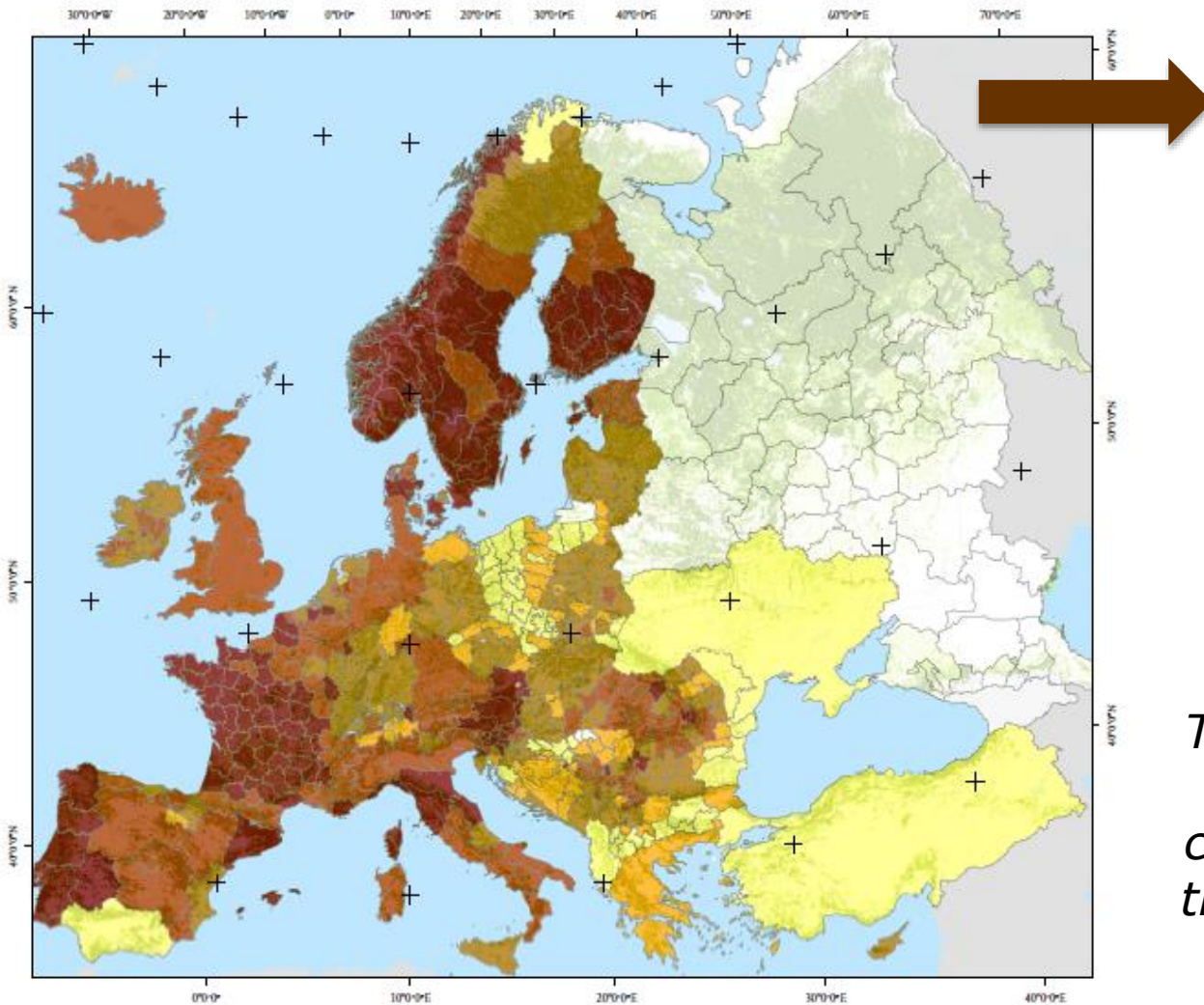


## Degree of freedom in private forestry

a property rights analysis across 27  
European countries

## Context

### Private forest ownership map of Europe (EFI, 2013)



### Legal approach of property rights

- Form of ownership
- The title of ownership
- Legal holder

*To own forest it may say very little about the content of the rights and the duties a forest owner has*

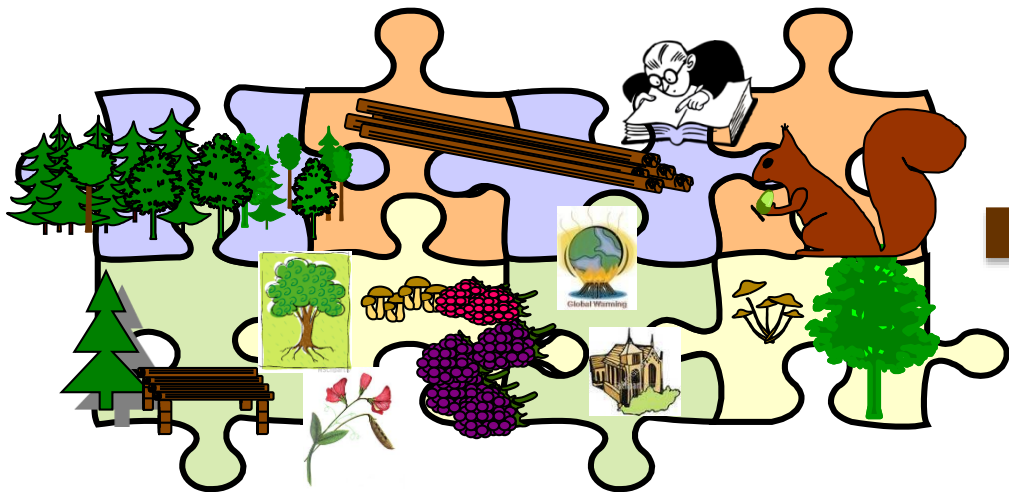
# Regional patterns of SFM paradigms

Winkel, G. et al. 2009. EU policy options for the protection of European forests against harmful impacts. Part of the tender: Implementation of the EU forestry Strategy: How to protect EU forests against harmful impacts.146

adapted from Glück (1994), Volz (2002), Kankaanpää & Carter (2004), Rametsteiner et al. (2008)

Paradigm	„Sustained yield“: Sustainable timber production	„Multipurpose forestry“: Multifunctional sustainability	„Ecosystem management“: Ecological sustainability		
Goal	Maximum possible periodic timber yields (in terms of quantity and quality)	Maximum possible periodic yields from sales of 1) timber and 2) other forest services	Improvement and/or maintenance of the ecological state of forest ecosystems		
Group of countries	<b>Northern Europe, Baltic States and Central Europe</b> Finland, Sweden, Estonia, (Latvia, Lithuania, Austria, Poland)	<b>Western, Central and Eastern Europe</b> France, Germany, Czech Republic, Slovakia, Slovenia, Bulgaria, Romania, (Hungary)	<b>Western Europe (“Atlantic Rim”)</b> Denmark, Ireland, United Kingdom	<b>Southern Europe</b> Greece, Italy, Portugal, Spain	<b>Western Europe</b> Belgium, the Netherlands, Luxembourg
Forest area	Large in relative terms	Mostly large in relative terms, partly parcelled forests	Small, in relative and absolute terms	Parcelled forests	Small, fragmented properties
Importance of forest sector in national economy	Great	Moderate	Little	Little	Marginal

# Basic questions about the distribution of property rights



The complexity of forest assets means a MIXT “bundle of rights” over forests utilization

## To whom belongs

- the timber
- the berries/mushrooms
- the game
- the biodiversity
- ...

