

Tourism assets of the Bieszczady Mountains

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Abstract

Background: In the pandemic era, an increasing number of people have engaged in staycation as well as tourism that relied on the proximity of attractions. This led for some to the rediscovery and growing popularity of domestic, traditionally well-explored locations, such as the Polish section of the Carpathian Mountains. The easternmost mountain group of the Carpathian chain in Poland are the Western Bieszczady Mountains. In administrative terms, the Bieszczady Mountains are part of the Subcarpathian Voivodeship. This area enjoys the influx of tourists to its rich heritage, dramatic history and wild wastelands, but also the characteristic landscapes. The article is an attempt at a review of the causes of its popularity and at a categorisation of its tourism assets. **Methods:** The research method used was an analysis of primary sources of knowledge relying on own observations and secondary sources of knowledge, including literature, government data, and research reports as well as information contained in the relevant websites. **Results:** Geological structure, relief of the area and specific features of vegetation, hydrography as well as climate and human activity all contributed to the creation of a well-balanced and diverse realm rich in tourism resources which attract visitors throughout the entire year. **Conclusions:** Despite its remote location in the south-eastern part of Poland, as well as limited access by various modes of transport, the abundance and quality of tourism assets of the mountain group results in sustained, thriving and diverse tourism and hospitality industry, which benefits in a sustainable way from the conditions offered by the natural assets as well as human-created cultural context.

Keywords: Bieszczady Mountains, tourism assets, geotourism

Introduction

The Western Bieszczady Mountains are the most south-eastern mountain group of the Carpathian chain in Poland. Administratively, the Bieszczady Mountains belong to the Podkarpackie (Subcarpathian) Voivodeship. The total area of the Bieszczady Mountains is 21,000 km² and is bordered from the east by: Użocka Pass and the river San, from the south by the border with Slovakia and Ukraine, from the west - the Oślawa and Oślawica valley, and from the north, without a marked natural border, they connect with the Przemyśl Foothills. The source of their specific charm is not only the memory of dramatic history and wild wastelands, but also characteristic landscapes that owe their character to the geological structure, relief of the area and specific features of vegetation, hydrography and climate.

Discussion

Tourism attractiveness of the studied area relies both on natural assets but also builds upon the anthropogenic values, which have been created in the Bieszczady Mountains over time and are witness to its rich heritage as well as provide background for the current activity of its inhabitants.

Natural assets

Vegetation, especially forest complexes, is of great importance for recreational tourism in the Bieszczady areas. The characteristic microclimate found in mountain areas has not only recreational but also medicinal value. The natural environment and its cleanliness, protected areas and tourist trails and routes are of great importance for recreational tourism. This gives you the opportunity to rest and commune with nature. The elements of the natural environment most frequently taken into account by tourists are: terrain, surface water and vegetation. The nature of these elements determines the possibilities of developing recreation also in a given commune. Sightseeing values have values that are characterized by the greatest diversity. Their origins lie in the natural environment, as well as in history and the present. Natural values are particularly important when choosing tourist destinations (1).

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The Bieszczady National Park was established in 1973. At that time it had an area of 5.5 thousand hectares, in the following years it was expanded many times and currently covers an area of 29.2 thousand hectares. It is the third largest national park in Poland and the largest national park in the Polish mountains.

The area of the Park is located above 600 m above sea level and therefore includes the upper part of the valley area, the lower mountain range and the meadow level extending from 1,150 m above sea level to the highest peaks. The lower montane zone is occupied by mountain forests, the natural origin of which increases their natural value. These are mainly beech, beech-fir, beech-sycamore, alder and spruce-fir forests. Above the upper border of the forest there is a layer of meadows ending with very picturesque rocks and large fields of rubble.

The rocks appear in the form of long ridges, which form a ridge in the form of a jagged ridge (Krzemień), which particularly beautifies the landscape of the meadows. It is assumed that the level of meadows was shaped by natural factors changed by man during his economic activity (grazing, barracking, expanding pastures).

