



COST Action E43

“Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting”

WG3 Task Force Meeting

MINUTES

20 - 21 March 2007

Hosted by Accademia Italiana di Scienze Forestali
Florence, Italy

Participants:

GBERARDO CHIRICI (I)
URS –BEAT BRÄNDLI (CH)
SUSANNE WINTER (D)
ICIAR ALBERDI (E)
JAN-ERIK NILSEN (N)
VLADIMIR CABOUN (SK)
RONALD MCROBERTS (USA)
UGO CHIAVETTA (I)
ANNA BARBATI (I)
JACQUES RONDEUX (B)
CATHERINE CLUZEAU (F)
ELMAR HAUKE (A)

20th March

The meeting commenced at 10.30 am chaired by Gherardo Chirici who welcomed the participants. The agenda of the meeting (Annex 1) is approved.

Chirici shortly introduced two background documents recently produced by ICP Forests and by the steering committee of COST action E43, both dealing with the European Forest Monitoring System (EFMS) and its relationship with the new LIFE+ regulation.

Chirici underlined that the joint workshop with ICP Forest is only a first scientific contact to share experiences on forest biodiversity monitoring.

Chirici underlined the main aims of the Task Force meeting: (i) to continue with the preparation of reference definitions and bridging functions of selected core variables, to be finalised for the COST action E43 – WG3 final report (ii) to prepare experimental tests of bridging functions with real NFI data.

Chirici presented the two main decisions proposed during the last Steering Committee in Vienna.

- 1) to specify that references are defined specifically for harmonisation purposes; they may not be the best optimal scientific solutions, but just the simplest compromise to enable the operative harmonisation of existing NFI dataset. Since the final report of the COST action could be used in the near future as a “guide” for setting up new NFIs or to reshape existing ones, it is recommended to indicate both the reference for harmonisation AND the proposed reference for a future possible international standard. This has to be clearly marked in the final report, especially when references for harmonisation and optimal references (draft proposals of standards) are substantially different.
- 2) to self-evaluate the quality of the references defined on the basis of a system of four levels of accuracy (Table 1):





<p>A</p> 	<p>Agreement has been reached regarding this reference definition. It is not likely that the definition will change in the near future, since it is broadly conceived that the reference is relevant and sound. Inventory programmes undergoing changes should consider converting to this reference definition since it is believed to be stable.</p>
<p>B</p> 	<p>Agreement has been reached regarding this reference definition. However, due to slightly different opinions in different countries and/or limited knowledge, the discussions on this definition are likely to continue in the near future and the definition may be changed.</p>
<p>C</p> 	<p>Discussions regarding this reference definition are ongoing. No agreement has been reached, but is likely to be reached in a near future.</p>
<p>D</p> 	<p>Discussions regarding this reference definition are ongoing. No agreement has yet been reached. Due to problems involved (e.g. substantial differences between country level definitions) agreement most likely will not be reached in a near future.</p>

Table 1: the system of nomenclature for reference accuracy evaluation.

Hauk underlines that the definition of “optimal” methods could be very different because they could vary depending the environmental conditions.

McRoberts underlines that standards could also be different from optimal methods.

Winter expresses that the final aim of the COST action E43 is harmonisation, not standardisation.

After the discussion, it was agreed that suggestions for draft “optimal” standards will be inserted in the final report as notes to the references for harmonisation. All such definitions that are the outcome of the COMMON project are considered relevant. People involved in the COMMON project will also have to use the results of the scientific bibliographic review carried out in COMMON for defining “optimal” standard methods.

It was also agreed that the first draft version of the final report will be finalised **within May**, in order to send it out to all country delegates before the Helsinki meeting (7-9 June).

The session ends at 13.00

13.00 – 14.00 lunch break

The session starts with the presentation of the references and bridging function status.

Barbati introduced the concept of European **Forest Types** (EFT) developed with a project of the European Environmental Agency (EEA). Hauk and Braendli underlines that the main operative problem in using the EFT is the definition of plantations. Barbati underlines that the bridging functions (method to classify NFI plots on the basis of EFT) could be: (i) a simple label to label method when a unique (1:1) relationship can be created between the national FT and the EFT or (ii) a more complex method based on raw data acquired in the field. The operative test with real data will help in understanding if the EFT fit to NFI harmonisation needs.

Chirici underlined that the EFT is not a closed system, all suggestions and amendments to the EEA report are welcome.

Winter and Hauk introduced the status for **forest structure**. The methods proposed are based on the elaboration of raw data, not on a label to label method. One possible horizontal forest structure reference is introduced on the basis of DBH (mean DBH of a varying percent of thickest trees), two possible vertical forest structure references are introduced on the basis of layers and social positions of trees. An algorithm able to classify plots on the basis forest stages/development phases is also introduced.

