COST Action E27

Protected Forest Areas in Europe - Analysis and Harmonisation (PROFOR)
Results, Conclusions and Recommendations

Evaluation of Data Derived from International Classification Systems: Issues Arising from the Assessment of Reported Statistics

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1.   Input from the country experts

In order to evaluate the usefulness, potential and drawbacks of both classification systems for the reporting on PFAs in Europe, the country experts of COST Action E27 were asked to provide some input, using a standardised format (questionnaire). The list of country experts involved in the action is provided in the annex to this publication.

Country delegates were first asked to evaluate the reported figures and to produce alternative figures based on compiled national statistics, the statistics in the COST Action E27 country reports (Latham et al., 2005), and best professional judgement. Based on

Caption: beech snag in Ruhrbush Forest Reserve – Elsenborn, Belgium.   (Photo courtesy of Kris Vandekerkhove)

this comparison they were requested to point out the main sources of variation between the reported figures. They were consequently asked to study the classification systems again from their national perspective, and point out the possible problems, difficulties or shortcomings, and to produce suggestions for improvement.

2.   Comparison of the statistics

An assessment of reported figures in TBFRA 2000 (applying the IUCN categories), MCPFE State of Europe's Forests (using the MCPFE Assessment Guidelines) and the personal estimates of the COST Action E27 country experts is presented at the end of this chapter (Figure 2). The results of this comparison show considerable variation. In many cases the estimates of the representatives are quite similar to the results of (MCPFE, 2003b). However, they are

sometimes more comparable to the TBFRA-data, and in some cases, are completely different to both TBFRA and MPCFE. This is illustrated in the figure below, showing the wide range of responses for a selection of countries.

3.   Discussion - very variable results based on reliable data sets

In the replies of the country representatives, the MCPFE-Assessment Guidelines (MCPFE, 2003a) were more often than not considered to be more precise, more flexible and were generally considered to be better adapted for the reporting on PFA classes in Europe. This was not unexpected as the system was especially developed for this purpose.

Contrary to what was expected, however, the figures for MCPFE are almost as divergent as for TBFRA. The considerable differences between the
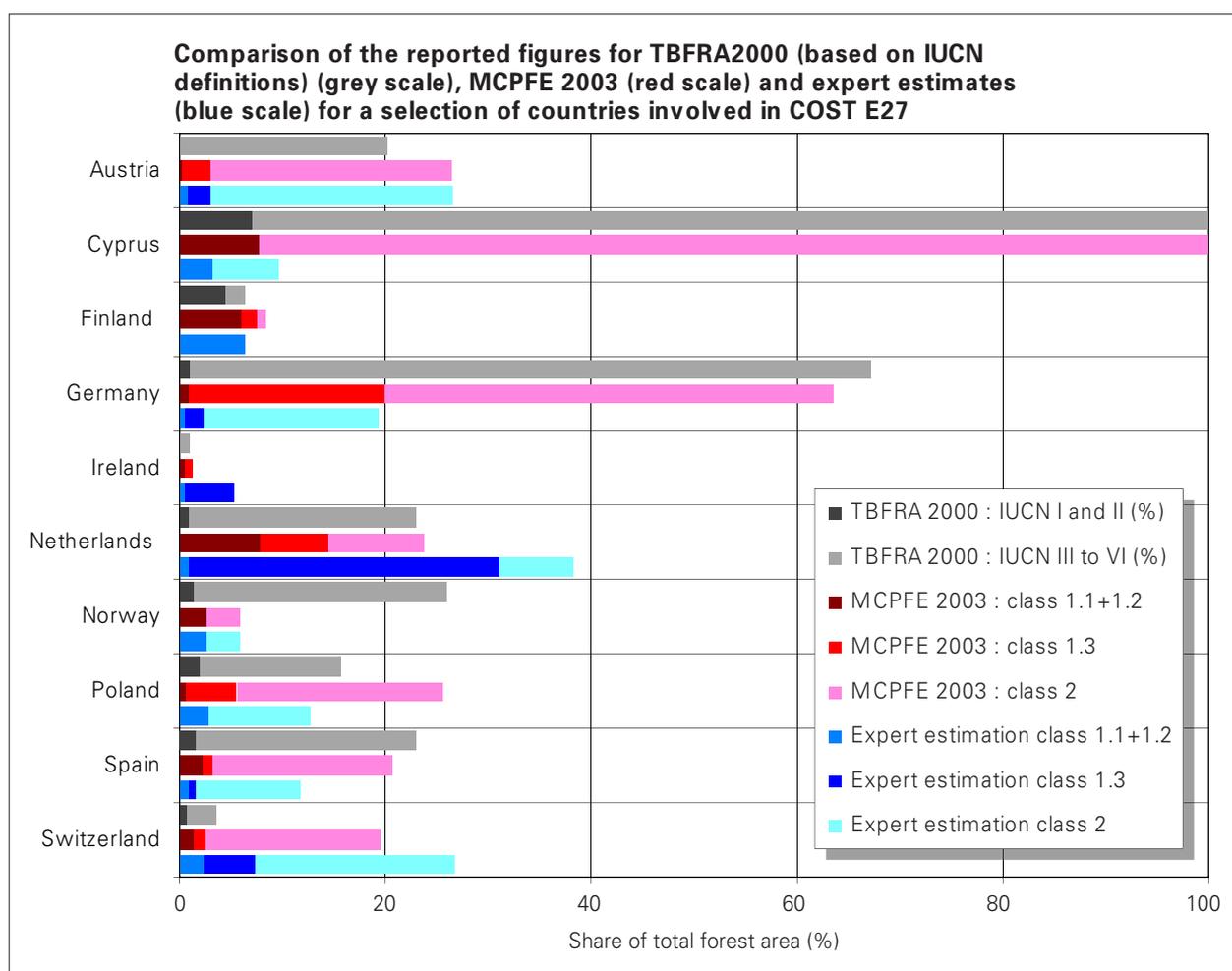

