

COST Action E27

Protected Forest Areas in Europe - Analysis and Harmonisation (PROFOR)

Results, Conclusions and Recommendations

The Need for Harmonised Information on Protected Forest Areas

JARI PARVIAINEN¹, GEORG FRANK², KRIS VANDEKERKHOVE³,
WINFRIED BÜCKING⁴, DECLAN LITTLE⁵

¹*Finnish Forest Research Institute (Metla), Joensuu Research Centre, Joensuu, Finland*

²*Federal Research and Training Centre for Forests, Natural Hazards and Landscape, Vienna, Austria*

³*Institute for Forestry and Game Management, Geraardsbergen, Belgium*

⁴*Forest Research Institute of Baden Württemberg, Freiburg, Germany*

⁵*The Tree Council of Ireland, Woodlands of Ireland, Dublin, Ireland*

1. Decision-making requires reliable information

Decision-making on forest policy and management requires reliable, updated and comparable information. Countries are asked to provide information or data on forests to numerous international conventions, instruments and bodies. The implementation

of convention action plans and the progress towards sustainable forest management include monitoring, assessment and reporting of forest-related data.

Monitoring is understood to mean periodic quantitative or qualitative measurement or observation of a specific parameter. **Assessment** means the analysis and synthesis of the monitoring data and observa-



Caption: boreal pine forest in Oulanka National Park, Finland (photo : Kris Vandekerkhove)

tion, and **reporting** means the dissemination of the results of assessment. For informed decision-making harmonised definitions, terms, content and scope of forest characteristics are also required.

Monitoring, assessment and reporting are initially undertaken by countries, based on national data sets, and are subsequently compiled by various bodies for international use.

Criteria and indicators of Sustainable Forest Management (SFM) have been developed as tools for monitoring, assessment and reporting. At a global level, there are nine regional/geographical area initiatives and processes that use criteria and indicators: namely MCPFE (Pan-European Process), Montreal Process, ITTO, Tarapoto Proposal, African Timber Organization, African Dry-Zone Process, Near East Process, Dry Forest Asia Initiative and Lepaterique Process. In total, some 150 countries are involved in these initiatives.

In Europe, the first set of Pan-European Indicators for SFM was developed in the early 1990s within the Helsinki-process (1993-1995). These indicators have been revised and adapted for use and were endorsed at the fourth Ministerial Conference in Vienna in 2003 (MCPFE, 2002, 2003, Rametsteiner & Mayer, 2004).

One of the 9 indicators for the criterion C4: 'Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems' is indicator 4.9: 'Protected forest'. Its interpretation means that countries are required to monitor, assess and report the area of Protected Forest (PFA – Protected Forest Area) that is present in the country, both in absolute (ha) and relative (% of forest cover) figures.

2. Users of information on protected forests

In Europe, the Ministerial Conference on the Protection of Forests (MCPFE) is the highest level process for forest policy dialogue and co-operation, including forest biodiversity issues. MCPFE collaborates closely with the Ministerial process "Environment for Europe" and in "the Pan European Biological and Landscape Diversity Strategy (PEBLDS)" (endorsed at the Sofia meeting in 1995).

Within the Ministerial process, agreements are made and commitments undertaken, through resolutions at the Ministerial conferences.

At the Third Ministerial Conference on the Protection of Forests in Europe in Lisbon, the resolution L2 was adopted by the signatory countries, committing themselves to:

1. 'adopt the six criteria for sustainable forest management from the "Pan-European Criteria and Indicators for Sustainable Forest Management" and endorse the associated indicators as a basis for international reporting and for the development of national indicators;
2. Proceed to implement, continuously review and further improve the associated indicators; (...)

and commit themselves to:

1. Promote the development and implementation of national criteria and indicators using the Pan-European criteria and indicators as a reference framework, and taking into account specific country conditions and integrate them into national forest programmes or other relevant policy frameworks.
2. Improve the quality and promote the necessary adaptations of national data collection systems, to fulfil the needs of information for national and international reporting on sustainable forest management recognising the need for continuity of terms and definitions.'

