



Sustainable Forest Management

Science for the Carpathians
Sustainable Forest Management Working Group

CARPATHIAN CONVENTION COP5

Lillafüred, Hungary

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COP5

SFM working group

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“Sustainable forest management (SFM) is the management of forests according to the principles of sustainable development keeping the balance between three main pillars: **ecological economic and socio-cultural.**”

“The Forest Principles,” The United Nations Conference on Environment and Development (UNCED) Rio de Janeiro, 1992

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“Sustainable Forest Management means the stewardship and use of forest and forest lands in a way and at a rate that maintains their biodiversity, productivity, vitality, regeneration capacity, and their potential to fulfill now in the future, relevant, ecological, economic and social functions at local, national and global levels and does not cause damage to other ecosystems.”

Protocol on Sustainable Forest Management to the Frameworks Convention on the Protection and Sustainable Development of the Carpathians, Bratislava, 2011



- [The Protocol on SFM](#) to the Framework Carpathian Convention was adopted on May 27, 2011 in Bratislava at the 3rd Meeting of the Conference of the Parties (COP3) and is in force already for six “Carpathian” countries.
- In 2014, the 4th Meeting of the Conference of the Parties (COP4) to the Framework Carpathian Convention adopted the [Strategic Action Plan for the Implementation of the Protocol on SFM](#).
- In 2017, the Secretariat of the Carpathian Convention is working with Carpathian Convention Implementation Committee (CCIC) on reporting on the progress in implementation of the Protocol on SFM and its Strategic Action Plan

New S4C Research Agenda 2016-2020



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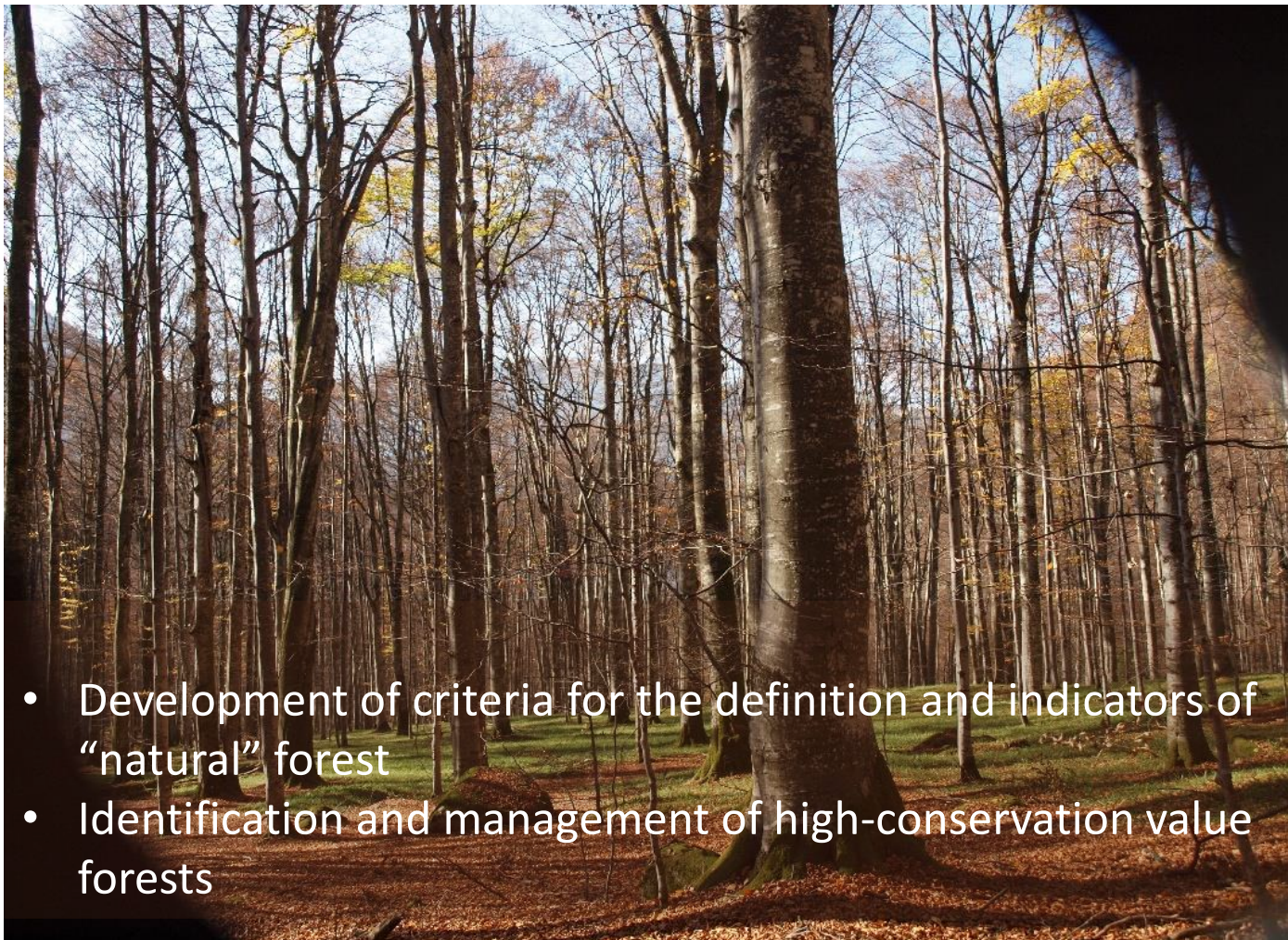
- The aim of the Agenda is to highlight all the issues which are of great importance in terms of sustainable mountain development in the region.
- Chapter in Preparation: *Forests, their management and resources*
- SFM ad hoc committee; hiatus; diversity of perspectives
- Developing SFM research priorities and collaboration