## Who decides about

- amount of trees to be cut
- rotation period /species composition/
- access in the forest
- way of selling forestlands, the timber
- ...

# Analytical framework

Schlager CE, Ostrom E., 1992. Property-rights regimes and natural resources: a conceptual analysis. Land Econ 68(3), 249–262. doi:10.2307/3146375

Forest policy framework (international/national/regional)

*De jure*

## Structure of rights

access

withdrawal

management

exclusion

alienation

“Common” goods

Private goods

Public goods

“Club” goods

Institutional entrepreneurship

## Conventional Production Function

- Capacity to adapt the management practices
- Capacity to use multiple forests assets and amenities
- Capacity to innovate
- Services provided to the society
- ...

## Research objectives

- **Scope:** to develop a quantifiable “index” of the degree of freedom of individual private forest owners – property rights index (PRI)
  - To compare the components of the index according to the five rights: access, withdrawal, management, exclusion, alienation
  - To compare the index across Europe and to identify regional patterns
- Next phase: to use to “PRI index” to identify changes and differences in the regulatory framework across countries over two time periods

## Methods

expert analysis of forest related legislation

“Normal productive forests” and NOT specific cases e.g. protected forests, Natura 2000 designated areas etc

**De jure situation** as presented in the legislation and **not perception of experts** on the de facto situation

	Country	Code	Contributors
1	Austria	AT	Gerhard Weiss
2	Belgium (Wallonia)	BE*	Jacques Rondeux
3	Bosnia and Herzegovina	BIH	Mersudin Avdibegovic
4	Bulgaria	BG	Nickola Stoyanov
5	Croatia	HR	Silvija Krajter Ostoić
6	Czech Republic	CZ	Vilem Jarsky / Michal Hrib
7	Estonia	EE	Meelis Teder
8	Finland	FI	Teppo Hujala
9	France	FR	Philippe Deuffic
10	FYR Macedonia	MK	Makedonka Stojanovska / Vladimir Stojanovski
11	Hungary	HU	Laszlo Jager
12	Ireland	IE	Kevin Keary
13	Italy (Veneto)	IT*	Paola Gatto
14	Latvia	LV	Lelde Vilkriste
15	Lithuania	LT	Diana Lukmine / Rita Silingiene
16	Netherlands	NL	Marjanke Hoogstra-Klein
17	Norway	NO	Birger Vennesland
18	Poland	PO	Krzysztof Jodlowski
19	Portugal	PT	Diana Feliciano
20	Romania	RO	Liviu Nichiforel / Laura Bouriaud
21	Serbia	RS	Jelena Nedeljkovic / Dragan Nonic
22	Slovakia	SK	Zuzana Sarvasova / Zuzana Dobsinska
23	Slovenia	SI	Špela Pezdevšek Malovrh / Milan Sinko
24	Spain (Catalonia)	ES*	Elena Gorriz
25	Sweden	SE	Erik Wilhelmsson
26	Switzerland (Aargau)	CH*	Jerylee Wilkes-Allemann
27	UK (Scotland)	UK*	Anna Lawrence

## Data collection

- Initial questionnaire with 42 questions resulting in 37 indicators
  - **Access rights:** The right of owners to enter their forest land
  - **Withdrawal rights:** The right to harvest or remove forest products from the resource
  - **Management rights:** The right to regulate internal use patterns (e.g. management plans) and transform the forest by making improvements (e.g., planting seedlings, thinning trees)
  - **Exclusion rights:** The right to determine who will have the access/withdrawal rights
  - **Alienation rights:** The right to sell or lease management and exclusion rights

Category	Subcategory	Indicators	% of total	Weight of the right
Access rights		1	3	3
Withdrawal rights	Timber	6	16	30
	NWFP	5	14	
Management rights	Land use	3	8	35
	Management planning	8	22	
	Forest administration	2	5	
Exclusion rights	Public access	3	8	19
	NWFP access	4	11	
Alienation rights		5	13	13
<b>Total</b>		<b>37</b>	<b>100</b>	<b>100</b>



# Post-hoc analysis

- Identify the full set of alternatives for each indicator
- Sort the alternatives in an order to reflect decreasing decisional freedom of forest owners
- categorised the alternatives from “no restrictions” (100% freedom for owners) to “fully restricted” (0% freedom for owners)

## I18. How are the management goals influenced by the forest owners?

Code	Legal conditions for the category	Valuation of categories
I18.1	forest owners can freely choose the management goals	100
I18.2	forest owners can choose the management goals within general technical limits (e.g. the maximum size of clear cuts)	80
I18.3	forest owners can bring their management goals in the planning process, but they have not the freedom of decision	45
I18.4	forest owners' interest are only informative and not relevant in planning process, however their interests should or could be mentioned in the finalised FMP	20
I18.5	forest owners' interests are not considered at all in the planning procedures	0



Indicator	Alternatives	Paola	Phillip	Vilem	Birger	Elena	Kevin	Teppo	Liviu	Gerhard	Anna	Eric	Meelis	Average 10 (excluding extremes)	Average 12	FINAL Value of category
I18.1	forest owners can freely choose the management goals	100	100	100	100	100	100	100	100	100	100	100	100	100.00	100.00	100.0
I18.2	forest owners can choose the management goals within some technical limits (e.g. the size of clear cuts)	75	90	85	75	80	75	90	75	90	80	75	75	81.67	80.42	80.0
I18.3	forest owners can bring their management goals in the planning process, but they have not the freedom of decision	50	50	45	50	45	50	35	50	50	50	30	50	47.22	46.25	45.0
I18.4	forest owners' interest are only informative and not relevant in planning process, however their interests should or could be mentioned in the finalised FMP	25	15	20	25	10	25	20	25	5	20	5	25	18.89	18.33	20.0
I18.5	forest owners' interests are not considered at all in the planning procedures	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.0

## Assessment of access rights (1 indicator)

Indicator 1. Are there any restrictions for owners to enter their own property?

Code	Legal conditions for the category	Valuation of the category	Countries	$\Sigma$
I1.1.	No limitation is provided in the legislation – owner is allowed to enter under all circumstances	100	AT, EE, FI, HU, IE, LV, NL, NO, PL, PT, SK, CH*	12
I1.2.	Exceptional imposed restrictions possible due to health and safety reasons (e.g. forest fires, mines, disease outbreaks)	90	BIH, BG, HR, CZ, FR, MK, IT*, LT, RS, SI, SE, ES*, UK*	13
I1.3.	Temporarily imposed seasonal restrictions (e.g. days of hunting, guarding contract against illegal logging) – owners can negotiate this and refuse it	80	BE*, RO	2
I1.4.	Temporary imposed seasonal restrictions – owner cannot negotiate this (e.g. days of hunting)	55		0
I1.5.	Owner is always forbidden to enter his property	0		0

