

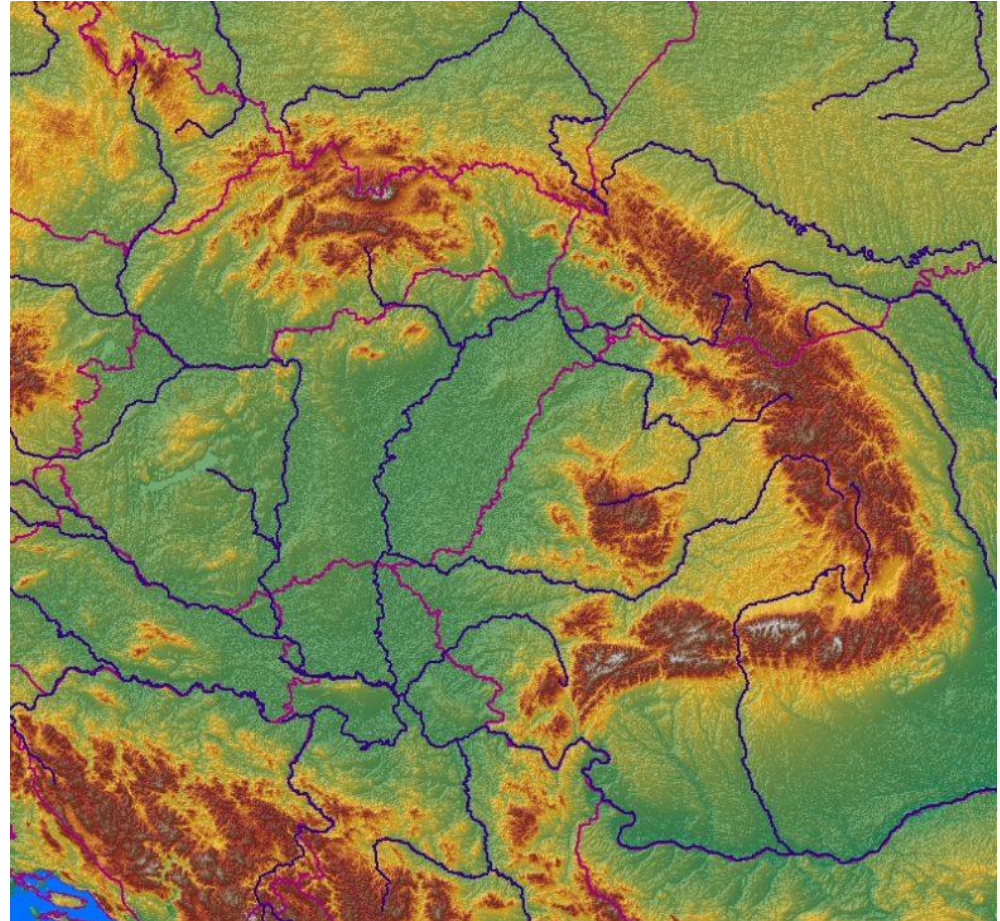


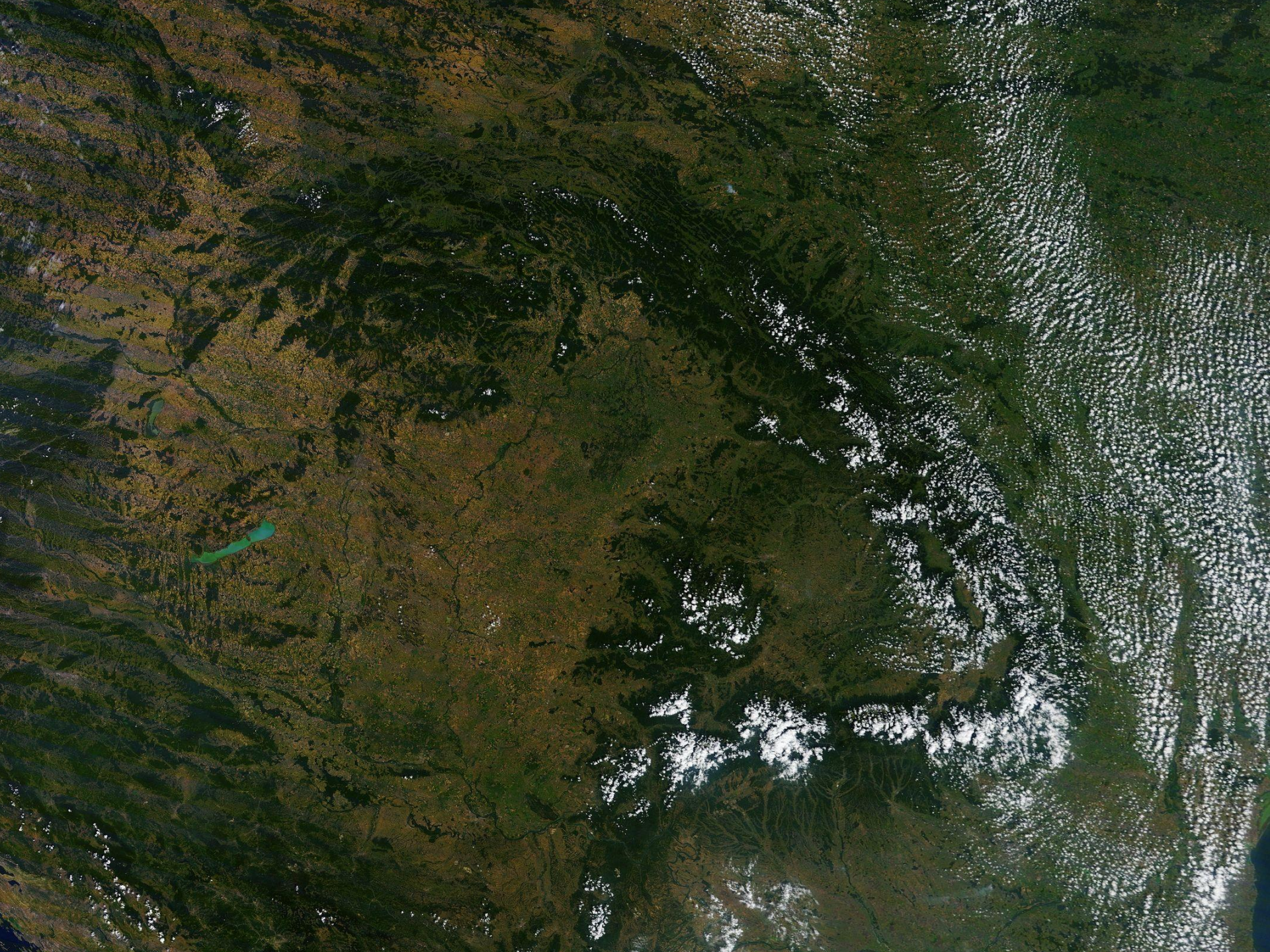
High Nature Value Forests in the Carpathians

