

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

Date: 24. 11. 2020

Contributors: *Yurij Bihun, Pavel Cudlin, Szilárd Czóbel, Veronika Gezik, Lubos Halada, Ivan Kruhlov, Stanislaw Malek, Katalin Mazsa, Elena Matei, Mariana Melnykovich, Piotr Mikolajczyk, Marcel Mindrescu, Zsolt Molnár, Tamara Mitrofanenko, Christian Hoffmann, Dominik Kaim, William Keeton, Péter Ódor, Katarzyna Ostapowicz, Marcin Szwagrzyk, Attila Varga, Márta Vetier, Bartłomiej Wyżga, Lyudmyla Zahvoyska, Joanna Zawiejska*

Governance: Implementation of the Carpathian Convention; Cooperation with regional and local authorities and all relevant stakeholders

- Research¹ shows that currently the most engaged, key actors of the Carpathian Convention form a highly connected network. Such a network, however, can limit the actors' opportunities to solicit new inputs and stakeholders.
 - **Attempts should be made firstly to ensure the network and its core remains open and accessible to new stakeholders.**
 - As a second step, the **actors could make concrete activities to reach out to and provide support to new actors to participate in the Convention's meetings, consultations, projects and other activities.**
 - Furthermore, **particular attention should be directed to maintaining and building connections between different sectors, for example through shared working group meetings and integrated, holistic projects that bring together actors from different sectors.**
- **Enhance the implementation of the Carpathian Convention's protocols and action plans,** which could be achieved by:
 - launching targeted awareness raising and capacity building for typical implementing agents (NGOs, local actors, agencies), or
 - founding a not-for-profit organization specifically aiming at implementing the Convention (potentially linked to the UN, similarly to IUCN).
- **The NGOs in the region should consider creating an umbrella NGO** (potentially linked to the UN) in order to pool their knowledge and funds, and become a strong actor in the governance system. This would also bring the Convention closer to the community level and implement it at local and sub-regional scales.
- The Carpathian Convention's contribution to global and national environmental governance, specifically its role in contributing to the implementation of global regimes and in assisting policy transfer, deserves more attention and action from actors within and outside of the Carpathians.

¹ Vetier, Marta. 2020. The Impacts of Social Networks in Regional Environmental Regimes on Regime Outcomes and Interactions, The Case of the Carpathian Convention. Doctoral dissertation, Department of Environmental Sciences and Policy, Central European University, Budapest.

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

- parties should **consider thinking of the Carpathian Convention as the framework to implement the obligations that they have under other conventions: using the meetings of the Carpathian Convention to address problems and obligations they have in their other conventions.**
- To limit the reporting burden, **create a network of national institutions – providers of up-to-date, quality thematic data**, using national administrative statutory influences.
- **Enhance networking among the various Convention partners:**
 - **Enhance communication between local communities and regional authorities**
 - **Promote public-private partnerships for scaling-up and dissemination of social innovation and new governance mechanisms.**
 - **Create a network between actors involved in successful cases of social-ecological innovations and a web-based platform**, describing examples of social and socio-ecological innovations in rural Carpathian communities.
 - **Promote trans-boundary cooperative activities** at local (community) and sub-regional scales (e.g. provincial) – both within and among the Carpathian Euroregions.

Strengthening science-policy-practice interface and cooperation with scientific networks

- **Inform stakeholders about relevant research findings, and facilitate application** of research findings to policy and practice;
- **Facilitate Regional, transboundary and transdisciplinary research**
 - **Provide funds and jointly address donors to support research relevant for the implementation of the Convention**
 - **Support opportunities for young scientists to focus on research relevant for the Carpathian Convention**
 - **Provide relevant information and data, when possible;**
- **Support networks of scientists engaged in multidisciplinary research** in improving internal and external communication and cooperation;
- **Develop and participate in transdisciplinary partnerships** facilitated by universities;
- **Enhance collaboration with the S4C on co-production of knowledge and solutions** for the Carpathian region
 - Strengthen collaboration of Convention Focal Points and Working Groups with S4C
 - Use participatory discussion formats during Convention activities (ex. special session during WG Biodiversity in 2019).

