

COST E43 - Work Group 2

- Objectives
- Major achievements

Objectives

- **Propose definitions and procedures for harmonised NFI-based LULUCF* sector reporting to the Convention on Climate Change and its Kyoto Protocol**

(* Land use, land-use change, and forestry)

- **Includes:**
 - 1) **Assessing state-of-the-art in different countries**
 - 2) **Proposing reference definitions**
 - 3) **Developing bridges and performing sensitivity analyses**
 - 4) **Proposing NFI-adapted methods for uncertainty assessment, interpolation, use of biomass functions/expansion factors, etc.**

Reporting requirements

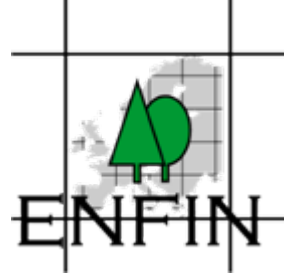
- Annual figures on human-induced emissions and removals of greenhouse gases from 1990 onwards (for 5 carbon pools within 6 different land-use categories, as well as non-CO₂ gases)
- Specific requirements related to *afforestation*, *reforestation*, *deforestation* and *forest management* during the Kyoto Protocol commitment period 2008-2012

Achievements by WG2

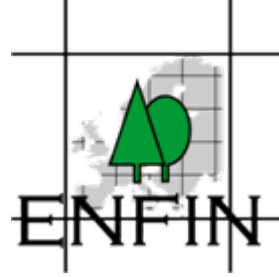
- **State-of-the-art assessment regarding use of NFI data for the reporting under the UNFCCC/KP**
 - Presentations and Questionnaires => Article in Silva Fennica 2008 (Cienciala et al)
 - Update during spring 2008 within MASCAREF (Colin et al)
- **Reference definitions for core concepts**
- **Concept for building bridges established**
 - Work ongoing on two scientific articles
- **Study on uncertainty assessment based on NFI data**
 - Work ongoing on scientific article
- **Study on interpolation using NFI data**
 - Work ongoing on scientific article
- **Use of biomass functions/expansion factors within NFIs**
 - E43 Workshop and MASCAREF paper (Freudenschuss&Weiss)



END

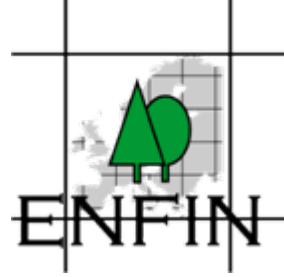


- Many thanks to the participants in WG2 for all the great contributions!
- And thanks to the chairman and the vice chairman of COST E43 for facilitating all this!