Harald Egerer,
Secretariat of the Carpathian Convention
Meeting of the EU Nature and Biodiversity
Directors, Tále, Slovakia ,10-12 October 2016

The Carpathians

- Europe's largest range of mountains, extending over 200,000 km²
- Providing essential ecosystem services to communities in seven countries (CZ,HU,PL,RO,RS,SK,UA) and beyond
- Recreational environment and living area of more than 20 million people in the heart of Europe
- Macro-region of high social and economic importance and development





The Carpathian mountains

- Close to 100,000 km² of natural or semi/natural forests
- 36,000 km² of protected areas
- 3,000 km² of virgin forests
- 481 endemic plant species
- Major source of freshwater. The majority of the Carpathian region is part of three river basins: the basins of Danube, Dniester and Vistula
- Stronghold of the largest carnivore population in Europe
- Most of Europe's remaining intact rivers and wetlands
- Central Europe's last wilderness area



Carpathian forests

- The Carpathian Mountains constitute one of the largest remaining continuous forest ecosystems in Europe (Gurung et al. 2009)
- Harbor most of Europe's remaining temperate primary forests (Grodzinska et al. 2004; Kuemmerle et al. 2010)
- Primary forest ecosystems play a key role as biodiversity refuges
- Important for the Carbon storage (Keeton in prep.)
- Outstanding conservation, ecological, scientific and cultural value