## Withdrawal rights for timber products (6 indicators)

- **Decision of the amount of timber to be harvested**
  - Owners are allowed to decide on the amount
    - with some restrictions imposed on exceptional cases (FI, NL)
    - in a framework of general silvicultural restrictions (AT, BE\*, IE, LV, NO, PT, ES\*, SE)
    - up to a certain size of forest – 25 ha (FR), 5 ha (EE), 3 ha (LT)
    - up to a certain amount of timber 5 m<sup>3</sup>/quarter (UK\*), 10 m<sup>3</sup>/year (BG, IT\*, CH) or 3 m<sup>3</sup>/year (CZ, PL, RO)
  - Only decided by the imposed management plan (BIH, HR, MK, HU, RS, SK, SI)
- No difference in legislation between „commercial” and “personal consumption” for timber products except in LT
- **Authority approval:** from informing the authority to imposed conditions for approval
- In some countries even **the extraction of brushwood** (fallen braches on the field) is not free and needs approvals (BG, HR, RO,RS)
- In 20 countries the owner has **the right to harvest the trees by him/herself** while in 7 countries this is possible only if the owner has a licences proving harvesting skills (BG, HR, MK, HU, IT\*, LV, SK)
- **Getting harvesting permits for timber removal** it is considered a very easy procedures in 21 countries while in 6 countries it involves different degrees of bureaucratic constraints (BIH, IE, IT\*, PT, RO, RS)

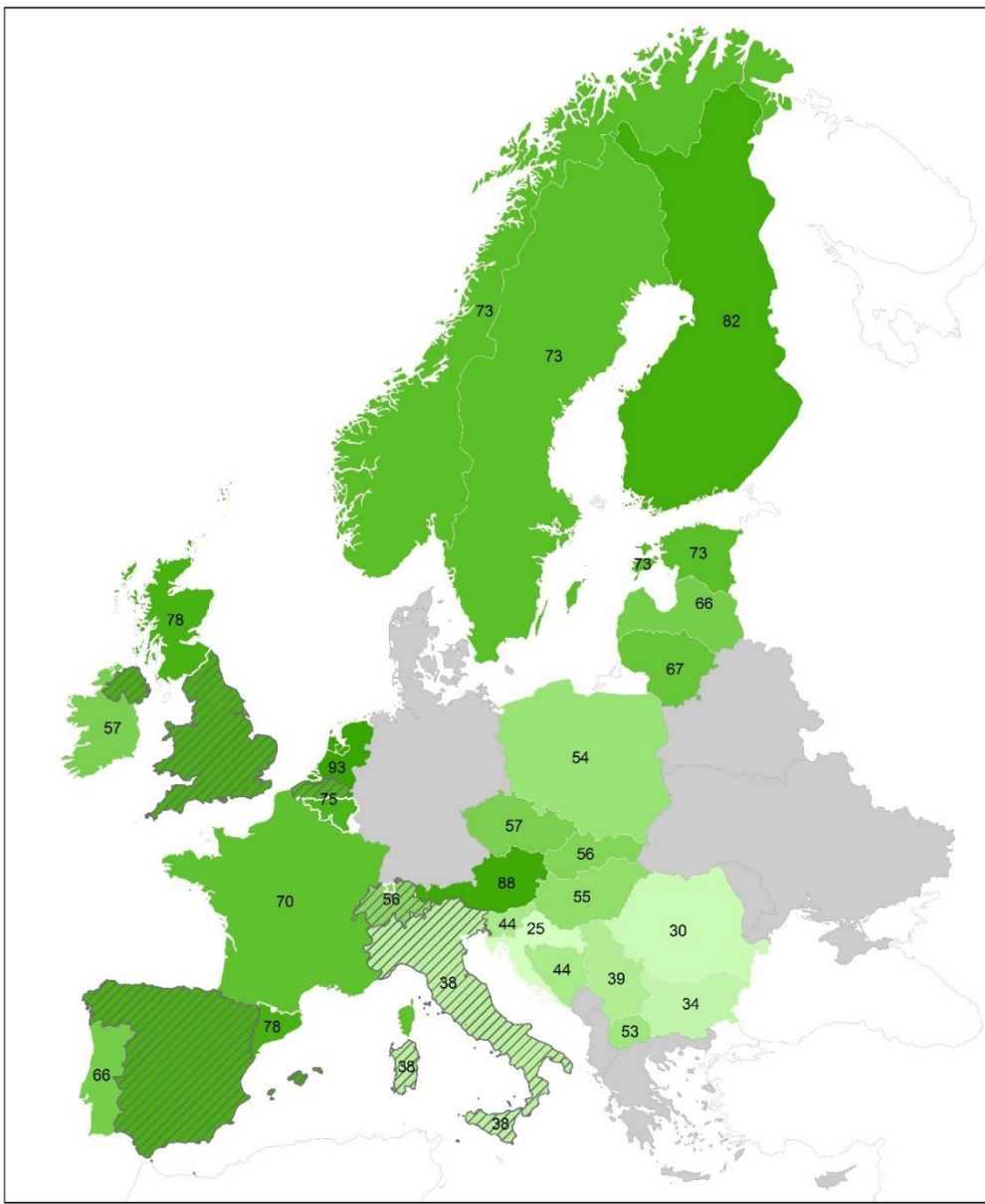
## Withdrawal rights for non-timber products (5 indicators)

- Owners face no restrictions for **the collection of mushrooms for personal consumption** in 21 countries. In 2 situations (EE and LT) general restrictions are provided in the legislation related to the gathering season. In 4 countries (BIH, BG, HR, SI) the quantity of mushrooms an owner can harvest is defined by the law.
- The rules for **the commercial use of mushrooms** are not very different. In BIH, CZ, RS, RO a specific certificate/ approval is requested if the owner wants to sale the mushroom.
- In 8 countries **the game** is legally considered as res nullius while in 13 countries the state owns wild animals and this ownership is described by the law. Only in 3 countries the game legally belongs to the owner of the land (AT, NL, SK).
- In 18 countries owner cannot influence **the hunting quota**. The owner can decide only for specific species (i.e. small game) in EE, FI, LV, LT, NL while in AT, ES\* the owner can decide subject to authority approval. FR and UK\* provide an example of active negotiations.
- In general owners can freely decide on how **grazing activities** can take place or in the framework of general legal limitations. In 11 countries, the state administration decides if grazing if authorized (BIH, FR, HR, RS, SI) or are legally forbidden (BE, CZ, HU, PL, SK, CH).

# Repartition of withdrawal rights index (11 indicators)



Maximum score 1100 = 100%  
Netherlands - 1020 = 93%  
Croatia - 275 = 25%



1. Netherlands --> 93
2. Austria --> 88
3. Finland --> 82
4. Spain (Catalunya) --> 78
5. Great Britain (Scotland) --> 78
6. Belgium (Wallonia) --> 75
7. Sweden --> 73
8. Estonia --> 73
9. Norway --> 73
10. France --> 70
11. Lithuania --> 67
12. Portugal --> 66
13. Latvia --> 66
14. Czech Republic --> 57
15. Ireland --> 57
16. Slovakia --> 56
17. Switzerland (Aargau) --> 56
18. Hungary --> 55
19. Poland --> 54
20. FYR Macedonia --> 53
21. Bosnia and Herzegovina --> 44
22. Slovenia --> 44
23. Serbia --> 39
24. Italy (Veneto) --> 38
25. Bulgaria --> 34
26. Romania --> 30
27. Croatia --> 25

