in light of the current commitment by the TAC on other activities, the WG recommended any review be deferred until after the WFC 2021 and take into account progress with other global indicator-related initiatives, and in-country developments with criteria and indicator frameworks. Action items for online-communications will be progressed by the United States of America, as agreed through Item 16 of this meeting.

The future work to be carried out by the TAC was agreed as follows:

1. Overview and Achievement Report

- refer Actions 3 & 4 of Item 9 (TAC Convenor Report)
2. Synthesis Report
 - refer relevant Actions in Item 11 (WFC and the synthesis report)
 3. World Forestry Congress:
 - TAC Convenor to maintain active engagement with a yet to be assembled Montreal Process organising committee
 4. Communications
 - create opportunities for TAC members to utilise virtual meeting technologies including video conferencing and document sharing

18) Sharing Canada's Experience: using Montreal Process's criteria and indicators to address trade issues and emerging opportunities to support commitments in new trade agreements

Canada has used the Montreal Process C&I to encourage the development of criteria and indicators at multiple scales from the local level to the international level to evaluate sustainable forest management (Annex Q). Recent work using C&I as a basis to build greater consistency in data requirements and scheduling in the Collaborative Forest Resources Questionnaire and the Global Core Set of Forest-Related indicators further cement the role of the MP C&I to substantiate SFM and hence provide sustainability assurances in support of trade.

The MP previously wrote the following:

“As a result of the collaboration among Montréal Process member countries and engagement with other forest-related processes, national data on forests are more useful for multiple reporting requirements, more accessible to a larger audience, and more robust for improving management practices and addressing emerging policy issues.” (Montreal Process Fact Sheet, 2015)

This is certainly true in Canada and helps demonstrate how participation in the MP as a forum has helped to strengthen Canada's capacity and institutional frameworks to promote SFM

The Montreal process, as a voluntary collaborative forum, may inform the CETA agreement including Articles 22.3 and 24.10.

We will continue to look for ways to strengthen coherence in Canada's MP objectives and trade commitments. That includes not just existing commitments, but new commitments that might emerge from new agreements.

19) Liaison Office transfer

China expressed their intention of taking over the role of the Liaison Office of the Montreal Process from Japan. Countries welcomed China's offer and thanked Japan for their past contribution as the Liaison Office. (Also see Annex R).

Japan expressed appreciation to members for the supports from member countries while hosting the liaison office and proposed to set a certain term of hosting the Liaison Office.

China noted the intent to propose the revision of the ToR at the MPWG29.

<i>Action Item 22</i> – Japan to communicate with China closely for smooth transition of the role of the Liaison Office of the Montreal Process by the completion of the Aide-Memoire of 28th meeting.

20) 29th Montreal Process Working Group Meeting

The Liaison office communicated an expression of interest from Argentina to host the 29th meeting of the Montreal Process Working Group subject to confirmation. The WG welcomed the expression by the country.

The WG chair / the Liaison Office will place a call for additional agenda items through the Liaison Office 6 months prior to the meeting.

<i>Action Item 23</i> – The Liaison Office of the Montreal Process to communicate with Argentina for confirmation of hosting the 29th MPWG.

21) Review and update the 2019-20 Implementation schedule

The Liaison Office will update 2019-2020 Implementation schedule.

22) Review of the Aide Mémoire

The Aide Mémoire was discussed and will be considered for endorsement out of session.

<i>Action Item 24</i> – The Aide Memoire is to be finalised by the Working Group Chair and distributed through the Liaison Office to the Working Group members for endorsement by January 2020.

**28th Meeting of the Montreal Process Working Group
(Kumamoto, Japan 21-25 October 2019)**

Provisional Agenda

- 1 Opening
- 2 Chair nomination, transfer of chair and introductions
- 3 Nomination of meeting officers
- 4 Adoption of agenda and other organizational matters
- 5 Overview of Japan, Japan's forest & forestry
- 6 Country experiences in the application and utilization of criteria and indicators to promote and implement sustainable forest management
- 7 Report from the liaison office, including the future of liaison office
- 8 Input from Montreal Process to other meetings
 - a) Voluntary Regional Group Report to UNFF
- 9 Report on TAC activities
 - a) Progress of the achievement and overview report
 - b) Progress and proposal of the synthesis report on C&I
 - c) Other reports from TAC 17
- 10 Appointment of a TAC Convenor
- 11 Strategic direction of the Montreal Process
 - a) Planning of Montreal Process event at World Forestry Congress in 2021 (Information on the 15th WFC in 2021 hosted by Republic of Korea)
 - b) Synthesis Report on C&I for Boreal and Temperate Forests for Montreal Process Working Group for the next World Forestry Congress 2021
- 12 Enable an international conference on applied remote sensing to enhance National Forest Inventories

- 13 Cultural, social and spiritual values of trees in Montreal Process
- 14 Consideration of current set of indicators and discussion of process for indicator set adjustment if needed
- 15 The role of Montreal Process criteria and indicators in informing the post2020 UN Biodiversity framework
- 16 Discussion of digital communication strategies and opportunities to better communicate MP to different audiences
- 17 Future work to be carried out by TAC
- 18 Sharing Canada's Experience: using Montreal Process's criteria and indicators to address trade issues and emerging opportunities to support commitments in new trade agreements.
- 19 Liaison Office transfer
- 20 29th Montreal Process Working Group Meeting
- 21 Review and update the 2019-2020 Implementation schedule
- 22 Review of the Aide Memoire
- 23 Closure of the meeting

Montreal Process Working Group 28th Meeting Participants**[Australia]**

Ms. Laura Timmins

Director

International Forest Policy

Department of Agriculture

Ms. Claire Howell

Principal Scientist

Australian Bureau of Agricultural and Resource

Economics and Sciences

Department of Agriculture

Mr. Xiao Wenfa

Vice-president

Chinese Academy of Forestry

Ms. Lei Jingpin

Professor

Research Institute of Forestry

Chinese Academy of Forestry

Mr. Shen Tong

Assistant Engineer

Division of International Cooperation

Chinese Academy of Forestry

[Canada]

Dr. Judi Beck

Director General

Canadian Forest Service

Natural Resources Canada

Mr. Simon Bridge

Section Head

Canadian Forest Service

Natural Resources Canada

[Japan]Ms. Tsukada Naoko **(Chair)**

Director

International Forestry Cooperation Office

Forestry Agency

Mr. Ozawa Makoto

Senior Policy Analyst for International Affairs

International Forestry Cooperation Office

Forestry Agency

[China]

Mr. Li Da

Deputy Director General

Department of Forest Resources Management

National Forestry and Grassland Administration

Mr. Ogawa Shun

Deputy Director

International Forestry Cooperation Office

Forestry Agency

Ms. Yang Jing

Division Director

Department of Forest Resources Management

National Forestry and Grassland Administration

Mr. Ujihashi Ryosuke **(Liaison Office)**

Assistant Director

International Forestry Cooperation Office

Forestry Agency

Montreal Process Working Group 28th Meeting Participants

Mr. Aihara Takeshi
Section Chief
International Forestry Cooperation Office
Forestry Agency

Dr. Miura Satoru
Director Center for Forest Restoration and
Radioecology

Dr. Matsuura Toshiya
Research Fellow
Forestry and Forest Products Research Institute

[New Zealand]

Mr. Adam Van Opzeeland
Senior Analyst
International Environment
Ministry for Primary Industries

Prof. Tim Payn **(TAC Convenor)**
Scion and Toi Ohomai Institute of Technology

[United States of America]

Dr. Guy Robertson
Program Leader
US Forest Service

[United Nations Forum on Forests Secretariat]

Ms. Barbara Tavora Jainchill
Programme Management Officer, Forest Affairs

The International Symposium of the Montreal Process Working Group
Contribution of Forests to Achieve SDGs: Use of Forest Information and C&I
Overview

1. Session 1 (Presentations)

- Ms. Barbara Tavora Jainchill, the secretariat of the United Nations Forum on Forests (UNFF) delivered a keynote speech. She talked about international objectives and efforts on forests, including the Sustainable Development Goals (SDGs) and the United Nations Strategic Plan for Forests. She explained how sustainable forest management (SFM) can contribute to the achievement of various SDGs including those related to climate change and highlighted the importance of efforts in the forest sector in attaining the SDGs.
- Mr. Makoto Ozawa, Senior Policy Analyst at the Forestry Agency of Japan, talked about the history and characteristics of criteria and indicators (C&I) used in relation to SFM. He talked about the significance of scientifically and objectively measuring the status of forests, while discussing the Montreal Process C&I. Introducing Japan, one of the member countries of the Montreal Process, as an example, he explained how the introduction of the C&I influenced its domestic efforts. He referred to the further improvement and use of the C&I in the future and potentials in working towards the achievement of the SDGs.
- Mr. Osamu Hashiramoto, Director at the secretariat of International Tropical Timber Organization (ITTO) – an international organization primarily consisting of timber producing tropical countries, discussed the ITTO's efforts in relation to its own C&I as well as the actual examples of their use. He talked about how the FSC's criteria have been developed based on the C&I of the ITTO and how the ITTO's C&I prompted its member countries to develop their own criteria, thereby contributing to the raising of awareness on SFM and the improvement in governance in such countries.
- Dr. Fumiaki Kitahara, Senior Researcher at the Forestry and Forest Products Research Institute, talked about the National Forestry Inventory (NFI), which was commenced in response to the development of the C&I for the Montreal Process. He explained how the NFI, which started in 1999, improved in 2010 through an accuracy verification project, making its data more accurate and transparent. He also referred to the contribution of the NFI data to the SDGs 15 and 17 and the potentials for using soil degradation data for disaster prevention and other uses. He expressed his expectation of seeing the development of a network where the knowhow and information around NFIs in different countries are shared.
- Mr. Simon Bridge, Natural Resources Canada — Canadian Forest Service, talked about how the C&I have been utilized in his country. He presented cases where the values of the forestry industry side and the environmental conservation side come into collision, and the forest information collected based on C&I are effectively used in various scenes, such as to communicate and form consensus with

local residents, stakeholders and NGOs in planning policies and implementing operations. He emphasized that the Montreal Process's C&I, being an international, not national, system, gain a certain level of reliability.

- Prof. Xiao Wenfa, the Chinese Academy of Forestry, talked about trends surrounding forests in China and the contribution of forests to the SDGs 1, 2, 6, 7, 8, 12, 13, and 15. He pointed out the need and usefulness of creating linkage among the C&I, SDGs, and the World Forest Goals as well as the challenges of making it happen. He referred to the need of more discussions on the preparation of an integrated report based on the C&I in order to further efforts on the C&I.

2. Session 2 (Panel Discussion)

- Moderated by Prof. Tim Payn, Convenor of the Technical Advisory Committee for the Montreal Process, the panel discussions were participated by the speakers for Session 1 as well as Dr. Satoru Miura, Director of the Center for Forest Restoration and Radioecology of the Forestry and Forest Products Research Institute.
- Based on the presentations made during Session 1, and in response to questions from the audience, the panelists discussed future uses and potentials of the C&I.
- The panelists shared a view that efforts in the forest sector have potential for contributing to the achievement of various SDGs and such efforts should be promoted. They highlighted the need to objectively demonstrate to the people outside the forest sector that SFM has been done appropriately, and they believe the C&I can play an important role there. They also agreed that when exploitative images of the traditional forestry industry have resulted in disagreements between the forestry side and the environmental conservation side, for example, it is important that the local residents have good understanding on forests and are allowed to participate in policy development process and that in implementing such policies, forest information collected in accordance with reliable C&I would be useful for communicating with and convincing the local people.
- They pointed out that developing countries also implement various activities related to C&I, which have helped their people understand SFM better but lack ability to collect data due to insufficient budget, technologies and human resources.
- The C&I for the Montreal Process include the ones related to sediment disasters and the panelists pointed out that such C&I have potentials for contributing to the SDGs in the area of disaster prevention/mitigation. On the other hand, based on the fact that natural disasters have intensified and prolonged in recent years due to climate change and are about to exceed the capacities of forests' disaster prevention functions, including soil conservation function, they pointed out challenges including how the C&I will be applied in the future.



Entity name:	
Date of submission:	

Format for United Nations Forum on Forests regional/sub-regional partners reporting on progress towards the implementation of the United Nations Strategic Plan for Forests 2017–2030 and the United Nations Forest Instrument

1. The format is structured around the global forest goals and targets of the United Nations strategic plan for forests 2017–2030.
2. While considering the word limits, regional and sub-regional entities are invited to provide as much detail as possible in their answers, including regarding figures and deadlines, if applicable.
3. The year 2015 is used as a baseline.
4. Where possible, all terms used herein are consistent with the terms and definitions used by the FAO Global Forest Resources Assessment.
5. Wherever possible, please indicate the source of information or provide a weblink.

Please submit the completed format to: unff@un.org with cc: tavora-jainchill@un.org by 15 November 2019.



General Information

Information on Entity

Official Name:	
Membership:	
Mandate:	

Entity's focal point

Name:	
Title:	
Address:	
Entity:	
Telephone:	
Email:	

Person to contact concerning the entity's report, if someone other than the entity's focal point

Name:	
Title:	
Address:	
Entity:	
Telephone:	
Email:	

Entity/entities involved in the preparation of the report

Entity/Entities:	
Address:	
Email:	



Global forest goal 1 and associated targets¹

Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change

Associated targets

- 1.1 Forest area is increased by 3 per cent worldwide ²
- 1.2 The world's forest carbon stocks are maintained or enhanced
- 1.3 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
- 1.4 The resilience and adaptive capacity of all types of forests to natural disasters and the impact of climate change is significantly strengthened worldwide

Questions on goal 1

1. (a) Since 2015, ³ what types of action have been taken by your entity to support Member States to advance or contribute to the achievement of targets 1.1–1.4?

Please indicate to which targets the actions relate and briefly describe the results to date, if applicable, (in a maximum of 250 words). For each action, please indicate whether it is continuous, planned, in progress or completed.

- (i) Legislative and policy actions

List of actions:

Description of actions:

- (ii) Institutional actions (actions to advance implementation of SFM)

List of actions:

Description of actions:

¹ Goal 1 and its targets support and contribute to the achievement of, among other things, targets 6.6, 12.2, 13.1, 13.3, 14.2, 15.1–15.4 and 15.8 of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 5, 7, 9, 11, 14 and 15, and are supported by paragraphs 6 (o) and 7 (d) and (e) of the United Nations forest instrument.

² Based on the Global Forest Resources Assessment 2015.

³ Or earlier, where relevant to capturing important action. The same applies hereafter.

- (iii) Financial actions



List of actions:

Description of actions:

(iv) Technical and scientific actions

List of actions:

Description of actions:

(b) How do the actions listed above support Member States in the implementation of the United Nations forest instrument?

(c) What are the main challenges in supporting Member States in achieving goal 1 in your region?

(d) Any additional comments on goal 1:



Global forest goal 2 and associated targets⁴

Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people

Associated targets

- 2.1 Extreme poverty for all forest-dependent people is eradicated
- 2.2 Increase the access of small-scale forest enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets
- 2.3 The contribution of forests and trees to food security is significantly increased
- 2.4 The contribution of forest industry, other forest-based enterprises and forest ecosystem services to social, economic and environmental development, among other things, is significantly increased
- 2.5 The contribution of all types of forests to biodiversity conservation and climate change mitigation and adaptation is enhanced, taking into account the mandates and ongoing work of relevant conventions and instruments

Questions on goal 2

- 2. (a) Since 2015, what types of action have been taken by your entity to support Member States to advance or contribute to the achievement of targets 2.1–2.5?

Please indicate to which targets the actions relate and briefly describe the results to date if applicable (in a maximum of 250 words). For each action, please indicate whether it is continuous, planned, in progress or completed.

- (i) Legislative and policy actions

List of actions:

Description of actions:

- (ii) Institutional actions (actions to advance implementation of SFM)

List of actions:

Description of actions:

⁴ Goal 2 and its targets support and contribute to the achievement of, among other things, targets 1.1, 1.4, 2.4, 4.4, 5.a, 6.6, 8.3, 9.3, 12.2, 12.5, 15.6 and 15.c of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 4, 14 and 18, and are supported by paragraphs 6 (d)–(f), (h), (j), (p), (q), (t)–(v) and (y) and 7 (k) of the United Nations forest instrument.



(iii) Financial actions

List of actions:

Description of actions:

(iv) Technical and scientific actions

List of actions:

Description of actions:

(b) What other action is being taken by your entity in support Member States to achieve goal 2?

(c) How does the action listed above support Member States in the implementation of the United Nations forest instrument?

(d) What are the main challenges in supporting Member States in achieving goal 2 in your region?



(e) Any additional comments on goal 2:

--

Global forest goal 3 and associated targets⁵

Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests

Associated targets

- 3.1 The area of forests worldwide designated as protected areas or conserved through other effective area-based conservation measures is significantly increased
- 3.2 The area of forests under long-term forest management plans is significantly increased
- 3.3 The proportion of forest products from sustainably managed forests is significantly increased

Questions on goal 3

3. (a) Since 2015, what types of action have been taken by your entity to support Member States to advance or contribute to the achievement of targets 3.1–3.3?

Please indicate to which targets the actions relate and briefly describe the results to date if applicable, (in a maximum of 250 words). For each action, please indicate whether it is continuous, planned, in progress or completed.

(i) Legislative and policy actions

<i>List of actions:</i>
<i>Description of actions:</i>

(ii) Institutional actions (actions to advance implementation of SFM)

<i>List of actions:</i>
<i>Description of actions:</i>

⁵ Goal 3 and its targets support and contribute to the achievement of, among other things, targets 7.2, 12.2, 12.6, 12.7, 14.2, 14.5, 15.2 and 15.4 of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 7, 11, 12 and 16, and are supported by paragraphs 6 (p), (q) and (x) and 7 (f) and (g) of the United Nations forest instrument.



(iii) Financial actions

List of actions:

Description of actions:

(iv) Technical and scientific actions

List of actions:

Description of actions:

(b) What other action is being taken your entity in support Member States to achieve goal 3?

(c) How does the action listed above support Member States in the implementation of the United Nations forest instrument?

(d) What are the main challenges in supporting Member States in achieving goal 3 in your region?

(e) Any additional comments on goal 3:



Global forest goal 4 and associated targets⁶

Mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management and strengthen scientific and technical cooperation and partnerships

Associated targets

- 4.1 Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation
- 4.2 Forest-related financing from all sources at all levels, including public (national, bilateral, multilateral and triangular), private and philanthropic financing, is significantly increased
- 4.3 North-South, South-South, North-North and triangular cooperation and public-private partnerships on science, technology and innovation in the forest sector are significantly enhanced and increased
- 4.4 The number of countries that have developed and implemented forest financing strategies and have access to financing from all sources is significantly increased
- 4.5 The collection, availability and accessibility of forest-related information is improved through, for example, multidisciplinary scientific assessments

Questions on goal 4

- 4. (a) Please describe major actions taken in your region to move towards goal 4 and its associated targets. More detailed information on actions for each target may be supplied below.

Progress towards targets 4.1 and 4.2

- (b) Since 2015, has your entity been able to mobilize significantly increased financial resources to support Member States in the implementation of sustainable forest management?

☐ Yes ☐ No

Please describe the main challenges in mobilizing funds in a maximum of 250 words:

⁶ Goal 4 and its targets support and contribute to the achievement of, among other things, targets 12.a, 15.7, 15.a, 15.b, 17.1–17.3, 17.6, 17.7 and 17.16–17.19 of the Sustainable Development Goals, as well as Aichi Biodiversity Target 19, and are supported by paragraphs 6 (h), (i), (m), (r) and (s) and 7 (a)–(c) and (l)–(q) of the United Nations forest instrument.



Progress towards target 4.3

(c) Please specify the actors/stakeholders with which your entity is cooperating:

- ☐ Governments
- ☐ Intergovernmental organizations/processes
- ☐ Private sector
- ☐ Non-governmental organizations
- ☐ Other (please specify):

Types of cooperation:

- ☐ North-South
- ☐ South-South
- ☐ North-North
- ☐ Triangular
- ☐ Technical
- ☐ Financial
- ☐ Other (please specify):

Areas of cooperation:

- ☐ Forests and climate change
- ☐ Forest biodiversity
- ☐ Valuation of the ecosystem services provided by forests
- ☐ Socioeconomic issues, including livelihoods
- ☐ Forest degradation and rehabilitation
- ☐ Scientific cooperation
- ☐ Forest monitoring/data collection
- ☐ Technology transfer and capacity development
- ☐ Production of timber or non-timber products
- ☐ Other (please specify):



Progress towards target 4.4

(d) Since 2015, has your entity supported Member States in developing or implementing financing strategies to achieve sustainable forest management and to implement the United Nations forest instrument?

