MINISTERIAL CONFERENCE ON THE
PROTECTION OF FORESTS IN EUROPE

LIAISON UNIT VIENNA

Improved Pan-European Indicators for Sustainable Forest Management

as adopted by the MCPFE Expert Level Meeting
7-8 October 2002, Vienna, Austria

Introduction

Since the first set of Pan-European Indicators for Sustainable Forest Management (SFM) had been developed in the early 90s, experience has shown that criteria and indicators are a very important tool for European forest policy. In the meantime knowledge and data collection systems as well as information needs have gradually developed further. Thus, initiated through the Lisbon Conference in 1998, the Ministerial Conference on the Protection of Forests in Europe (MCPFE) decided to improve the existing set of Pan-European Indicators for Sustainable Forest Management.

This document contains the improved set of quantitative and qualitative Pan-European Indicators for Sustainable Forest Management.

An Advisory Group[1], representing relevant organisations in Europe, was formed to ensure that best use is made of the existing knowledge on indicators and data collection aspects in Europe and to assist the MCPFE during the improvement process. The Advisory Group consulted with a wide range of experts through a series of four workshops. These workshops ensured that the diversity of national situations and experiences as well as the work undertaken by various bodies in Europe were adequately reflected. The first MCPFE Workshop on the Improvement of Pan-European Indicators for SFM was held in March 2001 in Triesenberg, Liechtenstein. The second workshop took place in September 2001 in Copenhagen, Denmark, the third one in January 2002 in Budapest, Hungary. The fourth and final workshop was convened in May 2002 in Camigliatello Silano, Italy.

The indicators under all criteria, as presented in this document, are results of these four workshops and the work of the Advisory Group. The improved Pan-European Indicators for Sustainable Forest Management have been adopted at expert level at the MCPFE Expert Level Meeting on 7-8 October 2002 in Vienna, Austria.[2]

More detailed information on rationales, international data providers, measurement units, current periodicity of data availability as well as underlying definitions is given in the supplementary documents "Background Information for Improved Pan-European Indicators for Sustainable Forest Management" and "Relevant Definitions Used for the Improved Pan-European Indicators for Sustainable Forest Management".[3]

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[1]   Members of the Advisory Group were: Mr. Michael Köhl (IUFRO/UNECE Team of Specialists TBFRA 2000), Mr. Thomas Haußmann (ICP Forests), Mr. Tor-Björn Larsson (European Environment Agency), Mr. Risto Päivinen (European Forest Institute), Mr. Derek Peare (IWGFS/Eurostat) and Mr. Christopher Prins (UNECE/FAO).

[2]   In the Vienna Living Forest Summit Declaration, signed at the Fourth Ministerial Conference on the Protection of Forests in Europe (28-30 April 2003, Vienna, Austria), the Signatory States and the European Community committed themselves to endorse the use of the "Improved Pan-European Indicators for Sustainable Forest Management as adopted by the MCPFE Expert level Meeting, 7-8 October 2002, Vienna, Austria".

[3]   Downloadable at www.mcpfe.org

1 Quantitative Indicators

Criterion 1:
Maintenance and Appropriate Enhancement of Forest Resources and their Contribution to Global Carbon Cycles

1.1 Forest area
Area of forest and other wooded land, classified by forest type and by availability for wood supply, and share of forest and other wooded land in total land area

1.2 Growing stock
Growing stock on forest and other wooded land, classified by forest type and by availability for wood supply

1.3 Age structure and/or diameter distribution
Age structure and/or diameter distribution of forest and other wooded land, classified by forest type and by availability for wood supply

1.4 Carbon stock
Carbon stock of woody biomass and of soils on forest and other wooded land

Criterion 2:
Maintenance of Forest Ecosystem Health and Vitality

2.1 Deposition of air pollutants
Deposition of air pollutants on forest and other wooded land, classified by N, S and base cations

2.2 Soil condition
Chemical soil properties (pH, CEC, C/N, organic C, base saturation) on forest and other wooded land related to soil acidity and eutrophication, classified by main soil types

2.3 Defoliation
Defoliation of one or more main tree species on forest and other wooded land in each of the defoliation classes "moderate", "severe" and "dead"

2.4 Forest damage
Forest and other wooded land with damage, classified by primary damaging agent (abiotic, biotic and human induced) and by forest type

Criterion 3:
Maintenance and Encouragement of Productive Functions of Forests (Wood and Non-Wood)

3.1 Increment and fellings
Balance between net annual increment and annual fellings of wood on forest available for wood supply