## Assessment of management rights ( 13 indicators)

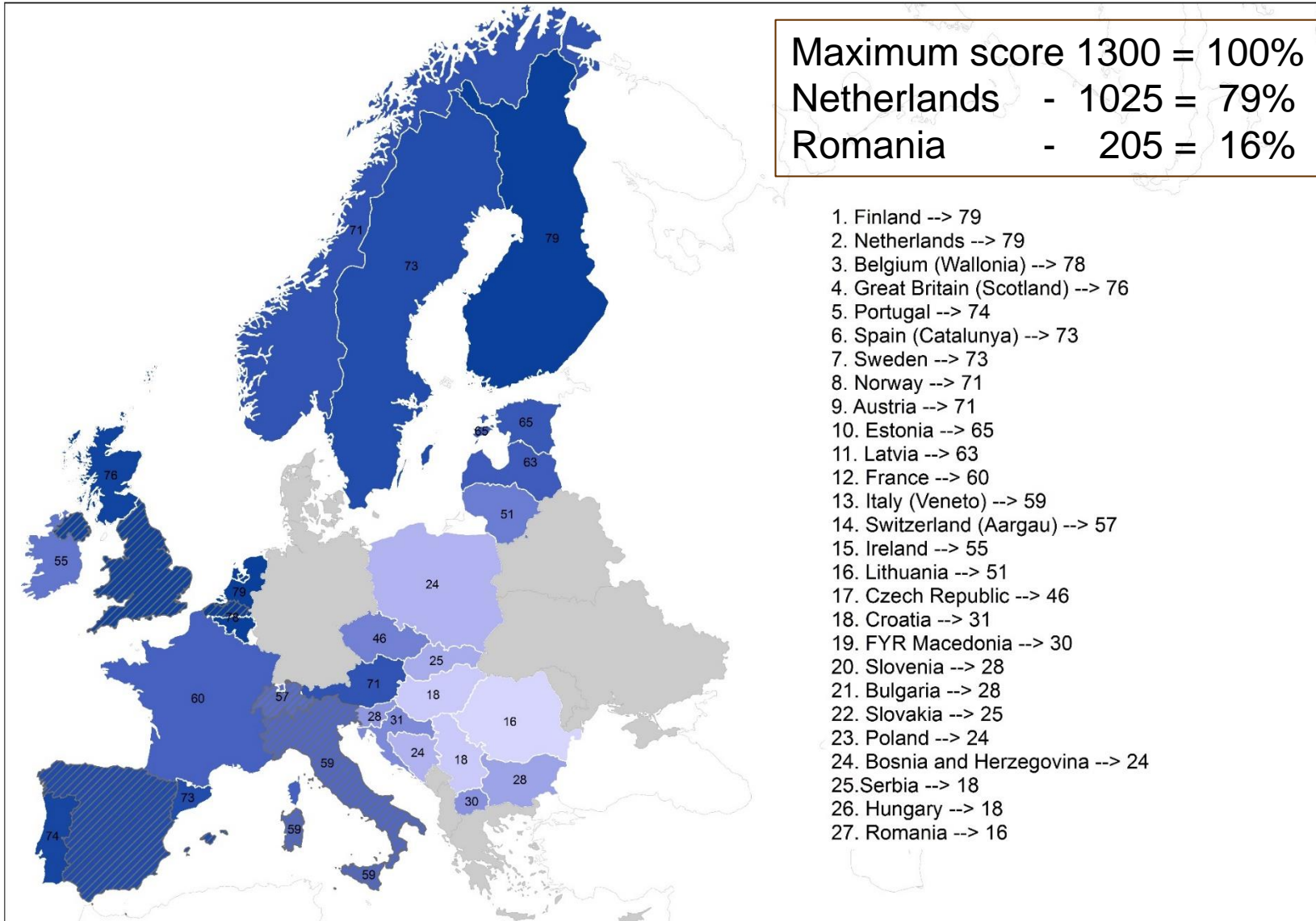
- Regulations regarding the forestland use change/ Obligation for reforestation after the final feeling
- Management planning: the need for a plan, the design of the plan and the approval of the plan
- Setting the management goals: decision on rotation periods and on species
- Administration of private forests, selection of trees to be harvested

	Legal conditions for the category	%	Countries	Σ	
I16.1	No form of FMP is legally required in any case, including subsidies (except the voluntar requirements brought by certification)	100	FI, NO, SE	3	
I16.2	FMP is required only is special conditions (if the forest owner wants to access financial support (i.e.subsidies) or perform large clearcuts, otherwise no form of FMP is needed	85	AT, BE, IE, IT, NL, PT, ES*, UK*	8	
I16.3	FMP is not required but forest inventory data are requested for all forest	70	EE, LV	2	
I16.4	FMP is required only if the owner wants to perform final feeling	60	LT	1	
	FMP is always mandatory for forests above [a certain area]				
I16.5		50 ha	50	BG, CZ	2
I16.6		25 ha	40	FR	1
I16.7		20 ha	35	CH*	1
I16.8		10 ha	25	PL, RO	2
I16.9	FMP is always required regardless the forestry works intended by the owner and the state supports the costs	15	BIH, HR, MK, HU, RS, SK, SI	7	
I16.10	FMP is always required regardless the forestry works intended by the owner and the owner pays	0			

# Repartition of management rights index (13 indicators)



Maximum score 1300 = 100%  
Netherlands - 1025 = 79%  
Romania - 205 = 16%



## Assessment of exclusion rights ( 7 indicators)

- Legal provisions regarding public access in the forest
- Restrictions on forest roads crossing the private property
- The right to restrict camping on the property
- The right to restrict the collection of mushrooms for recreational purposes
- The right to restrict the collection of mushrooms for commercial purposes
- The capacity to decide on who is allowed to hunt on the property
- The right to fence the property