After the Lisbon Conference the criteria and indicators were updated and revised to make them suitable for reporting purposes. The revised indicator set adopted at the Vienna Conference 2003 includes the indicator 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' (MCPFE, 2003). By adopting resolution 4, the signatory countries committed themselves to 'apply the MCPFE Assessment Guidelines for Protected and Protective Forests and Other Wooded Land and further develop them, when appropriate'. This commitment makes the reporting on PFAs obligatory, using the MCPFE assessment guidelines. The formulation 'develop them, when appropriate' however indicates that the Assessment Guidelines can be further elaborated and are not necessarily to be considered as 'set in stone'. The reporting procedure is primarily aimed to produce statistics and basic information for setting goal and informing discussions at forest and environmental policy level. In addition to MCPFE, also other processes, institutions etc. require reliable data on PFAs.

In the context of the Biodiversity Conservation Strategy 2010 and its Biodiversity Action Plan on Natural Resources, biodiversity indicators have also been developed to evaluate progress. One of these

indicators is the surface of protected areas. Reporting of these politically adopted indicators is obligatory for Member countries.

Some of the other international processes and end users of data on protected forests are UNFF¹ (as a global forest policy forum), CBD², CSD³, OECD⁴, UNEP⁵, UNFCCC⁶ and the World Bank. The principal end user institutions of the information and data on PFAs in Europe are the EU Commission, EEA⁷ and UNECE Timber Committee.

3. Bodies collecting information

The main international organizations that collect data for forest-related indicators, including PFAs are the FAO, UNECE/FAO, IUFRO and its Task Force on a Global Forest Information System (GFIS) and ITTO⁸ through periodic forest resource assessments (FRA). Likewise, UNEP-WCMC and other environmental international organizations (IUCN⁹, IUCN's WCPA¹⁰, WRI¹¹, WWF¹²) collect forest-related information on forest biodiversity. In Europe, the EEA and its Topic Centres, Eurostat, EFICS¹³, JRC¹⁴ and EFI¹⁵ are bodies that collect data on protected forests. For the MCPFE process the main information source is the TBFRA¹⁶ as an activity under the UNECE Timber Committee.

4. European list of protected areas

In 1995, the European Environmental Agency (EEA) (with the help of its Topic Centre (ETC/NC) in Paris), the Council of Europe and the WCMC began co-ordinating their activities with respect to compiling a data base on designated areas. This project is called the "Common Database on Designated Areas" (CDDA), and includes information from national, EU and international designated areas. The aim is to produce a complete database on all protection categories and protected sites in Europe. Data-input is

generally co-ordinated by the relevant national authority, usually the Environment Department or Ministry.

This CDDA list is an important database as it collates all designation types with national titles, numbers and area. It contains information on over 50 000 designated areas from 48 countries, covering more than 800 various national designation types. (It is estimated that the total number if of all designated areas in Europe amounts to approximately 65 000 to 70 000 sites). However, CDDA does not make any analysis on the harmonisation of national designations. Comparison of protected forests in different countries is extremely difficult because of the numerous categories and definitions. The data collected also indicate important 'gaps and anomalies', mainly on protection categories initiated by authorities other than Nature Conservation, e.g. Forest Authorities. Harmonisation between Forestry and Nature Conservation administrations is often required.

5. Natura 2000 network

The Natura 2000 Network is a European initiative designed to ensure the preservation of biodiversity within the European Union. A network of sites is being formed in the Member States under the EU Habitats and Bird Directives (Habitat Directive 92/43/EEC; Birds Directive 79/409/EEC). The primary aim is to preserve the most important habitats, natural habitat types and species within the territory of the EU. Besides forests, the Natura 2000 network also includes all other ecosystem types, such as aquatic systems, heath/peatland, grassland, dunes, scrubland, and rock outcrops.

The Natura 2000 network is not a classification system as such, rather a network of sites. In some EU countries, the Natura 2000 network is based mainly on the existing network of nationally protected areas, supported with additional areas nominated especially for the Natura 2000 purposes. In other countries

¹ United Nations Forum on Forests

² Convention on Biological Diversity

³ Commission on Sustainable Development

⁴ Organization for Economic Cooperation and Development

⁵ United Nations Environment Programme

⁶ United Nations Framework Convention on Climate Change

⁷ European Environment Agency

⁸ International Tropical Timber Organization

⁹ World Conservation Union

¹⁰ World Commission on Protected Areas

¹¹ World Resources Institute

¹² WWF - World Wide Fund for Nature

¹³ European Forestry Information and Communication System

¹⁴ Joint Research Centre of European Commission

¹⁵ European Forest Institute

¹⁶ Temperate and Boreal Forest Resource Assessment

however, designation of Natura 2000 sites is based solely upon the presence of well developed habitats and the recorded presence of populations of species listed in the Annexes of the Directive, irrespective of its protection status nationally, or site ownership.