The meadow communities can be grouped into three groups: meadow scrub communities, grass-plant, herb and shrub communities, and alpine communities: grasslands, shrublands, blueberry meadows, peat bogs, crevice and rock shelf communities. The Połoniny Mountains are under strict protection and are open to tourists from tourist trails. Biocenoses endemic to the Bieszczady Mountains or the Eastern Carpathians occur most often in meadows. These include, for example, flowery high-mountain grasslands with globeflower and soft cornflower, połonin meadow with turf grass, grass plants and blueberries. A separate group consists of endemic Eastern Carpathian scrub communities of meadows with green alder and mountain ash (2).

"The flora of the Park and the Bieszczady Mountains is very rich. The best known group of plants in this area are vascular plants - there are approximately 780 of them in total. The "Polish Red List of Plants" includes 18 species, the "Polish Red List" - 34, while in the Park there are 74 species of legally protected plants. The endemics of the Eastern Carpathians are represented by the Carpathian spurge and the white squirrel. In terms of microflora, the Bieszczady Mountains are the richest region in the Polish Carpathians. About 1,000 species of fungi, over 445 species of lichens and 252 species of mosses were found here" (1).

Raised peat bogs are a great attraction. The most famous of the 8 in the Bieszczady Mountains are located in the Wołosatka and Upper San valleys and are under reserve protection. Two of them are open to visitors (Wołosate, Tarnawa) via appropriate piers.

The fauna of the Bieszczady Mountains is typical for this part of the Eastern Carpathians. It is confirmed that the Bieszczady National Park and its surroundings are the most interesting refuge for mammals and predatory birds in Poland. About 284 species of vertebrates have been found in the entire Bieszczady Mountains, and 231 in the Bieszczady National Park, including: 1 jawless fish, 10 species of fish, 11 amphibians, 7 reptiles, 144 birds, 58 mammals. Studies of ichthyofauna have shown changes in the fish stock of Bieszczady streams and rivers. The trout disappeared, the numbers of common nase and barbel dropped, and grayling and perch appeared. The main fish in the local streams is the brown trout. There are 144 species of birds in the Bieszczady National Park, including 122 nesting ones. The most numerous are birds of prey (23 species), as well as owls and woodpeckers. Mammals of the Bieszczady National Park and its surroundings number 58 species. The most numerous are small mammals (rodents, insectivores, bats, etc.). Beaver restitution has been carried out in the Park since 1992.

In the Bieszczady Mountains, the occurrence of large predators, particularly rare in Poland and throughout Europe, is confirmed. The largest of them - the brown bear, weighing from 150 to 400 kg - occurs throughout the Bieszczady Mountains, and its population is estimated at 50 animals, including about 10 in the Park (data from 2002).

Wolves constitute the largest population in Poland in the Bieszczady Mountains - there are 5 packs of wolves, numbering about 25, living in the Park. The lynx population is estimated at 24 animals, including 6 animals in the Park, and the red deer population - 1,725 animals (340 in the Park); The area of the Bieszczady National Park is an important deer refuge, especially in the summer season and the rut.

"Since 1963, several bison from the Caucasian line have been imported to the Bieszczady Mountains. Currently, their number within the Park is estimated at 60-70 animals, and the total population in the Bieszczady Mountains is approximately 120 animals" (3-4).

The Bieszczady National Park protects fragments of the Eastern Carpathian nature in the Polish part of the Bieszczady Mountains. As a result of detailed valorization of natural resources, zoning was established for the Park and its surroundings. The strict protection zone covers approximately 70% of the Park's area, the remaining part is an active (buffer) and landscape protection zone. The landscape parks constituting the buffer zone create a natural barrier

protecting the Park. It is a large area with high natural values, where extensive human management is allowed.

In 1992, UNESCO - as part of the Mab and Biosphere program - established a biosphere reserve in the Polish part, which includes the following protection units: Bieszczady National Park, San Valley Landscape Park and Ciśniańsko-Wetliński Landscape Park. This area is the central part of the International Biosphere Reserve "Eastern Carpathians", which obtained tripartite status (Poland, Ukraine, Slovakia) in 1999.

The International Biosphere Reserve "Eastern Carpathians" is distinguished by its specific natural, landscape and cultural values, so including it in its entirety under protection is of great importance for the preservation of the Earth's natural heritage, including the cultural values of this part of Europe. It is the only biosphere reserve in which Europe's largest complexes of natural beech forests and Eastern Carpathian mountain meadows called *połoniny* are protected (3).