☐ Yes

☐ No

Comments if needed:

Global forest goal 5 and associated targets ⁷

Promote governance frameworks to implement sustainable forest management, including through the United Nations forest instrument, and enhance the contribution of forests to the 2030 Agenda for Sustainable Development

Associated targets

5.1 Number of countries that have integrated forests into their national sustainable development plans and/or poverty reduction strategies is significantly increased

5.2 Forest law enforcement and governance are enhanced, including through significantly strengthening national and subnational forest authorities, and illegal logging and associated trade are significantly reduced worldwide

5.3 National and subnational forest-related policies and programmes are coherent, coordinated and complementary across ministries, departments and authorities, consistent with national laws, and engage relevant stakeholders, local communities and indigenous peoples, fully recognizing the United Nations Declaration on the Rights of Indigenous Peoples

5.4 Forest-related issues and the forest sector are fully integrated into decision-making processes concerning land use planning and development

Questions on goal 5

5. (a) Please describe major actions taken in your region to move towards goal 5 and its associated targets. More detailed information on actions for each target may be supplied below.

⁷ Goal 5 and its targets support and contribute to the achievement, among other things, of targets 1.4, 2.4, 5.a, 15.9, 15.c, 16.3, 16.5–16.7, 16.10 and 17.14 of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 2 and 3, and are supported by paragraphs 6 (a), (c), (k), (l), (n) and (w) and 7 (c) and (h)–(j) of the United Nations forest instrument.



Progress towards target 5.2

(b) Since 2015, has your entity supported Member States in promoting or participating in National/Regional/Sub-Regional initiatives to prevent and reduce illegal international trafficking in forest products, wildlife and other biological resources?

☐ Yes

☐ No

Comments if needed:

Global forest goal 6 and associated targets⁸

Enhance cooperation, coordination, coherence and synergies on forest-related issues at all levels, including within the United Nations system and across member organizations of the Collaborative Partnership on Forests, as well as across sectors and relevant stakeholders

Note: targets 6.1 and 6.2 are not included in this section of the reporting format as they address actions taken by the international community, and not those taken at the national level

Associated targets

6.3 Cross-sectoral coordination and cooperation to promote sustainable forest management and halt deforestation and forest degradation are significantly enhanced at all levels

6.4 A greater common understanding of the concept of sustainable forest management is achieved and an associated set of indicators is identified

6.5 The input and involvement of major groups and other relevant stakeholders in the implementation of the strategic plan and in the work of the Forum, including intersessional work, is strengthened

Questions on goal 6

6. (a) Please describe major actions taken in your region to move towards goal 6 and its associated targets. More detailed information on actions for each target may be supplied below.

⁸ Goal 6 and its targets support and contribute to the achievement of, among other things, target 17.14 of the Sustainable Development Goals and are supported by paragraphs 6 (b), (c), (g), (m) and (w) and 7 (r) and (s) of the United Nations forest instrument.



Progress towards target 6.3 (cross-sectorial coordination and cooperation)

(b) Please describe major actions taken in your region to regarding cross-sectorial coordination and cooperation to promote sustainable forest management and halt deforestation and forest degradation.

Progress towards target 6.4 (criteria and indicators)

(c) Are there criteria and indicators for sustainable forest management used by your entity?

☐ Yes ☐ No

If yes, please specify which sets are used:

For which of the following purposes are they used? (Multiple answers possible)

- ☐ To generate information for national reports on forest conditions and management
- ☐ To monitor and assess forest conditions and management
- ☐ To review and develop national forest policies and tools for sustainable forest management
- ☐ To communicate with society and carry out dialogue with stakeholders
- ☐ To report on forests to regional and international organizations (please specify):

Progress towards target 6.4 (communication and awareness)

(d) Since 2015, have actions been taken by your entity to communicate and promote a greater understanding and awareness of sustainable forest management?

☐ Yes ☐ No

If yes, please specify in a maximum of 250 words:



Progress towards target 6.5

(e) Have actions been taken by your entity to involve major groups and other relevant stakeholders in the implementation of the United Nations strategic plan for forests 2017–2030?

☐ Yes ☐ No

If yes, please specify in a maximum of 250 words:

Other questions

7. (a) Since 2015, has your entity taken action to support Member States in promoting gender equality in the forest sector?

☐ Yes ☐ No

If yes, please indicate action taken regarding the following:

- ☐ Women's effective access to the control and use of forest resources
- ☐ Women's effective participation in decision-making at the household and community levels
- ☐ Women's effective participation and representation in forest management institutions
- ☐ Other

Please provide a brief description:

(b) What action has been taken by your entity in observance of the International Day of Forests?

- ☐ Cultural activities (for example, art, music, film and theatre)
- ☐ Educational activities (for example, workshops and symposiums)
- ☐ Media activities (for example, newspapers, magazines, television and radio)
- ☐ Social media activities
- ☐ Other

Please provide two to three examples and, if possible, a weblink or weblinks to relevant documentation:



Success stories

8. Does your entity have any success stories relating to the implementation of the United Nations strategic plan for forests 2017– 2030? If so, please provide a brief description, with references (such as weblinks, publications and articles), showing how the action contributed to achieving the goals and targets and specifying which goals and targets are relevant. Please provide a maximum of three success stories.

Success story 1

Action taken:

Goals and targets addressed:

Outcome and results achieved:

Montreal Process Technical Advisory Committee update

Presentation to 28th Montreal Process Working Group Meeting

Kumamoto, Japan

21st to 25th October 2019

Tim Payn – TAC Convenor



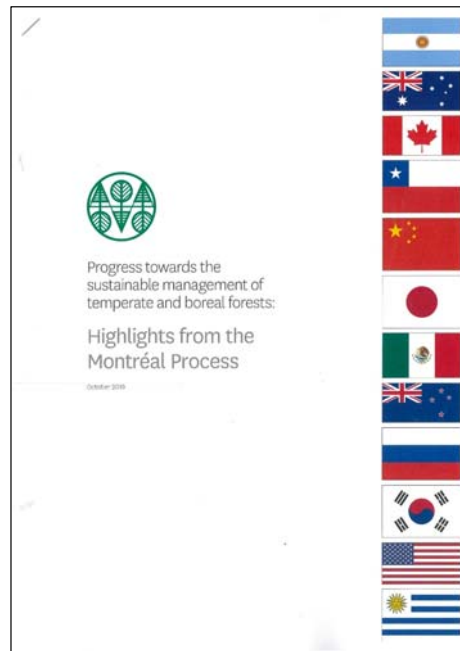
Outline

- Overview and Achievement report
- Synthesis report
- Emerging issues, advance and development in C&I

Overview and Achievement Report

- **Achievements since 1995**

- Overview of progress made by member countries combined
 - Changes in forests since 1995
 - Contribution of the MP C&I
 - Future perspectives
- Country specific achievements



- **Contribution**

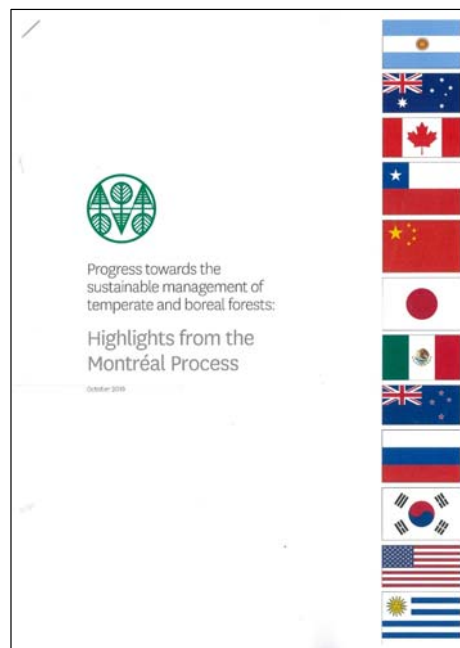
- International leadership
- National impact
 - Reporting
 - Dialogue
 - Shared language
 - Adoption at sub national level

- **Future**

- Continued international leadership
- Use in response to global and local challenges
- Increased country level and on ground implementation

Overview and Achievement Report

- Report is now ready for sign off by Working Group and release
- Recommend discussion on launch and communications



- **Note:**

- A few minor typographical issues to fix post meeting
- Couple of photos to change
- Web and hard copy versions – how best to produce
- 2 countries not represented

Synthesis Report



TAC Discussions in Montevideo

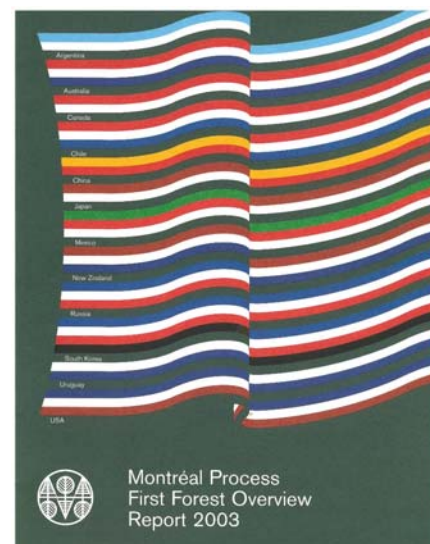
- Country ideas for scope and content of the report
- Ten key indicators: approach to analysis and presentation of the data
- Development of report options and plan for development

Scope and content – ideas

- Theme focus?
- Indicator focus?
- All temperate and boreal forests or countries?
- Data trends
- Common trends and differences
- Are 10 indicators enough?
- Uniqueness of the report compared to FRA
- Contribution to national and international policy
- Effectiveness
- Future
- Link to World Forestry Congress theme of restoration
- Meaningful stories
- Tools as a theme
- Future looking
- Concise
- Link to education
- Technology focus
- Global contribution of MP to temperate and boreal forests
- Value add to FRA data
- Data sources
- Develop themes from data analysis – common trends

Scope and content – summary

- Report should be future facing
- Data driven
 - FRA2020, 2003 report
- Country sections/country highlights
 - Key indicators
- Synthesised report
 - Trends, threats & opportunities
 - Contribution to policy & I
- Concise and communicative
- Foundation for World Forestry Congress activity



Indicator Data: approach to analysis and presentation



Ten key indicators

- Cover all 7 Criteria
- Reportable by all countries
- Links to FRA 2020 CFRQ/Global core set of indicators
- Aligned with FRA 2020 variables

1.1.a	Area of Forest
1.1.b	Area of forest in protected areas
2.a	Area of forest available for wood production
2.c	Area and Growing stock of plantations
3.a	Area affected by biotic processes
3.b	Area affected by abiotic processes
4.1.a	Area of forest designated for protection of soil and water
5.a	Carbon pools and flux
6.3.a	Employment
7.1.a	Legislation supporting SFM

Plus: 6.1.a. Value and volume of wood and wood products production

Indicator data : key discussion points

- Ability to respond to 10 key indicators
- Additional or other indicators
 - Unique to MP or reflecting emerging theme
- Sourcing the data
 - FRA, UNFCCC, national databases
 - 'Richness and complexity' of MP Indicators
 - Logistics
- Analytical approach
 - Data questionnaire
 - Analytical team
- Use of global data to provide context
 - MP does not cover all temperate and boreal forests



Indicator data : analytical approach

- Focus data analysis on MP countries, in context of global statistics for temperate and boreal forests
- Use 5 yearly data reporting frequency – line up with FRA
 - 1995 onwards
- FRA data consistent and readily available but countries may wish to use other data sources (with commentary on methods etc)
- Graphics preferred to tables
- Indicator questionnaire
 - Trend data – what has changed and what are drivers for change, what is future outlook
 - No trend data available – narrative of country situation, what is future outlook
- Learn from presentation in 2003 Overview report

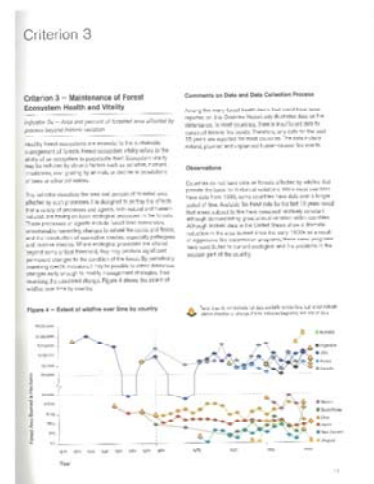


Report and Plan



Report outline

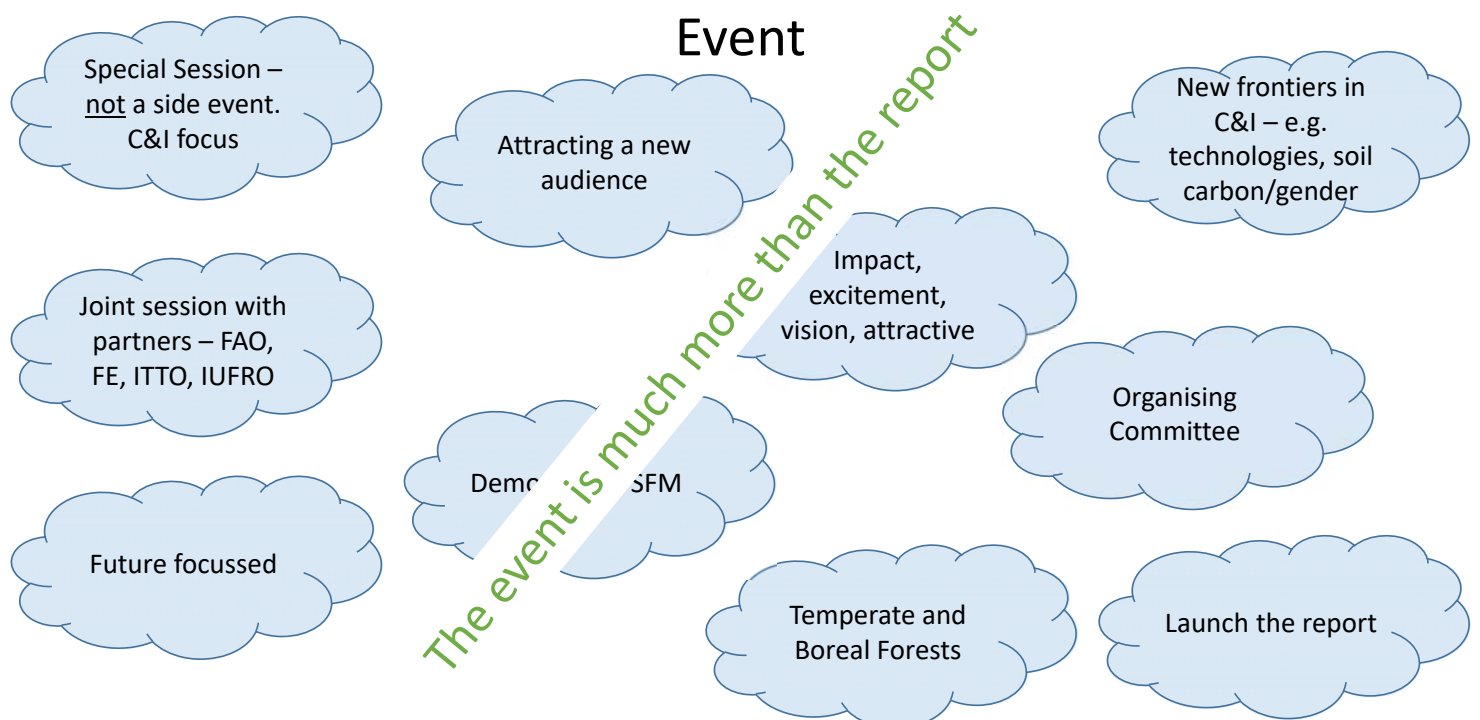
- Executive summary
- Introduction
 - Context to report
- Section 1 – MP overview
 - MP description, uniqueness and diversity, flexibility, comprehensive, partnerships
- Section 2 – the 11 key indicators
 - Data presentation by criteria, country comments on trends
- Synthesis
 - Synthesis discussion, country commentary; cross cutting challenges; what does the information tell us; next steps, challenges and opportunities



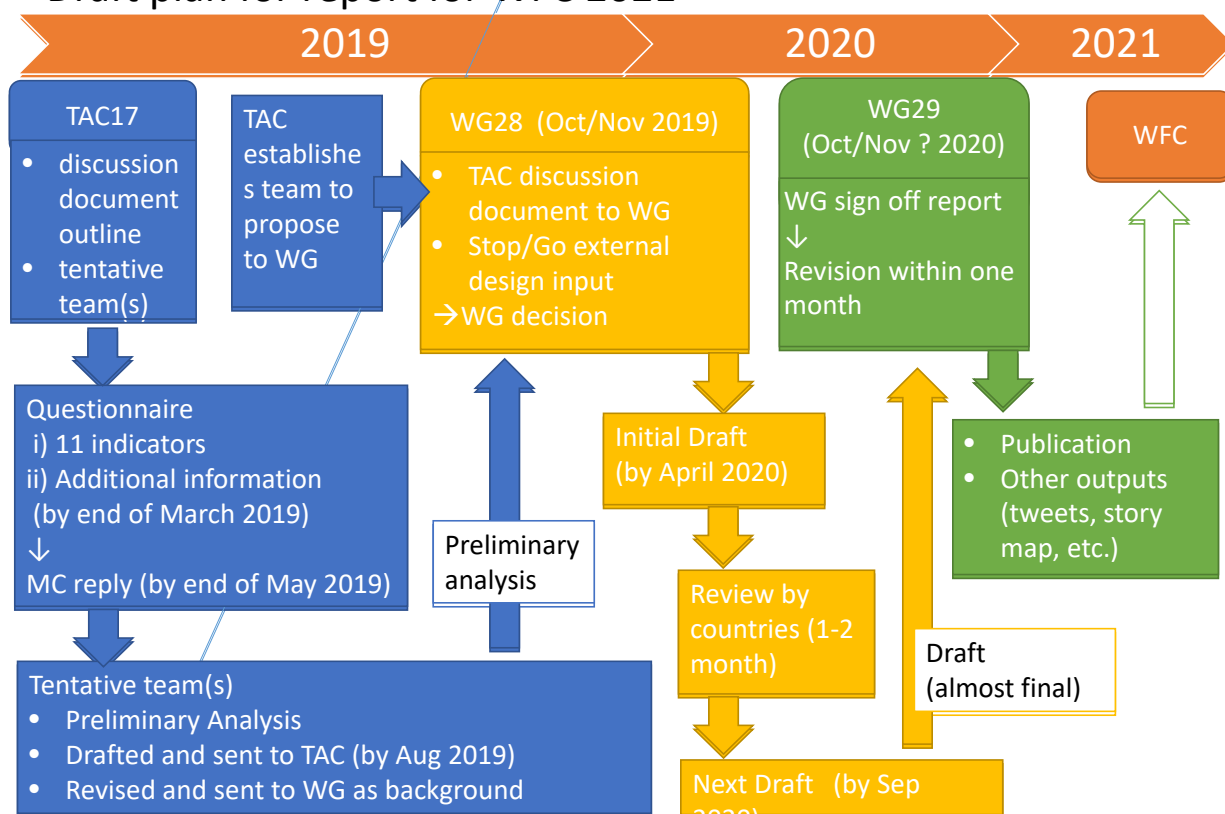
The synthesis report



2021 World Forestry Congress Event



Draft plan for report for WFC 2021

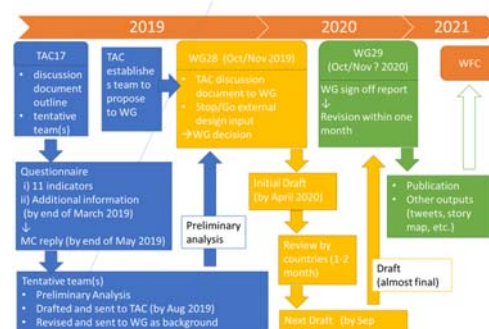


WFC Logistics

- **Report development**
 - Overall report lead/editor
 - Data analysis team
 - Writing team
 - Input from technical writers and graphics specialists
 - Working Group input
 - Communications plan
- **WFC Session organisation**
 - Organising committee
 - Session design – themes, focus
 - Collaborators
 - Liaison with WFC organisers
 - Sponsorship/budget
 - Working Group input

Key dates:

- Establish WFC Session Organising Committee October 2019
- WFC Session proposal – mid – late 2020
- All data supplied – March 2020
- Draft report – June 2020
- Second draft – September 2020
- WG 29 sign off report – Oct/Nov 2020
- WFC 2021 – late 2021



Emerging issues, advances and developments in C&I



Two main areas

- Ongoing refinement and adaptation of the C&I framework
 - Establish a process for this
- Exploration and development of new communication strategies
 - Digital communications
 - New and wider audiences e.g. youth
 - Use in training

New and refinements to indicators

- New
 - Certification status
 - Gender equity
 - Food and fod safety in and from forests
 - Urban forests
 - Population trends in forests
 - Ecological disaster risk
 - Community resilience and health
 - Defense against natural events
- Refinements
 - Expert group on soil and water
 - Global core set
 - Analysing indicators as a set
 - Revise to address/align SDGs, UNSPF, other international issues
 - Link better to environmental management
 - Simplify approaches to measurement/methods
 - Scalability of indicators