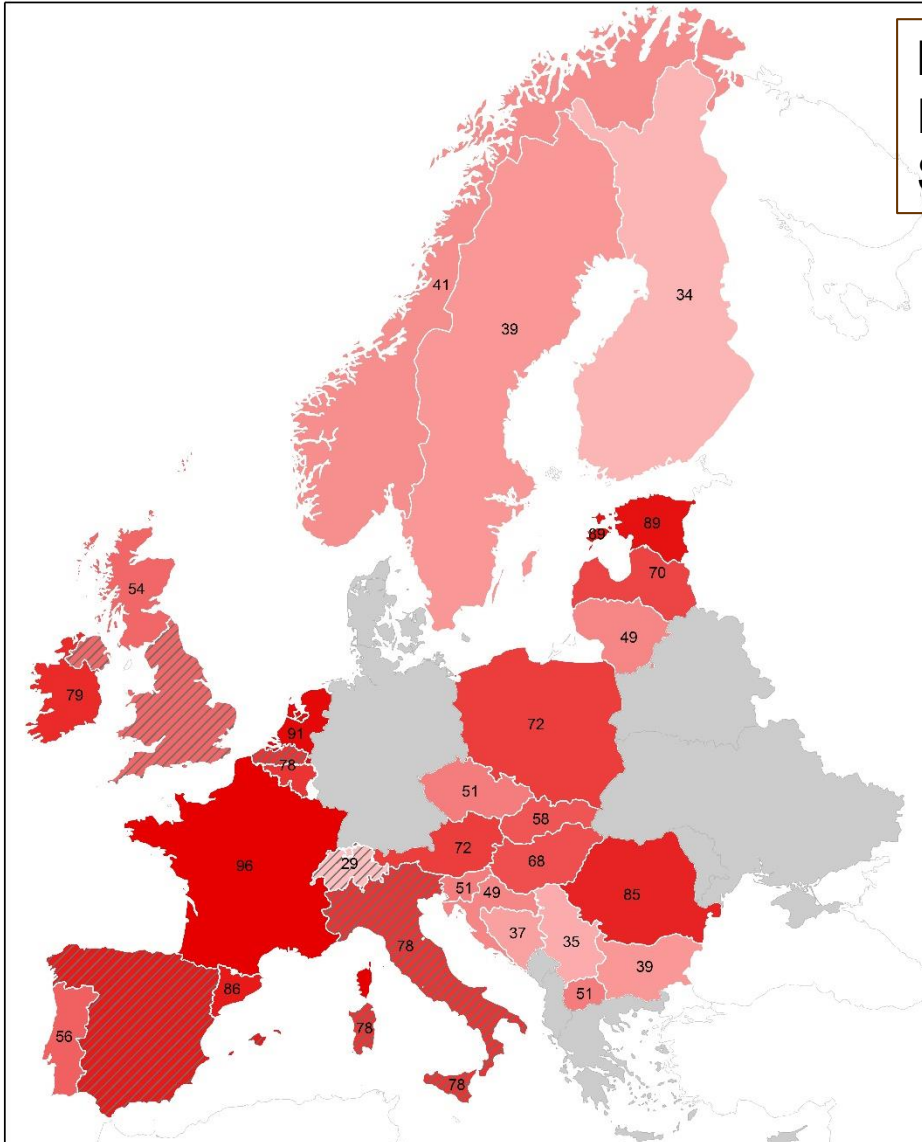


# Repartition of exclusion rights (7 indicators)

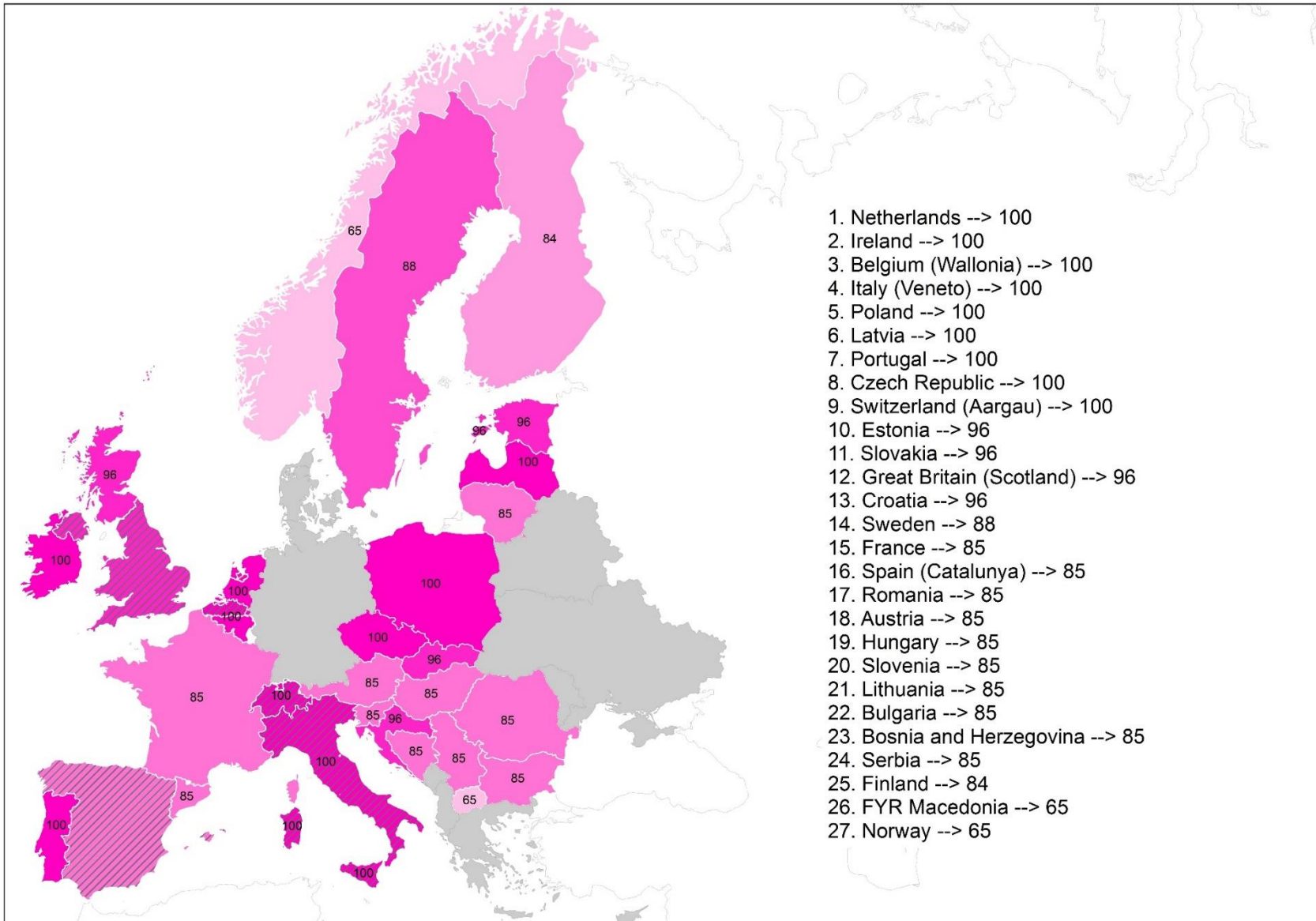


Maximum score	700 = 100%
France	670 = 96%
Switzerland	200 = 29%

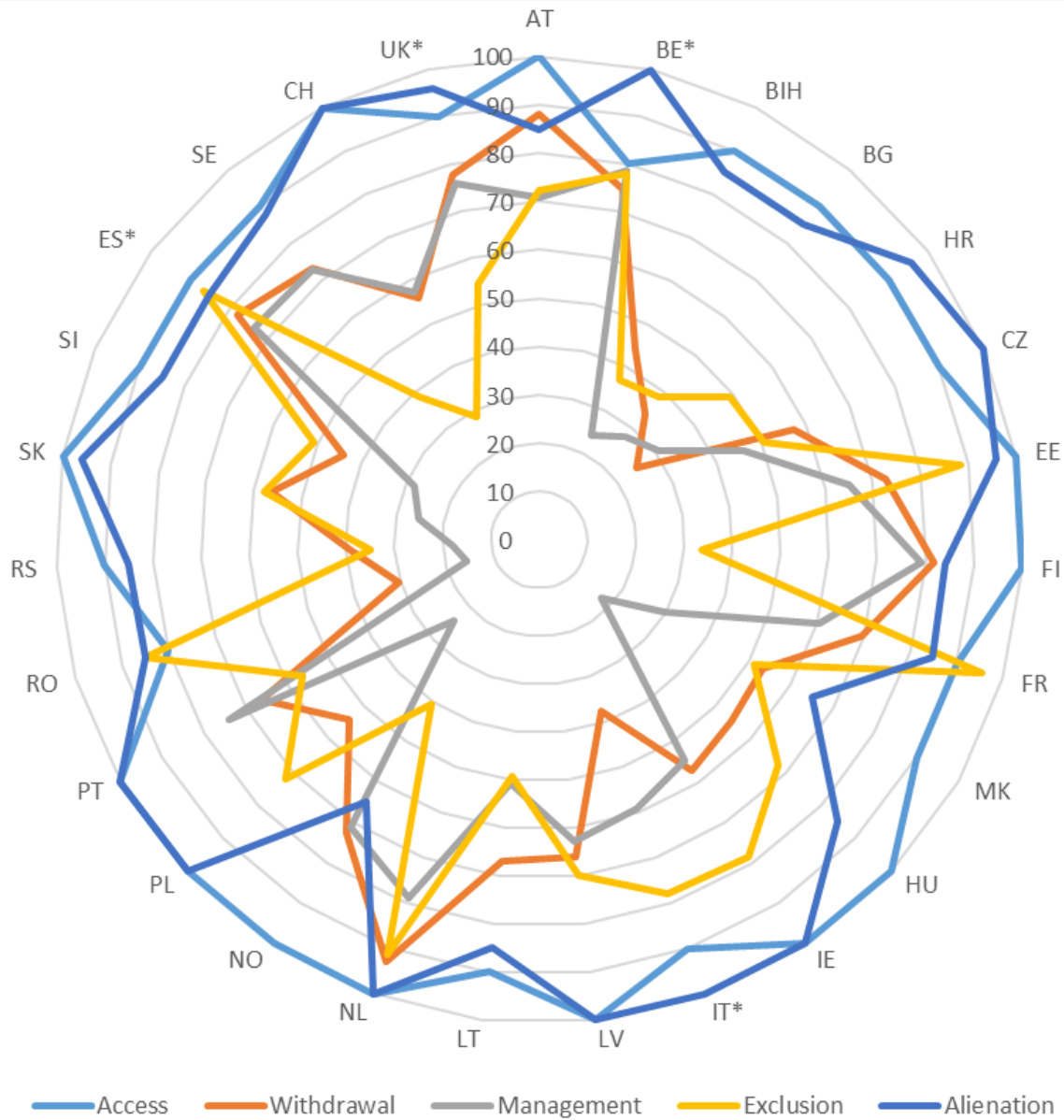
1. France --> 96
2. Netherlands --> 91
3. Estonia --> 89
4. Spain (Catalunya) --> 86
5. Romania --> 85
6. Ireland --> 79
7. Belgium (Wallonia) --> 78
8. Italy (Veneto) --> 78
9. Austria --> 72
10. Poland --> 72
11. Latvia --> 70
12. Hungary --> 68
13. Slovakia --> 58
14. Portugal --> 56
