

Alpine Biodiversity Board

Alpine and Carpathian Biodiversity Forum 15- 16 December 2021 – Conclusions and Recommendations

The XV Alpine Conference established the Alpine Biodiversity Board (ABB) in order to comply with the requirements of the Protocol to the Alpine Convention on Nature Protection and Landscape Conservation.

The Alpine-Carpathian Biodiversity Forum complements and reinforces the positions and conclusions of the “Declaration on the Protection of Mountain Biodiversity and its Promotion at International Level” adopted by the XVI Alpine Conference.

It also complements and reinforces the S4C¹ – Science for the Carpathians initiative and the Forum Carpaticum, established in 2008, connecting scientists in Central Europe, defining research priorities for the region and enhancing international collaboration with partners from outside the Carpathians.

The main purpose of the Alpine-Carpathian Biodiversity Forum (hereafter the Forum) is to open a discussion with experts at national and international level about issues and critical aspects related to the protection of mountain biodiversity.

Hereafter are listed the main outcomes of the Forum summarised in a set of conclusions and recommendations, which should define the way forward in the development of the future initiatives related to the protection of mountain biodiversity as well as to raise awareness on the importance of sustainable mountain development, in accordance with the theme and main message of this year’s International Mountain Day (IMD)² on sustainable mountain tourism, and in line with the recent UN Resolution adopted by the General Assembly on 16 December 2021, adopted on 28 December 2021, Proclaiming 2022 the International Year of Sustainable Mountain Development.³

¹ <http://carpathianscience.org/about/>

² <https://www.fao.org/international-mountain-day/en/>

³ <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N21/399/09/PDF/N2139909.pdf?OpenElement>

Forum conclusions

- Biodiversity needs global protection. Promoting international cooperation is therefore essential to support the conservation of the biological diversity.
- The role of international conventions is particularly important for the cross-border mountain areas, and the macro-regional strategies are also important, but it is necessary to start with the cooperation tools already available.
- The governance of mountain areas is complex, there are many stakeholders who are part of it at international and national level with specific roles, different expectations and priorities,
- Considering the complexity of mountain governance, connecting the stakeholders and policy makers at the local, central and international level, as well as promoting the bottom-up approach with greater involvement of NGOs is strongly needed.
- Mountain areas have an eco-social and human capital and offer a wide range of ecosystem services, they are important in maintaining the resources necessary for the protection of habitats and they play an essential role in addressing the triple planetary crisis: climate change, nature and biodiversity loss, pollution and waste. Biodiversity is a priority and needs to be integrated into all sectoral development strategies, actions and plans and considered as a strategic management element.
- The sustainable management of the specific Alpine and Carpathian landscapes and their ecosystems is essential to ensure the maintenance, resilience and promotion of biodiversity and therefore the supply and restoration of important ecosystems and services.
- Features referring not only to ecosystem services but also to connectivity are extremely useful for land use planning in the mountain areas.
- Currently, unfortunately the ecological corridors are not always sufficiently considered in the land use planning, and in the environmental assessments.
- There is still an insufficient understanding of the importance of ecological connectivity. The physiognomic-structural definition of mountain areas is important.
- A common knowledge base and ecological-environmental assessment of ecosystems, habitats and biodiversity is also needed.
- To ensure the balance between human beings and nature it would be extremely important to promote the integration of biodiversity and ecological connectivity within the land use planning and for the development of more informed, multidisciplinary, evidence-based spatial planning tools. Therefore, knowledge of the territory, including the distribution of habitats, and the production of technical tools useful for land use planning, are essential for the development of strategies, in line with the need to conserve the natural heritage.

- The specificity of Alpine and Carpathian biodiversity, and mountain biodiversity more in generally, differs from other biogeographical ecosystems due to the altitude gradient, it is therefore necessary to develop a system of indicators capable of representing this specificity. These indicators shall allow a thorough assessment of the conservation of mountain biodiversity in line with the CBD and with its objectives for 2050.
- Biodiversity issues are evolving due to climate change. In order to determine its impacts on ecosystem services, it is essential to develop reliable indicators and consistent monitoring.
- There are numerous research projects and many local monitoring initiatives with different objectives and heterogeneous approaches. The dialogue and coordination among these initiatives shall be ensured to strengthen the impact of the single initiatives.
- The harmonization of the basic knowledge of mountain biodiversity remains a priority, with reference to the cartography, as well as to the biodiversity data, to be associated to the habitats in order to estimate the ecological value and the conservation status
- The lack of accurate cartographic systems is one of the main critical issues that still need to be overcome both at the Alpine and Carpathian levels.
- It is essential to have a common cartography for the mountain regions, particularly for the Alps. Several good practices were presented during the forum. In particular:
 - The “Carta della Natura”⁴ is an Italian project coordinated by the Italian Institute for Environmental Protection and Research (ISPRA)⁵. It aims at identifying the state of the environment, highlighting the habitat distribution, the natural resources and values and territorial vulnerability. “Carta della Natura” might be extended to other geographical context: the project could be implemented in territorial contexts defined by ecosystems rather than national ones. For this reason it was proposed to extend it to the entire Alpine arc.
 - The “Alpine Convention Atlas”⁶, is a repository that can contain significant elements for a large-scale assessment and which enables the management, visualisation and dissemination of Alpine-wide data collected in the scope of the Alpine Convention's activities. The Atlas might be extended to other geographical contexts.
- As climate change leads to changes in species, habitats and ecological processes, the ecological connectivity of protected areas and other conservation areas plays a particularly crucial role in ensuring ecosystem services in the Alps.
- The development of an habitat map is necessary for ecosystems and habitats inside and outside protected areas (for which less data is available). Existing maps, which should support planning authorities, are not sufficiently developed for all areas.