Acknowledgements

- All participants at the 17th TAC meeting in Montevideo, Uruguay
- All TAC members for development of the synthesis report plan and data questionnaire
- Dale Corbett, Scion for graphics support for the O&A report
- Tim Barnard, Scion and NZ TAC for O&A report editing
- All MP colleagues for input into the O&A report

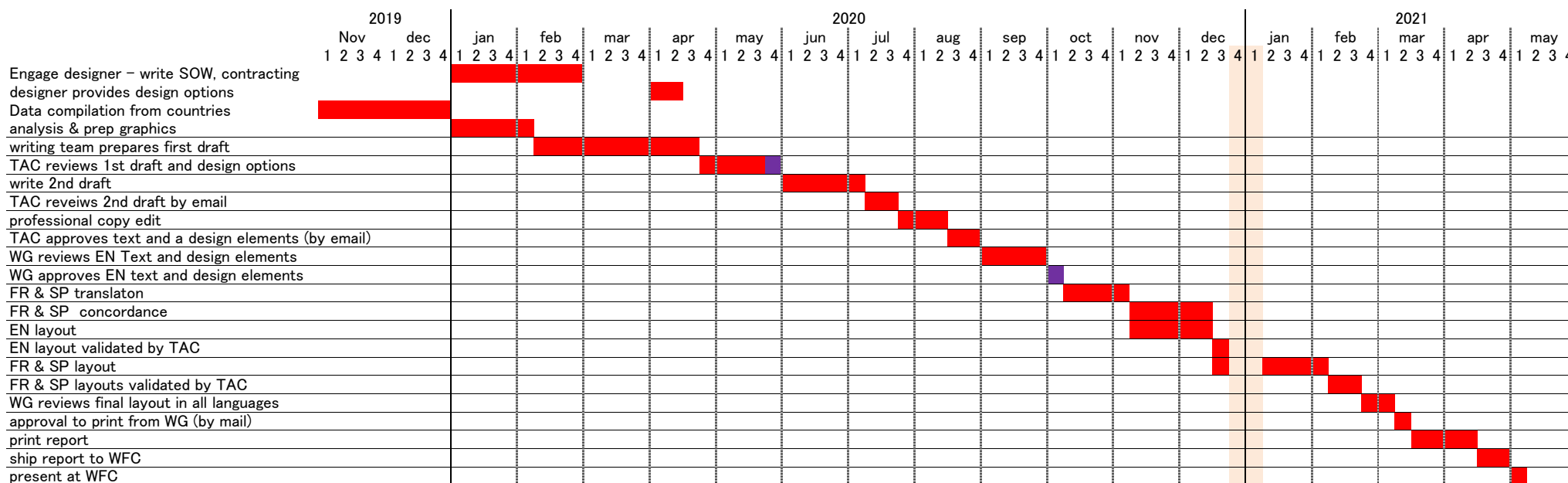
Tim Payn
Professor of Sustainable Forestry
Cell: +64 21 866 137
tim.payn@toiohomai.ac.nz
tim.payn@scionresearch.com

TOI-OHOMAI
Institute of Technology

toiohomai.ac.nz | Private Bag 3028, Rotorua 3046
Rotorua | Tauranga | Taupō | Tokoroa | Whakatāne



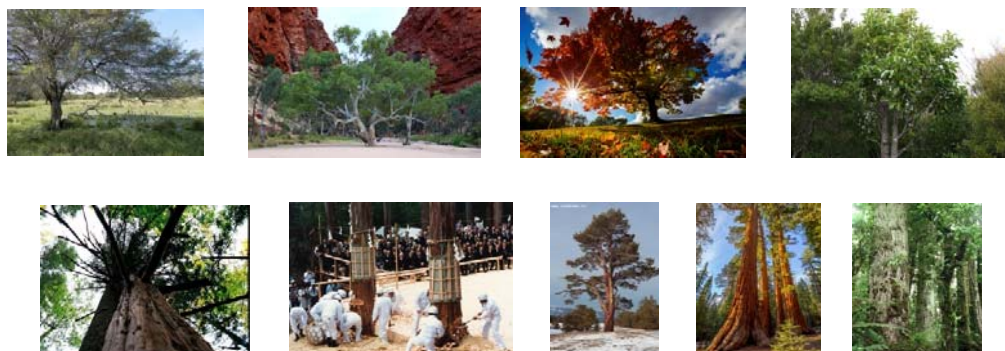
Annex I





DRAFT x discussion

Cultural, social and spiritual values of trees, in the Montreal Process Countries



Selection of remarkable trees for their cultural, social or spiritual value

Argentina, Australia, Canada, Chile, China, Japan, Korea, Mexico, New Zealand, Russian Federation, United States of America, and Uruguay



2017



DRAFT x discussion

"There are hundreds of disparate Na'vi clans on Pandora. Some of the clans, including the Omaticaya, live in ancient trees called "Hometrees" about 150m tall, or two to three times the height of the Terran redwoods that once covered the Pacific Northwest. The circumference of a Hometree is great enough to house dozens of clan members. The tree is honeycombed with natural hollows and alcoves, in which the Na'vi sleeps, eat, weave, dance and celebrate their connection to Eywa. Like many sacred sites on Pandora, the Omaticayan Hometree sits above a large deposit of unobtanium."



"Hay cientos de clanes Na'vi dispares en Pandora. Algunos de los clanes, incluido el Omaticaya, viven en árboles antiguos llamados "Hometrees" de aproximadamente 150 metros de altura, o dos o tres veces la altura de las secuoyas terráneas que una vez cubrieron el noroeste del Pacífico. La circunferencia de un Hometree es lo suficientemente grande como para albergar a docenas de miembros del clan. El árbol está cubierto de panales con huecos y nichos naturales en los que los Na'vi duermen, comen, tejen, bailan y celebran su conexión con Eywa. Al igual que muchos sitios sagrados en Pandora, el Hometree Omaticayan se sienta encima de un gran depósito de unobtainium."

(james-camerons-avatar)

Andres Meza, Chile

27th MPWG Nelson, New Zealand, November, 2017.



DRAFT x discussion

Cultural, social and spiritual needs and values for Montreal Process Countries

People and communities, in both rural and urban areas, have a variety of cultural, social, and spiritual connections to forests based on traditions, experiences, beliefs, and other factors. Among them, the spiritual and cultural connections of indigenous people to forests often form part of their identity and livelihood. These values may be deeply held and influence people's attitudes and perspectives towards forests and how they are managed. These indicators provide information on the extent to which cultural, social, and spiritual needs and values exist and are recognized by society.

Reference:

Criteria 6, indicator 5.

The Montréal Process Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests.

Fifth Edition, September 2015 (www.mpci.org)

This document contains a compilation of countries information about trees considered as remarkable for their cultural, social or spiritual value as a manner to share and communicate by different ways the importance of these aspects in the boreal and temperate forests, in accordance with the content of indicator 6.5 of the Montreal Process.



DRAFT x discussion

Following the time through flowering

Country: Argentina



Common Name: **Algarrobo**

Scientific name: **Prosopis spp.**

Family: **Fabaceae - Mimosoideae – Mimoseae**

Cultural, social and spiritual value

Algarrobos are of important value for native and ancestral cultures that occupied the natural distribution range of these trees. One example of this is that in the Quichua language, the algarrobo, one of many woody species of the region, is called "Takku", which means "the tree".

Even today, in Spanish language, inhabitants of the Chaco region refer to *Prosopis* spp. as "el árbol (the tree)". The generalization of the name algarrobo to refer to American *Prosopis* spp. occurred in the fifteenth century as a result of the Spanish conquest. The Spanish conquerors started to use the name algarrobo due to the similarity with *Serapion ciliqua*, a characteristic species of European Mediterranean. However, the Spanish word "algarrobo" derives from the term "al carob", used by the Arabs to mention *Prosopis* spp. with distribution in the Arabian peninsula. Paradoxically, "al carob" also means "the tree". Some native and ancient cultures of the Chaco region counted the beginning of the year following the flowering time of the algarrobo; thus, "year" and "flowering of the algarrobo" are a same word. Algarrobos are trees that provide food even in areas with extremely low resources. Whether dry as candy, fodder for animals, dunked in water for nutritious drink



for children, grounded for flour production, preserves and molasses, or fermented for the production of alcoholic beverages the "algarroba" (fruit of the algarrobo) are very important and valued as part of the diet and ceremonial habits of the native peoples in northern Argentina. In ancient times, the harvest was a big celebration in native communities, being a period of ritual celebrations accompanied with the alcoholic beverages, the "algarroba". The communities of the region celebrated alliances among groups, legitimization of leadership, and in times of conquest, agreements for actions of resistance, massive leaks or revolts. Hence, the Jesuits and the Spanish conquerors in general severely suppressed the use of algarroba by the original peoples, although they were fully aware of their nutrition value and the importance of the fruit in the communities.

The lack of algarrobo trees was common in the vicinity of the Jesuit missions. However, both the valuation and the mystique on this tree as well as the use of its fruits have been transmitted from generation to generation until the present. Currently, old algarrobo trees have a special consideration in the country, as they are usually present in parks, squares and green areas of several cities and small towns. They are also found in historical sites as birthplaces of chieftains, old country states and public buildings. Several musical pieces of Argentinian folklore talk about this tree, as something usual of the criollos environment, being a symbol of temperance, nobility and strength.

In many regions the algarroba is still used as a food and beverage source, and even many innovative ventures are emerging for organic production of flour and other algarroba derivatives. In fact, algarroba flour has been incorporated to the national alimentary code as food for celiacs.

General background

In Argentina, several tree species of the genus *Prosopis* (Fabaceae family), commonly known as "algarrobo", are distributed in different phytogeographic regions across the country: *Prosopis alba* and *P. nigra* are distributed in the Parque chaqueño and Espinal, *P. chilensis* and *P. flexuosa* in the arid Chaco and Monte, and *P. hassleri* in the subhumid Parque chaqueño. *Prosopis alba* Griseb. was selected as the arboreal emblem of the algarrobos.

Algarrobo is a multipurpose tree of importance in Argentina from cultural activities to the economy:

- ✓ It produces high-quality wood mainly used for furniture, fencing and handicrafts, being an important industry at the regional level.
- ✓ It provides fruits high in sugars and proteins, appreciated since ancient times for human and livestock consumption.



- ✓ Its flowers are melliferous with high amount of nectar which makes it also a resource for beekeeping.
- ✓ In symbiosis with bacteria, it is able to fix atmospheric nitrogen that together with a particularly abundant organic matter supply by recycling of leaves, improves the structure and fertility of the soil under its crown, promoting the growth of grasses.
- ✓ Through deep roots it reaches inaccessible water reserves for others species in the ecosystem, streamlining the water cycle. This feature makes its reproductive response independent of the rains; therefore, it blooms and sprouts even before the start of the summer wet cycle, typically associated with the monsoon climate prevailing in the region where these species grow.
- ✓ Its excellent growth potential, together with the fact that it is a pioneer, heliophilous and multi-purpose tree, contributes to be very suitable for domestication, reforestation for timber and agricultural production, and restoration of degraded areas.

Geographical distribution

Algarrobos extend across the Argentine phytogeographic regions of Parque Chaqueño, Espinal and Monte. They also expand across the valleys of the dry Andes mountains in the Prepuna region. These species complex are present from northern Argentina (22 degrees south latitude) to the south of the Buenos Aires province (39 degrees south latitude). The distribution area of the species, with an extension of more than one million square kilometers, represents forty percent of continental Argentina area.

The algarrobos form pure forests or are integrated into communities as secondary species. The abundance of algarrobo trees in different plant communities is very variable. In the Parque Chaqueño, specifically in the high Quebracho (*Schinopsis spp*) forests, they are distributed as secondary species with low frequency or may be absent, whereas in low areas they may form pure forests. In important areas alongside the main rivers of the region (Pilcomayo, Bermejo, Salado and Dulce), algarrobos dominate the landscape, forming gallery forests. In the Monte region they are associated with the presence of groundwater or where there are contributions by runoff, forming pure linear forests along temporary water bodies and around saline areas, as patches, in a semi-desert matrix. In the Espinal region they are less frequent, forming "algarrobales" (native algarrobo forests) always associated with alluvial soils.

Throughout the distribution range, algarrobos are characterized by the ability to colonize areas that are degraded and disturbed due to both natural and anthropogenic causes (urbanization, deforestation, rivers spill areas, fires, etc.). All these biological features, together with the great popular recognition, make algarrobos invariably associated with human presence. Algarrobos are always present in rural, peri-urban and urban areas, roads, rural dwellings, corrals, animal pens, and deforested and abandoned agricultural areas.



Algarrobos are frequently used for urban woodland and increasingly as a forest crop. The great extension of the species distribution area and the adaptation and adoption for human activities steadily increasing the algarrobos's populations.

Current Population Trends

Strong pressures, such as overexploitation, overgrazing and high rates of deforestation, suggest high genetic and habitat losses for algarrobo species. However, their ability to grow in degraded and wide distribution areas mitigates these effects. The main damage from the pressures produced by human activity would be concentrated in the risk of identity loss of original species.

Algarrobo trees form a complex of species. All the species that compose this complex can intercross, and the presence of interspecific fertile hybrids capable of giving descent by crossing each other or with the parental species is very common. Some species of algarrobo occupy disjoint areas (allopatric), whereas others are sympatric (overlapping distribution); however, they always respond to well differentiated ecological niches. In the absence of environmental disturbances of anthropogenic or natural origin, different species of algarrobo coexist in the same area with practically no interspecific crosses taking place. Nevertheless, the presence of environmental disturbances, drive to important areas with original species, interspecific hybrids and backcrosses. These areas are called "hybrid swarms" and in some cases populations with possible hybrid origin have been established, forming a homogeneous forest with stable offspring, as observed from their morphological features. Hence, it has been hypothesized that algarrobos would make up a complex that can evolve at very high rates, adapting to new environmental conditions and exposing to natural selection, new genetic combinations from hybrid swarms. The main driver of these processes would be the environmental disruption that generally entails all human activities (urbanization, irrigation, deforestation, overgrazing, fire, reforestation with non-local materials, etc.).

Habitat

The algarrobos are pioneer plants growing in arid, semi-arid and sub-humid areas. Within their distribution range, they can grow from sea level to altitudes above 1800 m. The algarrobo development speeds up under summer rains regime, with annual precipitation averages from 200 to 1200 mm.

The origin of algarrobos is subtropical but they can occupy southern areas with temperate climate, supporting maximum and minimum temperatures of above forty degrees Celsius and ten degrees Celsius below zero, respectively.



Major current and potential threats

Both the extension of algarrobo distribution and the fact that it is a pioneering tree provide evidence to suggest that they are not at extinction risk. However, the generalized environmental disturbances due to human activities across the distribution area have strongly increased the occurrence of hybrid swarms, diluting the existence of one species into another. It is worth highlighting that the mentioned situation involves the losses of genetic identity of original species of this unique complex, which is a real risk. It should also be considered that these processes are associated with genetic gains of original species by genetic arrangements between species that have evolved under different environmental conditions, losing adaptive capacity. We could be facing both a dynamic process with explosive increase of the potential adaptive capacity of the complex and strong restrictions and losses by local and specific environmental adaptation.

Conservation and protection status

Given by the wide distribution, the capacity to occupy degraded areas and the fact that they are under domestication and use, algarrobo species are categorized as “Least concern (LC)” by the IUCN. However, it is noteworthy that native algarrobo populations are subject to a strong pressure by forest overexploitation (selective extraction of the best specimens), high rate of deforestation due to the advance of the agricultural frontier in the Chaco region and degradation of the remaining forest by increasing livestock pressure. All this factors should be a concern because we are facing a big genetic erosion of algarrobos’ original species losing identity, stability and adaptation.

The high biological, productive and cultural value of algarrobo species has promoted big efforts, supported by the national government, in order to promote conservation and domestication, with national science and technology agencies, universities, and local agencies working together for forest protection.

Excellent quality projects related to programs for forest genetic improvement and conservation have contributed with the generation of knowledge and material for both purposes.

In this context, we highlight the existence and activities carried out by the national germplasm bank specifically focused on the genus, which is the main holder of genetic variability and the development of protocols supporting the implantation of seed stands using original algarrobo species, with the dual purpose of: propagating material for reforestation and preserving the original genetic diversity. The application and monitoring of protocols for production of certified seeds are promoted and funded by the national government



Bibliographic references and web sites

Carenzo, S. y Quiroga, L. 2014. Prácticas y representaciones vinculadas a la producción y consumo de frutos de especies forestales del bosque nativo: Reflexiones a partir de la reconstrucción de las trayectorias sociales de la algarroba en el Chaco formoseño. Papeles de Trabajo N° 27 - Julio 2014 - ISSN 1852-4508. Centro de Estudios Interdisciplinarios en Etnolingüística y Antropología Socio-Cultural. Universidad Nacional de Rosario.

Di Marco, E. 2013. Ficha Técnica *Prosopis alba* Griseb. "algarrobo blanco" (Familia Fabaceae, Mimosoideas). Revista Producción Forestal Nro. 7, Año 3 páginas 45-46.

Rosenzvaig, E. 1997. Etnias y Arboles: Historia del universo ecológico Gran Chaco. Editorial Nuestra América. Buenos Aires. Argentina. ISBN: 959-04-0042-6. 624 páginas. Edición: 1997.

Credits

Dr. Aníbal Verga

Instituto de Fisiología y Recursos Genéticos Vegetales (IFRGV)

Centro de Investigaciones Agropecuarias (CIAP)

Instituto Nacional de Tecnología Agropecuaria (INTA)

Photos

Natalia Acosta

Área Gestión Forestal Sostenible

Dirección de Producción Forestal

Ministerio de Agroindustria



DRAFT x discussion

River red gum, a canoe tree

Country: Australia



Common name: **River red gum, a canoe tree**

Scientific name: *Eucalyptus camaldulensis*

Family: **Myrtaceae**

Synonymy: The genus *eucalyptus* is derived from the Greek *eu* meaning 'well' and *calpytos* meaning 'covered' and refers to the eucalypt seed caps (operculums). The species *camaldulensis* refers to Camalduli, a region in Tuscany, Italy where German botanist Frederick Dehnhardt named the species in 1832. The common name refers to the distribution of the species in riverine ecosystems and the colour of the heartwood.

Cultural, social and spiritual value

A medium to tall impressive tree that ranges from 12 to 45 metres, with a thick trunk, heavy twisting branches and spreading open crown, *Eucalyptus camaldulensis* is culturally and historically important. Indigenous Australians used the bark of mature trees to form canoes and shields carved from the trunks of individual trees. Relic trees remain as scar trees, or 'canoe trees', particularly along the banks of the Murray River and its tributaries. Australian artists have used *E. camaldulensis* as a source of inspiration, most notably South Australian landscape painter Sir Hans Heysen.

General background

A common and widely distributed tree throughout the rural landscape, riverine and roadside corridors of much of mainland Australia, and especially of eastern Australia, *Eucalyptus camaldulensis* (River red gum) is considered an iconic tree for its omnipresence and majesty of form with a thick trunk, heavy twisting branches and spreading open crown. It is well recognised for its wide range of values including for hard-wearing resilient timber used in heavy construction such as piers and old warehouses, flooring, railway sleepers,



framing, fencing, firewood and charcoal production. Bark from the species was historically used by Indigenous Australians to make canoes and shields. *E. camaldulensis* is of major importance to the honey bee industry, and is the most widely planted species in arid and semi-arid regions globally, primarily in timber plantations.

Geographical distribution

Eucalyptus camaldulensis is most commonly found in perennial and intermittent riverine ecosystems and floodplains of the semi-arid and arid inland regions as well as alongside watercourses in the temperate south-east of the Australian continent. The species is particularly common alongside the many rivers and tributaries of the Murray-Darling Basin. The species is only absent from southern Western Australia, the coastal fringe of the east of the mainland, and Tasmania. *Eucalyptus camaldulensis* is a dominant species within the Australian landscape; however, no specific data are available relating to abundance.

Current Population Trends

E. camaldulensis shows morphological variability and five subspecies are known.

- *E. c. acuminata* is mainly found in Queensland in the north east of Australia
- *E. c. camaldulensis* is found in the south east of Australia and across the Murray-Darling Basin
- *E. c. obtusa* occurs in the tropical north of the continent of northern Queensland, the Northern Territory and Kimberley region of Western Australia
- *E. c. simulata* is found in the tropical north of Queensland; and
- *E. c. subcinerea* is widely distributed across the semi-arid and arid interior of the continent.

Habitat

Eucalyptus camaldulensis typically is found in riverine ecosystems, but is also found in open forest or woodland forest structures on flood plains. *E. camaldulensis* grows in a variety of climatic conditions from warm to hot and sub-humid, to semi-arid and arid climates. It is a frost tolerant species and grows in areas with average low temperatures of 3-15°C and in areas with average high temperatures of 27-40°C. It predominantly grows in areas with rainfall between 250-600 millimetres (mm), but can be found in areas with rainfall as low as 150 mm and as high as 1250 mm. Trees in low rainfall and arid areas rely on seasonal flooding and/or elevated water tables. Trees within floodplains can survive for long periods (up to two to four years) of inundation, however, permanent inundation will lead to tree death. *E. camaldulensis* has a moderate salt tolerance.