State-of-the-art assessments - use of NFI data

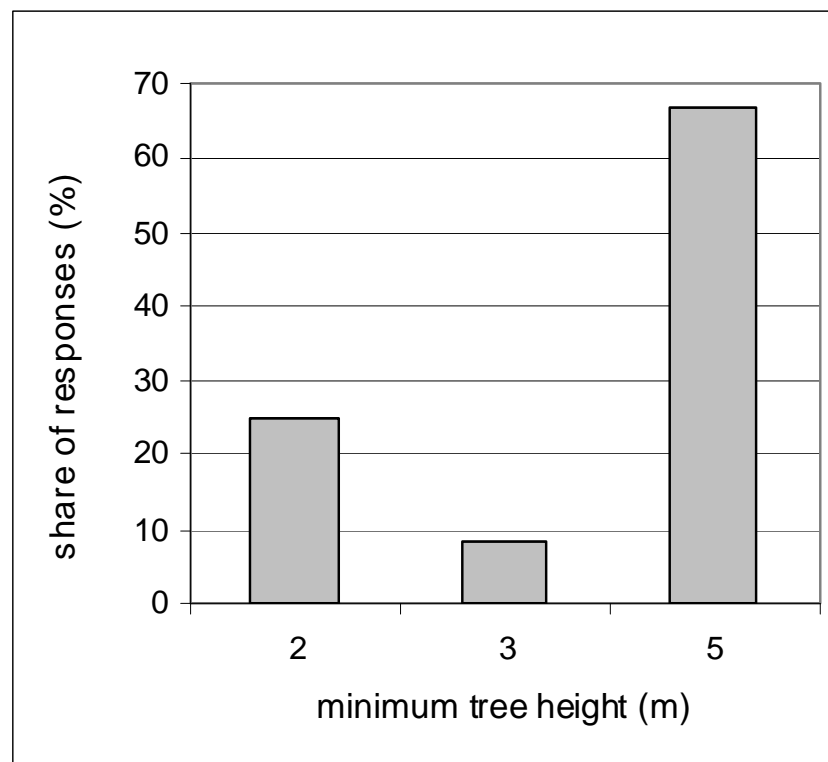
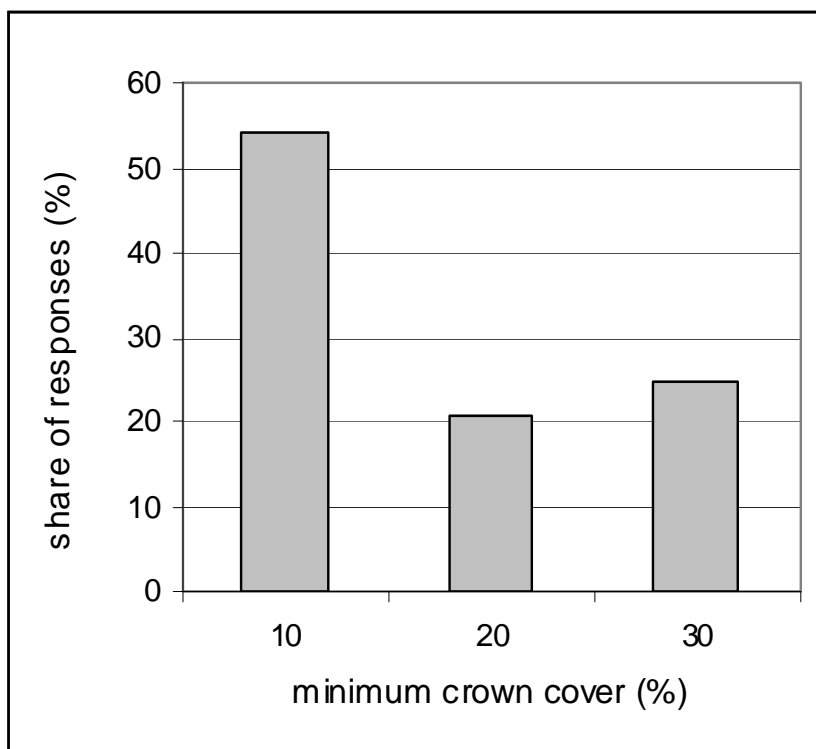
- Substantial usage of NFI data for the LULUCF sector reporting
 - Naturally, most substantial usage of NFI data for the forest category, but also in several other land-use categories
- => A lot remains to be done regarding harmonisation...