All areas that make up the international biosphere reserve work closely together to protect nature, manage it and engage with local communities. The park became the initiator of international cooperation, on September 17, 2002, it was the first protected area in Poland and Central and Eastern Europe to receive from the King of Sweden the Certificate of the European PAN PARKS Network for natural values and a positive assessment for the management of protected areas. In 1998, the Park (one of two in Poland) received the "European Diploma", which confirmed the guarantee of the natural quality of this area and was an expression of recognition for effective activities in the field of nature conservation and management of the Park. One of such ways is to use sustainable tourism for the purposes of organizing it. An example of effective activity may be the development of the areas of the former sheepfold in Wołosate and the organization of the Conservative Hucul Horse Breeding there. Breeding has become the basis of horse tourism in the Bieszczady Mountains.

Ecological education is one of the basic tasks performed by the Park. The following centres serve these purposes: Scientific, Didactic and Museum in Ustrzyki Dolne and Information and Educational in Lutowiska (5).

The modern mission of the Bieszczady National Park, in addition to protecting the most valuable natural resources, is to create a policy of sustainable development in a much larger area, also outside Poland, in the Ukrainian and Slovak parts of the International Biosphere Reserve "Eastern Carpathians". Creating this policy is a great opportunity for the development of communes adjacent to the Park and inside, through the expansion of tourist base and services.

"The vegetation of the Bieszczady Mountains is dominated by forests and wooded areas; they occupy over 70% of the area, and in some communes (e.g. Cisna and Lutowiska) this percentage exceeds 80%. Beech plays the main role in the forest stand - 48% of the area; Moreover, the share of fir - 23%, gray alder - 14%, pine - 9% and spruce - 6% is significant" (2).

The Bieszczady Mountains are characterized by a unique arrangement of plant layers, different from those in the parts of the Carpathians neighboring them to the east and west. We usually distinguish three such floors. The foothill level can be clearly distinguished only in the western part of the Bieszczady Foreland. South of the San valley, it covers only about 5% of the area and is limited only to river valleys. They are covered with the so-called oak-hornbeam forests - multi-species deciduous forests with oak, hornbeam, fir and linden.

The layer of deciduous forests, i.e. the lower montane, is differentiated into lower and upper parts. The lower one is made up of mixed forests with fir, beech and spruce, while the upper one is made up of almost pure beech forests, with an admixture of sycamore in places.

The mountain meadows, located at an altitude of over 1,200 m above sea level, are dominated by associations of poor grass and low shrubs. A smaller area is covered by thickets of black alder and mountain ash (2).

The floristic peculiarity of the Polish Bieszczady Mountains is that the upper border of the forest is formed by the lower montane - dwarf, creeping beeches with twisted crowns. The upper spruce forest and dwarf pine floors are completely missing. Single specimens of dwarf spruces can be found here and there on the northern slopes, and single specimens of mountain pine and Swiss pine can be found in the Baligród forest district, where they were most likely accidentally sown by humans in the 1920s.

The upper forest boundary runs in the Tarnica nest at an altitude of (average) 1,180 m, on Wielka Rawka - 1,260 m, and in *Połonina Wetlińska* and *Caryńska* lower: approx. 1,060 m. The current course of the upper forest boundary in the Bieszczady Mountains, lowered by approx. 400 m in relation to the Tatra Mountains and 250 m to *Babia Góra*. It is partly the result of human activity - centuries of grazing, and partly probably due to climatic conditions. Dry and warm winds blowing from the south, from the Hungarian Puszta, do not favor the development of the upper montane spruce, which is a cold climate tree (6-8).