Virgin forest in the Carpathian region

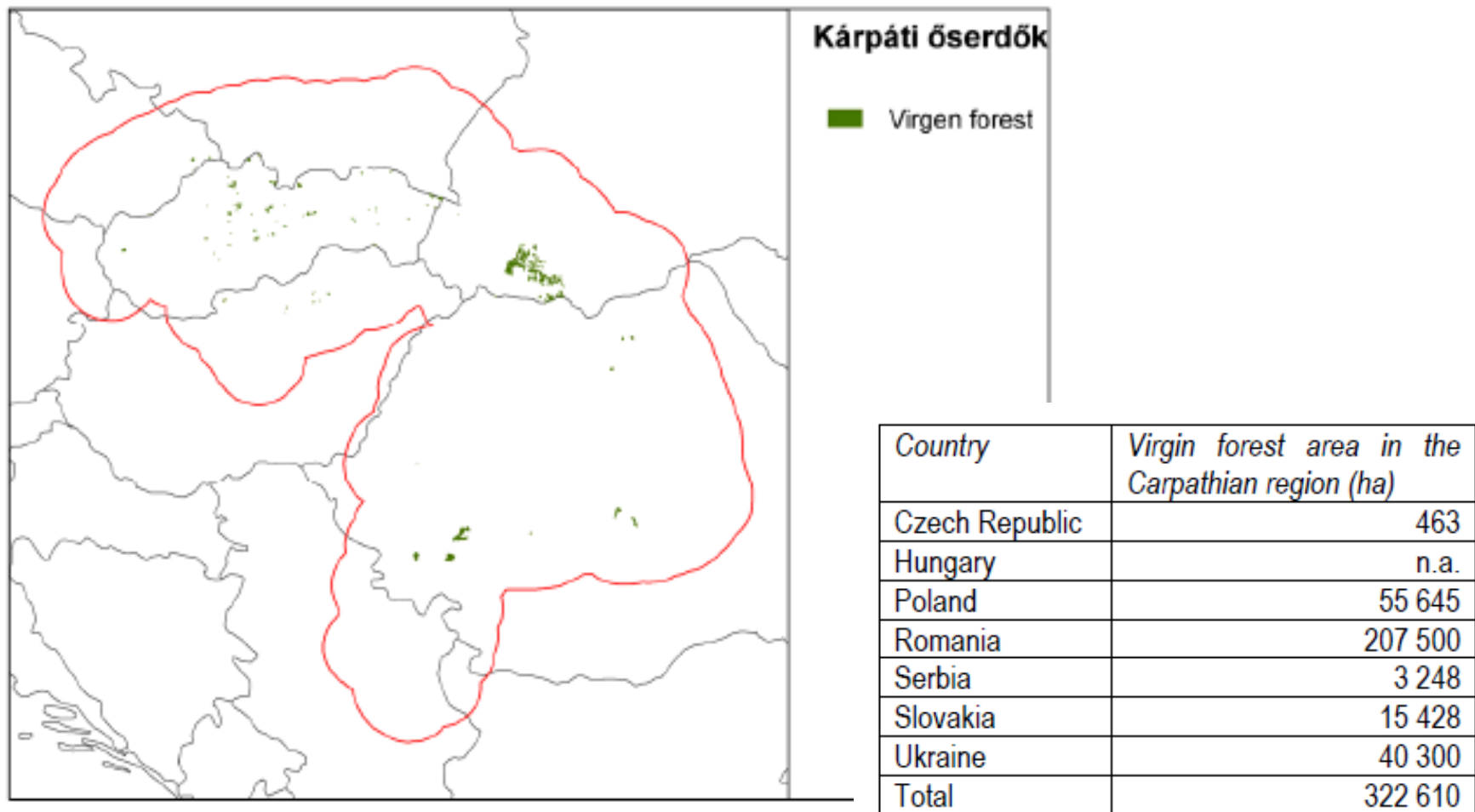


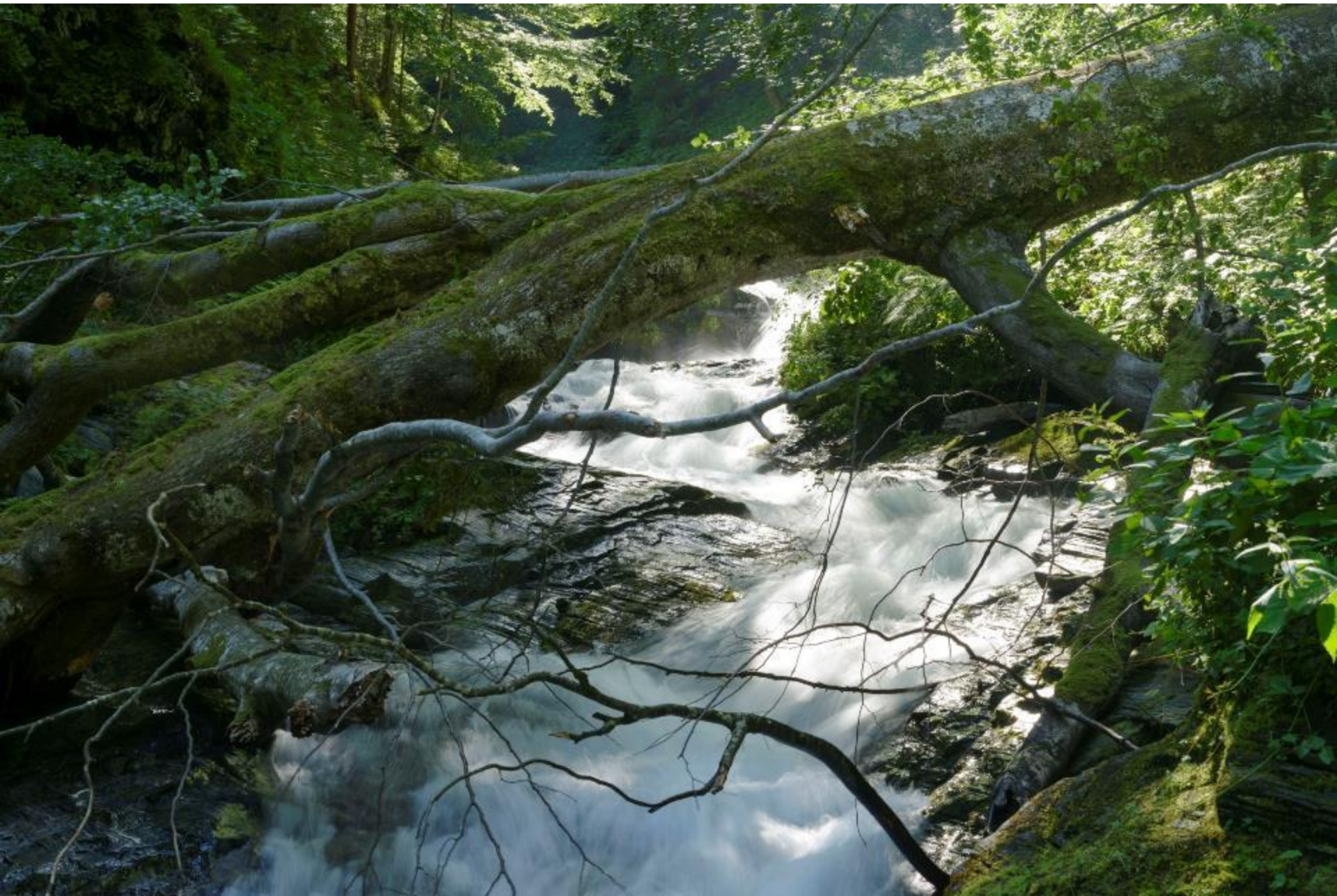
Figure 17. Virgin forest (Zsolt B., 2009)

Tab. 5: area of virgin forests in the Carpathians

(University of Padova, Report on Current State of Forest Resources in the Carpathians, Carpathian Project, 2008)

An aerial photograph of a vast, dense forest covering a mountain slope. The trees exhibit a mix of green and yellowish-green hues, suggesting an autumn setting. The forest is thick and continuous across the entire visible area. In the upper right corner, there is a block of white text with a black outline.

Carpathians are the most important mountains for conservation of primary forests of the European Beech (*Fagus sylvatica*), which is of global natural heritage.








Old-growth forests in Fagaras cover ca 7000 ha of mountain primary forest landscape in includes a unique gradient of forest types



Rocky pine (*Pinus cembra*) trees can reach more than 1000 years in the Carpathians - Koprova dolina – High Tatra Mts.