E. camaldulensis grows in a range of soils including heavy to light clay, loam, sandy loam and sand. It is most common in heavy grey clay soils on stream banks and flood plains and red and brown clay soils of the Murray River region.

Major current and potential threats

The main threats faced by *Eucalyptus camaldulensis* are grazing and fire.



E. camaldulensis can face pressures during drought or prolonged dry periods when feed for native animals (kangaroos), introduced pest species (rabbits) and grazing livestock is scarce. *E. camaldulensis* is a fire sensitive species. Seedlings are particularly susceptible to fire and mature trees are also vulnerable depending on fire intensity as some *E. camaldulensis* subspecies often lack lignotubers (root stock) and the associated post-fire lignotuber regrowth mechanism.

Alteration of stream flow and flooding regimes can lead to decline in health, or death of individuals or stands of *E. camaldulensis*.

Conservation and protection status

Eucalyptus camaldulensis is commonly found across Australia and is not regarded as at risk.

Bibliographic references and web sites

Boland, D, Brooker, M, Chippendale, G, Hall, N, Hyland, B, Johnston, R, Kleinig, D, McDonald, M & Turner, J 2006, *Forest trees of Australia*, 5th edn, CSIRO Publishing, Melbourne.

Costermans, L. 2009. *Native trees and shrubs of south-eastern Australia*. Reed New Holland Publishing, Sydney.

www.anbg.gov.au/cpbr/WfHC/Eucalyptus-camaldulensis/

www.florabank.org.au/lucid/key/species%20navigator/media/html/index.htm#E



DRAFT x discussion

Sugar maple, sugar forests

Country: Canada



Common name: **Sugar maple**

Scientific name: *Acer saccharum* Marsh

Family: **Sapindaceae**

Synonymy: Rock maple, hard maple, Érable à sucre (French)

Cultural, social and spiritual value

Maple trees are important to Canada in two main ways:

The maple leaf is the national symbol of Canada and an important part of our national identity. Sugar maples were an important resource for Canada's Indigenous peoples, who developed the technique of tapping and boiling down the sap to make maple syrup, and taught early settlers how to do this. As a formal symbol, maple leaves were first used on the coats of arms of the provinces of Ontario and Quebec, which were created in 1868. During World Wars I and II, the maple leaf featured on regimental badges of Canadian soldiers, and on the official coat of arms adopted in 1921. Finally, a single, red maple leaf was chosen to grace the new Canadian flag in 1965, and the maple tree was officially recognized as the arboreal emblem of Canada in 1996. Canadians travelling abroad proudly pin or sew maple leaves to their clothing and bags as a way of displaying their national identity.



Sugar maples in particular have a deep cultural significance to Canadians. Every spring, when temperatures hover around the freezing mark with cold nights and warm days, rural landowners in central and eastern Canada begin to tap their sugar maples. The tree's sap is collected—once in buckets, but more commonly using rubber tubing systems today—from individual trees and pooled in vats. The sap is then boiled down in a large evaporator to create maple syrup. It takes approximately 40 litres of sap to make 1 litre of maple syrup. As part of this tradition, Canadians travel to the countryside to visit a “sugar bush” where this process takes place. Many small towns hold festivals that mark the end of Canada's winter and make syrup production a community celebration.

Maple syrup itself is a cultural symbol, as Canada is by far the world's largest producer. In 2015, Canada accounted for over 80% of total global maple syrup and sugar production, which was worth approximately \$360 million. The vast majority (over 90%) of Canada's maple syrup is produced in the province of Quebec.

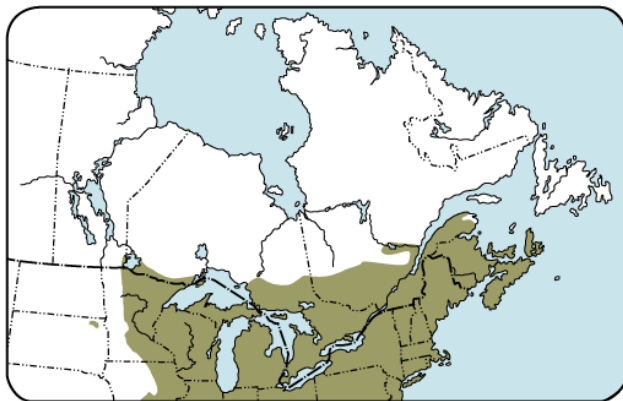
General background

The sugar maple is a broadleaf species found in mixed forests with other broadleaf species, eastern white pine and eastern hemlock. It can reach heights of 35 m, with trunk diameters of 90 cm. It has a straight trunk, a narrow round-topped crown and a deep, wide-spreading root system. The tree is economically valued as a hardwood species and as the source of Canada's maple syrup industry. Aesthetically, the tree gives eastern Canada its distinctive fall colours; sugar maple leaves turn a brilliant shade of red in autumn.

There are ten native species of maple in Canada: sugar, black, silver, bigleaf, red, mountain, striped, Douglas, vine and Manitoba. All native species of maple are considered official symbols of Canada, including the sugar maple.

Geographical distribution

The sugar maple is found in Canada in the Maritime provinces, southern Ontario and southern Quebec.



(Image from Natural Resources Canada. 2015. *Trees, Insects and Diseases of Canada's Forests Database*. Database entry. —Sugar Maple.)

It is estimated that the ten species of maple trees native to Canada combined occupy about 8,681,000 hectares of land and have a total tree volume of 1,403 million m³. By volume, they make up approximately 3% of Canada's forests, and by area about 2.5%. Approximately 13% of maple stands, by area, are less than 40 years old, 35% are between 41 and 60 years old, 42% are 61–100 years old, and about 10% are more than 100 years old. Very few maple trees are over 200 years old.

Current population trends

Sugar maple populations appear to be stable, healthy and expanding in some areas; however, a combination of biotic and abiotic conditions can periodically impact populations that are predisposed to stress. This periodic impact is called maple dieback.

Habitat

Sugar maples prefer deep, fertile, moist, well-drained soils with some lime content. On the Canadian Shield, they prefer deep soils low in lime. Sugar maples tolerate heavy shade for many years, but grow normally when released by an opening in the canopy.

Major current and potential threats

The Asian Longhorned beetle (*Anoplophora glabripennis*), an invasive insect native to China and the Korean Peninsula, was discovered in Toronto, Ontario in 2003. During its lifecycle, the larva of this species feeds on the inner bark and heartwood of trees for several weeks or months, reducing nutrient transport within the tree and ultimately killing it. The insect has no natural enemies in North America, and there are no approved chemical treatments to control it in Canada.



The beetle has the potential to lead to a number of socioeconomic impacts: widespread tree losses in the urban landscape; impacts on the tourism and recreation industries; losses in the hardwood forest industry worth billions of dollars in wood products; losses in the multi-million-dollar maple syrup industry; significant damage to ecosystems; and the imposition of trade embargoes on Canadian forest products. An eradication program was put in place for this insect in 2004 after it was discovered in Toronto, and no infested trees have been found since 2007. Surveys are conducted annually to continue to monitor for the reappearance of this insect.

Conservation and protection status

Sugar maple is not a species at risk.

Bibliographic references and web sites

- Agriculture and Agri-Food Canada. 2016. Webpage. "[Statistical Overview of the Canadian Maple Industry](#)".
- Agriculture and Agri-Food Canada. 2011. PDF. "[Canadian Maple Syrup](#)".
- Bowers and Hopkin. 1995. *ARNEWS and North American Maple Project (NAMP)*, [Canadian Forest Service Information Report ST-X-14](#).
- Canadian Department of Heritage. 2016. Webpage. "[Official Symbols of Canada](#)".
- Canada's National Forest Inventory. Website. [Standard Reports, Statistical Summaries for Canada](#).
- Horsley, S.B, Long, R., and S.W. Baily. 2002. Health of Eastern North American Sugar Maple Forests and Factors Affecting Decline. *Northern Journal of Applied Forestry* 19(1):34-44.
- Hart, J.L., Oswalt, C.M. and Turberville, C.M. 2014. Population dynamics of sugar maple through the southern portion of its range: implications for range migration. *Botany* 92: 563-569.
- Natural Resources Canada. 2015. *Trees, Insects and Diseases of Canada's Forests Database*. Database entry. "[Sugar Maple](#)".
- Natural Resources Canada. 2016. Webpage. "[Asian longhorned beetle](#)".
- The Canadian Encyclopedia. 2015. Webpage. "[Maple](#)".

Photo:

This image is a stock photo purchased from a private company on behalf of the Montreal Process. Reproduction and distribution of this photo without written permission is prohibited. © iStock.com/mirceax. 2016



DRAFT x discussion

The center of the world

Country: Chile



Common name: Mapudungun: **foike, foie, foye, foikelawen, fuñe, choól** (*Language of Mapuches, traditional indigenous people of South America*); Spanish: **Canelo, Boighe, voigue, canelillo**;

Scientific name: ***Drimys winteri*** J.R. et G. Forst

Family: **Winteraceae**

Synonymy: *Wintera aromatica* Sol. ex Foth., *Wintera aromatica* Murray, *Drimys punctata* Lam., *D. aromatique* Descourt., *D. wintera* Thell., *D. chilensis* DC., *D. paniculata* Steud.

Cultural, social and spiritual value

The Canelo has a symbolic-religious connotation, for one of the most important and numerous original peoples, which currently has a presence in the territory of southern Chile and Argentina; The Mapuche people. It is considered as a sacred tree, mainly for the healing effects of its bark whose essential oils have healing, disinfectant and antibacterial effects.

In ancestral language, "mapudungun" is called "Foye" which represents the "cosmic axis" or "axis mundis", where the point of intersection of the trunk of the tree with the land "mapu" defines the center of the world. Its roots penetrate the earth in the direction of the underworld where all differences disappear and only the truth prevails. Its branches come out of the trunk in four cross-shaped axes representing the cosmic levels, so they constitute a symbol of peace.



In the sixteenth century, the head of Mapuche's traditional communities used a cane stick as a symbol of their authority in times of peace and for that reason they were given the name of ngen foye, "owners of the canelo" in Mapudungun, that derived in the Castilian term boigue.

The wood of the canelos is used to construct the body of the Kultrun, ceremonial musical instrument used by the Machi in the main religious and cultural rituals of the Mapuche People.

General background

It is a tree of straight and cylindrical trunk that can reach until 30m of height and 1m of diameter. It grows both in the shade and in full light, and especially in its early years, where it can reach growth rates of 8 cm / year.

Its wood is of ocher brown color with yellow dyes of smooth vein, heterogeneous, and light. It gives off a spicy smell and taste (its flowers, fruits are spicy and its bark extremely spicy. Is like a mixture of pepper and ginger), so it is not used as a fuel. The bark of the species is light gray, however the adult canelos of the regions of Valparaíso and Coquimbo have the brown bark and concretions similar to warts, which in some cases are very abundant (Novoa & An-der Fuhren 2016). It usually inhabits places close to watercourses or high humidity, such as rivers, marshes, streams. It has a white flower and its fruit is a berry that is a black-violet color at maturity.

The specific epithet "winteri" of his scientific name was dedicated to Dr. John Winter who traveled with Francis Drake discovering the species in southern Chile, Winter brought bark to England to investigate its antiscorbutic properties.

Geographical distribution

Distributed between the Limari River, Coquimbo Region, approximately 30 ° S and Cape Horn, Magallanes Region, to 56 ° S in Chile. It reaches its best development in the province of Chiloé where it forms dense forests. In the southern territory, it is continuously distributed along the coast and inland valleys. However, from the Maule Region, to the Toltén River, Araucania Region, it is preferentially distributed along the Cordillera de la Costa and the Andes foothills. There is no record of the presence of the species between the Peuco - Estero Alhue estuary in the Metropolitan region (34°S) and the Maule River (35°30 's) (Novoa & An der Fuhren 2016).

It is also found in Argentina from the south of the province of Mendoza to the province of Tierra del Fuego.



Current Population Trends

The population would remain stable and could possibly be increasing in the southern zone of its distribution, however in the central north zone there would be no regeneration and the loss of subpopulations is worrying considering that at least 90 ha have been lost in a period of 16 Years due to anthropic effects and drought, which represents a 9.2% loss of occupation area in 16 years in these regions (Novoa & An der Führen 2016)

Habitat

It occupies a great variety of habitat, to different heights on the level of the sea, until the 1,700 m. It is part of the Forest Types: Sclerophyll, Roble-Hualo, Roble-Raulí-Coihue, Coihue-Raulí-Tepa, Lenga, Coihue of Magallanes, Cypress of the Guaitecas, Evergreen, Araucaria, Alerce.

Major current and potential threats

The main threats to the species are the destruction of riparian populations, the fragmentation of subpopulations, and the effects of drought (natural cause) in the regions of its northern distribution between 34°S and 39°S.

Conservation and protection status

Drimys winteri is VULNERABLE in the region of Magallanes (Benoit 1989). It is currently being analyzed to give it a category of protection between the regions of Coquimbo and O'Higgins.

Bibliographic references and web sites

- BENOIT I (ed) 1989. *Red Book of Chilean Terrestrial Flora (Part One)*. CONAF. Santiago, Chile. 151 p.
- COREMA (2004) *Informe consolidado de evaluación (ICE). Proyecto Integral de desarrollo. Minera Los Pelambres*. 273 p.
- CORVALÁN, P (1977) *Estudio preliminar de crecimiento en algunos renovales de la Isla Grande de Chiloé. Tesis de Ing. Forestal, Facultad de Cs. Agrarias y Forestales. Universidad de Chile. Santiago. Chile* 106 p.
- CORVALÁN P, ARAYA L, CALQUÍN R, LOEWE V & S NIEBUHR (1987). *El canelo: una alternativa de desarrollo para la Décima Región. Volumen IV Resultados. Universidad de Chile, Facultad de Ciencias Agrarias y Forestales, Departamento de Manejo de Recursos Forestales*. 125 p.
- CROWTHER TW, GLICK HB, COVEY K R, BETTIGOLE C, MAYNARD DS, THOMAS SM, SMITH JR, HINTLER G, DUGUID MC, AMATULLI G., TUANMU MN, JETZ W, SALAS C, STAM C, PIOTTO D, TAVANI R, GREEN S, BRUCE G, WILLIAMS JS, WISER SK, HUBER MO, HENGVELD GM, NABUURS GJ,
- TIKHONOVA E & P BORCHARDT (2015) *Mapping tree density at a global scale. Nature* 201–205.



- DONOSO C (ed) (2013) *Las especies arbóreas de los bosques templados de Chile y Argentina. Autoecología. 2ª Edición. Marisa Cuneo ediciones. p 221-233.*
- DONOSO C, C NAVARRO & M HERNANDEZ (2004) *Variación de Drimys winteri J. R. et G. Forster (canelo o foique). En: Donoso C., L. Gallo, A. Premoli & R. Ipinza (eds.) Variación intraespecífica en especies arbóreas de los bosques templados de Chile y Argentina. Editorial Universitaria. 420 p.*
- HERNANDEZ M (1992) *Análisis de la variación de dos poblaciones contiguas de Drimys winteri (Forst.) en la precordillera andina de la VII región. Tesis, Facultad de Ciencias Forestales. Univ. Austral de Chile.*
- MARTICORENA C & R RODRIGUEZ (2001) *Flora de Chile. Vol 2 Winteraceae – Ranunculaceae. Pags. 5-6.*
- MINISTERIO OBRAS PÚBLICAS (2000) *Línea de Base Medio Biótico, CAPÍTULO 6.2, EIA Embalse Illapel. Coordinación General de Concesiones. 50 p.*
- Novoa, P. & Fuhren, A. 2016. *Ficha antecedentes especie Drimys winteri J.R. Forst. & G. Forst. var. chilensis (DC.) A. Gray. 13º Proceso de Clasificación de Especies (2016). 12 p.*

Photos

Archivos fmdos.cl / CONAF



DRAFT x discussion

Becoming immortal

Country: China



Common name: **Japanese Yew** (English)

Scientific name: *Taxus cuspidata*

Family: **Taxaceae**

Synonymy: *Taxus baccata* L. ssp. *cuspidata* (Siebold & Zucc.) Pilg. ; *Taxus baccata* L. var. *microcarpa* Trautv.; *Taxus cuspidata* Siebold & Zucc. var. *latifolia* (Pilg.) Nakai; *Taxus cuspidata* Siebold & Zucc.; var. *microcarpa* (Trautv.) S.Y.Hu

Cultural, social and spiritual value

In mount Changbai Forest Region, northeast China, the worship rite has been prevalent. Due to its old-age, the Japanese yew (*Taxus cuspidata*) is regarded as the king of trees. When the local residents go to the Mount to collect fruits or log, they will bring alcohol and meat to the old tree, and burn incense and worship, to pray for a peaceful and smooth life. With a beautiful shape and color contrast between red fruits and green leaves, the Japanese yew is attractive to tourist and its admirers, people take photos with it, and pray for blessings. An old saying goes that “ if you go around the tree for three times, you will be immortal

General background

Forests in the Changbai Mountains are the richest in northeast China. Low-elevation areas below 1,100 m support mixed stands of conifers and deciduous broadleaf trees. Conifers include Korean pine (*Pinus koraiensis*), fir (*Abies holophylla*), red pine (*Pinus densiflora*), and Japanese yew (*Taxus cuspidata* ssp. *latifolia*). Deciduous broadleaf trees include Mongolian oak (*Quercus mongolica*), *Tilia amurensis*, ash (*Fraxinus mandschurica*), and dwarf birch (*Betula ermanii*). Plant species with a subtropical affinity also occur in these forests. Examples include woody climbers such as native Chinese



gooseberry (*Actinidia* spp.), or kiwi fruit, and "Dutchman's pipe" (*Aristolochia mandshuriensis*). These lower elevation forests are similar and transitional to the surrounding Manchurian Mixed Forests ecoregion. Understory vegetation includes economically important, and in some cases much depleted, species such as ginseng (*Panax ginseng*), Manchurian wild ginger (*Asarum heterotropoides*), and *Gastrodia* spp. which is used as an analgesic. In NE China *Taxus cuspidata* occurs in conifer forest with *Abies nephrolepis*, *Picea jezoensis*, *Pinus koraiensis*, and *Larix gmelinii* var. *olgensis*, in Sakhalin Island and northern Japan with *Abies sachalinensis*, *Picea glehnii*, *P. jezoensis*, *Larix kaempferi*, and various angiosperm trees e.g. *Acer* spp., *Betula* spp., *Populus maximowiczii*, *Juglans mandshurica*, *Sorbus aucuparia*, *Ulmus* spp., and *Kalopanax ricinifolium*. Further south in Japan it is common in the understorey of woods with *Acer* spp., *Ulmus davidiana* var. *japonica*, *Tilia japonica*, *Juglans ailanthifolia*, *Quercus mongolica* var. *grosseserrata*, and many other species of trees.

Geographical distribution

Recorded from the Russian Far East: Kuril Is., Sakhalin, Primorye; China: Heilongjiang, Jilin, Liaoning, Shaanxi; North Korea; South Korea; and Japan. The extent of occurrence is in excess of 20,000 km². The area of occupancy has not been estimated.

Habitat

Taxus cuspidata occurs sparsely in mixed conifer and conifer-deciduous broad-leaved forests in lowland to lower montane altitudes from 100 m to 1,600 m a.s.l. It grows on a variety of soils derived from granitic, schistose or serpentine base rocks. The variety *nana* is mostly found growing on rocky sea coasts but may also occur on exposed rock outcrops in the interior.

Major current and potential threats

This species has been listed on CITES Appendix II in connection with the exploitation of its foliage for the extraction of chemicals active as an anti-cancer drug. This exploitation was localized and has not resulted in significant decline throughout the wide range of this species.

Conservation and protection status

Least Concern (LC) (IUCN). Exploitation of this species has only affected subpopulations in certain parts of its extensive range, hence it is assumed that population reduction has been limited and has not had sufficient impact to warrant any assessment other than Least Concern.

Bibliographic references and web sites

- <http://www.iucnredlist.org/details/42549/0>
- State Forestry Administration of China. Department of Forest Resources Management.

Photo : From the Web



DRAFT x discussion

Tree for building Palaces

Country: Japan



Common name: **Hinoki**

Scientific name: *Chamaecyparis obtuse*

Family: **Cupressaceae**

Synonymy: Hinoki cypress, Japanese cypress

Cultural, social and spiritual value

With its physical strength and usefulness, *hinoki*, Japanese cypress, has been used for the main construction material in a number of symbolic monuments, such as shrines and temples for dozens of centuries throughout Japan's history.

In *Chronicles of Japan*, Japanese ancient history book written in 8th century, there is a scene that the god, named *Susanoo no mikoto*, plucked out the hairs of his breast, and they became *hinoki*. Then, he instructed that it was to be used as timber for building fair palaces*. (*Palaces also meant Shinto shrines.)