In terms of flora, the Bieszczady Mountains have a high-mountain character and definitely refer to other parts of the Eastern Carpathians. Colonies of alpine and subalpine plants (76 species) can be found already at an altitude of 675–750 m, i.e. in the lower mountain range. The most numerous of them (net garlic, round-leafed pyrethrum, eastern Carpathian thistle) are found in the Upper Solinka valley. Eastern Carpathian plants (27 species) are concentrated mainly in the eastern part of the Połoniny range. Two endemic species (not found outside the Eastern Carpathians) attract attention: Carpathian spurge and Carpathian hentail. The Bieszczady flora of vascular plants includes over 900 species, which constitutes more than a third of all species living in Poland. Moreover, over 300 species of mosses, nearly 20 species of slime molds and a rich flora of fungi have been found in the Bieszczady Mountains. "There is a significant number of xerothermic (heat-loving) species - 66. There are also calcareous plants; Although there are no limestone rocks in the Bieszczady Mountains, the Krosno sandstones are very rich in calcium carbonate" (9).

Bieszczady's peculiarities are the so-called raised peat bogs, fed mainly by rainfall (as opposed to the low peat bogs common in Poland, fed by groundwater). In the field, they are usually visible in the form of a dome-shaped uplift with an area of 0.5 to 9 ha. Due to the lack of mineral salts, plants with low requirements grow here, e.g. sphagnum moss and pine. The largest number of peat bogs, as many as eight, are concentrated in the upper San valley, in the section from Sokoliki Górskie to Smolnik. A well-known peat bog, today partially drained, is located in Wołosate. Another one, near the village of Smerek, was destroyed during the construction of a narrow-gauge railway track. Most raised bogs are protected as reserves (9).

The fauna of the Bieszczady Mountains is typical for this part of the Eastern Beskids. It includes approximately 230 species of vertebrate animals. The world of invertebrates is also very rich, although much less researched.

The most numerous mammals are rodents, including: dark and red squirrels, dormouse, dormouse, streaked squirrel, pine squirrel. The Bieszczady Mountains are one of the few places in Poland, next to the Tatra Mountains and Babia Góra, where the brown bear can be found. According to reliable sources, the number of these animals is estimated at 25-30 animals (70% of all wild bears in our country). Their favorite habitats include: the massif of Tarnica, Halicz and Kińczyk Bukowski, Hyrlat and wild forests between Balnica and Zubensko. Bears were also observed in other places.

Wolves penetrate the entire Bieszczady Mountains; their number oscillates around 100 copies. The number of lynxes is estimated at 40-60. Their place of residence changes with the migrations of the animals that constitute their food. The wildcat can be found both deep in forests and near human settlements. It crosses in the Bieszczady Mountains with feral domestic cats that remained after the population was displaced.

The Carpathian deer, characterized by its massive build and impressive antlers, lives mainly in larger and rarely visited forest complexes. Its population is estimated at several hundred animals.

In the years 1963-66, 19 bisons were brought to the Bieszczady Mountains. After less than a year of acclimatization, they were released into the wild. Currently, there are about 80 specimens here. They mainly live at the junction of the San and Wołosate rivers, although sometimes they venture far beyond the center of their refuge. The Bieszczady bison Pulpit became famous, making long journeys around the country. The acclimatization of bisons in the center near Wola Michowa was less successful, where some of the animals died as a result of a viral infection. In this region, bison can be found on the slopes of Maguryczny (9).

Other mammals living in the Bieszczady Mountains include: wild boars, foxes and badgers; otter on the streams, pine marten in dense forest complexes, and roe deer in the lower parts of the mountains.

From the rich world of birds, noteworthy are high-mountain species - the mountain hawk and the silver eagle, as well as predators - the golden eagle and lesser spotted eagles. In the area of Caryński, Ustrzyki Górne and Chryszczata there are refuges for the eagle owl, and the gorge sections of the San, Wetlinka, Prowcza and Osława are the favorite places of the black stork.

A great curiosity of the Bieszczady fauna is the Aesculapian snake - the largest and rarest of Polish snakes. Its sites are located in the San valley. In addition, it is worth mentioning the venomous zigzag viper, which occurs here in many color varieties, from gray to almost black.

There are about 30 species of Eastern Carpathian plants in the Bieszczady Mountains. These include green alder, also known as scythe alder, which forms extensive groves, for example on the slopes of Tarnica. Among flowering plants, it is worth paying attention to the Eastern Carpathian thistle and the carnation. Mountain snakewort and Dacian violet also bloom here. There are several Eastern Carpathian endemics growing in the Bieszczady Mountains, i.e. unique species that occur only in a limited area. One of them is white wheat.