Conservation and sustainable use of biological and landscape diversity

Article 4 of the Carpathian Convention

- **Support measures to prevent landscape fragmentation**, which reduces the performance of ecosystem functions and services and decreases connectivity;
 - Develop common approaches to identify barriers to ecological connectivity

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

- Involve civil society in decision making for the safeguarding of ecological corridors
- **Support measures to prevent loss of natural and semi-natural habitats**, which leads to the reduction in ecosystem functions and in the provision of ecosystem services;
 - The loss of natural habitats is mostly caused by clearing and land-use conversion in natural forests;
 - The loss of near-natural habitats is mostly caused by the termination of traditional management, such as through successional encroachment into traditional montane pastures and meadows or shifts to intensive, production-oriented forestry practices;
 - The area of natural habitats is continuously declining in most mountain areas of the Carpathians (in non-forest habitats faster than in forest ones), although the naturalness of land cover is slightly increasing due to grassing of arable land and overgrowth of meadows and pastures²;
- **Support connectivity of urban greenness with the peripheral vegetation zones**, which will result in the increase in biodiversity and ecosystem services provision³;
- **Support measures against consequences of global changes, especially adaptation to climate changes and eradication of invasive alien species**;
- **Develop common wildlife monitoring approaches**;
- **Support measures for eradication of invasive alien species**.

Spatial development

Article 5 of the Carpathian Convention

- **Integrate proper use of spatial planning** to address both the processes observed in the past (i.e. landscape homogenization) and challenges of the future: ensuring habitat connectivity, avoiding more contact zones between settlements and wildland areas (higher potential for Human-Wildlife Conflicts)⁴;
- **Support assessment of historical data**, which is critical both in case of long-term or short-term changes. This is important for:
 - high-value habitat protection (e.g. old-growth forests - crucial for biodiversity and observed in all the Carpathian countries)⁵; and
 - successful restoration initiatives (e.g. wetlands restoration, active protection of biodiversity-rich grasslands, etc)⁶;

² Cudlín, P., Pechanec, V., Štěrbová, L., Cudlín, O., Purkyt, J. Integrated Approach to the mitigation of biodiversity lost in central Europe. In Westra, L.; Bosselmann, K. (Eds): Ecological integrity and Land use. Sovereignty, Governance, Displacements and Land Grabs, p.75-86. ISBN 978-1-53615-407-8, 2019

³ Bastian, O., Cudlín, P., Pechanec, V., Brzoska, P., Štěrbová, L., Včeláková, R., Purkyt, J., Grunewald, K. Assessment of biodiversity and habitat services in cities - exemplified by Dresden (Germany) and Liberec (Czech Republic). *Ekológia (Bratislava)* 39, 2: 174–189, 2020.

⁴ Kaim, D., Ziółkowska, E., Szwagrzyk, M., Price, B. and Kozak, J., 2019. Impact of future land use change on large carnivores connectivity in the Polish Carpathians. *Land*, 8(1), p.8.

⁵ Pechanec, V., Machar, I., Štěrbová, L., Prokopová, M., Kiliánová, H., Chobot, K., Cudlín, P. Monetary Valuation of Natural Forest Habitats in Protected Areas. *Forests* 8(11): Article number 427, 2017.

⁶ Lieskovský, J., Kaim, D., Balázs, P., Boltižiar, M., Chmiel, M., Grabska, E., Király, G., Konkoly-Gyuró, E., Kozak, J., Antalová, K., Kuchma, T., Mackovčin, P., Mojses, M., Munteanu, C., Ostafin, K., Ostapowicz, K., Shandra, O., Stych, P., Radeloff, V.C., 2018, Historical land use dataset of the Carpathian region (1819–1980), *Journal of Maps*, 14(2), 644-651

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

- **Integrate ecological networks and green infrastructure building into the process of spatial planning documents development**
- **Use territorial and inter-regional planning features to cope with the rural urban divide – and spatial justice in the Carpathians, for:**
 - local population leading an independent, self-determined life;
 - equal access to civil and political rights and to political and social participation;
 - availability, accessibility and affordability of services of general interest;
 - sustaining the current natural resources to leave behind even more stable, diverse or improved ecological condition for the next generation.

Sustainable and integrated water/river basin management Article 6 of the Carpathian Convention

- **Raise public awareness** of the natural features and the need for conservation of Carpathian streams and rivers;
- **Replace conventional approach to flood risk management** based on structural defenses and rapid evacuation of floodwater to downstream reaches **by a comprehensive approach** involving prevention, defense, mitigation and preparedness and emphasizing the need to restore natural retention of floodwaters;
- **Support use of green solutions and landscape management measures** in flood prevention programmes;
- **Facilitate river restoration activities** in the Carpathian region;
- **Consider linkages between forest management and water quality** in Carpathian streams and rivers
 - **Strengthen protections for stream-side buffers and riparian vegetation**
 - Implement restoration of watercourses together with their bank habitats **to restore their mutual interaction**⁷.