⁴ <https://www.isprambiente.gov.it/it/servizi/sistema-carta-della-natura>

⁵ Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA) - <https://www.isprambiente.gov.it/en/istitute>

⁶ <https://www.atlas.alpconv.org>

- Natural disturbance regimes will continue to shift with climate change in both the Alps and the Carpathians. Altered disturbance vulnerabilities, for instance to wind and insects, derive also from the legacy of historic forest management. This history has simplified species composition, stand structural conditions, and patch mosaics at landscape scales. Addressing climate and disturbance vulnerabilities requires adaptive responses, such as diversification of landscape composition and management for plant species with future adapted traits. This is needed both to conserve forest-dwelling biodiversity and to sustain critical ecosystem services.
- Adaptation to climate change will require a portfolio of forest management strategies, producing tradeoffs between the types of habitats favored (e.g. early vs. late seral) and the mix of ecosystem service co-benefits (e.g. carbon storage, flood control, woods products, etc.). How to best optimize beta diversity in habitats, while also considering ecosystem services, is thus a central challenge for adaptive forest management in the face of climate change.

Forum proposed recommendations

Considering the conclusions listed above, the Forum would recommend to:

- Make greater efforts to raise awareness on mountain biodiversity and on the importance of ecosystem services and the strict connection between ecosystem services, human existence and well-being, which is very relevant for the entire globe and for the European continent.
- The characterisation of the ecological functions of the ecosystems would be essential to identify the ecosystem services provided and needed.
- Promote environmental education and awareness campaigns for the protection of mountain biodiversity.
- The Alps and the Carpathians constitute the ecological backbone of Europe, international conventions, in particular the Alpine Convention and the Carpathian Convention, should strengthen collaboration for the joint defense of biodiversity and advocating for the recognition of the importance of mountain biodiversity at and EU level, with particular reference to the implementation of the EU Biodiversity Strategy 2030, the Green Deal and other EU policies
- Promote mountains at the global level in order to elevate the consideration of mountain biodiversity and mountain ecosystems at the international environmental agendas, including the Convention on Biological Diversity and the Post-2020 Global Biodiversity Framework. In this respect, consider the updating of the Memorandum of Cooperation between the CBD, the Alpine Convention and the Carpathian Convention in the light of the Post-2020 Global Biodiversity Framework as an important tool for strengthening synergies and initiating common activities between the Conventions in regard to the mountain biodiversity.
- Promote the specificity of mountain biodiversity at the international level to ensure that it is kept as an absolute priority in all development sectors.
- Further encourage exchange of experience and knowledge between the Alps and the Carpathians, as well as with other mountain regions in pursuit of building strong, resilient and sustainable mountain regions all over the world
- Encourage the involvement of all stakeholders potentially interested in the protection of mountain biodiversity in order to ensure the implementation of existing international, regional and national policies, and to integrate management priorities and protection objectives.
- Improve the cross-border cooperation on ecological connectivity and include connectivity into the spatial planning processes and tools, raising awareness of the public and decision makers.
- Promote coordination between stakeholders for the assessment of ecological functions, a process that requires integration between different sectors, methodologies and institutions.

- Develop the study of specific indicators of mountain biodiversity, starting from the existing literature and with particular reference to the CBD biodiversity indicators and the Post-2020 Global Biodiversity Framework.
- Integrate the existing set of indicators that promote the value of the conservation of mountain biodiversity, contributing to the realization of the CBD vision of "Living in harmony with nature" by 2050, and to strengthening the coherence between international frameworks and science as well as between science and evidence-based decision making.
- Adopt an effective cross-border harmonised monitoring system with accurate maps in the Alps and the Carpathians, such as what could be done with the *Alpine Convention Atlas* developed by the Permanent Secretariat of the Alpine Convention and the *Carta della Natura* developed by ISPRA in Italy, in response to the needs of the Parties to the Conventions for the implementation of national, Community and international strategies.
- Promote the coordination and the development of common methodologies in data collection as well as management among data providers, research centres and administrative bodies.
- Promote standardisation in the collection, management and exchange of data between the Parties to the Conventions, with the possibility to create IT tool(s) for the entire Alpine and Carpathian arcs useful for planning and conservation purposes, as well as for the implementation of sustainable development policies.
- Take due account of climate change and its impacts on the mountain biodiversity for the protection and management of vulnerable and specific alpine landscapes and ecosystems.
- Develop connectivity studies and policies for ecological connectivity as the prerequisite for the protection of biodiversity, which is functional to the maintenance of ecosystem services.
- Consider the importance of the classification of the ecosystem services, with specific reference to the ecological functions of regulation and support, which is strictly related to the services produced and are fundamental for the maintenance and functioning of ecosystems.
- Promote adaptative forest management practices that account for altered natural disturbance regimes, for example by diversifying forest structure and composition at landscape scales.
- Consider forest management practices that increase resilience to climate change, such as management for systems with high functional trait diversity and expanded representation of geophysical diversity within protected areas systems.