15. Great Britain (Scotland) --> 54
16. FYR Macedonia --> 51
17. Czech Republic --> 51
18. Slovenia --> 51
19. Lithuania --> 49
20. Croatia --> 49
21. Norway --> 41
22. Sweden --> 39
23. Bulgaria --> 39
24. Bosnia and Herzegovina --> 37
25. Serbia --> 35
26. Finland --> 34
27. Switzerland (Aargau) --> 29



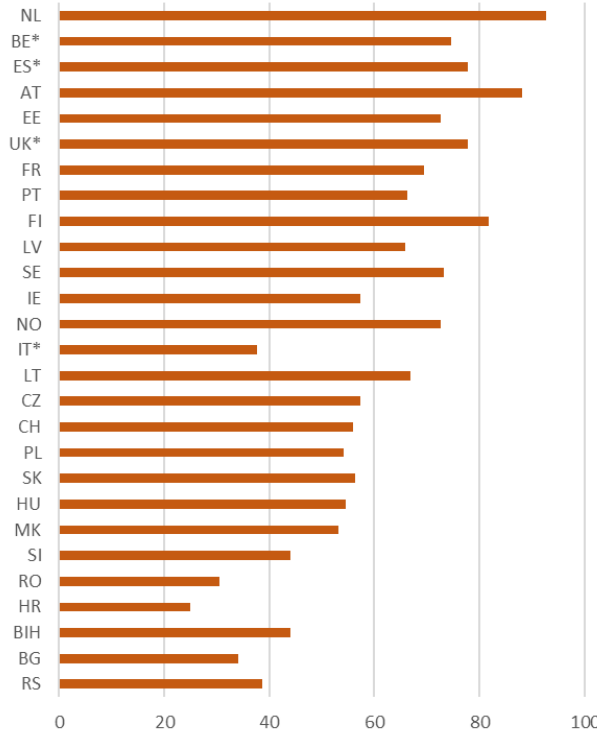
# Repartition of alienation rights (5 indicators)



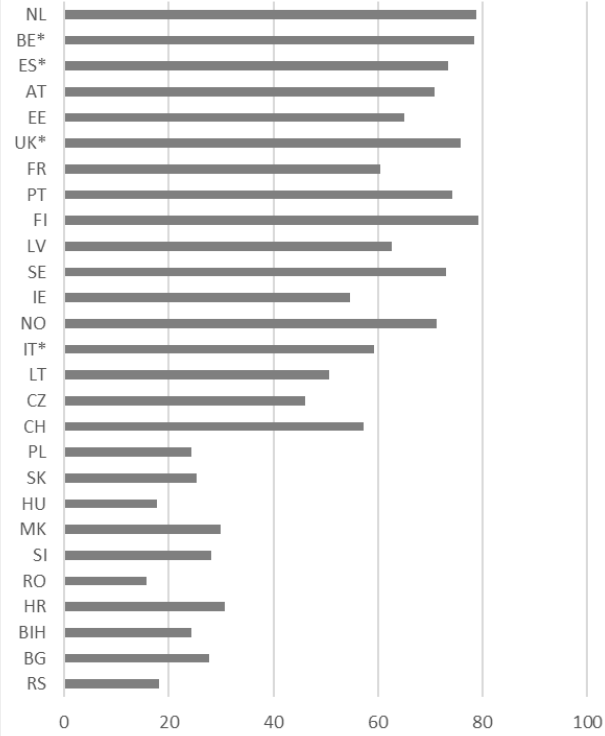
# Comparing the distribution of the five rights across countries



