

WHAT ARE THE FUNCTIONS OF LANDSCAPE ELEMENTS

Hedvika Psotová

Arvita P spol. s r.o Otrokovice, Czechia

<https://doi.org/10.11118/978-80-7701-025-2/0352>

Abstract

Landscape elements are multifaceted natural and near-natural structures that articulate and co-create the character of the landscape. Their presence has a significant impact on the water regime of the landscape, affecting the permeability of the landscape for people and wildlife. Landscape structures fulfil a number of agri-environmental, eco-stabilizing and aesthetic functions and spatially affect human activities in the landscape.

Key words: character of the landscape, importance of landscape elements, ecological stability of the landscape, sustainable landscape management

Introduction

Landscape elements as segments of natural and near-natural structures bring biodiversity to the landscape. The example of the project of sustainable management in the landscape of the White Carpathians demonstrates the importance of landscape elements for agricultural production under the conditions of organic farming.

Materials and methods

The basis of the ecological network of the Czech Republic according to **Act No. 114/1992 Coll.**, on Nature and Landscape Protection, is the territorial system of ecological stability, consisting of a system of biocentres and biocorridors. However, nature and landscape protection has a number of other tools that complement and overlap each other. These are large-scale and small-scale protected areas, sites of European importance and, last but not least, so-called **significant landscape elements** (VKP).

The Agriculture Act No. 252/1997 Coll., as amended, defines a part of landscape elements in the productive agricultural landscape as **ecologically significant elements** (EVP). The EVP represents a continuous area of land fulfilling non-productive functions, or another body that is part of the agricultural land or is immediately adjacent to it. **Landscape elements** defined by **Government Regulation No. 307/2014 Coll.** (i.e. balks, terraces, grassy valleys, groups of trees, alleys, solitary trees, ditches and wetlands) are newly viewed as **parts of agricultural land** in accordance with the amendment to the Act on the Protection of the Agricultural Land Fund No. 183/2024 Coll. Landscape elements include I landscaping orchards, which, however, are not included in non-productive areas. (Pešout, 2024).

After many years, the Ministry of the Environment and the Ministry of Agriculture have found a common solution in an effort to encourage farmers to incorporate landscape elements into arable land. The result is the removal of administrative barriers to the expansion of landscape elements and financial motivation for their implementation and care.

Results

The design studio Arvita P spol. s r.o. has been systematically involved in the restoration of landscape elements in the agricultural landscape for a long time. Since 1996, we have been systematically cooperating with the company Javorník-CZ, s.r.o., based in Štítná nad Vláří, which farms in the regime of organic farming in the Protected Landscape Area of the White Carpathians. The project of sustainable management in the landscape of the White Carpathians is implemented in cooperation with the Administration of the White Carpathians Protected Landscape Area. The project was implemented in 2011-2016, the second stage took place in 2018-2024 and the third stage is currently being prepared in accordance with the Management Plan of the White Carpathians Protected Landscape Area.

The project was implemented in the economic district of Javorník CZ s.r.o. in the cadastral areas of Štítná nad Vláří, Popov, Návojná, Nedašov, Brumov, Bynice, Bohuslavice, Jestřabí and Kochavec with the use of subsidy funds from the Environment Operational Programme.

The following types of landscape elements have been restored or established as part of the sustainable management project:

Balk

The restoration of the margins was the cornerstone of the erosion protection of arable land. Grassy strips were established in the sloping terrain with planting of fruit and natural tree species. The preserved balks, which were mostly heavily overgrown with self-seeding shrubs, were cleared and supplemented with new planting of target trees (see photo No. 1)

Grassy valley

Due to the rugged terrain, most of the valleys were grassed. The valleys, which are part of the grazing areas, were supplemented with stabilizing planting of trees to prevent landslides

Alley

Linear tree plantings are typical historical landscape structures and are newly established, supplemented or renewed along field roads, drive paths and on the edges of soil blocks (see photo No. 2).