Alberdi-Asensio introduced the status for **ground vegetation**. Here the variety of methods makes the harmonisation process more difficult. Available NFI data enable the calculation of simple ground vegetation indexes based on percentage coverage of shrubs and other ground vegetation.

16.00 – 16.30 Coffee break

Cluzeau introduced the status for **naturalness**. Both of the methods (label to label or data to label) could be used. While the label to label approach is difficult to be operatively adopted, an algorithm for the calculation of naturalness on the basis of existing raw NFI data has not yet been developed.. The main raw data to be used could be: tree species nativeness (site-native or introduced), origin of the current trees (artificially or naturally regenerated), intensity of forest management (clearcutting, thinning & logging other than clearcutting, no management since several hundred years, ...), signs of other human disturbances (soil preparation, fertilising, grazing, roads). It is agreed that a draft proposal for an algorithm will be developed to be inserted in the first draft version of the WG3 report (end of May).

Brändli presented the status for **forest age**. Again an index based on the calculation of raw data is proposed (Top_age) instead of a label to label approach.

The session closed at 18.30.

21st march

Rondeux introduced the status for **deadwood**. Here the definition of references is quite advanced and bridging functions based on existing NFI data are possible using a minimum common dbh definition. For decay stage a label to label approach will be used.

Chirici introduced the discussion for setting up the main rules for the operative test on existing NFI data.

- 1) Data will be given by NFI on the basis of the structure of a unique database.
- 2) Plot data will be given without coordinates
- 3) The database will be used just for the test within the activities of COST action E43, no other uses will be permitted.
- 4) A minimum number of 50 and a maximum number of 1000 plots is recommended per country and per forest type (*sensu* EEA, 2006)
- 5) The database is compiled just on the basis of data acquired in the field.
- 6) The structure of the database to be compiled by Countries is as follows:

When you fill in the data_tables, if the information is not available please specify it by writing "not available" or "NA".

Name of the table: PLOT

Fields:

COUNTRY: unique text code of the Country, according to the COST abbreviation

PLOT_ID: number of the plot, unique within a Country

FOREST_TYPE: according to the numeric code of the EFT (EEA, 2006). The plot has to be classified on the basis of the European forest type system of nomenclature by the Country, one dominant FT for each plot

NATURALNESS: information based on the Country classification (if one exists) dealing with the naturalness of the plot vegetation. In English.

ORIGIN: information based on the Country system of nomenclature dealing with the prevalent origin of trees within the plot (natural regeneration, seeding, planting, etc.). In English.

CUTTING SYSTEM: information based on the Country system of nomenclature dealing with the prevalent cutting system adopted within the plot (clearcutting, thinning, natural evolution,). In English.

OTHER HUMAN DISTURBANCES: information based on the Country system of nomenclature dealing with the prevalent human disturbance other than thinning or forest cutting within the plot (grazing, soil preparation, fertilizing, roads, ...). In English.

FOREST_AGE: information based on the Country system of nomenclature dealing with the prevalent forest age/development stage of the plot. In English.

Name of the table: TREE

Fields:

COUNTRY: unique text code of the Country, according to the COST abbreviation

PLOT_ID: number of the plot, unique within a Country

TREE_ID: number of the tree, unique within the plot. Country definition of tree.

SPECIES: Gender and specie of the tree, according to the Latin system of nomenclature (Flora Europaea).

NATIVENESS: Answer by "site-native" if this tree species is in its **local** natural range, by "introduced" if the tree species is out of its natural local range and by "not available" if you do not have any information about its nativeness.

A tree species could be native in some part of the country but not native in some other part. We are interesting by the site-nativeness, it means the **local natural range** of the species.

DBH: in millimetres

SAMPLING_UNIT_AREA: in square metres, the sampling area dimension the tree is referred to

BASAL_AREA_FACTOR: in the case of relascope areas the Bitterlich factor used ($m^2 ha^{-1}$)

MEASURED_HEIGHT: in metres

ESTIMATED_HEIGHT: in metres

TREE_AGE: in year

TREE_AGE_METHOD: method used for calculating or estimating the tree age. On the basis of Country methods, in English.

MANAGEMENT_SYSTEM: information based on the Country system of nomenclature dealing the prevalent management system adopted (high forest, coppice, etc.). In English.

Name of the table: DEADWOOD

Fields:

COUNTRY: unique text code of the Country, according to the COST abbreviation

PLOT_ID: number of the plot, unique within a Country

VOLUME: total volume of deadwood in $m^3 ha^{-1}$

DECAY: information based on the Country system of nomenclature dealing the decay stage of the deadwood in the plot. In English.