Recommendations for future research.

- (1) The understanding of long-term climatic and chemical environmental changes needs to be improved.
- (2) In a second step, the interactive effects of **multiple stressors** on ecophysiology of key forest tree species should be investigated.
- (3) Biodiversity changes, especially from a perspective of **rare and endangered species and invasive plants** should be evaluated.
- (4) The present and future effects of environmental pollution, **climate change** and management practices on water resources should be investigated.
- (5) **The effects of forest management practices in various countries on the sustainability of Carpathian forest ecosystems should be studied.**
- (6) New techniques for improved inventories of below- and above-ground biomass and carbon pools should be developed and tested.
- (7) **Ecosystem services** and their risks caused by multiple interactive stressors should be evaluated together with
- (8) the **public perception** of the importance of forests and ecosystem services for the Carpathian mountains



European and regional cooperation on the inventory, classification, conservation and protection of old-growth or virgin forests



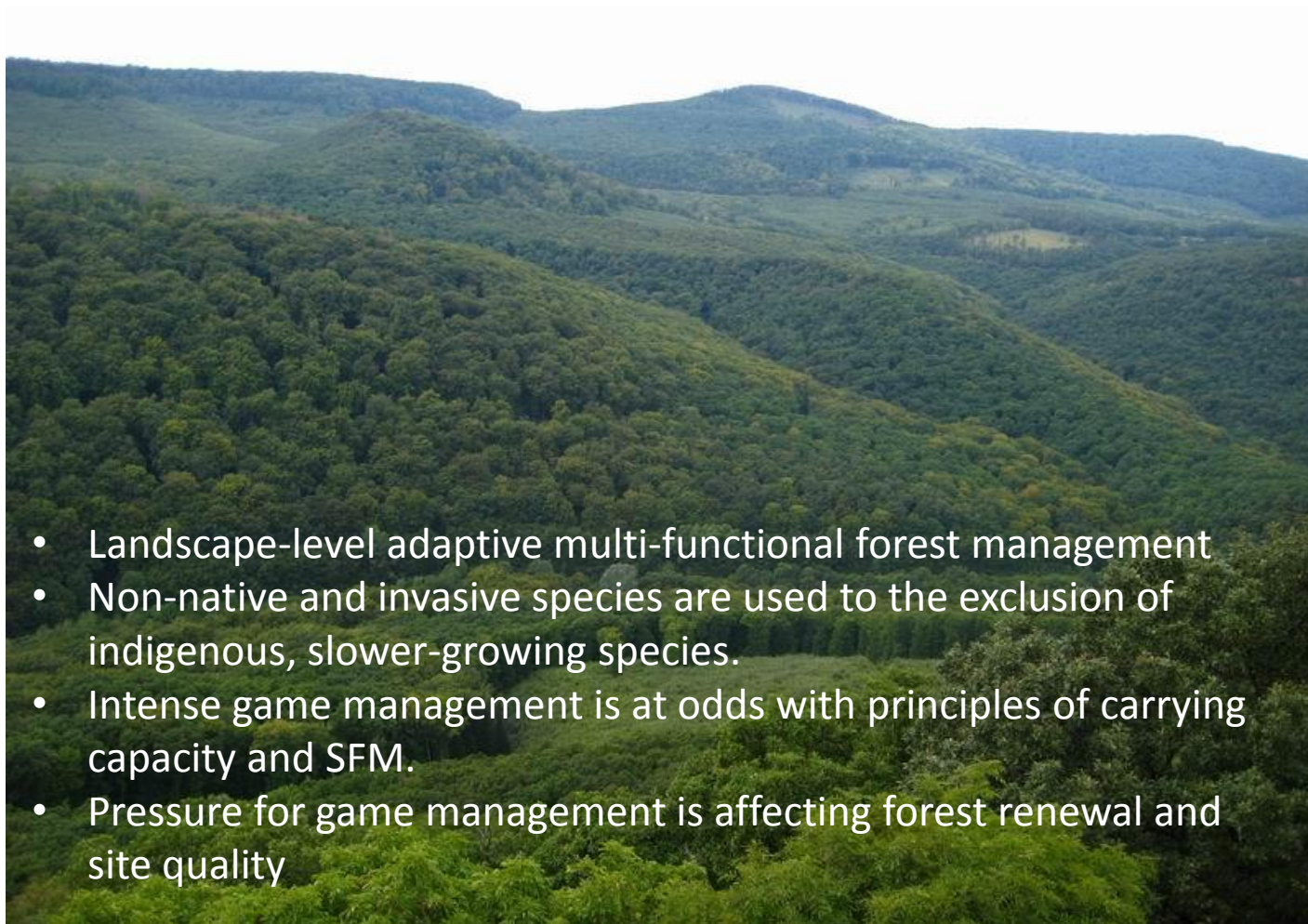
- Development of criteria for the definition and indicators of “natural” forest
- Identification and management of high-conservation value forests



- Transition from classic even-aged, European silvicultural model to un-even aged, close-to-nature forest management
- Natural regeneration displacing artificial regeneration
- Sustained yield concept is not sustainable forest management
- Passive management and benign neglect



- Since 2009, a six-level classification with definitions of “forest naturalness” has been part of the Forest Code in Hungary.
- Researchers and forest managers are implementing trials in SFM and close to nature silviculture but traditional forest management practices persist and there is a resistance to conversion to close-to-nature silviculture.
- Recent modifications of Forest Code have limited those prescriptions to a very minimum level.