We can also find many alpine plants in the meadows. The single-headed pigweed is turning yellow in the grass. It grows quite abundantly here. However, mountain arnica (a subalpine species)

is extremely rare. Unlike arnica, white hellebore is easy to spot because it is a tall plant and often grows in large clusters. Many other, more famous, but equally beautiful plants bloom in the meadows, such as the lace lily and various species of orchids. The plants mentioned above occur in a sea of grasslands that cover most of the meadows. In the last few decades, the area of grasslands, i.e. pastures covered with dog grass, has significantly decreased (9).

Alpine communities, occupying small areas in the peak parts of mountain meadows, are considered particularly valuable. Between the rocks there, in crevices and on ledges, we can see pasture blueberry and crowberry meadows, grasslands with short fescue, and even alpine "hanging" pasture bogs that are several thousand years old.

The natural values of the Bieszczady Mountains undoubtedly include Lake Solina and Lake Myczkowskie. "The Solina artificial lake attracts primarily lovers of water sports and relaxation by the water. For sailors, it is one of the most attractive water areas in Poland. The complex coastline with numerous charming bays inviting people to moor, a wonderful landscape that changes from time to time, and strange wind turbulences that force them to demonstrate great sailing skills attract sailors from all over the country. The total length of the main branches of the lake is nearly 50 km, and the area is approximately 22 km²" (10).

The eastern branch deserves special attention, especially the area around Teleśnica Oszwarowa and Sokol, at the foot of Jawor and Stożek. The shores here are almost deserted and the landscapes are exceptionally beautiful. The most extensive panorama of the entire lake and its surroundings is from the upper part of Polańczyk; you can admire it without leaving the table in the "Na Górcie" restaurant.

Lake Solina is an attractive place for fishing. There are mountain species there: trout, grayling, barb. Many other species have been introduced artificially. You can obtain more detailed information and purchase a fishing card at: at the Fisheries Farm in Wołkowyja and in the office of the Municipal Association of the Polish Association of Animal Welfare in Solina.

Lake Myczkowieckie is much smaller than Solina Lake (only 2 km²) and not as picturesque. Because it serves as an expansion tank for the pumped-storage power plant in Solina, water level fluctuations are frequent and large. There are no swimming areas, and the size of the reservoir makes it unattractive for sailors. You can, however, go kayaking or pedal boating. Holiday resorts are concentrated mainly near the dam in Myczkowce. A nice place is the scout centre "Berdo", which cannot be reached by car, only on foot or by boat from Myczkowiec (2).

Among the natural values, a large role is played by those valued by geotourism. Throughout the flysch Carpathians, the dominant structural relief is the result of the arrangement of rock layers that are more and less resistant to erosion and denudation. As a result, a grid system of ridges and valley depressions was created. Narrow and elongated parallel ridges were formed on resistant rocks, while the accompanying depressions were prepared in less resistant rocks. Rivers flow parallel to the axis of the ridges and cross the ridges transversely in the tectonic fault zones, creating structural gorges. Intensive uplift of the Bieszczady Mountains favors the deepening of valleys and increases in relative heights. Long and parallel ridges stretching from north-west to south-east are formed on outcrops of resistant Krosno or Cisnian sandstones. "The valley depressions refer to the complex of sandstone and shale rocks and to cracks and tectonic faults that create transverse valleys. A characteristic feature of the morphology of ridges and slopes is the presence of ridges, rocky outcrops (rocks) and kuest-type steps, lithologically determined, the development of which is associated with periglacial morphogenesis" (11). The most characteristic gorge valleys can be observed in the Wołosate and Nasiczniański streams. These streams cross the Połonin Range transversely with valleys of similar depth of 550 m on the Połonin ridge line, but with valley bottoms at different heights (12). In the stream beds you can observe rocky ridges called berda. They have different shapes depending on the thickness and structure of the resistant sandstone layers and the pattern of cracks. A special form of sculpture in rock beds are evorsion bowls and vortex cauldrons called marmites. These are deep hollows in the rock bottom of the stream, up to 15-50 cm deep.