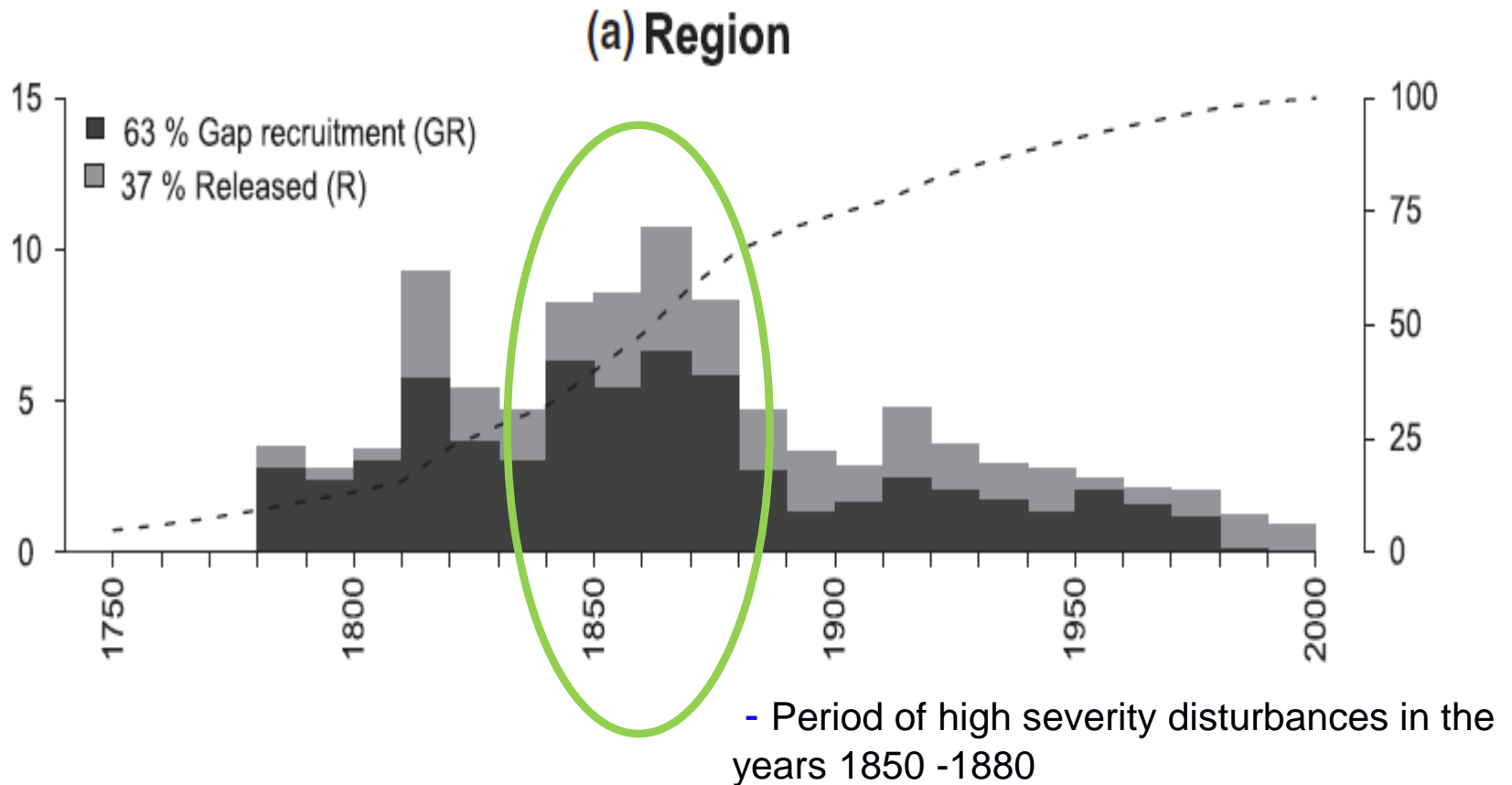


Dead wood provides habitat for many endangered species



Natural disturbances are part of the natural dynamics of the primary forests in the Carpathians – Kotlov ž'ab- Western carpathians

Recent dendrochronological studies showed, that high severity natural disturbances (eg. barkbeetle, windthrow) are part of the natural disturbance regime of the primary forests in the Carpathians
(Janda et al. 2016, Forest Ecology and Management)





Natural disturbances are part of the natural dynamics of the primary forests in the Carpathians