Sustainable agriculture and rural development Article 7 of the Carpathian Convention

- **Continue promoting the importance of ratifying the SARD Protocol**, adopted at COP5
 - The SARD Protocol, adopted at COP5, combines innovative rural development and the protection of our natural resources, soil and water. Currently it is still not signed and ratified by all member states of the Carpathian Convention. Hence, Science for Carpathians kindly asks high-level representatives from the seven Parties to continue promoting the importance of ratifying also this protocol.
 - The SARD protocol will facilitate implementation of the recommendations, listed below.

⁷ Jakubínský, J., Pelíšek, I., Cudlín, P. Linking Hydromorphological Degradation with Environmental Status of Riparian Ecosystems: A Case Study in the Stropnice River Basin, Czech Republic. *Forests* 11(4): Article number 460, 2020

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

- Moreover, a commonly agreed strategy enables a transboundary exchange of information and experiences among decision makers and political programs.
- **Promote social innovation** for sustainable development and reduce marginalization of disadvantaged communities;
- **Support increase of environmental measures, green infrastructure development on agricultural land and voluntary participation of farmers** above their contractual obligations;
- **Conserve the material and immaterial cultural heritage of traditional knowledge and farming practices;**
- **Protect and guarantee the management of traditional cultural landscapes;**
- **Promote extensive farming and organic production;**
- **Enable marketing of typical agricultural and rural products and services;**
- **Foster agri-tourism and other diversification options in the Carpathians.**

Sustainable forest management Article 7 of the Carpathian Convention

- **Halt the continued loss of primeval/primary forests in the Carpathians** to stem the associated negative effects on biodiversity, carbon storage, and other ecosystem services;
 - upgrade protection status in existing protected areas,
 - expand protection for poorly represented primary forest types, and
 - restore primary forest structure where this would complement conservation⁸
- **Continue to invest in both protected areas (core zones, reserves) and ecologically sustainable forest management in production forests.** These are complimentary approaches and both are needed to conserve biodiversity at landscape scales;
 - To integrate timber production and conservation in forest management it is necessary to find out which forest management is most suitable for individual forest types in terms of supporting their biodiversity⁹;
- **Revise our understanding of forest dynamics in the Carpathian region;**
 - **In production forests, increase the use of close-to-nature forestry systems**, as well as traditional partial coppicing, continuous cover forestry methods, mixed species, and intermediate disturbance - based forestry; employ these where appropriate and based on site characteristics as alternatives to high intensity, even-aged systems,
 - **Promote restoration of old-growth forest characteristics** by using emerging natural forestry systems and silvicultural approaches;
- For conservation planning, **develop conservation goals for the mid to long term** (multi-decade); in some cases, this may require changes in land use (i.e. preservation, reforestation, etc.) while in other cases conservation - oriented management may be more effective in achieving conservation goals.

⁸ Sabatini F. M., Keeton W. S., Lindner, M., Svoboda M., Verkerk P.J., Jürgen Bauhus J., et al., 2020. Protection gaps and restoration opportunities for primary forests in Europe. *Diversity and Distributions* 12(26). DOI: 10.1111/ddi.13158

⁹ Elek, Z., Kovács, B., Aszalós, R., Boros, G., Samu, F., Tinya, F., Ódor, P., 2018. Taxon-specific responses to different forestry treatments in a temperate forest. *Scientific Reports* 8, 16990. <https://doi.org/10.1038/s41598-018-35159-z>

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

Sustainable transport and infrastructure, industry and energy

Article 8 of the Carpathian Convention, Article 10 of the Carpathian Convention

- Support and require implementation of mitigation measures for maintaining ecological connectivity and reduction of air, noise and light pollution in development and application of transport and other linear infrastructure projects.