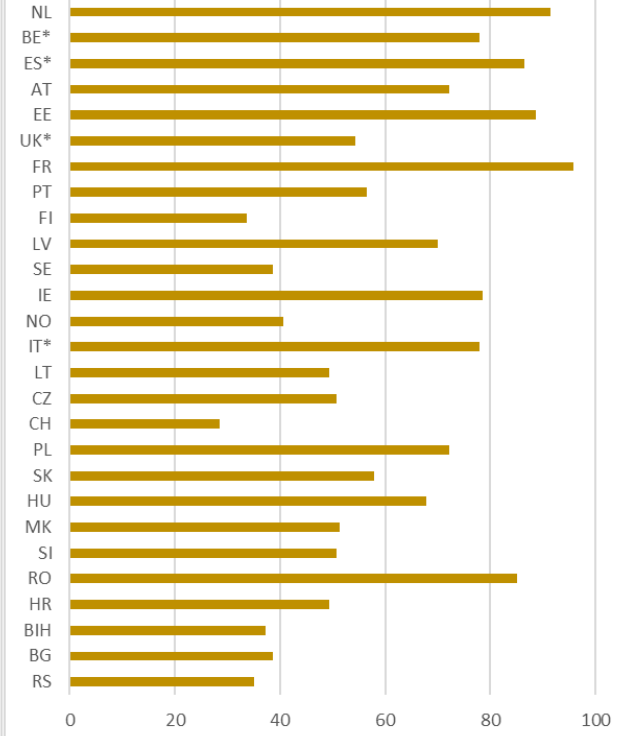
### Withdrawal



### Management



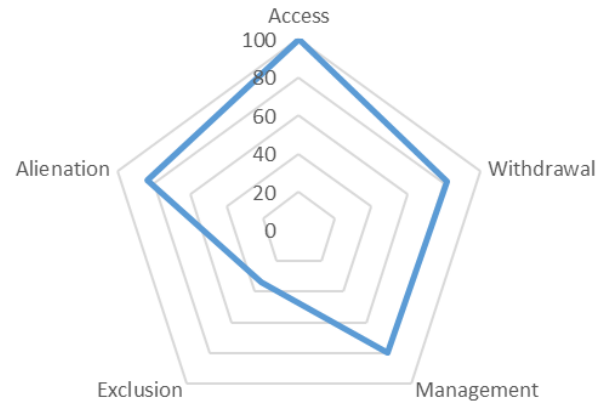
### Exclusion



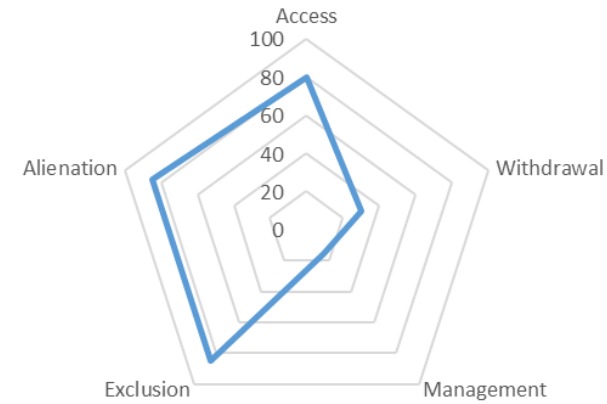
### Austria



### Finland



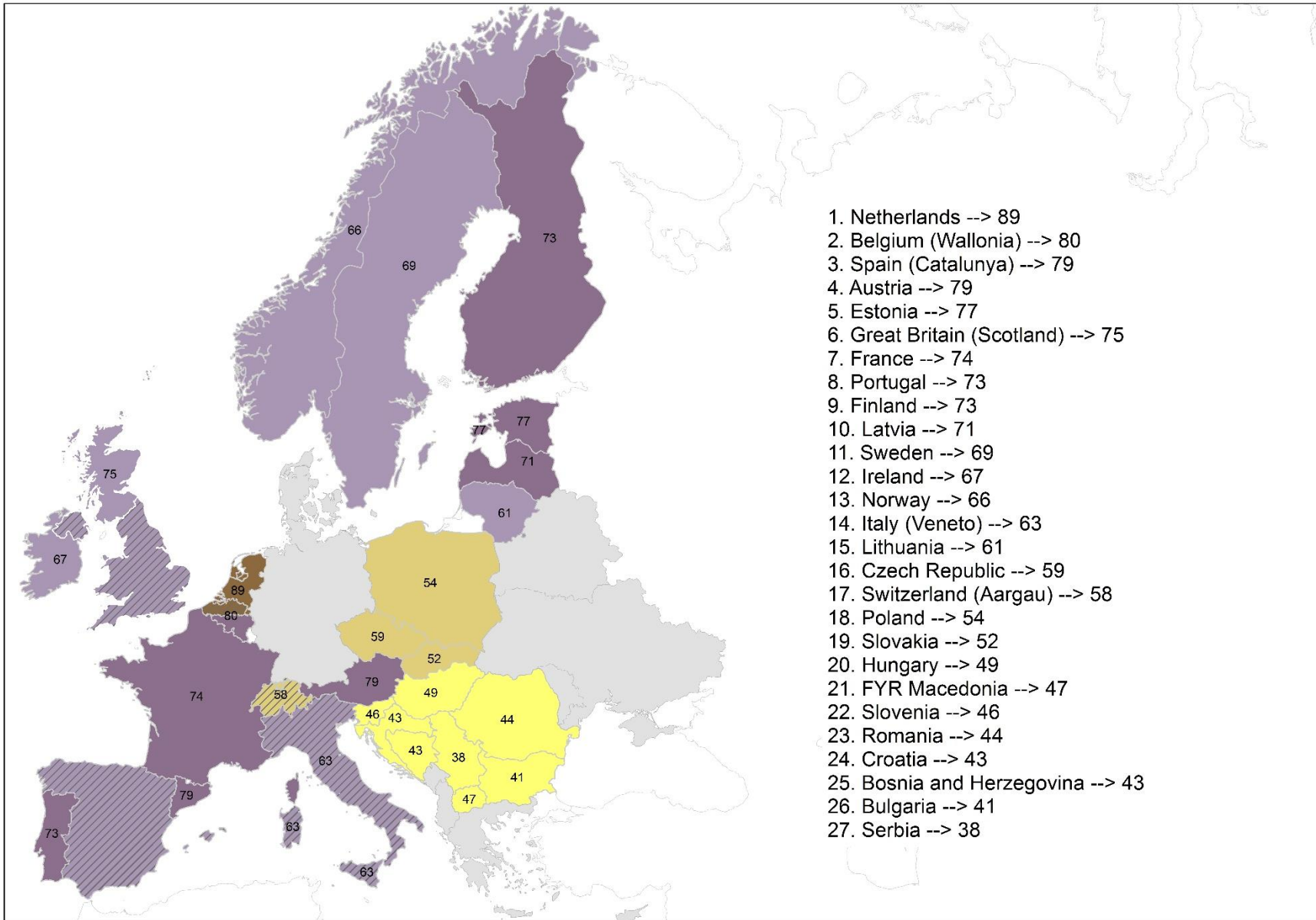
### Romania



## The Property rights index in private forestry ( 37 indicators)

	Access sub index	Withdrawal sub index	Management sub index	Exclusion sub index	Alienation sub index	Property rights Index
	3%	30%	35%	19%	13%	
Austria	100	88	71	72	85	78.9
Belgium (Wallonia)	80	75	78	78	100	80.1
Bosnia and Herzegovina	90	44	24	37	85	42.6
Bulgaria	90	34	28	39	85	41.1
Croatia	90	25	31	49	96	43.0
Czech Republic	90	57	46	51	100	58.8
Estonia	100	73	65	89	96	76.9
Finland	100	82	79	34	84	72.6
France	90	70	60	96	85	73.9
fYRepublic of Macedonia	90	53	30	51	65	47.3
Hungary	100	55	18	68	85	49.5
Ireland	100	57	55	79	100	67.3
Italy (Veneto)	90	38	59	78	100	62.7
Latvia	100	66	63	70	100	71.1
Lithuania	90	67	51	49	85	60.9
Netherlands	100	93	79	91	100	88.8
Norway	100	73	71	41	65	65.8
Poland	100	54	24	72	100	54.5
Portugal	100	66	74	56	100	72.7
Romania	80	30	16	85	85	44.3
Serbia	90	39	18	35	85	38.4
Slovakia	100	56	25	58	96	52.3
Slovenia	90	44	28	51	85	46.5
Spain (Catalonia)	90	78	73	86	85	79.2
Sweden	90	73	73	39	88	69.1
Switzerland (Aargau)	100	56	57	29	100	58.4
UK (Scotland)	90	78	76	54	96	75.4
Average 27 countries	94	60	51	61	90	61.9