One notable example of architecture built of *hinoki* is *Horyu-ji* temple, which was completed in early 7th century and is acknowledged to be the oldest wooden building existing in the world. *Horyu-ji* temple was designated in 1993 as a UNESCO World Heritage Site under the name Buddhist Monuments in the Horyu-ji Area.

Another notable example is *Ise Grand Shrine*, where the 62nd *shikinen sengu* was held in 2013. *Shikinen sengu* is a 1,300-year-tradition that involves the rebuilding of the main



wooden buildings of the inner and the outer shrines every 20 years. The *hinoki* trees used here are called *go-shin-boku*, meaning literally sacred trees.

General background

Hinoki is an evergreen coniferous tree species which grows to 30-50 m in height and 1 m in diameter. The bark is dark red-brown in color and splits lengthwise. The leaves are scale-like, 2-4 mm long. The cones are globose, about 1 cm in diameter. The wood has characteristic calming aroma and high resistance to decay.

Geographical distribution

Hinoki is distributed widely across Japan including the main Honshu island (from south of Fukushima and to the south) Shikoku and Kyushu islands.

Estimated population size, relative abundance, and population structure

Two-thirds of Japan's land area is covered with forests, with a total forested area of approximately 25 million ha. Forests where *hinoki* is dominant cover 10 % of the total forest area. Approximately 40% of Japan's forests are planted forests, and *hinoki* is the second largest tree species in forest cover, following Japanese cedar (*sugi* or *Cryptomeria japonica*).

Whereas a large proportion of planted *hinoki* forest at age class of 26-50 years and old (exceeding 50 years in age) are distributed with 51 and 41 percent of the total planted *hinoki* forests, young (25 years and under) forests have relatively small portion with 8 percent of the total respectively as of 2017. The total growing stock of *hinoki* is estimated at 748 million m³ of which 739 million m³ exist in planted forests.

Current Population Trends

The total area of *hinoki* forests has remained over the past several decades while the growing stock continues to grow.

Habitat

Hinoki generally grows from upper and middle slope of mountains to ridge lines on drier soils.

Conservation and protection status

Natural *hinoki* forests exceeding 50 years in age have been decreased up to the extent where remainings are being managed under designated objective to produce timber for special use in shrines while restoring its resources. In Kiso region, the natural *hinoki* forests are designated as a protected forest to conserve peculiar ecosystems and genetic resources.

Bibliographic references and web sites

- Toshiyuki, Arioka (2011), "Hinoki", Hosei Univ. Press. (written in Japanese)
- Keiji Sato (1971), "Hinoki in Japan vol. I" Matsuo Printing Co. (written in Japanese)



DRAFT x discussion

- Forestry Agency of Japan, (2018), “Survey on the State of the Forest Resources” (<http://www.rinya.maff.go.jp/j/press/keikaku/181016.html>) (written in Japanese)
- Kyushyu Research Center Forestry and Forest Products Research Institute, “Hinoki” (<https://www.ffpri.affrc.go.jp/kys/business/jumokuen/jumoku/zukan/hinoki.html>) (written in Japanese)

Photo: The ceremony of cutting down hinoki trees to be used for “shikinen sengu” at Ise Grand Shrine. (The photo was taken by staff of Forestry Agency.)



Only the warriors go to fight

Country: New Zealand



Common name: Tōtara, lowland Tōtara

Scientific name: *Podocarpus totara* var. *totara*

Family: Podocarpaceae

Synonymy: Rakau Rangatira – chiefly tree. Te Riu o Tāne, so-called because most canoes fashioned from its timber.

Cultural, social and spiritual value

Tōtara was, and in many cases is still, used by Māori to construct houses, tools, weapons and musical instruments, and Tōtara carvings often adorn the exterior and interior of Māori Whare Whakairo (Carved Māori Meeting Houses). It was the preferred wood for making waka (seacraft), as it is light, straight and rot-resistant. A single log could be made into a war canoe capable of bearing 100 warriors into battle. The stringy bark was harvested to make bags in which to hold preserved birds. Totara has medicinal uses, and the fruit can be eaten. For European settlers, Tōtara was a major timber tree widely used by colonials for housing, bridges, fencing, and ornamental uses.

Proverbs: Ruia taitea. kia tu ko taikaka anake. Shake off the sap-wood, and let the hard heart-wood only stand. In a Tōtara tree, the taitea is the outer, white or sap-wood, which soon decays, and near the centre is the taikaka or hardest wood. Meaning: Let the common people and children stay at home, and the warriors only go to fight.' (Colenso 1880: 137)

General background

Tōtara is a conifer reaching 30m high and a diameter of up to 2.5m, and can live for over 1,000 years. It has thick stringy bark and its leaves are a very dark green-brownish colour and are 13-25 mm long, linear and sharp pointed. The wood is a distinctive reddish colour, and somewhat oily. Totara trees have separate sexes.



DRAFT x discussion

Geographical distribution

An endemic taxon. Common throughout most of the North and South Islands of New Zealand. Present but very scarce on Stewart Island.

Current Population Trends

Recovery in conservation estate following logging

Habitat

Widespread and at times abundant tree of lowland, montane and lower subalpine forest. May also form a vegetation type in which it is the dominant species.

Conservation and protection status

Not Threatened

Though as a vegetation type it is all but extinct throughout most of its former range.

Bibliographic references and web sites

- http://www.nzpcn.org.nz/flora_details.aspx?ID=1176
- Gardner, R. 1990. Totara and Halls totara. Auckland Botanical Society Journal, 45:27-28.
- Moorfield, J. C. (2005). Te aka : Māori -English, English-Māori dictionary and index. Pearson Longman: Auckland, N.Z.
- Landcare Research. Nga Tipu Whakaoranga - Māori Plant Use Database. <http://Māoriplantuse.landcareresearch.co.nz/WebForms/default.aspx>
- "The Meaning of Trees" <https://meaningoftrees.com/2014/03/17/totara-podocarpus-totara/>
- <http://www.teara.govt.nz/en/music/13170/totara-proverb>

Photo:



DRAFT x discussion

Pilgrimage to sacred shaman forest

Country: Russia



Common Name: *Russian, Сосна обыкновенная*; English, **Scots Pine**; French, **Pin sylvestre**.

Scientific name: *Pinus sylvestris* L.

Family: **Pinaceae**

Synonymy: *Pinus sylvestris* L. var. *cretacea* (Kalen.) Kom , *Pinus sylvestris* L. var. *nevadensis* (Christ) Heyw.

Cultural, social and spiritual value

According to the description of the botanist N. K. Tikhomirov (1927), who visited Olkhon in 1914 and 1915, a "sacred shaman forest" was located in the Saray Bay area. This forest and the sacred cave at Cape Shamanka were a place of religious pilgrimage, both shamanists and Lamaists.

In the fifties of the last century, the trees of this forest were cut down for the needs of the village of Khuzhir and for the construction of a fish factory. In the questionnaire there is a photograph of a tree of a long-liver, a common pine, preserved on a site where in the past the sacred forest was located. However, the great tourist pressure that exists on the island today can disrupt the integrity of this tree of a long-liver, unique in its size and age, having a scientific, aesthetic and cult significance.



There is little folklore associated with the Scots pine, although there is some history of spiritual significance, which can be traced back to Celtic times. It is thought that in England, Scots pines were planted around farmsteads as windbreaks, and clusters of pines growing along old droveways helped travellers find out where they were going in inclement weather.

In 2014, a consultation to choose a national tree for Scotland found that the Scots pine was the clear favourite, with more than 52% of all responses opting for the tree. The decision has been widely seen as important recognition for the country's trees and woodland which face increasing threats from climate change, pests and diseases.

General background

More than 50 botanical varieties have been described for this species. Farjon (2010), only recognizes three of these. The typical variety is very widespread, from Scotland to Russian Far East. *Pinus sylvestris* var. *hamata* Steven is restricted to the Ukraine, Caucasus and Turkey. *Pinus sylvestris* var. *mongolica* Litv. is found in northern China, Mongolia and around Lake Baikal in Siberia. None of the varieties are considered to be threatened and are hence not assessed separately.

Scots Pine is an important timber tree, but most of the production goes to the paper industry. In the past it was more often put to use as mining props and for interior construction; such uses are still common in E Europe. Most of the 'pine' used for furniture in W Europe is actually spruce (*Picea abies*), which has a smoother grain and is less resinous, but often has more and darker 'knots', which are the discarded lower branches on the trunks of densely planted trees. Other uses of Scots Pine wood are (or were) street paving blocks, railway sleepers, fencing, crates, pallets, boxes, laminated wood, particleboard, fibreboard, and various wood-based materials. In Russia and Scandinavia resin is extracted by 'destructive distillation' from the stumps and roots of felled trees to produce 'Stockholm tar' which is used as a wood preservative. In much of western Europe it is a widely planted forestry tree for timber; it was introduced in the USA for similar purposes and for growing as Christmas trees.

Scots Pine is or was also used to stabilize dunes, but not those close to the sea as it is not very resistant to salt-laden winds. In Belgium, the Netherlands, Germany, and Denmark such plantations have led to massive spontaneous spread of pines onto heathland and the last remaining inland dune areas, and while the old plantations have in many places matured to mixed woodland now managed as 'multiple use' or even nature reserves, the invasiveness onto *Calluna* heathland is seen as a menace to biodiversity and an ancient semi-natural landscape. In horticulture a large number of cultivars is known, including dwarf forms from witches brooms; the species is being planted as an amenity tree in many countries.



Geographical distribution

Widespread across Eurasia: from N Spain and Scotland in the west to the Russian Far East, from Lapland in the north to Turkey in the south.

Current Population Trends

Stable

Habitat

Across its enormous range *Pinus sylvestris* grows naturally in a variety of habitats, the common denominator of which is deficiency of nutrients in the soil. Thus on the Atlantic seaboard with high levels of precipitation it occupies ancient igneous or metamorphic rocks with little or no soil in Scotland and Norway up to 70° N, while south of the Baltic Sea it grows on podzolized glacial sands left after the Ice Age. In the central Alps it is restricted to the drier slopes and valleys below other conifers like *Larix* and *Picea*, while in the Caucasus it ascends to 2,600 m on rocky outcrops and scree. In much of Siberia it occupies the drier sites, but in Scandinavia and NE Europe it often borders acidic peat bogs. In the steppes of Russia and Mongolia it occurs only along stream courses. *Pinus sylvestris* most commonly forms open pine forests and woodlands but in many areas it is associated with conifers like *Picea*, *Larix*, *Juniperus* and with broad-leaved trees, especially *Betula* spp. and *Populus tremula*. In old growth stands there is often a well-developed ground cover of *Vaccinium* spp. or *Empetrum nigrum* in Atlantic regions, and such pine forests are rich in mycorrhizal fungi.

Major current and potential threats

Pinus sylvestris forests in countries such as the United Kingdom (Scotland) have historically been heavily exploited and in some areas have been considerably reduced. Throughout most of its range, however, logging and forest conversion for agriculture or for plantations have had a much less of an impact.

Conservation and protection status

Least Concern (IUCN)

Bibliographic references and web sites

- <http://www.iucnredlist.org/details/42418/0>

Photo



DRAFT x discussion

The guardian spirit of the forest

Country: USA



Common name: **Giant Sequoia**, '*woh-woh-nau*' (Local Native American tribes)

Scientific name: ***Sequoiadendron giganteum***

Family: ***Cupressaceae***

Synonymy: *Wellingtonia gigantea* (Lindley); *Sequoia gigantea* (Lindley)

Cultural, social and spiritual value

Local Native American tribes reportedly called the Giant Sequoia '*woh-woh-nau*' in imitation of the Northern Spotted Owl, which was believed to be the guardian spirit of the forest. Following discovery of the trees by European settlers in the mid-1800s, giant sequoia were logged heavily, in some cases to produce massive trunk slices for museum and exposition displays in Europe and the Eastern United States. However, due to its brittle wood and tendency to shatter when cut down, the giant sequoia was never a particularly valuable species for wood products, and harvest of the trees was generally halted in the first half of the 20th century.

Today, most of the remaining giant sequoias are protected in national or state parks, where the more famous groves of these trees are visited by people from around the world.



General background

The United States is a big country with many different ecological regions and many different tree species that could be considered “iconic” or culturally significant. Of these, however, there is one tree that stands out simply because it is the biggest tree on Earth. This is the Giant Sequoia (*Sequoiadendron giganteum*), which is found on the western slopes of the Sierra Nevada mountain range in the state of California.

Giant sequoias are the world's largest single trees and largest living thing by volume. They commonly grow to a height of 50-85 meters and 6-8 meters in diameter, and record trees have been measured at over 90 meters in height. With the oldest known individual estimated to be 3,500 years old, giant sequoias are also among the oldest living things on earth (though not the oldest—that would be the Great Basin bristlecone pine [*Pinus longaeva*], which have been known to reach over 5,000 years of age and are also found in California). With thick, fire resistant bark and the ability to extract water from mist and fog, giant sequoias are well adapted to the climate in which they are found, where cool moist winters are followed by hot dry summers and frequent forest fires.

Apart from being fire-resistant, the timber of *Sequoiadendron giganteum* has little commercial value, which makes the widespread felling of this tree during the nineteenth and twentieth centuries all the more unfortunate. The magnificent giant redwood is now a major draw for ecotourists from around the world, and it is seen as one of the flagship species for conservation in the United States. It has been widely planted as an ornamental tree in large parks and gardens in countries with a temperate climate, from Europe to New Zealand, and Canada to Chile.

Geographical distribution

Native to California in the United States, the giant redwood is found on the western slopes of the Sierra Nevada mountain range, where it occurs in about 75 distinct groves. It inhabits mixed conifer forests at 1,100 - 1,500 m above sea level.

Estimated population size, relative abundance, and population structure

The actual area of occupancy is estimated to be 142 km²

Current Population Trends

The majority of giant redwoods are now within National Parks (such as Yosemite, Sequoia and Kings Canyon); indeed 90% of wild populations are now protected.

The present trend in recruitment of *Sequoiadendron giganteum* is downwards, due to competition in the absence of periodic fires in many of the protected groves. This leads over time to a downward trend in the number of mature individuals in the population. There is at present insufficient regeneration to maintain Sequoia populations in these groves (Stephenson in Aune 1992, Stephenson 1996).



Habitat

Growing as an emergent in mixed montane conifer forests. The giant sequoia is found on the western slopes of the Sierra Nevada mountain range, California, United States. Today the species' range is much more discontinuous than it once was, and the species is restricted to around 75 distinct groves.

The relatively narrow altitudinal belt, (830-)1,400-2,150(-2,700) m a.s.l., and the scattered concentration of groves, which tend to become smaller and further apart going north, indicate rather narrow climatic and soil conditions that are optimal in its natural habitat. Most groves are on granite-based residual and alluvial soils, some on glacial outwash, and favoring mildly acidic conditions. The best growth is on deep, well-drained sandy loams with available ground water; the latter appears to be an important limiting factor. The climate is humid, with mostly autumn rain and winter snow, and dry summers, with mean annual precipitation between 900-1,400 mm, but with high year-to-year variation. Temperature in winter is mild, with light frosts but occasional extremes, and warm, occasionally hot, in summer. *Sequoiadendron giganteum* is well adapted to low-intensity forest fires (extremely thick bark) and resists windfall exceptionally well; its wood is also rot-resistant. As a result, its longevity ranges from 2,000-3,000 years.

Major current and potential threats

Land management and tree-planting schemes have been put in place to conserve the species. Measures taken to prevent bush fires also led to a build-up of undergrowth which may have reduced the growth of seedlings, which need a clearing to thrive.

Bibliographic references and web sites

- Guy Robertson. PhD. National Program Leader for Forest Sustainability Assessment, U.S. Forest Service, Washington D.C. Personal communication
- <http://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:234727-2>
- <http://eol.org/pages/323361/details#habitat>
- <http://www.iucnredlist.org/details/34023/0>

Photo:

Text for Indicator Review and Adjustment Discussion

MPWG Meeting 2019, Kumamoto Japan

October 7, 2019

Contact: Guy Robertson, Forest Service R&D
guy.robertson@usda.gov

Overview

The creation and refinement of the current C&I framework is a central achievement of the Montréal Process. As one of the most durable and visible frameworks for forest sustainability assessment, the MPC&I has provided a general definition of the principal elements of comprehensive forest sustainability and has served as a model for other efforts at the local, national and international scale. From its beginning, the MPC&I was envisioned as an adaptive framework subject to change over time:

“Concepts of the conservation and sustainable management of forests are continually evolving. The Montreal Process criteria and indicators will need to be reviewed and adjusted as appropriate to reflect improvements in scientific knowledge as to how forest ecosystems function and respond to human interventions, increased experience in the measurement of indicators, advances in technology, and changing public demands for forest products and services.” (First Approximation Report of the Montréal Process, 1997, page 7).

Over the years, the MPC&I has been revised on several occasions, including the inclusion of new indicators, the elimination or consolidation of others, and a complete revision of Criterion 7. Each of these steps resulted in an incremental improvement in the Framework along with a chance for member countries to step back and discuss the utility of the MPC&I set and its component indicators.

Objective

This background note is designed to frame a discussion to be held by the MP Working Group considering processes and possible content of a review for the MPC&I as routine activity for MPWG. Two questions can be posed to start the conversation:

1. Should the MPWG institute a process for review and adjustment of the MPC&I, and if so what should that process entail?

2. Are there specific indicators or other aspects of the MPC&I that you would like to add, eliminate or adjust?

Points to consider

- Stability of the MPC&I over time is an important characteristic that should be maintained as much as possible. Adjustments demand careful consideration and probably should not be undertaken on an annual or bi-annual basis.
- Nonetheless, a discussion of the strengths, weaknesses and challenges associated with specific MPC&I elements should be a regular activity for the MPWG and TAC.
- Formal inclusion of potential new indicators (e.g., certified forests, urban forest area) would likely have to be balanced by elimination of other indicators and would require full consensus by the MPWG.
- The MPC&I does not exist in a vacuum, and other global processes (FAO FRA, UN CPF Global Core Set, SDGs 15.1.1 & 15.2.1) are seeking to improve and consolidate SFM reporting around the world. The Montréal Process needs to consider these processes.
- Alignment with these other processes should be pursued wherever possible and may prompt adjustments to specific MPC&I indicators to better align definitions and measures.

Consideration of MP Indicators and Possible Adjustment Processes



(Hardwood forests in Virginia)

Montréal Process Working Group Meeting
Kumamoto Japan October 21-25, 2019

Guy Robertson
US Forest Service
Research & Development



Overview

MPC&I marks a major accomplishment for the Montréal Process

- Comprehensive
- Flexible
- Adaptive
- Based on international consensus

Should the C&I be adjusted in the future?

How should adjustments be accomplished?



Emergence of new C&I frameworks

- SDGs
- FAO FRA
- Global Core Set of forest indicators
- UNSPF Strategic Goals
- Others (e.g. as suggested by recent TAC)



Forest-Related SDGs

- Indicator 15.1.1: Forest area as a proportion of total land area
- Indicator 15.2.1: Progress towards sustainable forest management
 - Forest area net change rate (MP 1.1a)
 - Above-ground biomass stock in forest (MP 2.b approximate)
 - Proportion of forest area located within legally established protect areas (MP1.1.b)
 - Proportion of forest area under a long term forest management plan (MP—none)
 - Forest area under an independently verified forest management certification scheme (MP—none)



FAO Forest Resource Assessment (FRA) and Collaborative Forest Resource Questionnaire (CFRQ)

- Common reporting baseline for all countries
- Many CFRQ measures align with MP indicators but not exactly (e.g. ratios used)



Indicator ideas from the Last TAC Meeting

New

- Certification status
- Gender equity
- Food and fod safety in and from forests
- Urban forests
- Population trends in forests
- Ecological disaster risk
- Community resilience and health
- Defense against natural events

Refinements

- Expert group on soil and water
- Global core set
- Analysing indicators as a set
- Revise to address/align SDGs, UNSPF, other international issues
- Link better to environmental management
- Simplify approaches to measurement/methods
- Scalability of indicators

Indicator removals?

(Not from TAC, but something we should think about)?



Questions for MP WG

- Do you see a current need or opportunity to revise MPC&I?
- Should we institute a process for indicator review on a periodic basis?
- Should MPC&I indicators be adjusted to more closely match similar indicators in other systems?



Text for Digital Communications Discussion

MPWG Meeting 2019, Kumamoto Japan

October 7, 2019p

Contact: Guy Robertson, Forest Service R&D
guy.robertson@usda.gov

Overview

Digital communications is the most public facing aspect of the Montréal Process, and strategies for enhancing our digital presence have been a regular topic of discussion for the Working Group and the TAC. The MP currently maintains a website that constitutes the organization's main (only?) digital communication vehicle, but there are numerous opportunities to either create better content for the website or create other digital products. Additionally, several of the MP countries (notably Canada) have devoted considerable effort and developed considerable skills in electronic communications of forest-related information. Other MP countries may benefit from their experience.