LAYING/STANDYING: information regarding the type of deadwood in the plot

CONIFEROUS/BROADLEAVES/UNKNOWN

Example for DEADWOOD compilation:

COUNTRY	PLOT	VOLUME	DECAY	LAYING/STANDYING	CONIFEROUS/BROADLEAVES
	1	14.3	2	L	C
	1	2.3	1	L	B
	1	3.1	3	S	C

Name of the table: SHRUB



Fields:

COUNTRY: unique text code of the Country, according to the COST abbreviation

PLOT_ID: number of the plot, unique within a Country

SPECIES: numeric code according to the ICP system of nomenclature of the shrub species

COVER: numeric value of the percentage of coverage of the species within the plot, within a plot the sum of the COVER values may be smaller or greater of 1 (100%).

DATE: date (dd/mm/yyyy) of the assessment in the field, if the data is not available information on the month or on the season is welcome.

COUNTRY	PLOT	SPECIES	COVER	DATE
	1	080.001.001	0.20	24/05/2001
	1	080.003.008	0.58	24/05/2001
	1	130.001.001	0.70	24/05/2001
	2	080.003.008	0.23	May-03
	2	080.001.001	0.16	May-03

Name of the table: GROUNDVEGETATION

Fields:

COUNTRY: unique text code of the Country, according to the COST abbreviation

PLOT_ID: number of the plot, unique within a Country

GROUP: numeric code according to the system of nomenclature as follows:

1.0 Moss layer (terricolous bryophytes and lichens)

1.1.Terricolous bryophytes and

1.2.Terricolous lichens

2.0 Herb layer (all non-ligneous, and ligneous < 0.5m height)

2.1.Regeneration/Plantation (trees)

2.2.Herbs

2.3.Shrubs/no perennial

3. Shrub layer (only ligneous, incl. climbers) > 0.5 m height)

3.1.Regeneration/Plantation (trees)

3.2.Herbs

3.3.Shrubs/no perennial

3.4.Climbers

COVER: numeric value of the percentage of the coverage of the species within the plot; within a plot the sum of the COVER values may be smaller or greater of 1 (100%).

DATE: date (dd/mm/yyyy) of the assessment in the field, if the data is not available information on the month or on the season is welcome.

Country already available for submitting NFI data are: CH, A, D, I, USA, SP, F, DK, N, B.

Future work and deadlines



The elaboration of the data for the operative test on NFI a STSM should be done by a young scientist. Ugo Chiavetta is available and Susanne Winter could host at the University of Munich, a preliminary period is the last week of September.

The submission of the NFI dataset should be done by the end of June 2007.

The first draft version of the WG3 report should be ready by the end of May 2007.



Annex 1 - Agenda

**COST Action E43
Harmonisation of National Inventories in Europe:
Techniques for Common Reporting**

WG3 Task Force meeting

**20 – 21 March 2007
Italian Academy of Forest Sciences (AISF), Florence, Italy**

Draft Agenda

Tuesday 20th of March

- 10:30-10:40 Opening and welcome, AISF representatives
- 10:40-11:00 Status of WG3 COST action E43 and relationship with other projects
- 11.00 – 12.30 Preparation of the WG3 draft report

12:30-13:00 Lunch

- 13.15 – 15.00 Setting up WG3 references
- Deadwood
 - Forest types
 - Stand structure

15:00 - 15:20 Coffee Break

- 15:20 - 17:30 Setting up WG3 references, continued
- Ground vegetation
 - Naturalness
 - Forest age

Wednesday 21st of March

- 9:30- 10:30 setting up bridging functions
- Deadwood
 - Forest types
 - Stand structure

10:30-11:00 Coffee Break

- 11:00-12:30 Setting up bridging functions, continued
- Ground vegetation
 - Naturalness



- Forest age

12:30-13:30 Lunch break

13:30-16:30 Possible operative test on NFI dataset

16.30 – 17.30 Relationships with ICP Forests Expert Panel on Biodiversity and Ground Vegetation:
“Towards a project proposal for future forest biodiversity monitoring in Europe”



Italian Forest Service – CONECOFOR Board

Corpo Forestale dello Stato



Accademia Italiana di Scienze Forestali



COST E 43 WG 3 Biodiversity
Task Force Meeting

ICP Forests Expert Panel Biodiversity
and Ground Vegetation Meeting

Tuesday/Wednesday, 20/21 March 2007

Wednesday, 21 March 2007

ICP Forests Expert Panel Biodiversity and Ground Vegetation / COST Action E 43 WG 3
Joint workshop on Assessment of Biodiversity in Forests in Europe