Figure 1:
Area of Protected forest (as a percentage of total forest area) for a selection of countries : comparison of the statistics as they were reported in TBFRA 2000, MCPFE, 2003 and the expert judgement1 of the country representatives in COST E27.

two assessments were previously pointed out by (Dudley & Stolton, 2003)[2].

The expert estimates provided an extra source of comparison. In some cases, the expert estimates were indeed closer to the MCPFE-reported figures, but in other cases, they were more in line with TBFRA, or even more divergent from both. Even on quite strictly defined protection categories (like strict reserves), reported figures are sometimes very heterogeneous or even of a different order of magnitude.

It can be concluded that there exists considerable confusion and to date, no harmonised and comparable dataset on PFAs in Europe is available.

This conclusion is in line with the conclusions of (Dudley & Stolton, 2003): '*These results show clearly that further work is needed on statistical analysis and that any figures for forest protection in Europe must currently be treated with considerable caution.*'

The comments on the comparisons provided by the country experts however, not only accentuate the differences but also denote how such considerable variation occurs. Although the results are very divergent, almost all experts state that the reported figures are indeed based on reliable data (maximum 20% error, and generally less). The information for TBFRA and MCPFE reporting was mostly gathered by official scientific or administrative bodies, using reliable data sources[3]. Most information is based on national official databases, GIS-layers and analysis, etc. In some cases specific studies were undertaken to provide the required data. Therefore, a lack of reliable data is not considered to be the main cause of the divergence observed.

Slight changes or differences are sometimes explained by new developments since the TBFRA-data were gathered, i.e. some new protected areas that have been designated and/or expanded (e.g. in Slovenia, The Netherlands, etc.).

Also, differences in the definition and delineation of 'forest' are pointed out as a key factor explaining the variation observed. Some protected areas include both forest and open areas. This fact results in differences due to the application of alternative definitions of forest used in European countries, as does the level of detail of the delineation (e.g. satellite data vs. terrestrial surveys). The FRA definition of forest provides a very straightforward but broad interpretation of forest (crown cover > 10%; 5m high), while national definitions are sometimes much more restrictive. Some protected areas that are normally not considered as 'forest' in the national statistics (e.g. mires and heathlands with dispersed trees, non-productive forest, etc.) should be included in the data sets of 'protected forest' if the FRA-definition of forest is used.

Therefore, it should be very clearly stated what categories of forest or other wooded land are included in the reporting procedure (whether national or FRA- forest definitions are used), and country correspondents should inform the data-collector on the level of detail and methodology used in the calculations.

In the paper by Frank (Chapter 6.2, this volume) a report is given on the different definitions of forest and how they were used in the different reporting procedures.

However, almost all correspondents state differences in interpretation of the classification system as the main reason for the discrepancies observed. Indeed, minor differences in interpretation can produce major variation in results[4].

Therefore, in order to produce reliable and comparable data on PFAs in Europe, further clarification of the protection categories and assessment guidelines are required. In the following chapter, suggestions on this issue by the COST Action E27 are presented. They are the result of extensive working group sessions.

As differences in interpretation are so apparent, it is also advisable to incorporate an extensive and thorough harmonisation phase in the reporting process, in order to harmonise the interpretation of the different classes by the responsible reporting bodies in each country[5].

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[1] Any views or opinions expressed in the documents of COST E27 are those of the authors only.

[2] 'Unfortunately from a comparative perspective, protection data from TBFRA and MCPFE are dramatically different (…) Perhaps more significantly than the average figures – which might be explained by the differences in understanding about what constitutes "protected" – are differences between what countries reported for IUCN protected area categories I and II and MCPFE classes 1.1 and 1.2, which are supposed to be directly analogous.'

[3] National forest inventories are not commonly used as a source for this kind of detailed information : it is only mentioned in 8 out of 23 replies

[4] Example : the consultants upon whose report the figures for the UK were based, estimated that the total area in categories 1 to 6 of IUCN could vary between around 8% to 25% of the UK forest area depending the assumptions used. This lack of clarity is most pronounced within categories 3-6 inclusive; and it also applies to the allocation of areas to categories.

