

Environmental impact of the planned ski resort SVYDOVETS: far-reaching Consequences on the ecosystems and biodiversity

**Tymur Bedernichek¹, Tetyana Partyka², Roman Cherepanyn³, Tetyana Kuchma⁴,
Vlasta Loya¹, Myroslaw Kabal⁵, Ruslan Gleb⁵**

¹ M.M.Gryshko National Botanical Garden, Kyiv, Ukraine

² Institute of Agriculture of Carpathian Region NAAS, Obroshyne, Ukraine

³ Biology and Ecology Department, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine

⁴ National University of Kyiv-Mohyla Academy, Kyiv, Ukraine

⁵ Carpathian Biosphere Reserve, Rakhiv, Ukraine

The Svydovets is a mountain range located in Western Ukraine. It is one of the highest ranges of the Eastern Carpathians, with 4 peaks higher than 1700 m a.s.l. and one peak higher than 1800 m a.s.l. More than half of all glacier lakes in the Ukrainian Carpathians (9 out of 17) are located there as well as one of the key components of the transnational composite nature UNESCO World Heritage site "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe."

The whole mountain range is a unique part of the Ukrainian Carpathians due to the high concentration of rare, red-listed, relict and endemic plant, animal and fungi species. The central part of the Svydovets mountain range and the upper part of the Chorna Tysa River are important for both the Ukrainian Carpathians and the entire Carpathian mountain system because they ensure the ecological stability of the region. In particular, according to the data published in "*Nature Conservation Value of the Central Svydovets Mountains (Ukrainian Carpathians)*" [1], the territory of the massif is home to 42 plant species and 51 animal species listed in the Red Data Book of Ukraine [2].

There is a number of protected areas on the territory of the Svydovets massif. In particular, the southwestern part of the massif belongs to the Carpathian Biosphere Reserve. 4 objects are nature protected areas (zakaznyky) of local and national importance: Smerekovi Carpaty forest reserve, Apshynetsky hydrological reserve, Bila ta Chorna Tysa ichthyological reserve and Stanislav botanical reserve. 3 more objects are natural monuments: Vorozheska hydrological natural monument, Gerezhaska hydrological natural monument, and Andromeda botanical natural monument.

The Svydovets is also part of the Emerald Network, which is protected by international environmental treaties, including the Berne Convention [3] that is also ratified in Ukraine. The implementation of the Emerald Network principles in Ukraine will help improve the legal framework for biodiversity conservation, provide practical tools to form a national ecological network and harmonize Ukrainian environmental legislation with the standards of the EU Community, including NATURA 2000 principles. As of November 2016, the Standing Committee of the Berne Convention approved 271 objects of the Emerald Network on the territory of Ukraine. In particular, there are 2 objects on the territory of the planned resort: Skhidnyi Svydovets [4] and Marmaroski ta Chyvchyno-Hryniavski Hory [5].

Unfortunately, there are plans to build the largest ski resort in the Carpathians in this unique place. The total area of the recreational complex will cover 1430 hectares, according to the announcements

made on the planned activity [6]. 23 ropeways, 120 restaurants, 60 hotels, 390 cottages, 10 shopping centers, 17 rental equipment items, 2 bank branches, 3 fitness centers, 5 multi-storeyed parking spaces for 6000 cars, 230 km of ski tracks and 89.9 km of highways are planned to be built. Altogether, the infrastructure is designed to accommodate 22,000 people at the same time. About 800 hectares have been earmarked for housing, commercial, economic and recreational infrastructure, including the area for engineering communications. It is planned to build several reservoirs with the total volume of 1,260,000 m³ to provide the necessary amount of water both for tourists and for the artificial snow production. Also, up to 5,800 m³ of sewage waters will be produced by the ski resort daily and depleted directly into Bila ta Chorna Tysa ichthyological reserve, which is also a part of Marmaroski ta Chyvchyno-Hryniavski Hory Emerald site.

According to the construction plan, up to 850 ha are earmarked for deforestation in the area. More than 300 ha of the planned clearcuts are located in the water protection zone and about 330 ha is at an altitude above 1,100 meters, which should be protected by the Law of Ukraine “On the Moratoria on Clearcuts on Mountain Slopes in Juniper-Beech Forests of the Carpathian Region”. Deforestation will increase the risk of soil erosion, flooding, and avalanche, land-slides, forest fires, decreased water table, inadequate water resources for domestic and commercial use, increased water pollution, decreased food production (mushrooms and berries) and loss of income due to decreased provision for natural medicine.

In general, 93 species listed in the Red Data Book of Ukraine and dozens of species of regional and international red lists will be threatened as a result of the project implementation. We insist that such large-scale anthropogenic impact on these territories that include unique habitats of rare, endemic, relict and arctic-alpine species of flora and fauna is inappropriate. Also, building Svydovets Ski Resort will violate the requirements of the national and international laws. Apshynetsky, Bila ta Chorna Tysa, Vorozheska and Gerezhaska protected areas are located directly on the territory of the potential resort, as well as Skhidnyi Svydovets and Marmaroski ta Chyvchyno-Hryniavski Hory Emerald sites. The ski resort will have a direct impact on all protected territories mentioned above.

We suggest that the territory of the Svydovets mountain range be made a protected area. There are two scenarios that we support: either create here a landscape reserve – zakaznik (IUCN category IV), as suggested by Kagalo et al (2018) [1], or include this territory into the Carpathian biosphere reserve (IUCN category II), which is preferable in our point of view. A less desirable scenario would be creating a regional landscape park on this territory. This status gives only formal or “paper” protection for the ecosystems and species, and therefore may be used by the investor as a trick to both build a ski resort and to formally comply with the request of the nature conservationists.

References:

- [1] Kagalo A., Kanarsky Y., Mykitchak T., Kovtoniuk O., et al. *Nature conservation value of the central Svydovets Mountains (Ukrainian Carpathians)* // *Bulletin of the Taras Shevchenko National University of Kyiv. Geography* 1 (70). 2018. - P. 35-48.
- [2] *Red Data Book of Ukraine: Plant Kingdom (2009)* ed. by Y. P. Didukh [in Ukrainian], Globalkonsalting, Kyiv, pp. 900
- [3] *Council of Europe (2014) Convention on the Conservation of European Wildlife and Natural Habitats – Resolution No. 4 (1996) listing endangered natural habitats requiring specific conservation measures (Adopted by the Standing Committee on 6 December 1996) and Revised Annex I of Resolution No. 4 (1996) (1996) (Adopted by the Standing Committee on 5 December 2014)*
- [4] <http://natura2000.eea.europa.eu/Emerald/SDF.aspx?site=UA0000259>
- [5] <http://natura2000.eea.europa.eu/Emerald/SDF.aspx?site=UA0000117>
- [6] <http://eia.menr.gov.ua/places/view/288>