Thursday, 22 – Saturday, 24 March 2007

FIRENZE, ITALY

AGENDA

21 March	<i>Expert Panel meeting</i>	<i>Chair: P. Neville</i>
14.00	Welcome to participants and presentation of CONECOFOR	National Forest Service
	Adoption of the agenda	P. Neville
14.30	Report on EP work since the last meeting	B. Petriccione
	News from the EU since the last meeting: EFMP/LIFE+, BioSoil, SEBI2010	A. Bastrup-Birk, B. Petriccione
16.00	Nomenclature code problems for vascular species	R. Canullo
17.00	Ground vegetation surveys at Lev. II in 2007	R. Canullo
17.30 – 18.30	Quality control and improving harmonization	M.C. Allegrini
22 March	<i>Joint workshop</i>	
9.00 – 10.00	<i>Opening</i>	<i>Chair: R. Fischer</i>
	Welcome to participants	AISF, National Forest Service

	Workshop introduction	B. Petriccione, G. Chirici
	Political background and SEBI2010	B. Petriccione
	The integration between NFI and ICP monitoring programme: the case of FIA in USA	R. McRoberts
	Toward the integration between NFI and ICP Forests networks. A project proposal for future forest biodiversity monitoring in Europe.	R. Fischer
	Adoption of the agenda, response of the NFIs on parameters listed on the agenda	B. Petriccione, G. Chirici
10.00 – 12.00	S1 – present state of biodiversity assessments	Chair: A. Bastrup-Birk
	Stand structure within ICP Forests	R. Fischer
	Stand structure within NFI's (as from Cost action E43)	S. Winter, E. Hauk
	Deadwood within ICP Forest	D. Travaglini, G. Chirici
	Deadwood within NFI's (as from Cost action E43)	J. Rondeux
	Ground Vegetation within ICP Forests	R. Canullo
	Ground Vegetation NFI's (as from Cost action E43)	I. Alberdi Asensio
	Forest types	A. Barbati, G. Chirici
12.00 – 12.30	S2 - Future developments: epiphytic lichens, stand age	Chair: R. Fischer
	Future assessment of epiphytic lichens at large scale, based on the experience of the ForestBIOTA project	S. Stofer
12.30 – 13:00	S3 - Future developments: bird monitoring	Chair: A. Bastrup-Birk
	FINE – developing Forest ecological INDicators for Europe	Andrzej Bobiec
	Bird monitoring and forestry inventory in France	Harlod Levrel, Yves Bas
13.00 – 14.00	Lunch	
14.00 – 16.00	S4 - Future developments: invertebrates/soil fauna biodiversity	Chair: B. Petriccione
	Invertebrate bio-indicators: method harmonisation in the framework of the European Forest Monitoring Project	S. Hardersen
	Monitoring of the arthropod fauna of deadwood: methods and potential applications	J. Schlaghamersky
	Sampling of beetles and polyporous fungi in boreal forest	J. Siitonen
	Soil fauna biodiversity	P. Sousa
	RBA – Rapid Biodiversity Assessment	P. Duelli
16.00 – 16.30	Coffee	
16.30 – 18.00	S5 - Future developments: naturalness, site conditions, age, landscape level	Chair: G. Chirici
	Naturalness within NFI's (as from Cost action E43)	C. Cluzeau, N. Hamza
	Naturalness within ICP Forests	B. Petriccione
	Standardized assessments of site characteristics – the Norwegian example	J.E. Nielson
	The role of stand age and its assessment	U.B. Braendli, I. Beranova
	Links to landscape level evaluations: the role of remote sensing	G. Chirici
	Landscape biodiversity in ICP Forests Lev. II	V. Ingegnoli
18.00 – 18.30	Set up of working groups	B. Petriccione, G. Chirici

	<ul style="list-style-type: none"> • Lichens • Birds • Invertebrates/soil biodiversity • Naturalness • Inventory approach at Level II / Level I / NFI / landscape • Drafting group for the project proposal • Others? 	
20.00	Official dinner	
23 March	Joint workshop (cont.)	
9.00	Opening	B. Petriccione, G. Chirici
9.15 – 10.30	Working groups Aim: discussion and outline of major components for the further development of the indicators	
10.30 – 11.00	Coffee	
11.00 – 12.30	Presentation of group results	Group speakers
12.30 – 13.00	Final discussion and further steps	B. Petriccione, G. Chirici
13.00 – 14.00	Lunch	
15.00	Bus departure to Porto Santo Stefano (only for participants to optional excursion)	
24 March		
8.00-17.00	Optional excursion to <i>Montecristo Island</i>, Strict Nature Reserve of National Park <i>Arcipelago Toscano</i>	