Objective

This background note is designed to frame a discussion around the MP's digital communication activities. Three main topics will be considered:

1. Updates, revisions and management processes associated with the MP Website
2. Opportunities for the development of new digital communications strategies and products
3. Knowledge sharing amongst countries

Points to consider

- The organization of the website has changed somewhat, notably in the report section. Do members have any comments regarding this or other aspects of the website?
- The website update process has been fairly ad-hoc—do we need to work on instituting a more formal process? (note: informal processes do have some advantages).
- Ongoing website management requires modest but ongoing resource commitments. Certain digital products, on the other hand, can be accomplished as discreet tasks that can be commissioned by the WG and accomplished in a limited time frame. These include:
 - Videos for YouTube and website distribution
 - Storymaps combining text, quantitative and visual content
 - Other possibilities?

- Does the MP wish to consider commissioning such a product for the upcoming Joint Report and WFC event?
- Knowledge sharing does not always happen spontaneously. Are there any explicit strategies or activities that member countries can suggest (e.g. joint collaboration on specific digital products)?

Digital Communication Strategies



(Hardwood forests in Virginia)

Montréal Process Working Group Meeting
Kumamoto Japan October 21-25, 2019

Guy Robertson
US Forest Service
Research & Development



Overview

- Brief exhibition of USA Website for C&I delivery
- Review of Montréal Process website
- Discussion of possible digital products and strategies



USA Website

<https://www.fs.fed.us/research/sustain/>



Montréal Process Website

<https://montrealprocess.org/>



Discussion Questions

- MP Website functionality and process
 - How are things working?
 - Any suggested changes in content or process?
- Should we create a Montréal Process Storymap?
- Are there other digital products or strategies we should consider
- Anything else you want to talk about here?



MPWG-28 Item 17: TAC Future activities

Annex P

Standing agenda items

1. Emerging issues, technical advances and development in C&I

- Review of indicators – ongoing refinement and adaptation of C&I

- from Item 14

Agreement that the TAC revisits this item after WFC 2021, and take into account:

- a) Subsequent progress with other Indicator activities
(Sustainable Development Goals, Global Forest Goals, CBD)
- b) country developments, and
- c) discussions at MPWG-28 (this meeting)

- New communication strategies

Actions for the TAC to progress matters? (from Item 16 - Guy)

- Sonja Oswaldt (USA) (FRA National Correspondent) – story book??
- Update information for country representatives – names, photos, relevant websites
- Updated meeting reports and aide meoire
- Group photos from meetings,
- Cultural, spiritual values of trees – country stories to be uploaded as scrolling images



MPWG-28 Item 17: TAC Future activities

Standing agenda items

1. Emerging issues, technical advances and development in C&I

- Review of indicators – ongoing refinement and adaptation of C&I

- from Item 14

Agreement that the TAC revisits this item after WFC 2021, and take into account:

- a) Subsequent progress with other Indicator activities
(Sustainable Development Goals, Global Forest Goals, CBD)
- b) country developments, and
- c) discussions at MPWG-28 (this meeting)

- New communication strategies

Actions for the TAC to progress matters? (from Item 16 - Guy)

- Sonja Oswaldt (USA) (FRA National Correspondent) – story book??
- Update information for country representatives – names, photos, relevant websites
- Updated meeting reports and aide meoire
- Group photos from meetings,
- Cultural, spiritual values of trees – country stories to be uploaded as scrolling images



MPWG-28 Item 17: TAC Future activities

Standing agenda items

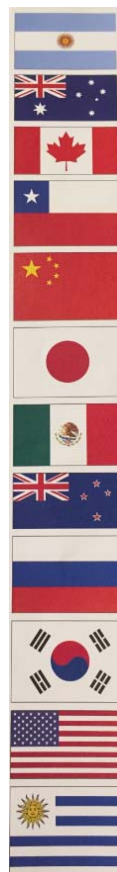
2. Sharing country experiences in C&I reporting, and related activities
 - In session – at TAC meetings
 - Out of session – online updates of technical developments, activities and opportunities (example today with Canada's e-lectures) – links to the communication strategies



MPWG-28 Item 17: TAC Future activities

Current and future work programme

3. Cultural, social and spiritual values of trees
 - Countries to finalise their 'tree story' and send to USA for upload to website (Canada's story to be used as a test for html)
 - Publish in html format, with original language text also available as PDF (?)
 - English-speaking country members available to assist editing for non-English speaking countries



MPWG-28 Item 17: TAC Future activities

Current and future work programme

4. Overview and Achievement Report
 - Finalising updates to report including annexes (country overviews)
 - TAC convenor to encourage remaining two countries to provide country response
 - Finalise and publish online on Montréal Process website
5. MPWG Synthesis report on criteria and indicators for temperate and boreal forests
 - Activities as agreed at WG-28 (from Item 11b)
6. WFC event
 - input to planning and organisation (from Item 11a) – yet to be decided



MPWG-28 Item 17: TAC Future activities

Ways of working together

- Face – to face meetings
- Online meetings (Skype, shared documents (for example SharePoint, GoogleDocs, DropBox))





Natural Resources
Canada

Ressources naturelles
Canada

Annex Q

Using the Montreal Process C&I to support trade-related dialogue in Canada

Simon Bridge
Natural Resources Canada
Montreal Process Working Group Meeting
22-25 October 2019, Japan



Canada

Overview

- C&I have long been useful to inform trade-related dialogue, particularly when trade and environment were not explicitly linked
- But new trade agreements include environment chapters with commitments that link sustainability and trade
- Therefore, we wanted to explore how Canada might use its membership in the MP to help meet those trade commitments.

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

2



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Purpose

- To review Canadian experiences in using C&I to inform trade dialogue and issues
- To identify relevant commitments in environment chapters of new trade agreements
- To identify opportunities for greater coherence between MPWG objectives and trade commitments for Canada
- To hear feedback or share experience of others

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

3



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Why your views are important

- Your country may be a party to trade agreements with environmental chapters
- You may have experience to share on using the MP C&I to inform trade-related dialogue or issues

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

4



Natural Resources
Canada

Ressources naturelles
Canada

Canada

The MP C&I have long been useful for informing trade discussions

Santiago Declaration, 1995

- *“Internationally agreed criteria and indicators could also help clarify ongoing dialogues related to international trade in products from sustainably managed forests.”* Section 1.2

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

5



Natural Resources
Canada

Ressources naturelles
Canada

Canada

The MPWG has recognized the value of C&I to meet various international commitments

The Yanji Declaration, 2017

- *“Recognizing that the Montreal Process framework of criteria and indicators ... is relevant to ... global initiatives to assess the progress made toward international commitments such as the Sustainable Development Goals, the United Nations Strategic Plan for Forests 2017-2030, the Paris Agreement on Climate Change and the United Nations Forest Instrument”*

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

6



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Canada uses C&I reporting to support forest sector competitiveness

National monitoring and reporting helps:



Managers improve practices



Consumers choose sustainable products



Citizens have confidence in resource decisions

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017



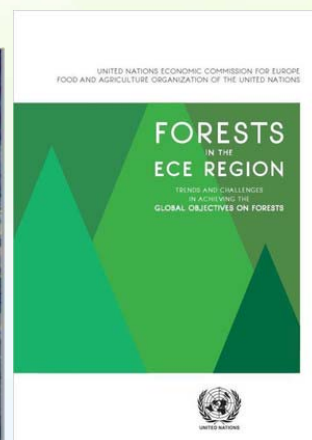
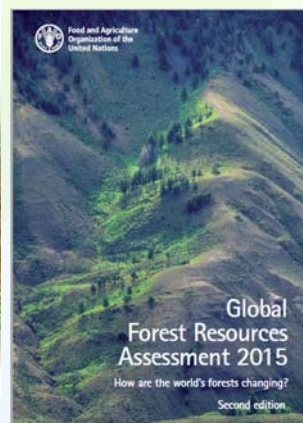
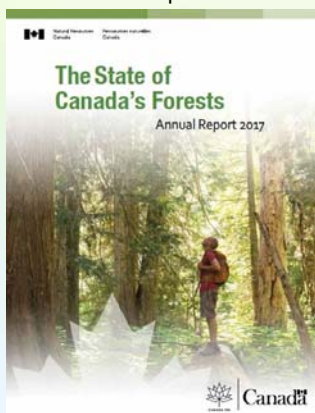
Natural Resources
Canada

Ressources naturelles
Canada

Canada

C&I form the basis of Canada's reporting to meet various forest-related commitments

For example....



© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Similarly, the C&I framework has been used to inform trade-related dialogue in Canada

- inform certification standards



- Rapidly respond to misinformation and non-tariff trade barriers

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

9



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Environment chapters appear in recent trade agreements that Canada is party to

- Canada-US-Mexico Agreement (CUSMA)
 - Chapter 24, Environment
- The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)
 - Chapter 20, Environment
- The Canada-European Union Comprehensive Economic and Trade Agreement (CETA)
 - Chapter 22, Trade and Sustainable Development
 - Chapter 24, Trade and Environment

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2017

10



Natural Resources
Canada

Ressources naturelles
Canada

Canada

There is coherence between environment chapters and Canada's objectives with the MP

CPTPP and USMCA

"...each party shall encourage...the development of criteria used to evaluate environmental performance." *Article 20.11 (CPTPP) & Article 24.14 (USMCA) - Voluntary Mechanisms to Enhance Environmental Performance*

"Each party further commits to: maintain or strengthen government capacity and institutional frameworks to promote sustainable forest management." *Article 20.17 – Conservation and Trade (CPTPP) & Article 24.23 - Sustainable Forest Management and Trade (USMCA)*



The Montreal Process, as a voluntary forum, may support Canada's new trade commitments

CETA

"The Parties affirm that trade should promote sustainable development. Accordingly, each Party shall strive to promote trade and economic flows and practices that contribute to enhancing decent work and environmental protection, including by:

- a) encouraging the development and use of voluntary schemes relating to the sustainable production of goods and services, such as eco-labelling and fair trade schemes" *Article 22.3 – Cooperation and promotion of trade supporting sustainable development*

"Parties undertake to: cooperate, where appropriate, in international *fora* that deal with the conservation and sustainable management of forests." *Article 24.10 – Trade in Forest products*



Going forward

- We will continue to look for ways to strengthen coherence in Canada's MP objectives and trade commitments
- We would be interested to learn about the experiences of other MP members that have used C&I in trade-related dialogue or issues.



Item 19 Transfer of the Liaison Office of the Montreal Process

Background and status

The Liaison Office for the Montreal Process supports the work of the Montreal Process Working Group and facilitates communication among members (TOR for the Liaison Office). The Liaison Office has been hosted by Japan since January 2007 to date.

At the 26th meeting of the Working Group held in China in 2016, Japan expressed its intention of transferring the liaison office to another member country.

At the 27th meeting of the Working Group held in NZ in 2017, the Working Group invited countries to submit to the Liaison Office expressions of interest to host the Liaison Office at the earliest possible time due to only Japan having the capacity to continue to serve as the Liaison Office until the 28th meeting of the Working Group (Action Item 1, Aide-Memoire of 27th meeting of the Working Group).

As of today, the Liaison Office did not receive an official intention of hosting the Liaison Office from a member country. If this goes on, the Liaison Office is going to be absent after the completion of the Aide Memoire of the 28th meeting of the Working Group.

Japan's Proposal

To avoid the absence of the Liaison Office, Japan would like to propose the rotational Liaison Office system options as follows:

- a) Couple the role of the Liaison Office with the next chair (host country) of the Working Group meeting; or
- b) Set a rotation and a prescribed time period (around 5 years) of the Liaison Office.

Annexes

- Annex 1: The Santiago Declaration
- Annex 2: The Québec Declaration
- Annex 3: The Yanji Declaration
- Annex 4: Strategic Directions of the Montréal Process
- Annex 5: The Montréal Process Value Proposition
- Annex 6: Terms of Reference for the Montréal Process Working Group
- Annex 7: Terms of Reference for the Liaison Office for the Montréal Process
- Annex 8: Terms of Reference for the Technical Advisory Committee of the Montréal Process
- Annex 9: Terms of Reference for the Convenor of the Technical Advisory Committee
- Annex 10: Terms of Reference for the Montréal Process website

Annex 1: The Santiago Declaration

"SANTIAGO DECLARATION" -- STATEMENT ON CRITERIA AND INDICATORS FOR THE CONSERVATION AND SUSTAINABLE MANAGEMENT OF TEMPERATE AND BOREAL FORESTS

The Governments of Australia, Canada, Chile, China, Japan, Mexico, New Zealand, the Republic of Korea, the Russian Federation and the United States of America, which are participating in the Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests ("Montreal Process") and whose countries contain a significant portion of the world's temperate and boreal forests:

Recognizing that the sustainable management of all types of forests, including temperate and boreal forests, is an important step to implementing the Statement of Forest Principles and Agenda 21, adopted by the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in June 1992, and is relevant to the United Nations conventions on biological diversity, climate change and desertification,

Also recognizing the value of having an internationally accepted understanding of what constitutes sustainable management of temperate and boreal forests, and the value of agreed criteria and indicators for sustainable forest management in advancing such an understanding,

Mindful that the application of agreed criteria and indicators will need to take account of the wide differences among States regarding the characteristics of their forests, including planted and other forests, land ownership, population, economic development, scientific and technological capacity, and social and political structure,

Taking note of other international initiatives regarding the development of criteria and indicators for sustainable forest management,

Affirming their commitment to the conservation and sustainable management of their respective forests, and

Having undertaken substantive discussions to develop agreed criteria and indicators for the conservation and sustainable management of temperate and boreal forests,

Endorse the non-legally binding Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests annexed to this Statement as guidelines for use by their respective policy-makers;

Encourage other States which have temperate and boreal forests to consider the endorsement and use of these criteria and indicators;

Note the ongoing nature of the discussion on these criteria and indicators and the need to update the annex as new technical and scientific information and data become available and assessment capability increases; and

Request the Government of Chile, on behalf of the above States, to present this Statement, together with its annex, to the FAO Meeting of Ministers Responsible for Forestry, to be held in Rome, March 16-17, 1995, and the third session of the United Nations Commission on Sustainable Development, to be held in New York, April 11-28, 1995.

SECTION 1 -- INTRODUCTION

- 1.0** Forests are essential to the long-term well being of local populations, national economies, and the earth's biosphere as a whole. In adopting the statement of Forest Principles and Chapter 11 of Agenda 21, the 1992 UN Conference on Environment and Development (UNCED) recognized the importance of sustainably managing all types of forests in order to meet the needs of present and future generations.
- 1.1** The development of criteria and indicators for the conservation and sustainable management of temperate and boreal forests is an important step in implementing the UNCED Forest Principles and Agenda 21, and is relevant to the UN conventions on biodiversity, climate change and desertification. It is also an important step to furthering the joint commitment made by tropical timber consumer countries in January 1994 to maintain, or achieve by the year 2000, the sustainable management of their respective forests.
- 1.2** The criteria and indicators listed under Sections 3 and 4 apply broadly to temperate and boreal forests. They are intended to provide a common understanding of what is meant by sustainable forest management. They also provide a common framework for describing, assessing and evaluating a country's progress toward sustainability at the national level. They are not intended to assess directly sustainability at the forest management unit level. As such, the criteria and indicators should help provide an international reference for policy-makers in the formulation of national policies and a basis for international cooperation aimed at supporting sustainable forest management. Internationally agreed criteria and indicators could also help clarify ongoing dialogues related to international trade in products from sustainably managed forests.
- 1.3** The approach to forest management reflected in the criteria and indicators is the management of forests as ecosystems. Taken together, the set of criteria and indicators suggests an implicit definition of the conservation and sustainable management of forest ecosystems at the country level. It is recognized that no single criterion or indicator is alone an indication of sustainability. Rather, individual criteria and indicators should be considered in the context of other criteria and indicators.
- 1.4** It should be emphasized that an informed, aware and participatory public is indispensable to promoting the sustainable management of forests. In addition to providing a common understanding of what is meant by sustainable forest management in the temperate and boreal region, the criteria and indicators should be useful in improving the quality of information available not only to decision-makers but also to

the general public. This in turn should better inform the policy debate at national and international levels.

- 1.5** Each country is unique in terms of the quantity, quality, characteristics and descriptions of its forests. Countries also differ in terms of forest conditions relative to national population, such as the amount of forest per capita, the amount reforested annually per capita or the annual forest growth per capita. National circumstances further differ with respect to stages of economic development, land ownership patterns, population patterns, forms of social and political organization, and expectations of how forests should contribute or relate to society.
- 1.6** Given the wide differences in natural and social conditions among countries, the specific application and monitoring of the criteria and indicators, as well as the capacity to apply them, will vary from country to country based on national circumstances. It is anticipated that individual countries would develop specific measurement schemes appropriate to national conditions to address how data would be gathered. Qualitative terms such as "significant" or "low," which are used as indicator descriptors in some cases, would also be defined based on national conditions. Despite these differences, efforts should be made to harmonize the approaches of countries to measuring and reporting on indicators.
- 1.7** Changes in the status of forests and related conditions over time, and the direction of the change, are relevant to assessing sustainability. Therefore, indicators should be understood to have a temporal dimension. This means they will need to be assessed as trends (e.g., at points in time) or with an historical perspective to establish trends. The monitoring of changes in indicators will be essential to evaluating whether and how progress is being made toward the sustainability of forest management at the national level.
- 1.8** While it may be desirable to have quantitative indicators that are readily measured or for which measurements already exist, such indicators alone will not be sufficient to indicate the sustainability of forest management. Some important indicators may involve the gathering of new or additional data, a new program of systematic sampling or even basic research. Furthermore, some indicators of a given criterion may not be quantifiable. In cases where there are no reasonable quantitative measures for indicators, qualitative or descriptive indicators are important. These may require subjective judgments as to what constitutes effective, adequate or appropriate national conditions, or trends in conditions, with respect to the indicator.
- 1.9** Concepts of forest management evolve over time based on scientific knowledge of how forest ecosystems function and respond to human interventions, as well as in response to changing public demands for forest products and services. The criteria and indicators will need to be reviewed and refined on an on-going basis to reflect new research, advances in technology, increased capability to measure indicators, and an improved

understanding of what constitutes appropriate indicators of sustainable forest management.

SECTION 2 -- DEFINITIONS

2.0 Criterion:

A category of conditions or processes by which sustainable forest management may be assessed.

A criterion is characterized by a set of related indicators which are monitored periodically to assess change.

2.1 Indicator:

A measure (measurement) of an aspect of the criterion.

A quantitative or qualitative variable which can be measured or described and which when observed periodically demonstrates trends.

2.2 Monitoring:

The periodic and systematic measurement and assessment of change of an indicator.

2.3 Forest Type:

A category of forest defined by its vegetation, particularly composition, and/or locality factors, as categorized by each country in a system suitable to its situation.

2.4 Ecosystem:

A dynamic complex of plant, animal, fungal and micro-organism communities and the associated non-living environment with which they interact.

SECTION 3 -- CRITERIA AND INDICATORS FOR THE CONSERVATION AND SUSTAINABLE MANAGEMENT OF TEMPERATE AND BOREAL FORESTS - CRITERIA 1-6

3.0

The following six criteria and associated indicators characterize the conservation and sustainable management of temperate and boreal forests. They relate specifically to forest conditions, attributes or functions, and to the values or benefits associated with the environmental and socio-economic goods and services that forests provide. The intent or meaning of each criterion is made clear by its respective indicators. No priority or order is implied in the alpha-numeric listing of the criteria and indicators.

3.1 -- Criterion 1: Conservation of biological diversity

Biological diversity includes the elements of the diversity of ecosystems, the diversity between species, and genetic diversity in species.

Indicators:

Ecosystem diversity

- a. Extent of area by forest type relative to total forest area-(a);1
- b. Extent of area by forest type and by age class or successional stage-(b);
- c. Extent of area by forest type in protected area categories as defined by IUCN2 or other classification systems-(a);
- d. Extent of areas by forest type in protected areas defined by age class or successional stage-(b);
- e. Fragmentation of forest types-(b).

Species diversity

- a. The number of forest dependent species-(b);
- 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 or scientific assessment-(a).

Genetic diversity

- a. Number of forest dependent species that occupy a small portion of their former range-(b);
- b. Population levels of representative species from diverse habitats monitored across their range-(b).

3.2 -- Criterion 2: Maintenance of productive capacity of forest ecosystems

Indicators:

- a. Area of forest land and net area of forest land available for timber production-(a);
- b. Total growing stock of both merchantable and non-merchantable tree species on forest land available for timber production-(a);
- c. The area and growing stock of plantations of native and exotic species-(a);
- d. Annual removal of wood products compared to the volume determined to be sustainable-(a);
- e. Annual removal of non-timber forest products (e.g. fur bearers, berries, mushrooms, game), compared to the level determined to be sustainable-(b).