# Repartition of the PRI



## Regional patterns: Post-socialist vs. Western countries

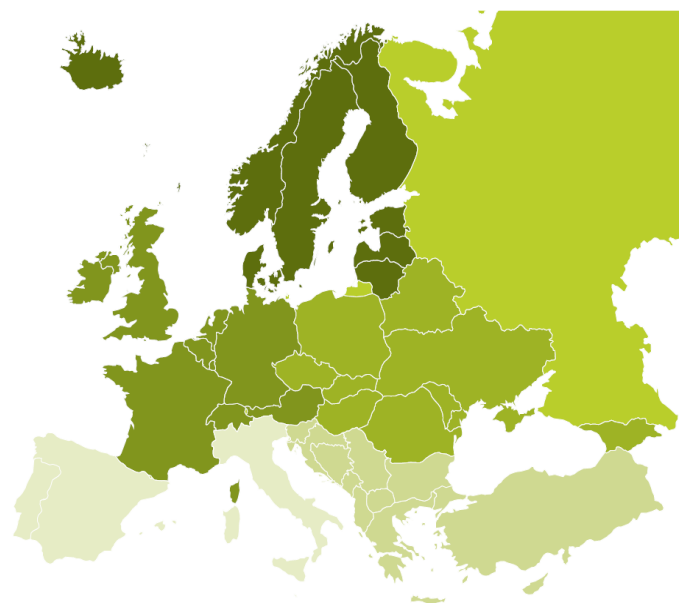
- More flexible and more forest owners' empowerment in the West
- Supervision of forest owners' actions by the State still predominant in many post-socialist countries

	Post socialist countries (N=14)	Western countries (N=13)
Average access index	93	95
Average withdrawal index	<b>50</b>	<b>71</b>
Average management index	<b>33</b>	<b>70</b>
Average exclusion index	57	64
Average alienation index	89	91
Minimum PRI	38.4	58.4
Maximum PRI	76.9	88.8
Average PRI	<b>51.9</b>	<b>72.7</b>



	Balkans country (RS, BG, BIH, HR, SI, MK)	Central /Eastern European (RO, HU, SK, CZ, PL)	Baltic countries (LT, LV, EE)
Average withdrawal index	40	51	68
Average management index	26	26	59
Average exclusion index	44	67	69
Average PRI	<b>43</b>	<b>52</b>	<b>70</b>

## Regional patterns: FOREST EUROPE Country groups



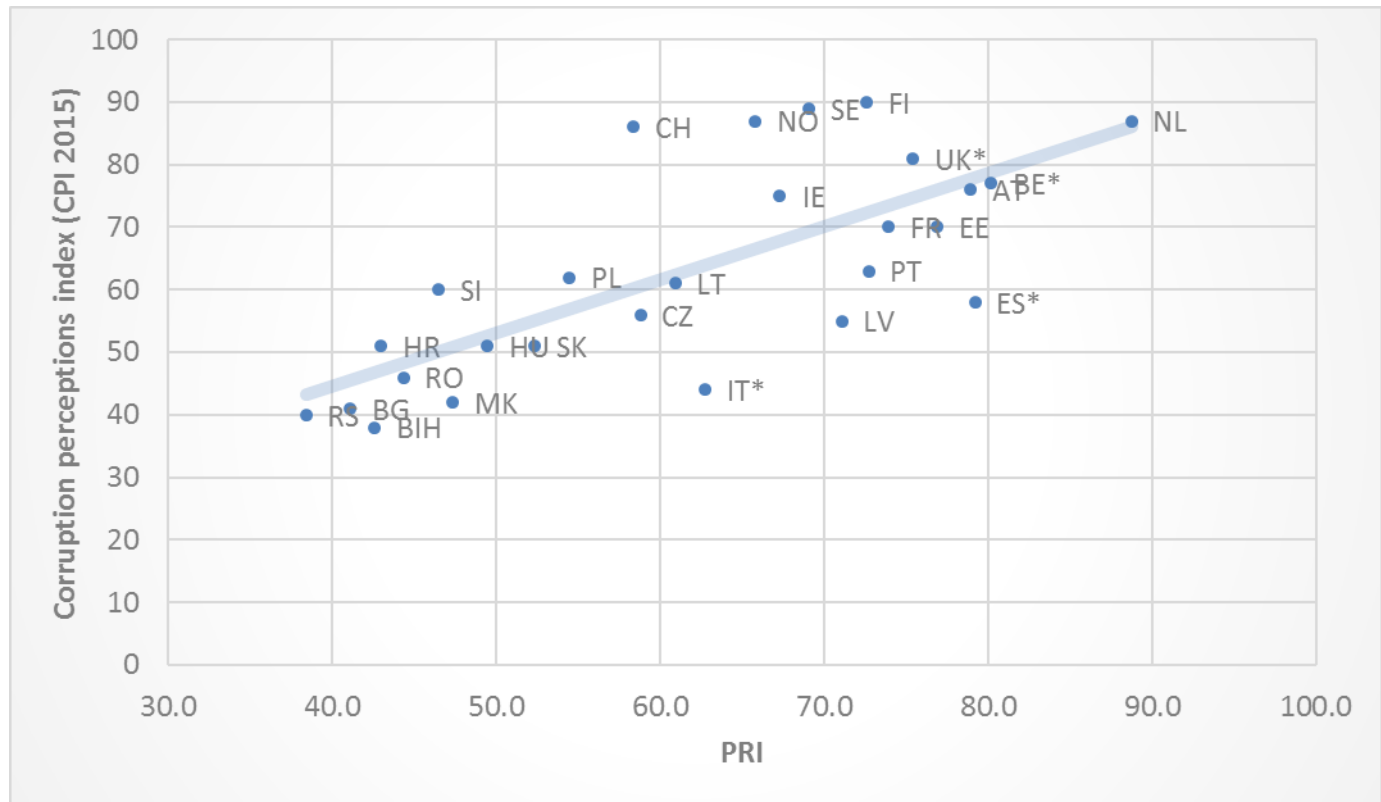
FOREST EUROPE, UNECE and FAO 2011. State of Europe's Forests 2011. Status and Trends in Sustainable Forest Management in Europe.

Country group	Code	Average			PRI
		withdrawal index	management index	exclusion index	
North Europe	LT, LV, EE, SE, NO, Fi	72	67	53	<b>70</b>
Central-West Europe	AU, CH*, FR, IE, NL, UK *, BE*	74	68	71	<b>75</b>
Central -East Europe	CZ, HU, RO, PL, SK	51	26	67	<b>52</b>
South West Europe	ES*, IT*, PT	61	69	74	<b>72</b>
South East Europe	BIH, BG, HR, SI, MK, RS	40	26	44	<b>43</b>



# Discussions

- **De jure requirements vs. de facto implementation:** higher level of restrictions need strong enforcement mechanisms – consequences on the owner's behaviours



Corruption perceptions index	0-19	highly corrupt public sector
	20-69	a bit better, but corruption among public institutions and employees is still common
	70-100	perceived as cleaner, but not perfect

## Discussions

- The quantification of the degree of freedom in private forestry as an indicator of the governance mechanisms
- Normative dimension - does a higher degree of liberty means better management practices or a better provision of ecosystem services?
- Formal rights versus less formal instruments (certification mechanisms instead of very strict regulations)