



Sustainable Forest Management: Progress on finalization of the Inventory of Virgin Forest

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Carpathian Convention Implementation Committee Budapest, 13 December 2019



The Carpathian Mountains are one of the most important forest ecosystems in Europe due to their *high concentration of virgin forests*

The "**protocol for sustainable forest management**", signed by the Carpathian Convention Parties is formalising the *need to preserve the richness and ensure sustainable use of the Carpathian forests*

In this framework, EEA signed a partnership agreement with the Carpathian Convention Secretariat in July 2012 and included a work plan that is being implemented by one of its European Topic Centres (actually ETC/ULS) represented by the University of Malaga (UMA)





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→ identification and protection of natural forests, with a special focus on virgin forests

Since 2014, EEA and ETC/ULS support the Forest WG of the Carpathian Convention in setting the basis to locate, monitor, and prioritise virgin and HNV forest areas:

- > Developing Carpathian-wide indicators supporting sustainable management efforts
- Support in the virgin forest inventory for better conservation
- Develop an Integrated Data platform to host data



Timeline

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EEA and SCC signed a cooperation agreement (WG on Forest for the implementation of the protocol on sustainable forest management)

Gathering relevant available datasets, indicators from the Parties to support the identification of virgin forests

Creation and publication of a first Inventory of Carpathians Virgin Forest (Member Parties data)

Finalization of the Virgin Forest Inventory



Definition and delimitation of a study area (KEO), collection of available datasets to populate a virgin forest inventory

Development of regional indicators based on the EEA HNV forest indicator

Virgin Forest inventory improvement, Forest typology harmonization (EUNIS), Integrated data platform



Criteria for the selection of Virgin Forest in the Carpathians

A1 Criterion: Naturalness

A1.1. Species composition

Forests formed of native/autochthonous tree species according to potential natural forest types.

A1.3 Deadwood

Presence of deadwood (lying and standing) at all stages of degradation and all over the forest surface.

A2 Criterion: Area & Delimitation

A2.1 Area of forest plot Minimum 20 ha Carpathian Convention Implementation Committee Budapest, 13 December 2019



Cyclic ecosystems with complex structures, which include all stages of small development circles in a mosaic structure (horizontal) and vertically layered, according to the natural type of forest.

A1.4 Human activities which influenced the development, structure and dynamic of the ecosystem

1) Infrastructure, 2) Felling, 3) litter removal, 4) Grazing and 5) Recreation /education infrastructure

A2.2 Shape of forest plot

Minimum distance between any two opposite boundary points does not decrease below 200 m.

Source: SCC webpage

Official Virgin Forest Inventory

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		Based on						ıdine				(Administrative) I	Location				
No.	Name of the virgin forest	Forest management plan, edition (year)	Study, edition	Type of property	Latitude N	Longitude E	minimum	maximum	County	Owner, administrator	Production Unit	basic forest unit (compartment) u.a.	Type of forest: Czech site classification (Viewegh et al. 2003) / Habitat directive classification	Area (ha)	of which do no crit nati	surfaces that t meet the erion of iralness	the level of the forests protection (fully protected, in progress not protected)
		-			_	-	_		_						u.a.	Area (ha)	
0	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16
244	Mionší		archive documents, field survey, naturalness assessment	state	49.5333275N	18.6615444E	720	950	Frýdek-Místek	Forests of the Czech Republic, state enterprise/Nature Conservation Agency of the Czech Republic			5B6 / 9130	131.01			National Nature Reserve
2107	Travný		archive documents, field survey, naturalness assessment	state	49.5598211N	18.4927431E	530	1203	Frýdek-Místek	Forests of the Czech Republic, state enterprise/Nature Conservation Agency of the Czech Republic			5B6, 6F1, 5F1 / 9130	32.10			Nature Reserve
238	Mazák		archive documents, field survey, naturalness assessment	state	49.5252717N	18.4079039E	715	1315	Frýdek-Místek	Forests of the Czech Republic, state enterprise/Nature Conservation Agency of the Czech Republic			6F1, 7S1 / 9130, 9410	61.46			National Nature Reserve
237	Mazácký Grúnik		archive documents, field survey, naturalness assessment	state	49.5299775N	18.4324972E	540	940	Frýdek-Místek	Forests of the Czech Republic, state enterprise/Nature Conservation Agency of the Czech Republic			5F1, 5B6 / 9130	38.96			Nature Reserve
1883	Smrk		archive documents, field survey, naturalness assessment	state	49.5010147N	18.3646803E	900	1276	Frýdek-Místek	Forests of the Czech Republic, state enterprise/Nature Conservation Agency of			7K2, 7S1, 7Z4, 6F1, 6S1 / 9410, 9130	81.14			Nature Reserve





Virgin Forest Inventory: Outlook

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Number of % Protected % Private Country Area [ha] Plots areas property CZ 15 855 93,6 21,5 HU 43 100 0,0 1 PL 57 9098 99,9 0,6 * RO 609 6947 100 2,7 RS 49 1902 100 0,0 9,2 SK 123 8932 82,7 UA 39 16120 100 0,0