In addition, there is a very wide range of interpretation from country to country on the management guidelines and restrictions with respect to Natura 2000 sites. The Directive only states that the habitats and species should be maintained in a 'favourable conservation status' and 'must not deteriorate' (EC, 1992). Any activities that weaken the status of the area in terms of the preservation of important natural habitat types or the habitat of certain species are prohibited. In some countries, the network primarily includes strictly protected areas (reserves), while in majority of countries, multi-purpose landscapes are also included. The continuation of practices such as commercial forestry, farming, fishing or hunting is generally allowed, and sometimes even considered essential for the preservation of the site (i.e. the continuation of current management regimes).

The Natura 2000 network is a very important European networking tool, aimed at the conservation of habitats and species. However, it is not a 'classification-system', and is not exclusively focused on 'Protected areas', as it also includes areas with multi-purpose use of forests and other ecosystems. Therefore, it is considered not to be within the focus of COST Action E27, and is hence not considered or discussed further in this paper. (In any event, all legally binding and long term protected areas included in Natura 2000 networks, become apparent in national data sets under the normal assessment criteria of protected areas, which place them into the various categories of international classification systems, i.e. they appear in the MCPFE and IUCN systems.

6. Protected forests in Europe: a wide diversity of approaches and the need for further harmonisation of their assessment

Scope of this publication: Protected Forest Areas – operational definition

The terms 'Protected Forest Area (PFA)' or 'Area of Protected forest' are open to wide interpretation and have created a lot of confusion. Interpretation of these terms is different amongst countries and between different reporting processes. Further clari-

fication is therefore required from the official bodies that produce statistics on PFAs, on how PFA is defined (see chapter 6.2 by Frank et al. in this volume). In the meantime, the COST Working Group during discussions on the subject has used the following 'common understanding' on PFAs, i.e. area of 'forest' (as defined by FAO-FRA) within the borders of specified 'protection categories'. In other words it is the 'overlay' of the 'area of forest' and 'area within specific protection status' or 'the area of forest that is officially designated for protection'. This straightforward approach means that there is no difference between terms like 'Protected Forest Area', 'Area of Protected Forest' and 'Forest Protected Area'.

UNECE/FAO definition of forest (FAO, 1998) as it is used in FRA 2000 and 2005 (slightly modified formulation, same content) (FAO, 2001; 2006)

Forest: Land with tree crown cover (or equivalent stocking level) of more than 10 percent and area of more than 0.5 ha. The trees should be able to reach a minimum height of 5 m at maturity in situ. It may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground, or open forest formations with a continuous vegetation cover in which tree crown cover exceeds 10 per cent. Young natural stands and all plantations established for forestry purposes which have yet to reach a crown density of 10 percent or tree height of 5 m are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention or natural causes but which are expected to revert to forest.

Includes: Forest nurseries and seed orchards that constitute an integral part of the forest; forest roads, cleared tracts, firebreaks and other small open areas; forest in national parks, nature reserves and other protected areas, such as those of specific scientific, historical, cultural or spiritual interest; windbreaks and shelterbelts of trees with an area of more than 0.5 ha and width of more than 20 m; plantations primarily used for forestry purposes, including rubberwood plantations and cork oak stands.

Excludes: Land predominantly used for agricultural practices.

Other wooded land: Land either with a crown cover (or equivalent stocking level) of 5-10 percent of trees able to reach a height of 5 m at maturity in situ; or a crown cover (or equivalent stocking level) of more than 10 percent of trees **not able to reach a height of 5 m at maturity in situ** (e.g. dwarf or stunted trees); or with shrub or bush cover of more than 10 percent.