In the relief of the ridges of the Połonin Range and in the Border Range, structural conditions are very clearly visible due to large differences in resistance to weathering and denudation between the Otrycki sandstone packages and the thin-rhythmic flysch separating them. Rock perches of sandstone beds on ridges and slopes protrude in the form of isolated rocks, jagged walls, cones, pulpits or mounds. At the foot of the rocky perches, there are rocky rubbles and among them isolated, isolated dwarf spruce trees, which are a relic of a spruce layer that may have existed in the past above today's upper forest line formed by dwarf beech trees (13). There are several known crevice caves in the Bieszczady National Park and its surroundings. The largest of them is in Nasiczne, 60 m long and 13 m deep. Recently, new caves have also been discovered on Kiczera Dydiowska, Tarnica and on the slope of Magura Stuposiańska in Bereżki (14). Fissure caves were created by the opening of cracks oriented perpendicular to the mountain ranges during the

gravitational sliding of rock packages. In the Bieszczady Mountains there are natural objects that deserve special care. These include the natural exhalation of methane in the forest near Dzwiniacz Górny, the natural outflow of oil in the Wołosate riverbed in Stuposieny, wells from the oil mine in Dzwiniacz Górny, the jasmunia in Kiczera Dydiowska, the landslide and sediments of the dam lake in Muczne, the Wołosate gorge between Magura Stuposiańska and Widełki, and a locality of coccolitic limestones and sandstone veins in the Dydiowa sandstone and a gas outflow near Smerek.

Cultural values

Anthropogenic values are also a factor determining the tourist attractiveness of a given area. These include monuments, fairs, festivals, museums and various types of exhibitions. Cultural events are important tourist attractions in the studied area, which attracts a large number of tourists. Cultural monuments were discussed, dividing them into secular and sacred.

The elements of cultural heritage in the Bieszczady Mountains undoubtedly include bunkers. The Molotov Line bunkers preserved in the Bieszczady Mountains belong to the Przemyśl Fortified Area. They were built in Bóbrka, Myczkowce, Lesko, Załuże, Olchowce and Sanok. The primary task of these facilities was to defend bridges and fords on the San River. The village of Załuż was heavily fortified in this area. Fragments of fortifications can be found there, among others, at the foot of Mount Sobień. The bunker on the road leading towards Sanok, near the "Bukowina" hill, was particularly heavily armed (15).

Only a few bunkers were destroyed during the fighting. Some of the shelters were abandoned by the crews, and some were blown up by the attackers, burying the defenders in the ruins. The shelter in Sanok-Olschowce was later broken down while the Germans were filming a film about conquering the Molotov Line. It is also worth knowing that the Bieszczady bunkers were captured together with the Germans by soldiers of the Slovak Rychla Skupina. Previously, Slovak troops supported the Nazis during the invasion of Poland in 1939 (10).

Facilities worth seeing in the Bieszczady Mountains include the Museum of the Bieszczady National Park located in Ustrzyki Dolne (BdPN Nature Museum in Ustrzyki Dolne, ul. Bełska 7, tel. 134611091). The museum is one of the largest collections of natural specimens in Poland. Although the current building was opened in 1986, the first exhibits come from the late 1960s. In the part titled "Flora, plant communities and fauna of the Bieszczady Mountains" one can see, among others: two specimens of brown bears. On the same floor there are also other predatory mammals, including lynx, wildcat, marten and wolves, as well as ungulates such as deer and a herd of bison numbering several individuals. We can also see a wonderful collection of birds found in the Bieszczady Mountains. "The museum collection on three floors also includes other permanent exhibitions: «Biology and systematics of the animal world», «Selected issues in paleontology», «Geology of the Bieszczady Mountains against the background of the Carpathians», «Geomorphology, hydrology, climate and soils of the Bieszczady Mountains», «Protection plan for the BdPN and its buffer zone». In the ground floor part of the "Bieszczady Mountains then and now" there are temporary exhibitions referring to the history of the region" (9).

Folk culture lovers should visit the historic forge in Baligród in the Bieszczady Mountains. The current owners have declared that they will provide access to the historic building, unique equipment, and preserved blacksmith and farm tools. The eco-museum is located on the "Zielony Rower" natural and cultural heritage trail. The forge has been open to the public since 2003 (16).