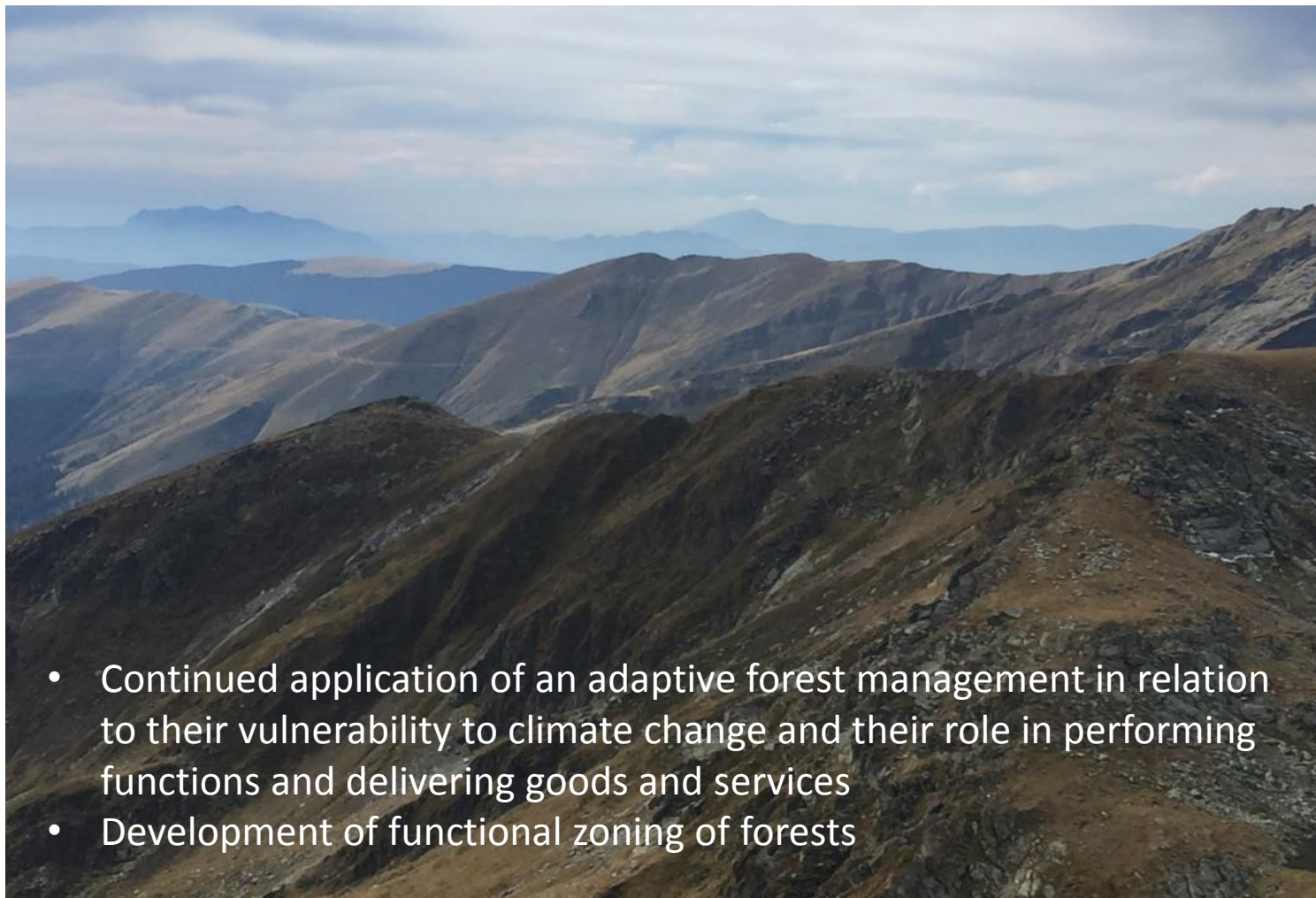
- Landscape-level adaptive multi-functional forest management
- Non-native and invasive species are used to the exclusion of indigenous, slower-growing species.
- Intense game management is at odds with principles of carrying capacity and SFM.
- Pressure for game management is affecting forest renewal and site quality



- Prevention of mass movement and soil erosion in forest streams
- Reconstruction of small **water** catchment basin systems in the forested **landscapes**
- Protection of rivers and **riparian** forests, including suppressing **invasive plant species**



- Establishment & maintenance of demonstration forest management areas
- Creation germplasm conservation areas and natural reserves
- Protection and management of threatened, rare and endangered species including forest tree species
- Protection of landscape character and restoration of landscape features



- Continued application of an adaptive forest management in relation to their vulnerability to climate change and their role in performing functions and delivering goods and services
- Development of functional zoning of forests



- Promotion of natural regeneration as a priority and maintenance of the natural composition of forests.
- Revitalization of afforestation and reforestation in areas in disturbed areas (windthrow, insect attacks, fires, etc.)
- Mitigating the volume of forest logging to the forest's carrying capacity



- Climate change and forest dieback
- Road development on forest fragmentation and watershed functions
- Valuation of ecosystems services



- Obsolete timber harvest technology
- Better utilization of woody material
- Best Timber Harvesting Management Practices (BMPs)
- Reduced-Impact Logging (RIL)



Development of controls on illegal harvesting and transport:

- Forest Law Enforcement, Governance and Trade (FLEGT)
- Voluntary Partnership Agreements (VPAs).
- The European Union Timber Regulation (EUTR)
- Global Forest Watch (GFW)



- Most S4C countries are part of Long-term Ecosystem Research (LTER) network in Europe
- Long-term forest monitoring and research needs to be coordinated

- Revisit S4C Agenda 2010-2016 recommendations for future research
- Work synergistically w/ carbon and climate change partners
- Work with SFM Carpathian Convention WG [Feedback loop]
- Comprehensive study of the effects of forest management practices in various countries on the sustainability of Carpathian forest ecosystems
- Develop silvicultural treatments based disturbance-based ecological principles
- Analyze social and political constraints to adoption of close-to-nature silvicultural practices