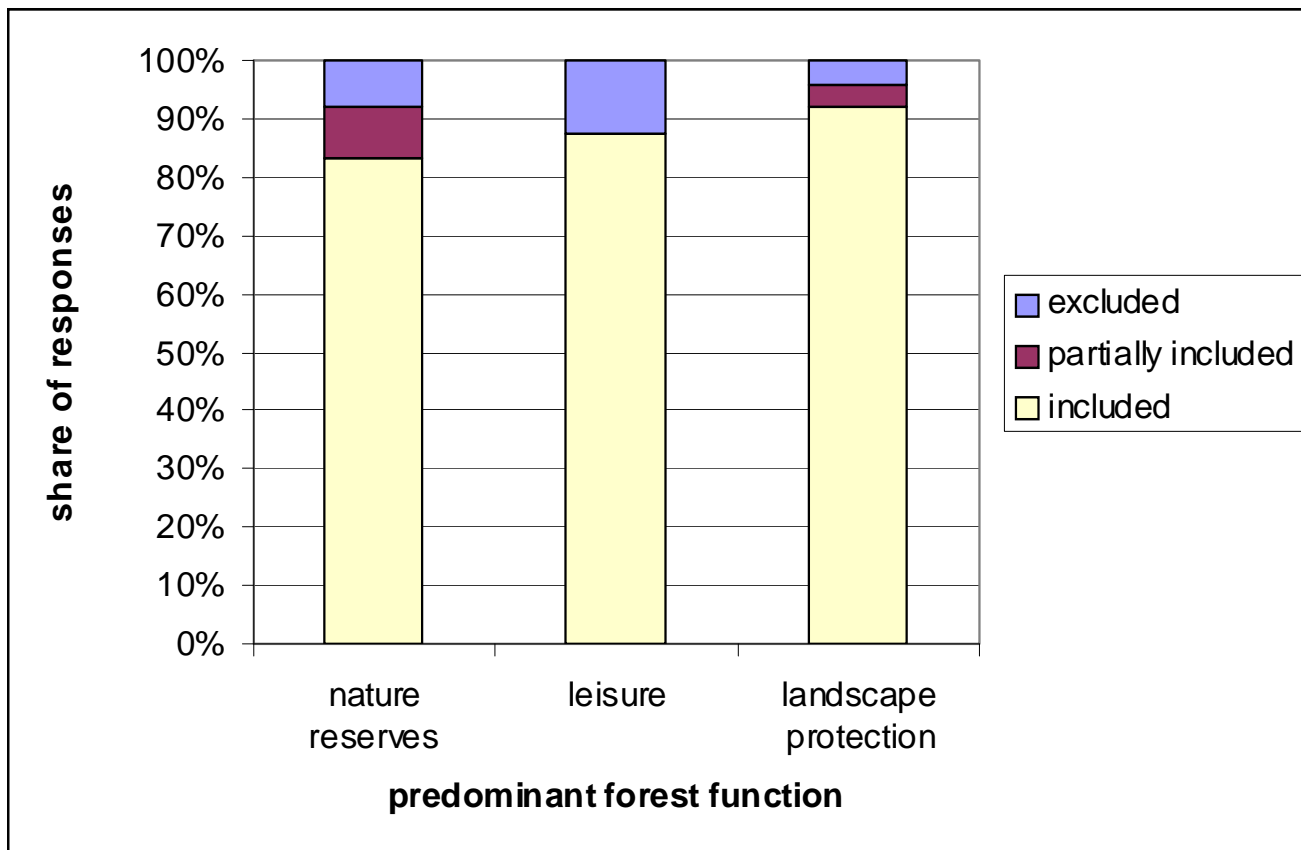
Some examples (from Colin et al)