Biggest threat is building of new roads and consequent logging



**Biggest threat is building of new roads and subsequent logging - Ucea Mare, N2k site
Fagaras Mountains**

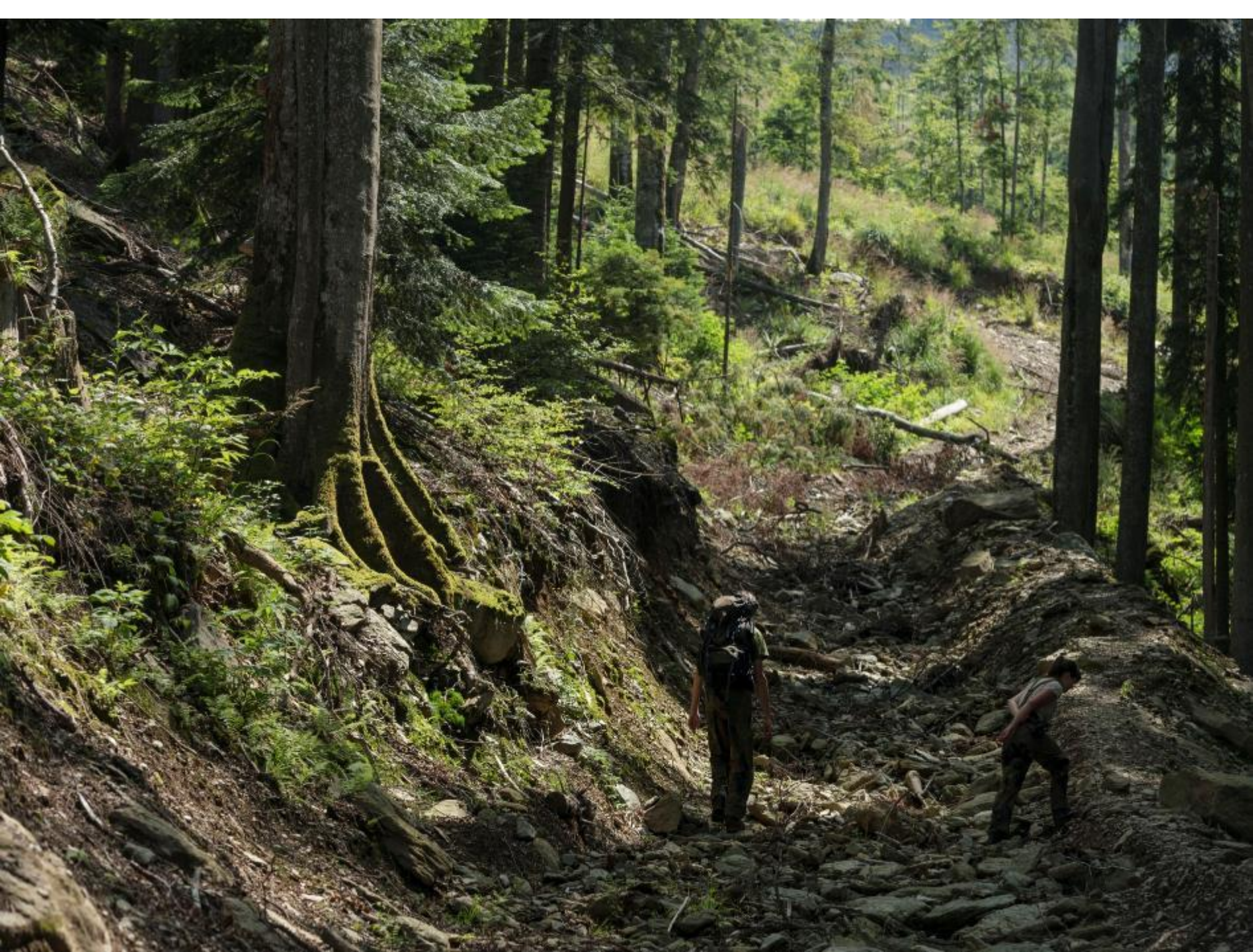


Increased access results in large scale logging (Fagaras Mts.)



**More than 100 ha large clearcut - Urea
Mare valley, Natura 2000 site Fagaras
Mountains**





Many of the new forest roads are also supported by EU funds

ROMANIA

PROGRAMUL NAȚIONAL DE DEZVOLTARE RURALĂ
2007 – 2013

Program finanțat de Uniunea Europeană și Guvernul României prin
Fondul European Agricol pentru Dezvoltare Rurală și Planul European
de Redresare Economică

UNIONE EUROPEANĂ

Proiect finanțat cu fonduri nerambursabile prin Programul
Național de Dezvoltare Rurală.

**„REABILITARE DRUM FORESTIER
VASALATU - POJARNA (VALEA REA)”**

Beneficiar: Direcția Silvicultură Argeș, Județul Argeș

Valoarea totală eligibilă a proiectului: 1.487.264 Euro
din care:
Finanțare publică: 1.487.264 Euro - Finanțare
nerambursabilă acordată prin PNDR

Autoritatea Contractantă:
MINISTERUL AGRICULTURII
ȘI DEZVOLTĂRII RURALE

Agencia de PDR pentru
Dezvoltare Rurală și Pescuit

APDRP

Proiectant: S.C. ALFRID S.R.L.

Executanți: S.C. CORNEA IND CONSTRUCT S.R.L.
- S.C. RMR ARGES S.R.L. - S.C. KRANZ EURO-
CENTER S.R.L.

Demarare: 12/11/2010

Finalizare: 12/08/2013

PNDR
Planul Național de Dezvoltare Rurală

Creștem satul românesc.

Valley in Fagaras



Buffer zone and close vicinity of the proposed UNESCO World Heritage Area in Sinca, N2k site Fagaras Mountains.



Sincasoara river, proposed UNESCO World Heritage Area in Sinca, N2k site Fagaras Mountains.



**Salvage logging in National park
Low Tatra Mts. – Velky Bok
(www.pralesy.sk)**





Challenges to protect Carpathian Primary Forests

- Primary forests are identified but they are not protected (in one country 30 % of the primary forests are not protected despite of their clear identification)
- Primary forests should be protected according to the law, but they are not properly identified yet and therefore de facto are not protected (in another country)