* Ownership not reported for 55% of the area





Virgin Forest Inventory: Czech Republic

Country	Number of	Aroa [ba]	% Protected	% Private	
Country	Plots	Alea [lia]	areas	property	
CZ	15	855	93,6	21,5	

• Reporting: completed

- Harmonization with EUNIS 2012
 - Proposed based on the crosswalk between Annex I habitats and EUNIS classes
 - Validated (Ministry of the Environment)



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Virgin Forest Inventory: Hungary

Country	Number of	Area [ha]	% Protected	% Private	
Country	Plots	Αισα[Πα]	areas	property	
HU	1	43	100	0,0	

- Reporting: completed
- Harmonization with EUNIS 2012: Validated at level 3



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Virgin Forest Inventory: Poland

Country	Number of	Area [ba]	% Protected	% Private	
Country	Plots	Alea[lia]	areas	property	
PL	57	9098	99,9	0,6 *	

* Ownership not reported for 55% of the area

- Data reported through a research project on Forest and CO² (Prof. Szwagrzyk/Sabatini)
- Data not based on the reporting template
- Review currently carried on by WWF Poland
- Harmonization with EUNIS 2012:
 - Proposal based on the described dominant species
 - Validation is missing
- Official database from the Ministry not available yet



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Country	Forest	Number of Plots	Area [ha]	% Protected areas	% Private property
PO	Virgin	609	6947	100 **	2,7
NU	Ouasi-Virgin	1430	22116	100 **	17.2

Virgin Forest Inventory: Romania

- Reporting: completed (05/2019)
- Harmonization with EUNIS 2012
 - Proposal based on:
 - Correspondance Romanian Tip Padure
 Habitat Natura 2000
 - Correspondance Romanian Tip Padure
 Palaearctic habitats PalHab
 - Validated (National Institute for Research and Development in Forestry "Marin Dracea")
 - Ministry of Water and Forests is currently preparing the studies for the inclusion of at least 15000Ha more in the Catalogue (many private forests)



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Virgin Forest Inventory: Serbia

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Country	Number of	Aroa [ba]	% Protected	% Private
Country	Plots	Alea[lia]	areas	property
RS	49	1902	100	0,0

- Reporting: completed
- No information on private forests
- Harmonization with EUNIS 2012
 - Proposal based on provided phytosociological classes
 - Not validated





Virgin Forest Inventory: Slovakia

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Country	Number of Plots	Area [ha]	% Protected areas	% Private property
SK	123	8932	82,7	9,2

- Reporting: completed
- Harmonization with EUNIS 2012

Proposal based on Report of the State Party on the State of Conservation of the World Heritage Property Inscribed on the World Heritage List •

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- Atlas biotopov Slovenska
 - **ForestPortal SK**

** Validated (State Nature Conservancy of the Slovak Republic)





Virgin Forest Inventory: Ukraine

Country	Number of	Aroa [ba]	% Protected	% Private
Country	Plots	Alea[lia]	areas	property
UA	39	16120	100	0,0

- Virgin forest project to be launched at the National level
- Support of Dr Prots and Dr Cherniavskyi to review and harmonize the forest typology
- Work in progress, to be reviewed by the State Forest Agency and eventually accepted as official





Conclusions and next steps

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Only 2,9% of the sites included in the inventory are privately owned and less than 2% have mixed ownership.

The available information is mostly in areas under N2000 regulation (less than 4% are not protected)

Finalization of the Harmonization and Validation of the Virgin Forest Inventory

- Publication of the final version (v2019) of the Virgin Forest Inventory
- Non-official data to be added when available (RO, UA)

ANNA ANNA	Country	Forest Type Harmonization	Tabular Data	Legend
	CZ	\checkmark	\checkmark	 Complete
	HU	\checkmark	\checkmark	Partial
	PL			× None
121	RO	\checkmark	\checkmark	
	RS	×	\checkmark	
	SK	\checkmark	\checkmark	
	UA	×		





Conclusions and next steps

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- Development of the indicator on forest with other degrees of naturalness
- Integration of Carpathians forest data in a European framework: possible integration into the Forest Information System for Europe (FISE) (under development)
- CC common integrated platform: possible integration of the Carpathian Countries Integrated Biodiversity Information System (CCIBIS) http://geoportal.ccibis.org/, created and developed under EU Interreg Programme Projects, into EU/EEA information systems
- Preparation of a regional fact-sheet on the Carpathian region in cooperation with EEA, to promote and raise awareness on specific aspects of the region
 - Indicators suggested for the implementation of the Forest Protocols (WG Forest)
 - Forest (e.g. VF cover)
 - Nature (e.g. Wetland sites, Protected areas)
 - Biodiversity (e.g. Capercaillie, Large carnivores)







Thank you for your attention!

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