Cultural monuments are not the domain of the Bieszczady Mountains. They are concentrated mainly in the northern part - in the Bieszczady Foothills.

The monuments of Sanok will attract the attention of a potential tourist. There is a medieval castle here with a priceless collection of icons. Originally it was a Ruthenian stronghold, in its place Polish king Casimir erected a castle in the Gothic style. In the years 1523–1548 it was rebuilt in the Renaissance style. There are currently 106 icons in its exhibition halls, out of approximately 700 owned by the museum. In the museum you can also see works by Zdzisław Beksiński.

There is also a Historical Museum in Sanok. It presents the architecture and culture of the surrounding areas of the Bieszczady Mountains - the culture of Lemkos and Boykos. The Historical Museum in Sanok is located in the building of the Renaissance royal castle, built by the staroste of Sanok, Mikołaj Wolski, in the years 1523-1548. Originally there was a Ruthenian stronghold here, expanded by Casimir the Great, and the remains of the Gothic structure can still be found in the Renaissance walls. Unfortunately, the northern wing, which was destroyed in the nineteenth century, and the southern wing, which was demolished by the Austrians at the beginning of the twentieth century, have not survived to this day. During recent archaeological works, the foundations of a 14th-century Gothic tower, which was reconstructed to a height of approximately 1.5 m above the ground, and the remains of city walls from that period were found. There are plans to reconstruct the entire fortification, which, however, depends on obtaining financial resources (16).

The museum, founded in 1934, has over 700 icons coming from former Greek Catholic and Orthodox temples, from the Bieszczady Mountains, the Low Beskids and the foothills, as well as from the "Łemkiwszczyzna" museum operating in Sanok before the war - combined with the Historical Museum (then the Museum of the Sanok Land) in the 1940s. The exhibition presents icons from the 15th to the 19th century. The most valuable of them are: Dormition of the Virgin Mary - Żukotyń - 1st half of the 15th century, Christ Pantokrator from Wujskie - 15th century, Our Lady of Hodegetria from Paniszczewo, 16th century, Our Lady Enthroned from Florynka, 1st half of the 16th century, and others. The museum also collected about eight hundred items that were elements of the orthodox church's equipment and decor. These include crucifixes, candlesticks, reliquaries, liturgical vessels, paraments and liturgical badges. Particularly interesting is the exhibition presenting the reconstruction of the iconostasis and the altar, as well as the covering of fabrics in the form of a shroud, depicting the body of Christ placed in the tomb, and exhibited in Orthodox churches on Good Friday. Considering the enormity of the collections and their value for the history of art, not only Polish but also universal, as many of the exhibits in the local collections are unique on a global scale, the term "Sanok icon museum" is commonly used without exaggeration (16).

In addition to the above-mentioned collection, you can visit the world's largest exhibition of works by Zdzisław Beksiński - a resident of Sanok, who died tragically in 2005, and whose work has now become a permanent part of the canon of European contemporary painting. The collection was significantly enlarged thanks to the will of the artist's son - Tomasz, who died equally tragically in 1999, and then the donation of the artist himself. The Historical Museum also has a rich collection of Pokuttia (Pokucie) ceramics, an exhibition of Roman Catholic art and interesting historical collections from the area of the former Sanok land (17).

There is also a Folk Architecture Museum in Sanok, located at Rybickiego 3 (<http://skansen.mblsanok.pl> - access: April 13, 2022). The open-air museum, founded in 1958, is the largest facility of this type in Poland and is constantly expanding. Situated in a nice hilly area, it is divided into several sectors dedicated to the construction of Lemkos, Boykos, Dolinians and Pogórzans. There are as many as four wooden religious buildings in the open-air museum - this is the Orthodox church from Grażiowa in the Przemyśl Foothills, and a small Orthodox church from Rosolino, whose shape and furnishings have features typical of both Eastern and Western liturgies (e.g. no iconostasis, but there are side altars). A typical Lemko Orthodox church from Ropki near Hańczowa (Beskid Niski) was opened to the public in the summer season of 2008. In addition, there is a wooden church from Bączal Dolny (Pogórze Ciężkowickie), which still serves liturgical functions - weddings take place there. In addition, the open-air museum contains several traditional folk industry facilities: a sawmill, an oil mill, weaving workshops, oil mining equipment, etc. In a separate brick building in Nowosiółki near Baligród, adapted for this purpose, there is an exhibition of Carpathian icons, containing about 200 valuable exhibits, and in a cottage moved from Tyrawa Solna, there is an exhibition showing the everyday life of inhabitants of small towns in south-eastern Poland in the 20th century (exhibitions open only from May to October) (10).