- Definitions selected by countries**
- Use of NFI data**

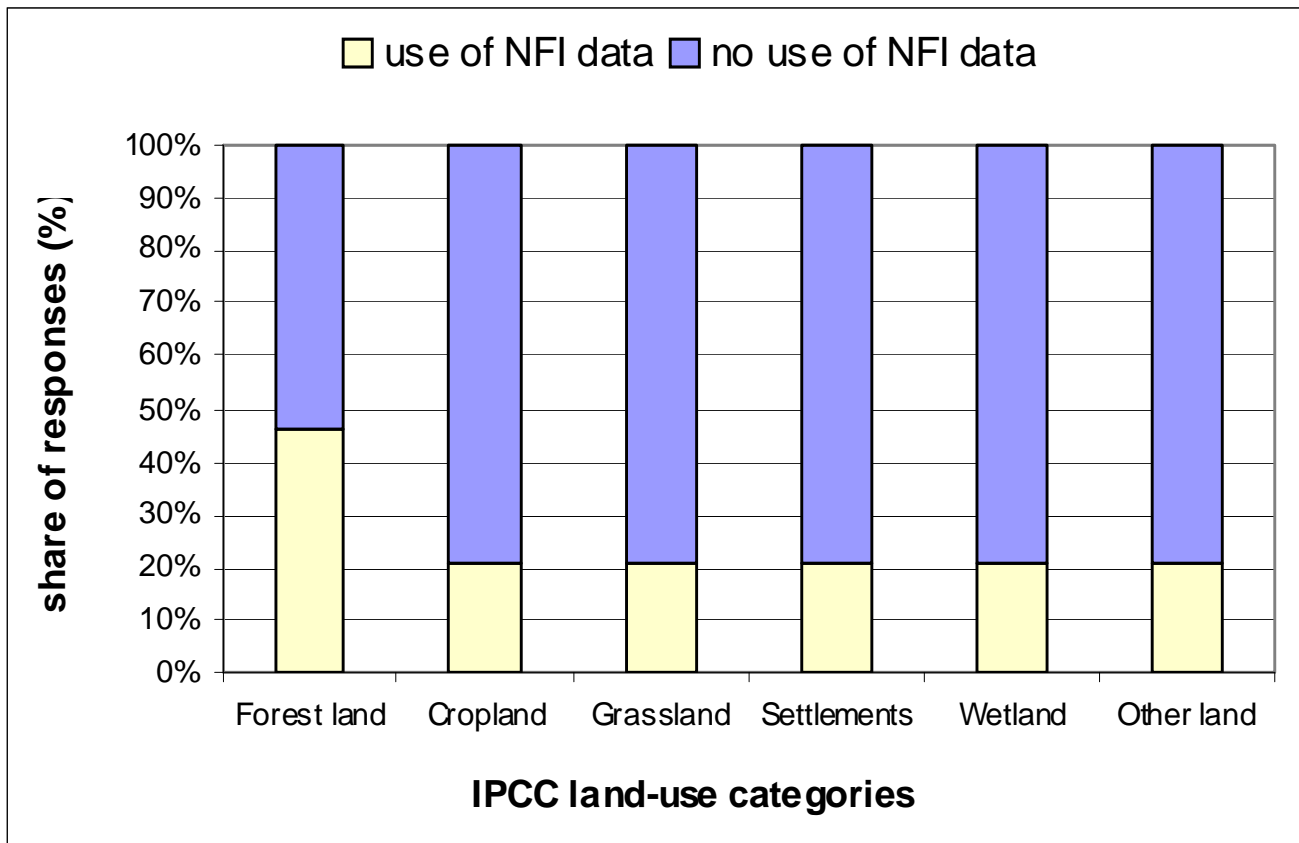
Forest definition

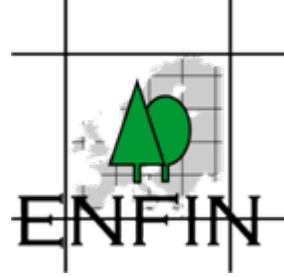


Managed forest



NFI data for land-use transfers





NFI data for the carbon pools

- Most countries use NFI data for the living biomass component
- Several countries use NFI data also for litter and dead wood
- Some countries use NFI data for soil organic carbon

Reference definitions

- Land-use categories
- Afforestation, (reforestation and deforestation)
- Forest Management and Managed Forest
- Carbon pools
- (Recommendation on choice of default or stock change method)

Some examples...

- Aboveground biomass
- Soil organic matter
- Flowchart to guide selection of basic method

Aboveground biomass

Proposition

In aboveground biomass we propose to include all biomass of living vegetation, both woody and herbaceous, above the soil, including stems, stumps, branches, bark, seeds, and evergreen foliage.

Note: In cases where forest understorey and non-tree vegetation is a relatively small component of the aboveground biomass carbon pool, it is acceptable to exclude it, provided this is made in a consistent manner