3.3 -- Criterion 3: Maintenance of forest ecosystem health and vitality

Indicators:

- a. Area and percent of forest 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, salinisation, and domestic animals-(b);

- b. Area and percent of forest land subjected to levels of specific air pollutants (e.g. sulfates, nitrate, ozone) or ultraviolet B that may cause negative impacts on the forest ecosystem-(b);
- c. Area and percent of forest land with diminished biological components indicative 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, arboreal epiphytes, nematodes, beetles, wasps, etc.)-(b).

3.4 -- Criterion 4: Conservation and maintenance of soil and water resources

This criterion encompasses the conservation of soil and water resources and the protective and productive functions of forests.

Indicators:

- a. Area and percent of forest land with significant soil erosion-(b);
- b. Area and percent of forest land managed primarily for protective functions, e.g. watersheds, flood protection, avalanche protection, riparian zones-(a);
- c. Percent of stream kilometres in forested catchments in which stream flow and timing has significantly deviated from the historic range of variation-(b);
- d. Area and percent of forest land with significantly diminished soil organic matter and/or changes in other soil chemical properties-(b);
- e. Area and percent of forest land with significant compaction or change in soil physical properties resulting from human activities-(b);
- f. Percent of water bodies in forest areas (e.g. stream kilometres, lake hectares) with significant variance of biological diversity from the historic range of variability-(b);
- g. Percent of water bodies in forest areas (e.g. stream kilometres, lake hectares) with significant variation from the historic range of variability in pH, dissolved oxygen, levels of chemicals (electrical conductivity), sedimentation or temperature change- (b);
- h. Area and percent of forest land experiencing an accumulation of persistent toxic substances-(b).

3.5 -- Criterion 5: Maintenance of forest contribution to global carbon cycles

Indicators:

- a. Total forest ecosystem biomass and carbon pool, and if appropriate, by forest type, age class, and successional stages-(b);
- b. Contribution of forest ecosystems to the total global carbon budget, including absorption and release of carbon (standing biomass, coarse woody debris, peat and soil carbon)-(a or b);
- c. Contribution of forest products to the global carbon budget-(b).

3.6 -- Criterion 6: Maintenance and enhancement of long-term multiple socioeconomic benefits to meet the needs of societies

Indicators:

Production and consumption

- a. Value and volume of wood and wood products production, including value added through downstream processing-(a);
- b. Value and quantities of production of non-wood forest products-(b);
- c. Supply and consumption of wood and wood products, including consumption per capita-(a); d. Value of wood and non-wood products production as percentage of GDP-(a or b);
- e. Degree of recycling of forest products-(a or b);
- f. Supply and consumption/use of non-wood products-(a or b).

Recreation and tourism

- a. Area and percent of forest land managed for general recreation and tourism, in relation to the total area of forest land-(a or b);
- b. Number and type of facilities available for general recreation and tourism, in relation to population and forest area-(a or b);
- c. Number of visitor days attributed to recreation and tourism, in relation to population and forest area-(b).

Investment in the forest sector

- a. Value of investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism-(a);
- b. Level of expenditure on research and development, and education-(b);
- c. Extension and use of new and improved technologies-(b); d. Rates of return on investment-(b).

Cultural, social and spiritual needs and values

- a. Area and percent of forest land managed in relation to the total area of forest land to protect the range of cultural, social and spiritual needs and values-(a or b);
- b. Non-consumptive use forest values-(b).

Employment and community needs

- a. Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment-(a or b);
- b. Average wage rates and injury rates in major employment categories within the forest sector-(a);

- c. Viability and adaptability to changing economic conditions, of forest dependent communities, including indigenous communities-(b);
- d. Area and percent of forest land used for subsistence purposes-(b).

1: Indicators followed by an "a" are those for which most data are available.

Indicators followed by a "b" are those which may require the gathering of new or additional data and/or a new program of systematic sampling or basic research.

2: IUCN categories include: I. Strict protection, II. Ecosystem conservation and tourism, III. Conservation of natural features, IV. Conservation through active management, V. Landscape/Seascape conservation and recreation, VI. Sustainable use of natural ecosystems.

SECTION 4 -- CRITERIA AND INDICATORS FOR THE CONSERVATION AND SUSTAINABLE MANAGEMENT OF TEMPERATE AND BOREAL FORESTS CRITERION 7

4.0

Criterion 7 and associated indicators relate to the overall policy framework of a country that can facilitate the conservation and sustainable management of forests. Included are the broader societal conditions and processes often external to the forest itself but which may support efforts to conserve, maintain or enhance one or more of the conditions, attributes, functions and benefits captured in criteria 1-6. No priority or order is implied in the listing of the indicators.

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

Indicators:

*Extent to which the **legal framework** (laws, regulations, guidelines) supports the conservation and sustainable management of forests, including the extent to which it:*

- 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;
- b. Provides for periodic forest-related planning, assessment, and policy review that recognizes the range of forest values, including coordination with relevant sectors;
- c. Provides opportunities for public participation in public policy and decision-making related to forests and public access to information;
- d. Encourages best practice codes for forest management;
- e. Provides for the management of forests to conserve special environmental, cultural, social and/or scientific values.

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

- a. Provide for public involvement activities and public education, awareness and extension programs, and make available forest-related information;
- b. Undertake and implement periodic forest-related planning, assessment, and policy review including cross-sectoral planning and coordination;

- c. Develop and maintain human resource skills across relevant disciplines;
- d. Develop and maintain efficient physical infrastructure to facilitate the supply of forest products and services and support forest management;
- e. Enforce laws, regulations and guidelines.

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

- a. Investment and taxation policies and a regulatory environment which recognize the long-term nature of investments and permit the flow of capital in 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;
- b. Non-discriminatory trade policies for forest products.

*Capacity to **measure and monitor changes** in the conservation and sustainable management of forests, including:*

- a. Availability and extent of up-to-date data, statistics and other information important to measuring or describing indicators associated with criteria 1-7;
- b. Scope, frequency and statistical reliability of forest inventories, assessments, monitoring and other relevant information;
- c. Compatibility with other countries in measuring, monitoring and reporting on indicators.

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

- a. Development of scientific understanding of forest ecosystem characteristics and functions;
- 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;
- c. New technologies and the capacity to assess the socio-economic consequences associated with the introduction of new technologies;
- d. Enhancement of ability to predict impacts of human intervention on forests;
- e. Ability to predict impacts on forests of possible climate change.

Appendix -- Explanatory Notes on Selected Criteria and Indicators

The following explanatory notes provide a further explanation or "rationale" as to what is meant by selected criteria and indicators and why they are considered important to assessing forest conservation and sustainable management. As noted in paragraph 1.3, "no single criterion or indicator is alone an indication of sustainability. Rather, individual criteria and indicators should be considered in the context of other criteria and indicators."

3.1 -- Criterion 1: Conservation of biological diversity

The ultimate objective of the conservation of biological diversity is the survival of species and the genetic variability within those species. Viable breeding populations of species and their

natural genetic variation are part of interdependent physical and biological systems or processes - communities or ecosystems. The condition and distribution of forest communities are important to fundamental ecological processes and systems and the future of biological diversity associated with forests.

Ecosystem diversity

- a. Ecological processes and viable populations of species that are characteristic of forest ecosystems are usually dependent on a contiguous ecosystem or ecosystems of a certain minimum size. Genetic diversity within a species population depends on the maintenance of subpopulations and the existence of forest ecosystems that cover a large part of their natural range. Forests may constitute all or a part of the habitat necessary to the survival of a species.
- b. Ecological processes and the species associated with those processes, within any forest ecosystem or forest type, are associated with vegetative structures (age of the vegetation, its diameter, and height) and successional stages (variable species of vegetation).
- c. The amount of a forest ecosystem reserved in some form of protected area is a measure of the priority being placed on maintaining representative areas of that forest ecosystem by society.
- d. The fragmentation of a forest type into small pieces may disrupt some ecological processes and availability of habitat. Such fragments of forest may be too small to maintain viable breeding populations of species. Distances between forest fragments can interfere with pollination, seed dispersal, and wildlife movement between patches of forest and breeding.
- e. Ultimately, excessive fragmentation can contribute to the loss of plant and animal species that are unable to adapt to these conditions. In areas converted in the past to agricultural purposes, remnant forest fragments of the original forest cover may provide refuges for many, although not all, components of the original diversity.

Species diversity

- a. Surveys of species numbers are necessary in order to estimate biological diversity.
- b. Ecological processes and the species associated with those processes, within any forest type, may vary according to the extent, condition, or fragmentation of that forest type.

Genetic diversity

- a. Forest dependent species with low population levels or significantly reduced range run the risk of losing important genetic traits (alleles) from their gene pools. In the case of species with a dispersed natural range, this can happen at the level of locally adapted subpopulations (provenances), resulting in a reduced ability by species to adapt to environmental changes.
- b. Monitoring the population levels of species representative of identified habitats, or ecosystems, across their range provides an indicator of the ability of those habitats to support other species, and subpopulations of those species, dependant on similar habitat.

3.2 – Criterion 2: Maintenance of productive capacity of forest ecosystem

- a. In many countries, traditional calculation of potential production of timber products is based on the forest area available for the production of commercial forest products. In those countries, forest lands are not available for timber harvesting if they do not meet minimal acceptable regeneration standards, minimal acceptable economic growing rates, or accessibility. High spiritual, recreational, scientific, or educational values may also be deemed a higher priority than commodity production. Comparison of net forest land available for timber production to total forest land will provide a measure of the suitability or availability of the forests for commercial forest production to meet society's demands for wood products. In reference to managed forests, some feel this is also an indicator of forest areas whose ecological or genetic character may be different.
- b. Measurements of merchantable and non-merchantable growing stock provides an indication of timber supply opportunities.
- c. Planted forests can be an important source of forest products and can replace or augment the use of natural forests for the production of wood and non-wood forest products. In other countries, natural forest management is used as an alternative to planted forests. The area of forest plantations provides one measure of forest management efficiency and reduced future dependence on natural forests for the production of commercial forest products. In addition, some feel this is also an indication of forest areas whose ecological and genetic character may be different. However, many planted forests have been established to reclaim degraded lands where the ecological and genetic character of the original forest had been lost.
- d. Monitoring the volume of wood and non-wood forest products annually removed relative to the amount which could be removed sustainably provides an indication of a forest's ability to provide a continuing supply of forest products and economic and forest management opportunities.

3.3 -- Criterion 3: Maintenance of forest ecosystem health and vitality

- a. People have multiple effects on forest ecosystems. Human impacts include land conversion, harvesting, species introductions, suppression of natural fire cycles and floods, and the introduction of nonnative species especially pathogens. These in turn influence ecological processes and ultimately forest dependent plant and animal species.
- b. Air pollutants are suspected to have a significant cumulative impact on forest ecosystems by affecting regeneration, productivity, and species composition. Correlating forest inventory and health statistics with air pollution data will provide more information on the effects of these pollutants. Increased ultraviolet radiation, caused by changes in the earth's atmosphere, also has been shown to damage plants.
- c. The monitoring of forest structure or macro species such as vertebrates (criterion 1) will tend to detect changes in ecological processes decades after they have begun. Monitoring very short-lived species associated with specific ecological processes such as decomposition and nutrient cycling provides a more immediate indication of changes in ecological processes with potential importance to forests.

3.4 -- Criterion 4: Conservation and maintenance of soil and water resources

- a. The soil resource is a basic component of all terrestrial ecosystems. The loss of soil will influence the vitality and species composition of forest ecosystems. Extensive areas of soil erosion can have a major effect on aquatic ecosystems associated with forests, recreational opportunities, potable water supplies and the life span of river infrastructure such as dams.
- b. This indicator provides a measure of forest land allocated primarily for the protection of valuable environmental amenities associated with clean air, water, soil, flood and avalanche protection, etc. (public health and safety functions).
- c. Forests are an important part of the earth's hydrological cycles. They are particularly important in the regulation of surface and ground water flow. Changes in historic stream flow and the timing of flow, resulting in flooding and/or dewatered streams, can reflect on the health of aquatic ecosystems and the management and conservation of associated forest areas and downstream agriculture areas.
- d. Soil organic matter is important for water retention, carbon storage, and soil organisms and is an indication of soil nutrient status. Changes in soil organic matter can affect the vitality of forest ecosystems through diminished regeneration capacity of trees, lower growth rates, and changes in species composition. e. Nutrient and water availability to forest vegetation is dependent on the physical ability of roots to grow and access nutrients, water and oxygen from the soil. This in turn is dependent on soil texture and structure. Subsurface hydrology can also be affected by soil compaction resulting from extensive human activities. f. This is frequently a measure of benthos populations, e.g. organisms that live at the bottom of water bodies. Benthos fauna are

sensitive to a variety of possible changes in aquatic ecosystems such as silt, oxygen levels, and temperature. These changes may be the result of changes in upland forest areas. g. Monitoring water quality over large areas serves as an initial indication that activities inside or outside a forest area may be affecting ecosystem health. 3.5 –

Criterion 5: Maintenance of forest contribution to global carbon cycles

- a. The accumulation of biomass as living vegetation, debris, peat, and soil carbon (carbon pool) is an important forest function in regulating atmospheric carbon. The production rate of biomass is also a measure of forest health and vitality.
- b. The ecological and sustainable management of production forests and the long lasting use of forest products can be a factor in controlling the amount of carbon entering the world's atmosphere.

Annex 2: The Québec Declaration

Québec City, Canada
Monday, September 22, 2003

Québec City Declaration

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

Montréal Process

We, the Member countries of the Montréal Process Working Group, the Governments of Argentina, Australia, Canada, Chile, China, Japan, Mexico, New Zealand, the Republic of Korea, the Russian Federation, the United States of America, and Uruguay,

Reaffirming the important contribution of forests and their sustainable management to sustainable development;

Also reaffirming the important contribution of criteria and indicators to improving forest monitoring, assessment and reporting, as well as policies and practices to achieve sustainable forest management in member countries;

Recalling the Santiago Declaration of 3 February 1995, by which countries endorsed a comprehensive set of Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests;

Recognizing the widespread interest among countries in implementing criteria and indicators for sustainable forest management and the applicability of lessons learned in the Montréal Process to other criteria and indicators processes;

Encouraged by the contributions of member countries to the collaboratively produced Montréal Process *First Approximation Report* (1997), and *Progress and Innovation in Implementing Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests* (2000);

Also encouraged by the release by Member countries of their first Country Forest Reports using the Montréal Process set of 7 criteria and 67 indicators to convey to policy makers and the public the state of and trends in forests at the national level based on contemporary scientific understanding of forest ecosystems and their values to society, as well as the release of the collaborative Montréal Process *First Forest Overview Report: 2003*, which highlights the information and progress reflected in the country reports;

Pleased that despite the challenges of data collection and indicator measurement, member countries will continue to strive to improve their ability to monitor, assess and report on forests using the criteria and indicators in the next five years;

Also pleased that countries are increasingly using the criteria and indicators as a framework for strategic planning, forest inventory, stakeholder involvement and communicating progress

to policy makers, and as a model for monitoring, assessment and reporting on other natural resources, such as rangelands and freshwater;

Affirming the value of the Montréal Process Working Group as a forum for international collaboration, including catalyzing national efforts, promoting a shared view of sustainable forest management and how to measure it, and fostering bilateral and regional partnership and cooperation among Members to build capacity; and

Believing the seven criteria endorsed by the Montréal Process represent the essential components of sustainable forest management of all types of forests;

Decide to:

Reaffirm our commitment to implementing the Montréal Process Criteria and Indicators as an important means of national monitoring, assessing and reporting.

Continue our active engagement and collaboration in the Montréal Process Working Group.

Endorse the actions annexed hereto as the means to further increase Member country capacity to report on forests using criteria and indicators and better inform policy-makers and other stakeholders on national progress toward sustainable forest management.

Request the Government of Canada on our behalf to present this Declaration to the XII World Forestry Congress now convening in Québec City and the fourth session of the United Nations Forum on Forests in Geneva, May 2004.

Québec City, Canada
22 September 2003

ANNEX 2-A: Annex to the Québec City Declaration

Vision for the Montréal Process: 2003-2008

The focus of the Montréal Process Working Group and its Member countries over the next five years will be to further increase country capacity to report using criteria and indicators and to better inform policy makers on national progress toward sustainable forest management. The following actions will be pursued to this end:

1. Review, refine and share data *inventory protocols* to build capacity for reporting;
2. Develop *extension materials* on national and sub-national applications of criteria and indicators;
3. Enhance *technical collaboration* among member countries;
4. Review and as needed refine the Montréal Process *indicators*;
5. Make the achievements of the Montréal Process *more visible* and easily available at all levels;
6. Develop strategies to help countries *mobilize resources* to collect needed data;
7. Continue to urge broad participation of relevant *stakeholders* within countries;
8. Encourage universities and other *educational institutions* to incorporate the latest information on sustainable forest management and criteria and indicators;
9. Encourage national and international institutions to carry out *research* on indicators difficult to measure;
10. Increase communication, collaboration and cooperation with *other criteria and indicators processes*;
11. Use criteria and indicators as the basis for *national reporting* on sustainable forest management to international fora, including the United Nations Forum on Forests;
12. Seek international endorsement of a *global set of criteria* to provide a framework for existing regional and international criteria and indicator processes;
13. Promote application of forest criteria and indicators to *other sectors* and to international initiatives on indicators for sustainable development; and
14. Encourage other countries to *become members* of the Montréal Process Working Group.

Annex 3: The Yanji Declaration

Montréal Process Yanji Declaration – May 2017

The Montréal Process Working Group presents this statement to reaffirm our collective commitment to sustainable forest management, and to open and transparent monitoring and reporting through the Montréal Process framework of criteria and indicators for temperate and boreal forests.

The 12 member countries of the Montréal Process Working Group are: Argentina, Australia, Canada, Chile, China, Japan, The Republic of Korea, Mexico, New Zealand, Russian Federation, United States of America, and Uruguay.

Recalling the Santiago Declaration of February 3, 1995 and Québec City Declaration of September 22, 2003;

Reaffirming our intent to pursue the conservation and sustainable management of temperate and boreal forests;

Recognizing that forests are known for their important contributions in addressing global environmental challenges, such as climate change and biodiversity conservation;

Recognizing that the Montréal Process continues to have a positive impact on sustainable forest management policies and practices in our countries, and will continue to collectively enhance consistent and transparent monitoring and reporting of temperate and boreal forests;

Reaffirming the vital role and significant contribution of temperate and boreal forests in achieving sustainable development and environmental conservation;

Recognizing the voluntary nature of the Montréal Process and the positive engagement by member countries to advance cooperation;

Recognizing that the Montréal Process is enabled by a collaborative Working Group that advances sustainable forest management by sharing innovations in monitoring and reporting methods, processes, and technologies among member countries;

Valuing the successes of the Montréal Process, including the development of the Montréal Process criteria and indicators, which take into account the ecological, social, economic and institutional diversity within member countries;

Continuing to gain value from the Montréal Process as a long-standing iterative process that has consistently refined and improved its indicator framework and, for many countries, improved the availability and the quality of forest-related data;

Recognizing the importance of a collaborative approach to developing forest monitoring and reporting practices that enhance the efficiency of gathering data, improve the utility of reporting, and further develop the concept of sustainable forest management and national reporting capacities;

Recognizing that the Montréal Process framework of criteria and indicators is a tool for promoting, implementing and demonstrating sustainable forest management, is relevant to international efforts to streamline national reporting on forests such as the Collaborative Forest Resources Questionnaire, as well as global initiatives to assess the progress made toward international commitments such as the Sustainable Development Goals, the United Nations Strategic Plan for Forests 2017-2030, the Paris Agreement on Climate Change and the United Nations Forest Instrument;

Recognizing the benefits we derive from our participation in the Montréal Process,

We, the member countries affirm our commitment to the following guidelines for the actions we as a group will carry out in the future:

To make the utmost use of the Montréal Process criteria and indicators to provide a robust and flexible framework to inform policy and debate, and to address emerging issues that challenge our ability to manage our forests sustainably.

To pursue the continuous enhancement of the utility of criteria and indicators to support sustainable forest management policies and practices at local to global scales by promoting ways to improve capacity to monitor, assess and report environmental, economic and social values of forests and meet various international reporting requirements in an open and transparent way.

To actively engage in global initiatives related to forests, drawing on the experience member countries have gained through their on-going participation in national reporting efforts and sharing best practices, analytical methods and new technologies, using Montréal Process criteria and indicators¹, to increase the consistency of authoritative information about forests, help focus efforts toward the ultimate goal of sustainable forest management, streamline reporting, and strengthen collaboration among experts and organizations to these ends; and

To actively and positively communicate and collaborate with other regional and multilateral forest and non-forest organizations to enhance the understanding and uptake of sustainable forest management policies, practices and reporting processes.

¹
<https://www.montrealprocess.org/documents/publications/techreports/MontrealProcessSeptember2015.pdf>

We, the member countries of the Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (Montréal Process), request the Government of China present this Declaration on our behalf to the twelfth session of the United Nations Forum on Forests in New York, May 2017.

The Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (Montréal Process) UNFF-12 (New York, USA, May 2017).