The 'protection categories' considered are related to the definitions used in the IUCN-Protected Area Management Categories and MCPFE Assessment Guidelines. Consequently, within the framework of the

IUCN-classification system, PFA covers all forest (with 'forest' as defined by FAO-TBFRA) '*dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means*' (IUCN, 1994).

Within the framework of MCPFE Assessment Guidelines, PFA covers all forest (with 'Forest' as defined by FAO-TBFRA) '*with the main management objective 'biodiversity', 'protection of landscape and specific natural elements' and 'protective functions', officially declared in legally binding documents.*' (MCPFE, 2003a).

In this paper, PFA explicitly does NOT include

- sites and areas that do not comply with the overall definition of forest
- sites with multifunctional management in which conservation of landscape and biodiversity is of equal importance to other functions (economic, recreational, etc.).

It should be stressed that these are 'operational' definitions of the term PFA, and that the COST Action E27 does not confer any 'valuation' to the fact that certain sites are in- or excluded; some excluded sites or categories may have a much higher impact on, or effectiveness for, the conservation of biodiversity in forests than some sites that are included.

7. PFA in Europe: a wide diversity of approaches

The European concept of forest protection is much more complex and varied than in other Continents that contain huge areas of untouched forests. In Europe, protected areas are often small, generally state-owned, but sometimes also owned by local authorities or non-governmental organisations or even privately-owned. The management and upkeep of protected areas is often linked with multiple forest use objectives.

Even within Europe there are large differences in historic use, area, socio-economic importance and public pressures on forests. This is also reflected in the various approaches to protection and conservation of forests and forest biodiversity. In remote, sparsely populated areas (like the Carpathian Mountains, Nordic countries), vast forest areas, not significantly altered by human intervention, are still present. Conservation here is primarily focused on rather large, non-intervention areas.

In densely populated areas of Europe (e.g. Germany, UK, The Netherlands) forests have always

been intensively used and altered by man. Forest area was also much reduced resulting in fragmented forest areas, greatly altered by human interference. In addition, the ownership of the forest is very fragmented. Conservation is mainly focused on small areas with high conservation value. Consequently, restrictions and protection regimes are linked to the management history and public pressure on the area and are different to the large, non-intervention areas. Management can include non-intervention, but also mitigating measures to counteract negative influences emanating outside the area. Even the continuation of ancient forest management practices are allowed, as over the centuries, many (rare) species have adapted to, and are exclusively linked to, these management regimes.

Also the relevance and importance of other aspects such as 'sustainable grazing' or 'risks from fire outbreaks' or 'protective functions against slope erosion' are very different within Europe. This is also reflected regionally in differing policies for protection regimes in forests.

These aspects, in addition to other, mainly historic and socio-economic reasons, explain the wide diversity of approaches to PFAs in Europe. This very complicated situation is not necessarily problematic as the 'local perspective' is most important and reflects the reality on the ground. This diversity of approach coincides with, and perhaps even enhances the diversity in the forest. Due to the multitude of approaches to PFAs as a result of local conditions, classification of protected forests into 'international' categories is generally very difficult.

8. The requirement for harmonisation of reported figures

In order to produce reliable and comparable figures on protected forests for the whole of Europe, a common standard is needed.

In Europe, two international classification systems are used for the reporting on protected forests:

- IUCN developed a set of Protected Area Management Categories for world wide use (IUCN, 1994). It contains six protection categories. TBFRA in Europe has used the IUCN Management Category System for the reporting of protected forests areas in TBFRA 2000 (UN-ECE/FAO, 2000).
- MCPFE produced figures on protected forest area in its 'State of Europe's forests 2003'. For this purpose the MCPFE Assessment Guidelines for Protected and Protective Forest and Other Wooded Land were developed during 1999 – 2003 and

endorsed by national governments during the MCPFE Conference in Vienna in 2003 (Annex 2 to the Vienna Resolution 4) (MCPFE, 2003a, 2003b, 2003c). As far as is possible these MCPFE classes were aligned with the respective Protected Area Management Categories of IUCN.