Soil organic matter

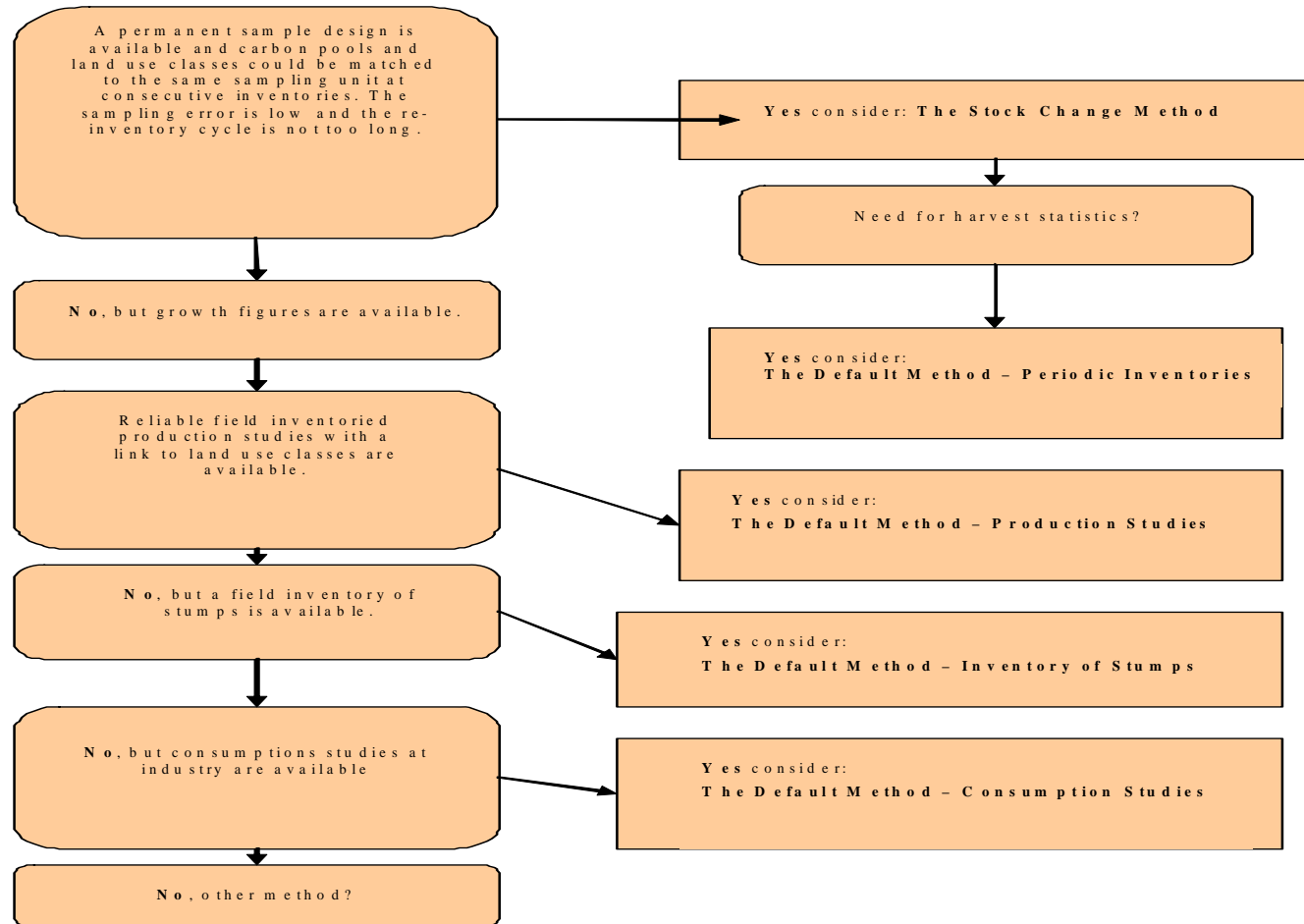
Proposition

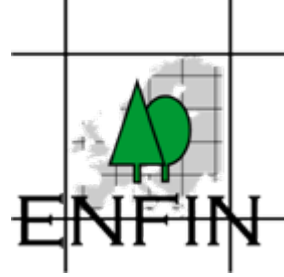
Soil organic carbon and litter is reported as one entity, as *soil organic matter*. It comprises fine woody debris, litter (as traditionally defined in soil science), all potential humus layers, and carbon in mineral soils down to a depth of 40 cm below the humic layer. Live fine roots of less than 2 mm are included with soil organic matter.

The pool also comprises dead roots.