Solitary tree

Solitary trees complete the park character of the landscape. Promising trees of the character of monument trees were released from self-seeding and professionally treated (see photo No. 3).

Group of tree species

The group of tree species consists of at least 2 pieces of trees and, like solitaires, completes the landscape character. Groups of tree species were released or supplemented mainly on pastures (see photo No. 4).

Ditch

Like the balks, ditches are part of the soil erosion protection system. With regard to property relations to the land and the complexity of the water rights proceedings, infiltration ditches were built at the edges of the soil blocks.

Wetland.

Several meadow wetlands were created, which were very quickly populated by amphibians. Reptile wintering grounds and beetle pits were also created in the immediate vicinity.

Rockery

The subject of interest was mainly sinkholes and stone drifts, which historically accompany farming on stony soil.

Landscaping orchard

Landscape orchards, which are numerous in the area of interest and are not of interest due to their difficult accessibility, will be addressed in the third phase of the project. However, the available sites have already been treated and supplemented with new individuals (see photo 5).



Fig. 1: Newly established and renewed balks



Fig. 2: A typical alley of fruit trees



Fig. 3: Solitaire tree in the landscape



Fig. 4: Group of tree species in the landscape



Fig. 5: Treated landscape-forming orchard



Fig. 6: Restored Landscape Segment

Discussion

The incorporation of the Czech Republic into the European Union in the third millennium brought a number of new perspectives on the landscape, which is understood as part of the cultural heritage. The White Carpathians have been included among the world's biosphere reserves for their natural and landscape values. And as such, they should be a model area for the coexistence of nature conservation interests with economic activities. The project of sustainable management of the landscape of the White Carpathians has shown that even large-scale agricultural production carried out in the form of organic farming can be sustainable, provided that the areas of managed (unstable) ecosystems are balanced by suitably distributed areas of ecologically more stable natural and near-natural ecosystems. Appropriately selected landscape elements then significantly contribute to the restoration of the traditional landscape character and increase the aesthetic value of the landscape.

In addition to the areas of the territorial system of ecological stability, which are specifically represented by forest communities in the area of interest, it is the landscape elements that thicken and support the ecological network of the landscape, contribute to the preservation or improvement of landscape biodiversity and optimize the water regime.

The addition of reptile, beetle and stone drifts, which are rapidly colonized, further contributes to the restoration of natural relationships in the landscape.

The result of such an approach project is an agriculturally used landscape, providing economically acceptable production while applying the principles of sustainable management.

Conclusion

Thanks to sustainable management in the landscape of the White Carpathians, the condition of the landscape has been improving in the long term (see photo No. 6). The restoration and establishment of landscape elements supports the ecological stability of the territory, improves soil quality, supports biodiversity, and implements measures to minimize erosion, increase the retention capacity of the landscape and adapt it to climate change. Thanks to the restoration of landscape elements, life in all its forms is returning to the landscape.

Behind it all is a farmer who returns to his roots and strives to pass on landscape and agricultural land to the next generation in a better condition than he took it over.

References

Government Regulation No. 307/2014 Coll.

Pešout P.: Ecologically significant elements (landscape elements) as part of the ecological network, in Nature Protection, No. 3/2024

Act No. 1832024S. on the Protection of the Agricultural Land Fund Agricultural Act No. 252/1997 Coll.

Acknowledgement

I would like to thank the management of Javorník - CZ, s.r.o. Štítná nad Vláří Popov and all employees for their long-term cooperation, active approach and perseverance in the restoration and creation of the beautiful Wallachian landscape.

Souhrn

Na příkladu Ekofarmy ve Štítné nad Vláří, která hospodaří na v CHKO Bílé Karpaty na 8 katastrálních územích a dlouhodobě usiluje o tvorbu funkční, stabilní krajiny, je demonstrována potřeba obnovy krajinných prvků v režimu ekologického zemědělství.

Contact:

Ing. Hedvika Psotová

E-mail: arvita@arvita.cz

Open Access. This article is licensed under the terms of the Creative Commons Attribution 4.0 International License, CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