In order to evaluate their possible usefulness for assessment of European PFAs, an analysis of both existing international classification systems (i.e. MCPFE and IUCN) and the results derived from these systems is required. In this publication, both systems are described, and evaluated, by comparing the statistics of TBFRA (using IUCN categories), the MCPFE's State of Europe's forests 2003 (using the Assessment guidelines), and through the crucial input from the country experts of the COST-action E27, gathered by means of questionnaires, country reports and plenary discussions. The objectives are to analyse the differences in reporting, based on the local background and expertise of the delegates in the COST-action, to point out the sources of divergence and confusion and to propose interpretation guidelines that can be used to provide more harmonised data on protected forests in Europe.

Important note:

Harmonisation is required for comparison and reporting. However, the existent diversity of approaches in the different countries has its historic and social reasons and should also be appreciated and respected.

Therefore the objective of this publication is by no means to evaluate or compare the effort, approach and strategies used in the different countries.

The conclusions and guidelines that are derived from the analysis only focus on the explanation of the differences observed. Suggestions are made regarding better formulation, definition and additional 'user guidelines' for internationally endorsed classification systems, in order to produce more harmonised European statistics on Protected Forest Areas.

Comparative tables that are reproduced in the following chapters are therefore only intended to highlight the differences observed in the interpretation of the international 'standards' used to produce harmonised data.

References

- E.C., 2002: Habitat Directive 92/43/EEC
- FAO, 1998: FRA 2000 Terms and Definitions, Forest Resource Assessment Programme Working Paper number 1, FAO - Rome.
- FAO, 2001: Global Forest Resources Assessment – Main Report. FAO Forestry Paper 140, FAO Forestry department - Rome www.fao.org/forestry/site/7949/en
- FAO, 2006: Global Forest Resources Assessment 2005. Progress towards sustainable forest management. FAO Forestry Paper 147, 320 pp. FAO - Rome.
- IUCN, 1994: Guidelines for protected area management categories. Gland, Switzerland, Commission on National Parks and Protected Areas (CNPPA), World Conservation Union (IUCN) and Cambridge, UK, UNEP World Conservation Monitoring Centre (WCMC).
- MCPFE, 2002: Improved Pan European Indicators for Sustainable Forest Management as adopted by the MCPFE Expert Level Meeting 7-8. October 2002. 7 pp. Vienna. Liaison Unit.
- MCPFE, 2003a: Assessment Guidelines for Protected and Protective Forest and Other Wooded Land in Europe. Guidelines. Appendix VI to MCPFE 2003b, pp.119-122.
- MCPFE, 2003b: State of Europe's Forests 2003. The MCPFE Report on Sustainable Forest Management in Europe. Jointly prepared by the MCPFE Liaison Unit Vienna and UNECE/FAO. 126 pp. Vienna.
- MCPFE, 2003c: Fourth Ministerial Conference on the Protection of Forests in Europe. Conference Proceedings. 28-30 April 2003, Vienna, Austria.
- RAMETSTEINER, E. & MAYER, P., 2004: Sustainable forest Management and Pan-European forest policy. Ecological Bulletins 51: 51-57.
- UN-ECE/FAO, 2000: Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand (industrialized temperate/boreal countries). Main Report. UN-ECE/FAO Contribution to the Global Forest Resources Assessment 2000. Geneva Timber and Forest study Papers, No. 17. New York and Geneva. 445 pp.

Authors: Dr. Jari PARVIAINEN
Finnish Forest Research Institute (Metla),
Joensuu Research Centre
P.O. Box 94, FIN-801001 Joensuu
E-Mail: jari.parviainen@metla.fi

Dr. Georg FRANK
Federal Research and Training Centre for Forests,
Natural Hazards and Landscape
Hauptstraße 7, A-1140 Vienna
E-Mail: georg.frank@bfw.gv.at

Mr. Kris VANDEKERKHOVE
Institute for Forestry and Game Management
Gaverstraat 4, B-9500 Geraardsbergen
E-Mail: kris.vandekerkhove@lin.vlaanderen.be

Dr. Winfried BÜCKING
Forest Research Institute of Baden Württemberg
Wohnhaldestraße 4, D-79100 Freiburg
E-Mail: winfried.buecking@forst.bwl.de

Dr. Declan LITTLE
The Tree Council of Ireland
Woodlands of Ireland
Cabinteely House, The Park, Caninteely
18 Dublin
E-Mail: declanliddle@eircom.net