[5] Within countries where the data are decentralised (e.g. when the data-gathering is the responsibility of the regional government), additional problems of co-ordination and transmittance of data may exist and can further complicate the harmonisation process.
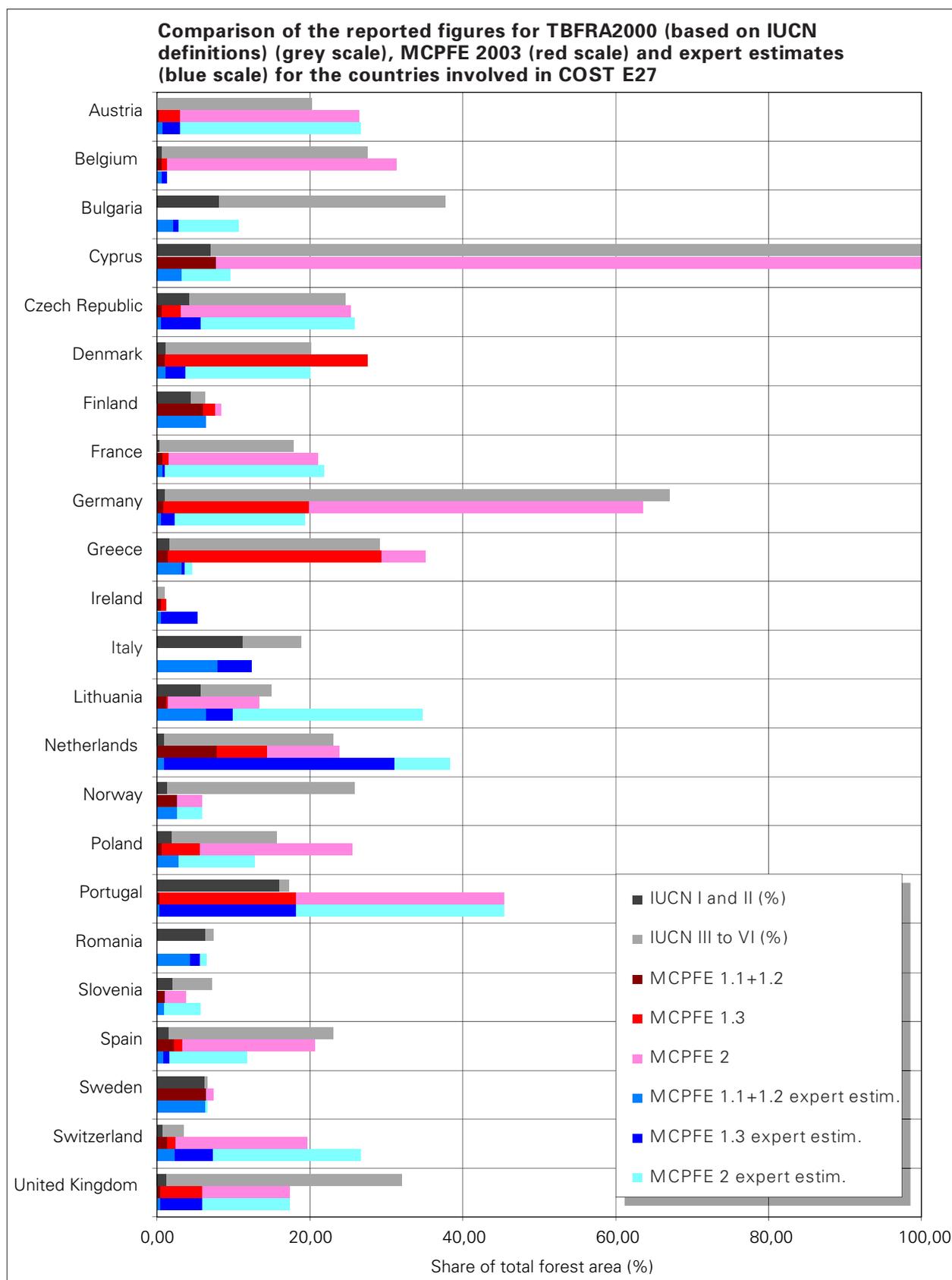
Figure 3.
Area of Protected forest (as a percentage of total forest area) for a selection of countries : comparison of the statistics as reported in TBFRA2000, MCPFE2003 and the expert judgement[6] of the country representatives in COST E27.

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References

DUDLEY N. & STOLTON S., 2003: Biological diversity, tree species composition and environmental protection in regional FRA-2000. Geneva Timber and Forest Discussion paper 33. UN-ECE and 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

LATHAM J., FRANK G., FAHY O., KIRBY K, MILLER H. & STIVEN R. (eds.) Cost Action E27 Protected Forest Areas in Europe – Analysis and Harmonisation (PROFOR): Reports of Signatory States. BFW - Vienna, 2005.

MCPFE, 2002b: 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: Annex 2 to Vienna resolution 4 - MCPFE-Assessment guidelines for protected and protective forest and other wooded land in Europe. IN : Fourth Ministerial Conference on the Protection of Forests in Europe – Conference Proceedings, 28-30 April 2003, Vienna, Austria.

MCPFE (ed.), 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.

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. 445 pp. New York and Geneva

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