3.2 Roundwood
Value and quantity of marketed roundwood

3.3 Non-wood goods
Value and quantity of marketed non-wood goods from forest and other wooded land

3.4 Services
Value of marketed services on forest and other wooded land

3.5 Forests under management plans
Proportion of forest and other wooded land under a management plan or equivalent

Criterion 4:
Maintenance, Conservation and Appropriate Enhancement of Biological Diversity in Forest Ecosystems

4.1 Tree species composition
Area of forest and other wooded land, classified by number of tree species occurring and by forest type

4.2 Regeneration
Area of regeneration within even-aged stands and uneven-aged stands, classified by regeneration type

4.3 Naturalness
Area of forest and other wooded land, classified by "undisturbed by man", by "semi-natural" or by "plantations", each by forest type

4.4 Introduced tree species
Area of forest and other wooded land dominated by introduced tree species

4.5 Deadwood
Volume of standing deadwood and of lying dead-wood on forest and other wooded land classified by forest type

4.6 Genetic resources
Area managed for conservation and utilisation of forest tree genetic resources (in situ and ex situ gene conservation) and area managed for seed production

4.7 Landscape pattern
Landscape-level spatial pattern of forest cover

4.8 Threatened forest species
Number of threatened forest species, classified according to IUCN Red List categories in relation to total number of forest species

4.9 Protected forests
Area of forest and other wooded land protected to conserve biodiversity, landscapes and specific natural elements, according to MCPFE Assessment Guidelines

Criterion 5:
Maintenance and Appropriate Enhancement of Protective Functions in Forest Management (notably Soil and Water)

5.1 Protective forests – soil, water and other ecosystem functions
Area of forest and other wooded land designated to prevent soil erosion, to preserve water resources, or to maintain other forest ecosystem functions, part of MCPFE Class "Protective Functions"

5.2 Protective forests – infrastructure and managed natural resources
Area of forest and other wooded land designated to protect infrastructure and managed natural resources against natural hazards, part of MCPFE Class "Protective Functions"

Criterion 6:
Maintenance of Other Socio-Economic Functions and Conditions

6.1 Forest holdings
Number of forest holdings, classified by ownership categories and size classes

6.2 Contribution of forest sector to GDP
Contribution of forestry and manufacturing of wood and paper products to gross domestic product

6.3 Net revenue
Net revenue of forest enterprises

6.4 Expenditures for services
Total expenditures for long-term sustainable services from forests

6.5 Forest sector workforce
Number of persons employed and labour input in the forest sector, classified by gender and age group, education and job characteristics

6.6 Occupational safety and health
Frequency of occupational accidents and occupational diseases in forestry

6.7 Wood consumption
Consumption per head of wood and products derived from wood

6.8 Trade in wood
Imports and exports of wood and products derived from wood

6.9 Energy from wood resources
Share of wood energy in total energy consumption, classified by origin of wood

6.10 Accessibility for recreation
Area of forest and other wooded land where public has a right of access for recreational purposes and indication of intensity of use

6.11 Cultural and spiritual values
Number of sites within forest and other wooded land designated as having cultural or spiritual values

$\sum$ = 35 quantitative indicators

2 Qualitative Indicators

A. Overall policies, institutions and instruments for sustainable forest management

A.1 National forest programmes or similar
A.2 Institutional frameworks
A.3 Legal/regulatory frameworks and international commitments
A.4 Financial instruments/economic policy
A.5 Informational means

B. Policies, institutions and instruments by policy area

| Ind. No.	Crit.	Policy area	Main objectives	Relevant institutions	Main policy instruments used			Significant changes since last Ministerial Conference
					Legal/ regulatory	Financial/ economic	Informa- tional	
B.1	C1	Land use and forest area and OWL[1]						
B.2	C1	Carbon balance						
B.3	C2	Health and vitality						
B.4	C3	Production and use of wood						
B.5	C3	Production and use of non-wood goods and services, provision of especially recreation						
B.6	C4	Biodiversity						
B.7	C5	Protective forests and OWL						
B.8	C6	Economic viability						
B.9	C6	Employment (incl. safety and health)						
B.10	C6	Public awareness and participation						
B.11	C6	Research, training and education						
B.12	C6	Cultural and spiritual values						

[1] OWL = other wooded land
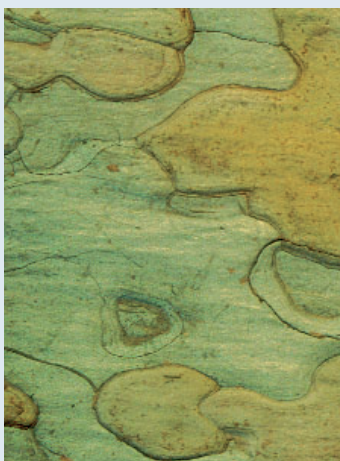
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