Slovakia

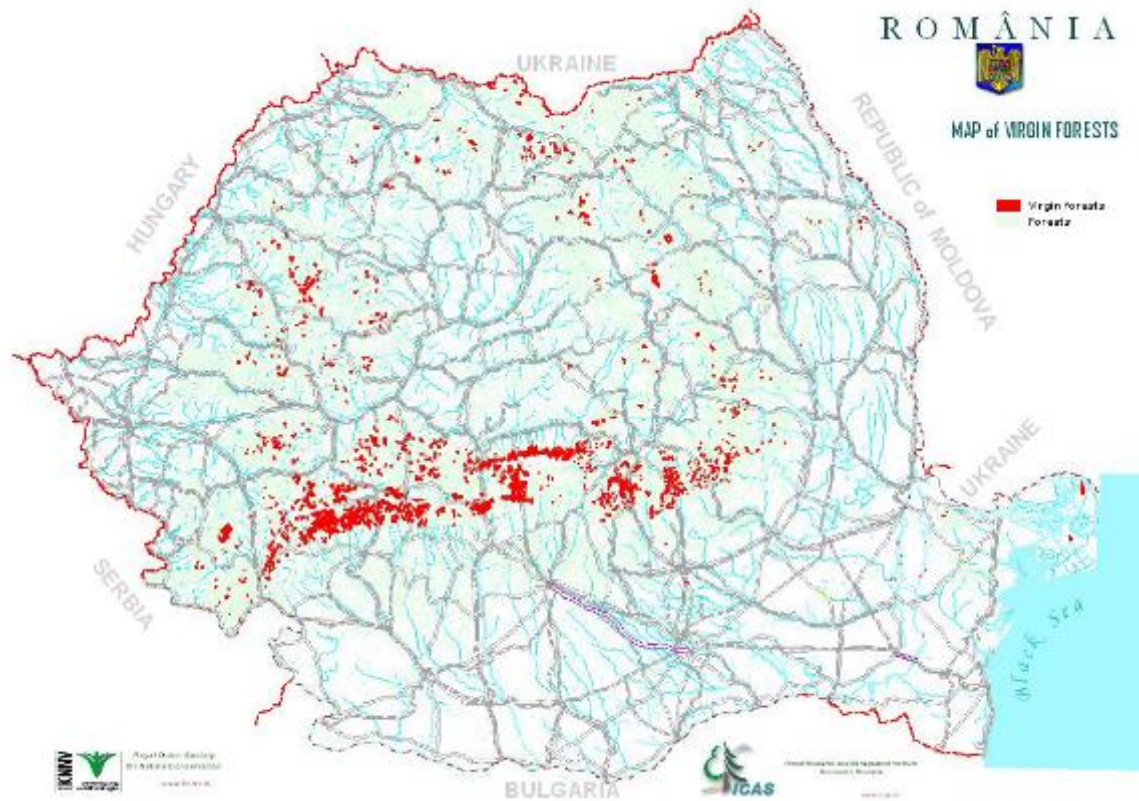
- Very precise database of primary forests (www.pralesy.sk)
- total area of primary forests 10491 ha (0,48% of all forest of Slovakia and only 0,21% from the whole Slovakia)
- 30 % of the identified areas are not yet under protection



Romania

- Primary forests should be protected by the Ministerial Order No. 3397
- A complex map of primary forests is not yet finished
- So it may not be clear how many and where are the primary forests situated
- Great successes in improving forest management and fighting against illegal logging
- But work still in progress

Virgin & natural forests in Romania



Map of virgin forests in Romania according with the 2002-2004 inventory

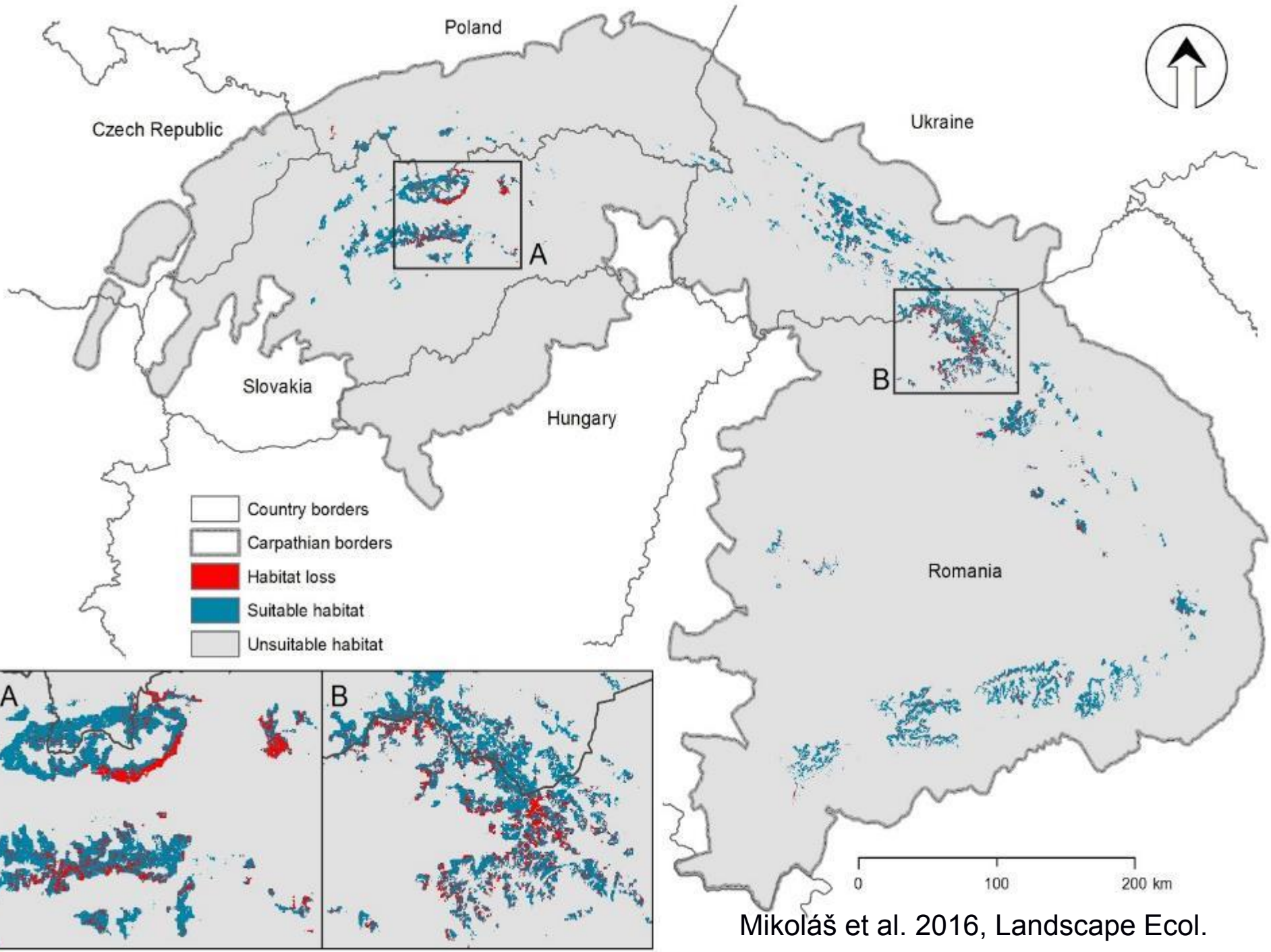
Carpathian natural forests and connectivity