Choice of default or stock change method

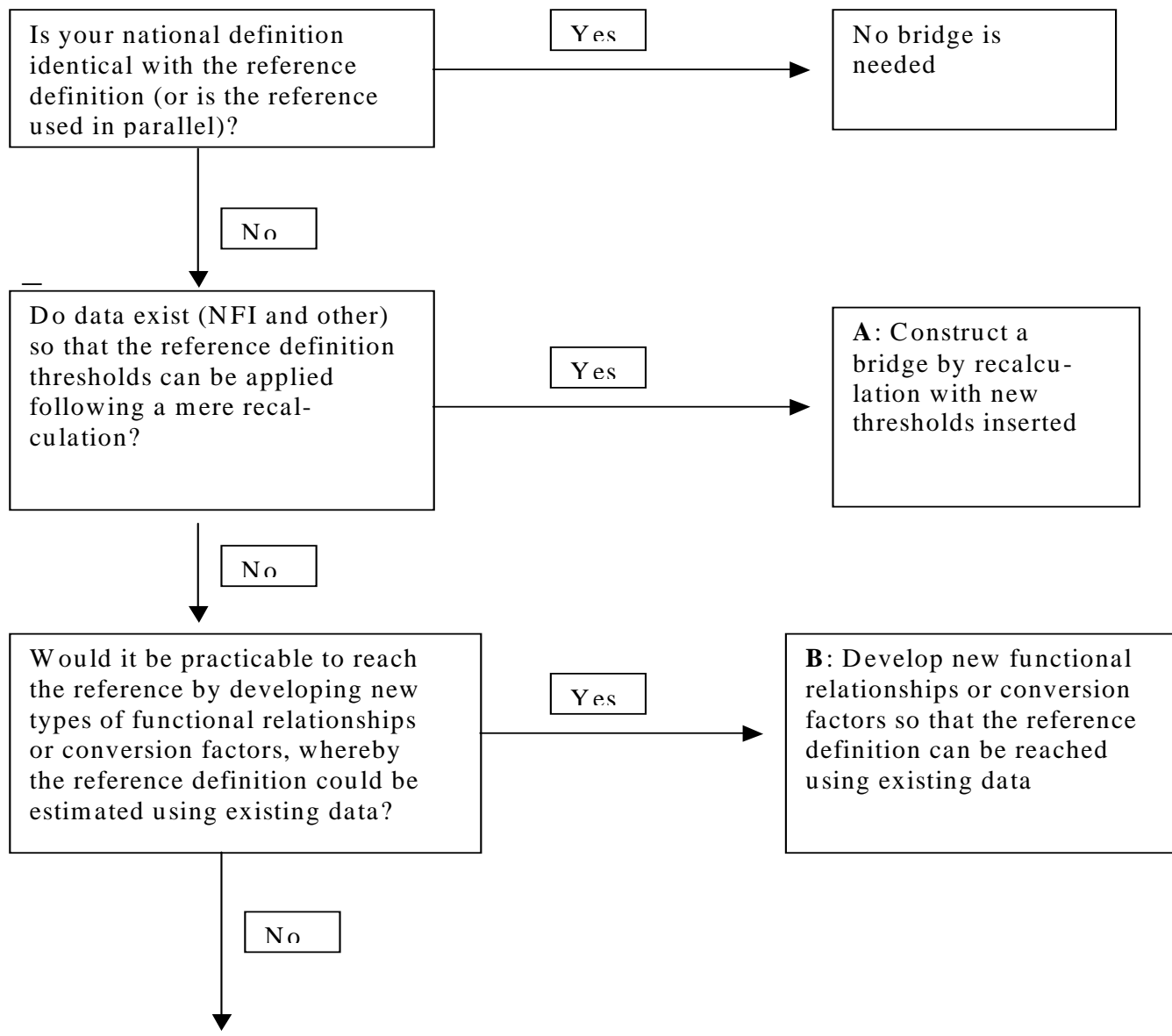




Concept for building bridges

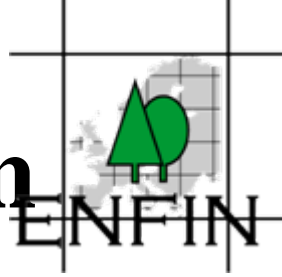
- Two articles under development
 - Conceptual together with other WGs
 - Concrete bridges and sensitivity analysis

A flowchart...





Study on uncertainty estimation



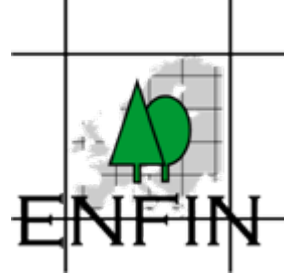
- IPCC recommendations poorly adapted to use with NFI data
- Need to account for, sometimes, major model errors in the uncertainty estimation
- Empirical studies and variance formula mixing model and sampling errors developed
 - Article under development

Study on interpolation

- IPCC only suggests linear interpolation
- Need to consider many different NFI cases (continuous with interpenetrating panels, region-by-region, occasional,...)
- Article with case examples is currently being developed



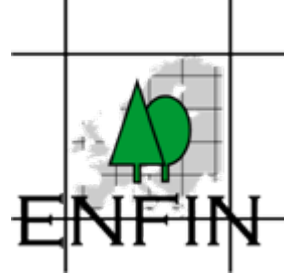
Study on use of biomass functions/expansion factors



- Workshop within WG2
- Continued work within MASCAREF has resulted in a working paper
- Major compilation of functions and factors used in European NFIs



END, and again...



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