Annex 4: The Strategic Directions of the Montréal Process

Source: Montréal Process Working Group 25 – 2015

Note: This is for consideration under a separate agenda item at MPWG26 and revised text is contained in the separate agenda paper

SD 1: Enhance the relevance and use of the Montréal Process Criteria and Indicators for policy makers, practitioners and other users, by:

- a) Promoting, and sharing experiences on, the broader application of the Montréal Process criteria and indicators to forest-related policy, legislation, planning, science and education, as well as to other related sectors, at national and sub-national levels with a view to promoting sustainable forest management
- b) Pursuing and sharing national efforts to synthesize criteria and indicators information to assess progress toward sustainable forest management and identify relationships between indicator trends and changes in policies, market signals and other driving forces
- c) Reviewing and improving, as necessary, the Montréal Process criteria and indicators to reflect changing conditions and lessons learned; and
- d) Identifying knowledge and information gaps, and research priorities, to improve the utility of indicators and encouraging national and international research institutions to address these priorities.

SD 2: Strengthen member country capacity to monitor, assess and report on forest trends and progress toward sustainable forest management using the Montréal Process Criteria and Indicators, by:

- a) Strengthening cooperation and collaboration among Montréal Process member countries to improve the quality and use of information
- b) Broadening participation of stakeholders in sustainable forest management with a view to strengthening political commitment and country capacity to implement criteria and indicators; and
- c) Working collectively, as a group, to adapt to change and to enhance, as appropriate, the criteria and indicators to the current situation of the forests and the demands of society.

SD 3: Enhance collaboration and cooperation with forest-related regional and international organizations, instruments, and other criteria and indicators processes, by:

- a) Pursuing opportunities to share knowledge and experience and illustrate applications for criteria and indicators by collaborating with other criteria and indicators processes and international forest-related bodies, such as by reporting on the progress of the Montréal Process at

United Nations Forum on Forests fora;

- b) Collaborating to help member countries mobilize international resources to strengthen their participation in the Montréal Process and promote the application of criteria and indicators for national monitoring, assessment and reporting on forests and progress towards sustainable forest management; and,
- c) Promoting criteria and indicators as the basis for national reporting on forests to international forest-related organizations.

SD 4: Enhance communication on the value of criteria and indicators and the accomplishments of the Montréal Process, by:

- a) Making achievements of the Montréal Process and of its member countries more visible and easily available at all levels; and,
- b) Enhancing mechanisms for the dissemination to member countries of current information on criteria and indicators developments, including activities in member countries, other criteria and indicators processes and regional and international organizations.

SD 5: Enhance the effectiveness and efficiency of the Montréal Process Working Group and its Technical Advisory Committee and its Liaison Office, by:

- a) Strengthening Montréal Process operations, including the planning and management of meetings and other activities, and enhancing the predictability of financial and other resources to support these activities; and,
- b) Reviewing and updating, as needed, the roles and responsibilities of Working Group, Technical Advisory Committee, and Liaison Office.

Annex 5: The Montréal Process Value Proposition

Source: Montréal Process Working Group 25 – 2015

1. The Montréal Process brings together countries with diverse social, economic and political situations in a voluntary forum to share ideas, address common problems, and foster collaboration toward a shared goal of sustainably managing temperate and boreal forests. The Montréal Process provides countries with an internationally-agreed framework to monitor, assess and report to their citizens using credible and relevant information that demonstrates the sustainable management of their forests.
2. Compared with many other international forest-related initiatives, the Montréal Process is less formal, lower-cost and offers countries more flexibility in how they participate and report. It meets about once per year and relies on a liaison office and a technical advisory committee for coordination and advice. Members track the state and change in their forests using the framework to meet their domestic reporting requirements and international commitments.
3. The Montréal Process helps to foster international consensus on reporting requirements for sustainable forest management. Through the Montréal Process, countries can engage with other Criteria and Indicators processes and forest-related international organizations to streamline reporting and improve the consistency of global forest information. The result is that national data on forests are more useful for multiple reporting requirements, more accessible to a larger audience, and more robust for improving management practices and addressing emerging policy issues.
4. The common language and comparable data to describe progress toward sustainable forest management also helps countries engage in international discussions on emerging issues.
5. The Montréal Process is a tangible demonstration of the success of a voluntary partnership of 12 countries that for over 20 years has been monitoring, assessing and reporting on trends in forest conditions with advice and information.

Annex 6: Terms of Reference of the Montréal Process Working Group

Source: Montréal Process Working Group 27 – 2017;

Purpose of the Terms of Reference of the Montréal Process Working Group

The Terms of Reference guides the planning, operation and reporting process of the Montréal Process Working Group, the preparation and conduct of its meetings, and its interaction with the Technical Advisory Committee and Liaison Office, and changes to the membership of the Working Group

It is intended that the Terms of Reference should:

- reflect the founding principle of the Montréal Process Working Group that it is a voluntary and inclusive membership organization;
- reflect that the Working Group has adopted a consensus approach towards agreement on, and enhancement of, criteria and indicators for sustainable forest management;
- reflect the guiding principles of the Working Group; transparency and flexibility;
- be consistent with the Terms of Reference applying to the Liaison Office and Technical Advisory Committee;
- ensure that new member-country representatives can quickly familiarise themselves with how the Montréal Process Working Group operates and the relationships between the Montréal Process bodies, and
- not add administrative burden to the work of Montréal Process participants.

Purpose of Montréal Process Working Group

The purpose of the Montréal Process Working Group is to:

- advance the development and implementation of internationally agreed criteria and indicators for the conservation and sustainable management of temperate and boreal forests;
- foster 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 Montréal Process Working Group Criteria and Indicators Framework; and
- work with other criteria and indicator processes and global forestry forums to advance criteria and indicators for the conservation and sustainable management of temperate and boreal forests.

Role of the Montréal Process Working Group

The Montréal Process Working Group is responsible for:

- Considering approaches for membership of the Montréal Process Working Group from prospective member countries.
- Directing the work of, and considering the recommendations of, the Technical Advisory Committee.
- Establishing, as needed, sub-groups of the Montréal Process Working Group to undertake Montréal Process Working Group assigned tasks during Montréal Process Working Group inter-sessional periods.
- Liaising with other regional criteria and indicators processes, international forestry forums and participating at major international forestry events; and
- Promoting the Montréal Process Working Group's views through the Montréal Process website and other media managed by the Liaison Office.

Additionally, Member States are responsible for undertaking national reporting at five-year intervals and communicating with their public about forest issues in their country.

Membership

Joining the Montréal Process Working Group

- The process for joining the Montreal Process is a diplomatic one. An interested country should, by diplomatic channels, inform the government of the current Montreal Process Chair that its government endorses the current Montreal Process Declaration. The Montreal Process Chair will then inform the Liaison Office, which will inform the other Montréal Process countries.
- When joining, members agree to contribute to furthering the work of the Working Group and the country's representative will have the authority of the agency that is responsible for forests within their country to represent their country and report on behalf of their country.
- Prior to joining the Montréal Process as a member country, one or two representatives from countries interested in joining the Montreal Process may attend Working Group meetings as invited observers.

Observing Montréal Process Working Group Meetings

- The Chair, with the agreement of the Montréal Process Working Group, can invite the attendance of observers. Agreement to issue invitations can be reached during the agenda consultation or during the meeting.
- Invited observers may participate fully in the Working Group meeting, except on those items agenda items where a decision is to be taken. For such items observers may contribute to the discussion but not take part in the decision.
- Countries or other organisations interested in attending as observers should contact the Liaison Office, who will put them in touch with the host country of the next Working Group meeting so a formal invitation can be issued.

Meeting procedure

- The Montréal Process Working Group shall meet annually or as agreed to by members.
- The Montréal Process Working Group is informal and mutually-supportive in nature. It makes decisions by consensus.
- The host country for succeeding meetings shall be determined by considering offers to host and reaching agreement at each preceding meeting.
- The host country is tasked with determining the dates and venue of the meeting, as well as providing notification of the meeting to members three months in advance. The host country is to work with the Liaison Office (in accordance with the Liaison Office Terms of Reference) in achieving this.
- The draft agenda for Montréal Process Working Group meetings shall be developed by the Liaison Office in consultation with members, then finalised by the host country and sent to members through the Liaison Office.
- Draft agendas should be based on:
 - actions items agreed at previous Montréal Process Working Group meetings;
 - tasks assigned to the Technical Advisory Committee for investigation and reporting-back;
 - reporting by member countries;
 - presentations and external speakers; and
 - other matters for reporting or discussion as periodically determined.
- All documentation to be reviewed and discussed at a Montreal Process Working Group meeting will be distributed to members at least 20 calendar days prior to the meeting. This includes all documents prepared by the Technical Advisory Committee, Liaison Office, meeting host and individual member countries.
- Non-attending members can provide comments to the Liaison Office to coordinate the transmission of the information at the meeting.
- Ad hoc meetings of the Montreal Process Working Group can be opportunistic when members are in the same location and can be proposed by any members through the Liaison Office. Official decisions will not be taken at ad-hoc meetings.

Chairing of Montréal Process Working Group meetings

- The Chair of each meeting:
 - shall be selected by the Montréal Process Working Group member hosting the meeting;
 - shall ensure that the meeting is conducted with full and fair contribution by members, with the resolution of issues through consensus;

- may, during the meeting, delegate items for further discussion, consideration or deliberation to sub-groups of the Montréal Process Working Group, including as agreed any individual member country or body, and

Reporting and records

- Proceedings of meetings shall be recorded and presented in summary form as an aide-memoire.
- Paper presenters will provide to the Liaison Office a 100 to 150 word summary of their paper for inclusion in the aide-memoire.
- The aide-memoire shall be finalised before the meeting conclusion.
- The record of Montréal Process Working Group meetings and other reporting and information relevant to the conduct of the Montréal Process Working Group shall be uploaded, and updated as necessary, on the Montréal Process website by the Liaison Office as soon as possible after each meeting.

Budgets and financing

The operations of the Montréal Process Working Group shall be conducted through:

- each individual country funding its participation at meetings;
- financial contributions and support among members, as needed, to ensure an equitable opportunity for members to participate at such meetings; and
- budgeted funds from member countries identified by the Montréal Process Working Group as required to assist in sustaining the business of the Liaison Office and Technical Advisory Committee.

Member countries are encouraged to provide translations of documents into their native languages as needed.

Montréal Process Bodies

The Montréal Process Working Group has established, and agreed upon, separate Terms of Reference for:

- the Montréal Process Liaison Office,
- the Montréal Process Technical Advisory Committee, and
- the Technical Advisory Committee Convenor.

Each of these offices operates in accordance with these Terms of Reference under direction, as required, from the Montréal Process Working Group.

Annex 7: Terms of Reference for the Liaison Office for the Montréal Process

Source: Montréal Process Working Group 21 – 2010 update 2015

Functions of the Liaison Office

The Liaison Office supports the work of the Montréal Process Working Group and facilitates communication among members.

Specific functions are to:

- report to, and take direction from, the Montréal Process Working Group;
- co-ordinate member country involvement in all Montréal Process activities;
- help host countries convene Montréal Process Working Group meetings, including developing and circulating draft agendas for comment, meeting announcements and background documents;
- help the Convenor of the Technical Advisory Committee to organize Technical Advisory Committee meetings and related workshops on specific issues, as requested;
- arrange for the translation, printing and dissemination of Montréal Process documents and publications;
- keep members informed on international developments relevant to criteria and indicators and sustainable forest management, including regional and international meetings, and maintain close contact Technical Advisory Committee with other criteria and indicators processes, including the Ministerial Conference on the Protection of Forests in Europe, International Tropical Timber Organisation and Food and Agricultural Organisation on the United Nations;
- coordinate actions as needed to develop formal statements, presentations and side events on behalf of the Montréal Process during relevant international meetings;
- record the financial contribution for the meetings and other activities by the members, except the host country, to cover such costs;
- maintain and update the Montréal Process web page and other written and e-mail communication mechanisms, and
- operate independently of the host country's views as a member of the Montréal Process Working Group.

Location

The Liaison Office host country shall, in accordance with its own requirements, determine the location of the Liaison Office within that country, and also determine the internal administrative and operational arrangements for the Liaison Office.

Support for the Liaison Office by its host country

The Liaison Office host government agrees to provide the partial services of one officer's time and to cover, to the extent possible within budget limitations, the costs associated with

coordination and the translation, printing and dissemination of official Montréal Process documents and publications.

Contributions by Other Members in support of the Liaison Office

Liaison Office shall receive base-line funding from its host country, supplemented as required, by financial and in-kind support from the other member countries to help cover the costs borne by the Liaison Office in supporting the work of the Montréal Process Working Group.

To determine the level of supplementary support required, the host country will pre-circulate, for the Montréal Process Working Group meetings, relevant information on supplementary budgeting for the Liaison Office.

Annex 8: Terms of Reference for the Technical Advisory Committee of the Montréal Process

Source: Montréal Process Working Group 21 – 2010

Background

At the eighth meeting of the Montréal Process, an ad hoc and informal Technical Advisory Committee (hereinafter referred to as “the Technical Advisory Committee”) was created. The Technical Advisory Committee was designed to be task-oriented and worked to reach agreement on definitions of terms and approaches to data collection. At the ninth meeting of the Montréal Process, held in July 1997 in Seoul, Republic of Korea, it was decided that the Technical Advisory Committee should be maintained in an on-going role in support of the Montréal Process.

Role of the Technical Advisory Committee

The Technical Advisory Committee activities are directed by, and reported back to, the Montréal Process Working Group through the Technical Advisory Committee Convenor.

The Technical Advisory Committee provides recommendations and advice to the Montréal Process Working Group on scientific and technical issues related to the measurement, monitoring, and reporting on sustainable forest management under the criteria and indicators framework.

The Technical Advisory Committee is task-oriented, informal and technical in nature and works between Montréal Process Working Group meetings to address both Montréal Process Working Group-assigned tasks and technical issues of common interest to the Montréal Process Working Group.

The recommendations and advice provided to the Montréal Process Working Group by the Technical Advisory Committee shall cover;

- definition of terms and rationales for indicators
- addressing data collection, measurement and technical reporting issues
- addressing technical implementation issues relating to criteria and indicators
- acting in a technical liaison function with other criteria and indicators processes, with the Interagency Task Force on Forests and with other relevant organizations or processes as necessary
- assisting the Liaison Office in maintaining the integrity over time of the published reference material relating to the Montréal Process; and
- providing technical support in capacity building in member countries as needed.

Membership of the Technical Advisory Committee and Participation at Technical Advisory Committee Meetings

The membership of the Technical Advisory Committee will include one representative from each member country.

Depending on the issue, the Technical Advisory Committee Convenor may invite representatives from other organisations, such as the International Union of Forest Research Organizations, non-government organisations and science organisations, to participate in meetings.

Meeting Frequency, Time-lines and Assignments

The Technical Advisory Committee meets at the request of the Montréal Process Working Group to work on tasks documented in the Aide-Memoire and the Montréal Process Working Group Strategic Plan and Implementation Schedule.

The time-lines and deadlines for specific assignments are documented in the Aide-Memoire and Montréal Process Working Group Strategic Plan and Implementation Schedule

Funding

Participants and member countries will bear the participation and organizational costs associated with Technical Advisory Committee meetings.

Any additional support required for the Technical Advisory Committee to meet its assigned tasks will be addressed by the Montréal Process Working Group during discussion of the Technical Advisory Committee implementation plan presented by the Technical Advisory Committee Convenor, in accordance with the Technical Advisory Committee Convenor Terms of Reference.

Working Methods

To the extent possible, the Technical Advisory Committee will use electronic means of communication and minimize the need for meetings.

Reporting

Reports of the Technical Advisory Committee will be distributed to member countries and other interested parties for comment through the Liaison Office and will be submitted to the Montréal Process Working Group for review and approval.

Annex 9: Terms of Reference for the Convenor of the Technical Advisory Committee

Source: Montréal Process Working Group 21 – 2010

Role of the Convenor

The Technical Advisory Committee Convenor role is critical to the success of the Montréal Process work, leading the Technical Advisory Committee in fulfilling the tasks assigned by the Montréal Process Working Group and ensuring timely reporting and coordination by the Technical Advisory Committee with the Liaison Office and member countries.

The Technical Advisory Committee Convenor shall perform the following roles:

- convene meetings of the Technical Advisory Committee as directed by the Working Group, or as required to meet the goals set by the Working Group;
- develop Technical Advisory Committee meeting agendas;
- request Technical Advisory Committee members as required to undertake tasks ;
- prepare and propose a draft annual budget for the Convenor's activities for circulation prior to, and consideration at, the Montréal Process Working Group meeting. The budget will be based on the activities set out in the implementation plan annex covering the assigned tasks for the forward year;
- report the Technical Advisory Committee's recommendations and other technical advice back to the Working Group via the Montréal Process Liaison Office;
- ensure that the technical direction of the Technical Advisory Committee work remains in accordance with the Technical Advisory Committee Terms of Reference, and
- liaise as necessary with other Criteria and Indicator processes, research and other organisations as necessary to achieve the work of the Technical Advisory Committee.

Tenure

- The Convenor shall be appointed by the Working Group for a period of three years.
- At the time of re-appointment member countries will have the opportunity to propose candidates, including the current Convenor, to the position.
- Nominations to the position should be submitted to the Liaison Office prior to the Working Group meeting at which a further three-year appointment of a Convenor is to be considered.
- Appointment of the Technical Advisory Committee Convenor by the meeting of the Montréal Process Working Group will follow consideration of country nominations, prior to the meeting, and the selection of a candidate through a process of consensus.
- If for any reason the Convenor position becomes vacant before completion of the term of appointment, nominations for a new Convenor will be sought for consideration at the next available Working Group meeting.

Funding of the Convenor Activities

- The funding of the Convenor activities will be supported by baseline funding, for the three year period, from the Convenor's member country, supplemented by supporting funds, as required, by other members to meet the full cost of the Convenor.
- When a new appointment of the Convenor is to be considered, an annual budget should be pre-circulated by the nominee's country indicating the level of baseline funding.

Annex 10: Terms of Reference for the Montreal Process website

INTRODUCTION

1. The Montréal Process utilizes a public facing website, www.montrealprocess.org , to communicate with stakeholders and the wider community. This website includes the Montréal Process Criteria and Indicators, key declarations and strategic documents.

PURPOSE

2. The Terms of Reference for the Montréal Process Website, has been designed to provide member countries with a singular document that defines the purpose, structure, protocols and procedures for operation and use of the Montréal Process webpage.
 - a. For the purposes of these Terms of Reference, the Montréal Process website refers to the following URL and all subpages beneath it:
<http://www.montrealprocess.org>
 - b. A current site map for this webpage can be found at Annex A.

OWNERSHIP

3. Whilst the overarching ‘ownership’ of the Montréal Process websites rests with the member countries, the day to day operational management of the website will rest with the Website Manager [position], [home country].

OVERARCHING GUIDANCE

4. In order to ensure maximum utility of the website that the Montréal Process website can effectively engage with all stakeholder groups, content should be:
 - a. conversational in tone, clear, accurate, relevant and consistent in style and structure
 - b. developed to meet the needs of our stakeholders and
 - c. planned to fit meaningfully into the broader structure of the website
 - d. regularly reviewed, updated or archived.
 - e. a relatively light administrative burden and commitment on the member countries.

WEBSITE UPDATES OR THE ADDITION OF MATERIAL

5. New or updated web content must be provided to the Website Manager in suitable format.
 - a. Web content should be structured to suit an online audience, be concise and written in plain English.
 - b. Once received, content should be reviewed by the Website Manager and circulated to member countries for approval within 1 month from the receipt of the original request.
 - c. Where possible, members will be encouraged to provide material in both English and other Montreal Process member languages.
 - d. If material is only available in a language other than English, it is requested that members provide a short summary of the document in English (Question to MPWG – is this appropriate) to be posted alongside their document.
6. The Website Manager will ensure that superseded content is archived for future reference and referral.
7. The Website Manager will endeavor, where appropriate, to publish material on the website in both word format and in PDF format.

Issues not covered under these terms of reference

8. Recognizing that these Terms of Reference may not cover all issues pertaining to the website, member countries may seek to add further guidance subject to the formal endorsement of all member countries.

ANNEXES

Annex A: Montréal Process Website Site Plan – current as at October 2017

Annex A: Montréal Process Website Site Plan

The Montréal Process

- 1. About Us**
 - a. History
- 2. Member Countries**
- 3. Working Group**
 - a. Rules of Procedure
 - b. Meetings
 - c. Members
- 4. Technical Advisory Committee**
 - a. Terms of Reference
 - b. Meetings
 - c. Members
- 5. Montréal Process Contacts**
- 6. Colleagues**

Addressing Global Forest Challenges

- 7. Network of Knowledge**
- 8. Climate Change**
- 9. Biodiversity**
- 10. Bioenergy**
- 11. Water**

Resources

- 12. Criteria and Indicators**
- 13. Meeting Reports**
- 14. Official Statements**
- 15. Publications & Media**
- 16. Other Resources**

*Current as at 04/10/2017