- Natural and old-growth forests = habitat for many endangered and threatened species
- High connectivity at the landscape scale is crucial for the long-term survival of species of conservation concern
- Primary forests are too small, to sustain habitat connectivity required for biodiversity it is necessary to focus conservation also on secondary old-growth and natural forests

Capercaillie – umbrella species of mountain forest biodiversity

- Typical old-growth forest species in the Carpathians (Saniga et al. 2003) that is well known to wide audience of citizens ranking this species among the flagship species to promote conservation of ecosystems and biodiversity
- Experienced significant habitat loss due to large scale logging in the Carpathians
- Loss of habitat by 15 % eroded the connectivity by 30 %, population became fragmented what resulted in extinction and decline of this species in Special Protected Areas designed by NATURA 2000 (Mikoláš et al. 2016, Landscape Ecol.)





Maramures NP



**National park Muranska
Planina – former habitat of
capercaillie**



Loss of capercaillie habitat in the national park Low Tatra Mts. (B)



2007



2014



Fig. 1 Photographs documenting the effect of leaving naturally disturbed forests (a) and large-scale salvage logging (b) on capercaillie occurrence (Photos: Karol Kaliský). Capercaillie

inhabit forest with dead canopy because of the bark beetle outbreak (a), but they do not find suitable habitats in the large-scale clear-cuts (b)

Mikoláš et al. 2016, Landscape Ecol.

	Capercaillie suitable habitat (km2)				LOSS of capercaillie suitable habitat (km2)			
	PAAs	SPAs	Unprotected	Total	<u>PAAs</u>	<u>SPAs</u>	<u>Unprotected</u>	Total
Czech Republic	9	9	0	9	1	1	0	1
Hungary	0	0	0	0	0	0	0	0
Poland	305	97	32	350	33	10	4	39
Romania	1,142	1,469	1,964	3,720	233	273	260	565
Slovakia	1,483	1,380	133	1,797	256	211	18	325
Ukraine	498	NA	1135	1,633	48	NA	131	180
<u>Total</u>	<u>2,939</u>	<u>1,713</u>	<u>2,129</u>	<u>7,510</u>	<u>571</u>	<u>495</u>	<u>413</u>	<u>1,109</u>

Needs to be done

- Nature NGOs and scientists call for immediate and comprehensive moratorium on logging in all primary and potential primary forests
- Finish the inventory of primary forests where necessary
- Identified primary forests have to be protected
- Prepare an inventory of secondary old-growth and natural forests and protect them to maintain habitats and high connectivity for biodiversity
- Increase international attention, promoting monitoring and innovative approaches such as remote sensing, protection in sufficient size and number, exchange of good practice for forest management in protected areas → Carpathian Convention

The Carpathian Convention - framework convention for transnational issues

- Adopted on 22nd May 2003
- Entered in force on 4th January 2006
- Ratified by all the seven Carpathian countries
- A framework Convention for cooperation and multi-sectoral policy coordination
- Only existing legally binding framework and active stakeholder platform in the region as well as project factory



Goal: Environmental Protection and Sustainable Development of the Carpathian Region

The Convention as an Institution



Presidency

Conference of the Parties

Carpathian Convention
Implementation Committee
CCIC



WG
Sustainable
Agriculture
and Rural
Development

WG
Biodiversity

WG
Sustainable
Tourism

WG
Sustainable
Transport and
Infrastructure

WG Spatial
Development

WG on
Adaptation to
Climate
Change

WG on
Sustainable
Forests
Management

The work of the Carpathian Convention on Forests

- Article 7 of the Carpathian Convention
- Protocol on Sustainable Forest Management **entered into force**
- Strategic Action Plan for the Implementation of the Protocol on Sustainable Forest Management **finalized**
- Criteria and indicators for selection of virgin forests in transboundary region **developed**
- Close cooperation with European Environment Agency

