

Cost Action E43 - WG 3

Naturalness – Nativeness

references proposal

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*Joint « WG3 Task Force – ICP Forest Expert Panel
on Biodiversity and Ground Vegetation » meeting*

Naturalness - Nativeness

1. Definitions

**2. Context : countries questionnaire /STSM
Gembloux/ WG3 meetings**

3. Proposal : references & classification key

Definitions (1/3)

➤ Naturalness

- ↳ degree of anthropogenic influences on forests
 - ➔ from primary forests to artificial forests

➤ Species nativeness (tree species nativeness)

- ↳ important variable to assess naturalness
 - ➔ native/introduced

Definitions (2/3)

➤ Naturalness

↳ indicator = the degree of naturalness

- distance between the potential natural and the current status of the stand -

↳ assessed through the human influence impact on forests

- any human actions even those designed to enhance biodiversity -

Definitions (3/3)

➤ Tree species nativeness

↳ **Native tree species** = indigenous^{fao} = autochtonous

↳ **Introduced^{fao}** = non native tree species = exotic tree species = non-indigenous

↳ **Domesticated introduced^{fao}** = established species

Naturalness classes : Cost E43 WGIII proposal

5 naturalness classes :

1. No visible human influence
2. Slight human influence
3. Strong human influence
4. Very strong human influence
5. Artificial forests

2^d Cost E43 WG 3 questionnaire (July 2006)

A questionnaire on naturalness assessment to:

↳ identify and describe existing countries classifications

↳ select NFI variables :

- relevant to naturalness assessment
- available in most countries

19 answers / 27 countries

Questionnaire results (1/2)

↪ **Naturalness assessment:** 11 countries on 19

↪ **2 types of assessment:**

- human disturbance impact and/or stand features : 8 countries
- comparison with potential natural vegetation : 3 countries

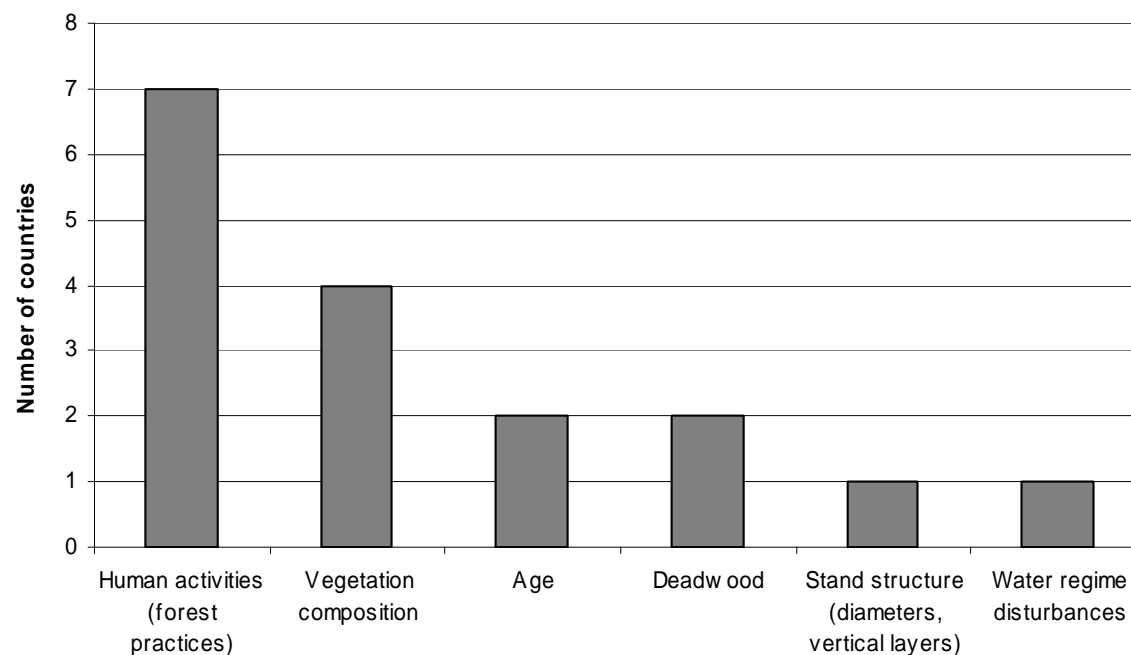
↪ **3 to 6 naturalness classes**

↪ **Mean plot sampling surface area:**

- 500 m² to 5000 m², up to the surroundings of the sampling plot
- for most of the countries (82 %): surface area < 0,5 ha.

Questionnaire results (2/2)

Main criteria used for the natural assessment :



1 or 2 variables for 80 % of countries

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Variables taken into account for naturalness assessment :

Nativeness

Current trees origin

Cutting system

Occurrence of other human disturbances

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Naturalness classification key

100 % introduced tree species (strictly exotic and/or domesticated):

Introduced tree species $\geq 20\%$

class 5

Introduced tree species $< 20\%$ but domesticated tree species $\geq 80\%$

Origin of current stand:

Artificial

class 5

Natural

class 4

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Naturalness classification key

Mixed native/ introduced tree species:

Introduced tree species $\geq 20\%$

Origin of current stand:

Artificial

class 5

Natural

class 4

Introduced tree species $< 20\%$ (native tree species $\geq 80\%$)

Origin of current stand:

Artificial

Regular spacing and even-aged stand

class 5

Others

class 4

Natural

At least 1 invasive tree species

class 4

No invasive tree species

Clearcut system

class 4

No clearcut

class 3

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Naturalness classification key

100% native tree species:

Origin of current stands:

Artificial

Regular spacing and even-aged stand	class 5
Others	class 4

Natural

Clearcut system	class 4
No clearcut but thinnings	class 3
No cutting for the last 100 years	
Stumps older than 100 years	class 2
No stumps	
Other human disturbances	
Strong impact	class 3
Slight impact	class 2
No other human disturbances	class 1

Proposed bridging functions – international references

Comparison with the classifications of international processes:

International processes	Proposed classes				
	1 No human influence	2 Slight human influence	3 Strong human influence	4 Very strong human influence	5 Artificial forests
TBFRA2000 (FAO)	undisturbed	semi-natural			plantation
GFRA 2005 (FAO)	primary	natural modified	semi-natural		productive plantation protective plantation
MCPFE 2008 report	undisturbed	semi-natural		plantation	
		of which natural modified			

To be checked !

Proposed bridging functions – NFI's references

Comparison with the NFI's classifications:

Countries	Proposed classes				
	1	2	3	4	5
	No human influence	Slight human influence	Strong human influence	Very strong human influence	Artificial forests
Estonia	Natural				
Finland	Undisturbed	Minor disturbance I and II	Clear disturbance I and II		
Italy	Undisturbed		Semi-natural		Artificial
Lithuania	No clear linkage : classes based on the % of planted trees volume (natural, mixed stands, planted stands, plantings)				
Norway	Undisturbed	Semi-natural			Plantation
Romania	Natural fundamental		Derived stands partially altered	Derived stands totally altered	Artificial stands
	Indefinite young stands				
Slovak Republic	Virgin	Natural	Semi-natural	Changed	
				Artificial	
Switzerland	No clear linkage : classes based on the % of coniferous trees in broadleaved forest areas only (near to nature, fairly far from nature, far from nature, very far from nature)				
Sweden	Old-growth		Normal forest		Plantation
Spain	Natural		Naturalized	Artificial	

To be checked !

Cost E43 WGIII - Naturalness subgroup

Conclusion

- our proposal need to be test in the field by the COST E43 countries
- set up bridging functions