Sustainable tourism

Article 9 of the Carpathian Convention

- **Facilitate a participatory exchange and co-creation of knowledge on how to enhance the resilience of sustainable and community-based tourism in the Carpathians in this new context of the pandemic;**
- **Support consensus - building among the stakeholders** on how to achieve sustainable tourism in the Carpathian region;
- **Support development of ideas for and setting up of pro-biodiversity businesses** Further **develop and disseminate sustainable tourism strategies** and **implement sustainable tourism products;**
- **Facilitate homogenous data collection methods and monitoring tools**, in order to create comprehensive databases for the analysis of tourism flows.

Cultural heritage and traditional knowledge

Article 11 of the Carpathian Convention

- **Consider material and immaterial cultural heritage;**
- **Promote the identification and better incorporation of traditional knowledge** in environmental management and sustainability efforts;
- **Adapt** (re-design or at least fine-tune) **agri-environmental support schemes** to local-regional cultural environments to help the adaptation process of traditional practices to the recent socio-ecological changes, including the empowerment of local communities in these developments¹⁰;
- **Designate bio-cultural refugia** (small scale pastures or vineyards, which support landscape- and biodiversity) in the richest cultural landscapes of the region, increased use of traditional ecological knowledge in nature conservation and sustainable land management¹⁰;
- **Help local, marketable product production;**
- **Develop local-regional school curricula**, with increasing respect towards heritage and traditional knowledge.

¹⁰ Babai D., Tóth A., Szentirmai I., Biró M., Máté A., Demeter L., Szépligeti M., Varga A., Molnár Á., Kun R., Molnár Zs. (2015): Do conservation and agri-environmental regulations support effectively traditional small-scale farming in East-Central European cultural landscapes? *Biodiversity and Conservation* 24: 3305-3327. <https://link.springer.com/article/10.1007/s10531-015-0971-z>

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

Environmental assessment/information system, monitoring and early warning Article 12 of the Carpathian Convention

- **Use long-term environmental monitoring** for biodiversity conservation;
- **Support the use of periodic satellite images** (eg. Sentinel 2 or Landsat 8) and services (like services of Copernicus programme), which will contribute to the evaluation of ecosystem services in the cultural landscape (eg. air conditioning services);
- **Harmonize datasets across countries**, for instance national-scale primary forest inventories;
- **Enhance cooperation in environmental assessment, reporting and data** sharing on the Carpathians between the Carpathian Convention and UNEP data platforms, in close cooperation with UNEP's Science Division.

Climate change Article 12bis of the Carpathian Convention

- **Protect ecological corridors** to mitigate climate change vulnerabilities of some species via facilitating species migrations
- **Adapt forest management to the predicted effects of climate change** and to anticipated future changes in forest composition, species distributions, and provision of ecosystem services
- **Develop projects focused on various aspects of climate change mitigation and adaptation offered by Carpathian ecosystems** (blue/green infrastructure, esp. mountain forests, wetlands, and river catchments), taking advantage of climate-dedicated funding options (e.g. the LIFE Programme and its Climate action sub-programme).

Awareness raising, education and public participation Article 13 of the Carpathian Convention

- **Ensure continuous prioritization of education-related activities within the Convention** via exchange of information between the Secretariat and the Convention focal points¹¹
 - Consider the importance of education as a cross-sectional topic in many Convention thematic areas (ex. biodiversity, SARD, forestry, cultural heritage and traditional knowledge, etc.);
- **Identify synergies between the Carpathian Convention education-related activities and the process of reaching the Sustainable Development Goals**, as well as education-related activities specified under the **Convention on Biological Diversity** (i.e. its Communication, Education and Public Awareness (CEPA) programme) and **UN Framework Convention on Climate Change** (i.e. its developments on climate-change education)¹¹;

Recommendations for COP6 of the Carpathian Convention from the Science for Carpathians Network (S4C)

based on highlights from Forum Carpaticum 2018 and recent research of the S4C community

- **Establish a Convention working group / network of experts to coordinate activities related to education** and Education for Sustainable Development (ESD)¹¹;
 - Link these activities of the Convention with other thematic areas of the Convention and support intersectoral and transdisciplinary co-operation on the national level (i.e. between ministries of education and Convention focal points) and among the **Carpathian countries**;
- **Use** educational channels to promote the Carpathian Convention, such as Summer Schools, school and university courses, educational programs and thesis topics¹¹.

¹¹ Mitrofanenko, T., Varga, A., Zawiejska, J. In print. Towards stronger integration of ESD into the Carpathian Convention activities – a reflection on the process to-date and on the outlook. Mountain Research and Development.