Criteria and Indicators for identification of primary forests in the Carpathians

CRITERIA & INDICATORS FOR SELECTION OF VIRGIN FORESTS IN THE CARPATHIANS

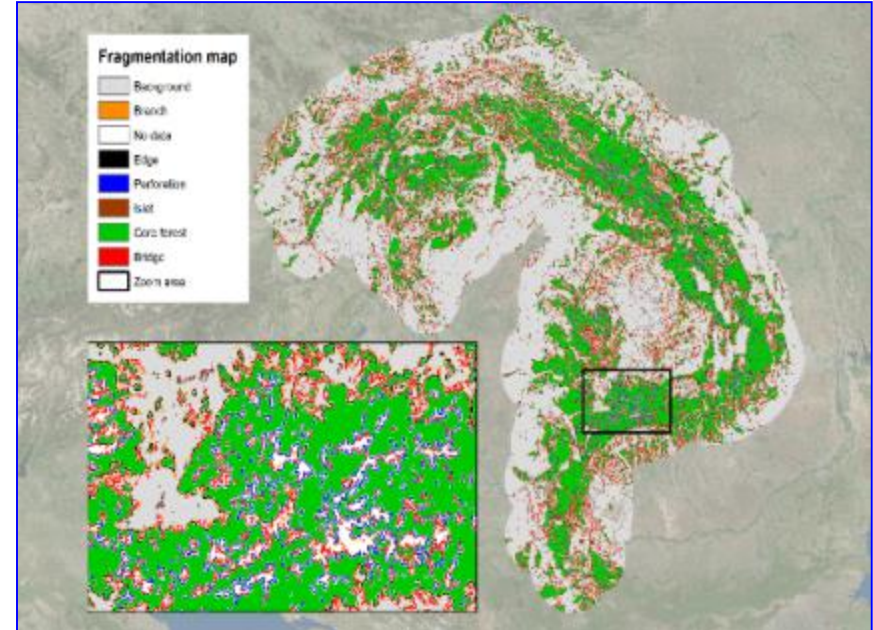
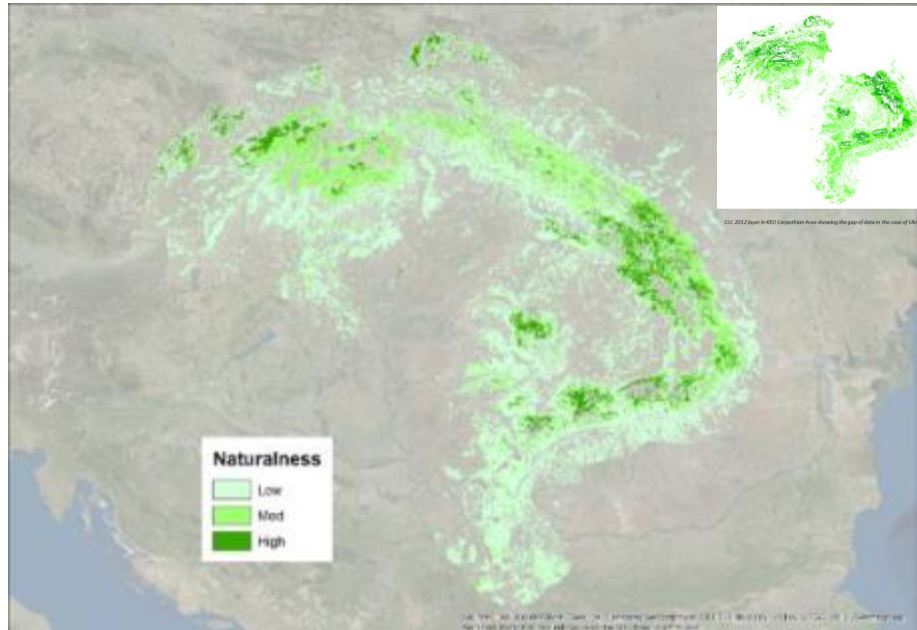
A1	Criterion:	Naturalness
	Indicators:	Defining:
A.1.1.	Species composition	Forests formed of <u>native/autochthonous tree species</u> according to potential natural forest types.
A1.2	Structure	Cyclic ecosystems with complex structures, which include <u>all stages of small development circles</u> (some phases may be present only in small areas) in a <u>mosaic structure</u> (horizontal) and <u>vertically layered, according to the natural type of forest</u> . Range of tree ages proved by biometric characteristic. Occurrence of trees with exceptional dimensions according to the site conditions and species, and <u>signs of physiological decline</u> .
A1.3	Deadwood	Presence of deadwood (lying and standing) at all stages of degradation and all over the forest surface.
A1.4	<u>Human activities which influenced the development, structure and dynamic of the</u>	Infrastructure: No documented evidence and no visible traces of forest exploitation infrastructure (e.g. absence of remnants of facilities of wood water transport supporting walls, regulating facilities roads, trails, dams, cable systems, etc.) or other forestry machinery recent traffic. Limited traces of pedestrian activities are allowed (pathways not wider than 1 m).

	ecosystem	<p>Felling: No felling occurred in the past, confirmed by documentary evidence (by forest inventory and planning documents, archives, etc.). No visible traces of harvesting which has influenced the development of forests.</p> <p>Non wood forest products: No visible traces of extensive gathering of such products (mushrooms, berries, fruits, medicinal herbs, etc.). The collection of such products is acceptable unless there are visible traces of extensive gathering of such products.</p> <p>Forest litter removal: No visible traces and no documentary evidence (by forest inventory and planning documents, archives, etc.).</p> <p>Grazing: No visible traces and no documentary evidence of grazing/soil erosion (by forest inventory and planning documents, archives, etc.). Acceptable: occasional passing of livestock to and from pastures without impact on the forest development.</p> <p>Recreation /education infrastructure: No recreation infrastructure.</p>
A2	Criterion:	Area & Delimitation
	Indicators:	Defining:
A2.1	<u>Area of forest plot stand</u>	Minimum 20 ha.
A2.2	<u>Shape of forest plot stand</u>	Minimum distance between any two opposite boundary points does not decrease below 200 m. This rule does not apply to the remains of relic/rare forests ecosystems or relic tree stands, surrounded by natural stands.

Towards the Inventory of Carpathian Primary Forests

No.	Name of the virgin	Based on		Type of property	Latitude N	Longitude E	Altitude		(Administrative) Location							Zona tampon			
		Forest management plan, edition (year)	Study, edition				minimum	maximum	County	Owner, administrator	Production Unit	U.a.	Type of forest	Area (ha)	of which surfaces that do not meet the criterion of naturalness		U.a.	S (ha)	
															U.a.	S (ha)			
0	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	
<i>A. Virgin Forests</i>																			

Cooperation with the European Environment Agency



Possible action at EU level

- EU 2020 Biodiversity Strategy - Sustainable Forestry
- Integration of biodiversity conservation and restoration into forest management plans
- Natura 2000

What can the European Commission do to support high nature value forest conservation in the Carpathians?

- **Define the targets for the conservation of European Wilderness**
- **Implement legislative tools for conservation of European Wilderness**

Thank you for your attention!

Carpathian Convention

UNEP Vienna

www.carpathianconvention.org

www.unep.org/roe