In Lesko, it is worth seeing the 16th-century synagogue. It is one of the most interesting monuments of this type in southern Poland. The building with the turret also had defensive significance, as it is part of the city fortifications. There is a Hebrew inscription on the front wall above the entrance: "This place is terrifying because it is God's house." Currently, this building houses the exhibition hall of the Bieszczady Artists Gallery, the headquarters of the PTTK branch and a souvenir sales point.

Near the synagogue, on a steep slope, there is one of the largest and most valuable Jewish cemeteries in Subcarpathia. There are over 2,000 tombstones in the cemetery, the oldest of which date back to the 16th century. Following the green tourist trail next to the cemetery, you can reach a complex of several bricked sulphur mineral springs. In the interwar years, there was a small natural medicine facility here where they were used. The center of the town is the market square with the 19th-century town hall. More interesting is the Old Market Square, located nearby, with a square in the centre. On the balcony of one of the tenement houses, you can see a cast-iron balustrade, which is fragments of a bimah from the local synagogue (i.e. storage for the holy book - Torah), carved in the shape of a ceremonial seven-branched candelabrum - menorah.

Not far from the Old Market Square, on the edge of the dense development, there is the Lesko parish church of Visitation of the Blessed Virgin Mary. The church has Gothic features, but has been rebuilt many times since its construction. Next to the church there is a baroque bell tower from the 18th century.

On the steep bank of the San River stands the Lesko castle built in the 16th century by the Kmita family. Subsequent reconstructions obscured its original appearance. The last modifications took place in the 19th century and gave the building classicist features. Renaissance elements have been preserved, and the 16th-century Knights' Hall, supported on one central pillar, is also

interesting. The castle now houses a recreation centre. A few valuable trees have been preserved in the former castle park.

The sacred monuments in the Bieszczady Mountains are mainly wooden Orthodox churches. Relatively most of them are located in the areas of Ustrzyki Dolne (in Równia, Rabe, Krościenko, Michniowiec). The most valuable object is the unique Orthodox church in Smolnik on the San, representing as the only one in Poland - Boyko style. The original architecture of the church, created at the junction of the East and the West, is one of the most interesting phenomena in European culture. There are 59 Orthodox churches in the analyzed area, including 10 in ruins. Only in Wielopole, Rzepedź and Ustrzyki Dolne are they in the hands of their rightful owners – Greek Catholics. Six are used by Eastern Orthodox believers – Dziurdziów, Komancza, Zagórz, Szczawne. The remaining ones serve as Roman Catholic churches (18).

In the village of Równia near Ustrzyki Dolne there is a small wooden masterpiece - an Orthodox church from the 18th century. The church was probably built in the first half of the 18th century. It was probably renovated in 1792. After World War II, it was used as a warehouse for agricultural production materials, and then remained under conservation supervision. It was renovated in the 1960s. Since 1969, services were held many times in front of the church and also inside, but the authorities closed the temple again. Only in 1972 was it handed over to the Roman Catholic Church, and in 1975 another thorough renovation was carried out.

The church stands on a small hill in the bend of the Olcha stream, surrounded by trees. The building is oriented, log construction, with corners at the top, covered with shingles in the upper parts. It is one of the most beautiful Orthodox churches in the Bieszczady Mountains, characterized by a picturesque, highly fragmented silhouette. According to some researchers, the influence of Boyko construction is noticeable in its construction, but this issue has not been finally resolved. It has a three-part structure, with square sections: the nave is wider and higher than the others, and there is a two-story gallery. Above the nave there is a large, eight-panel dome on an octagonal, two-zone drum divided by an eaves roof, and above the women's gallery and the presbytery there are smaller domes. Around the church there is a prominent shingle eaves roof, supported by protruding frame beams. The western portal is rectangular, decorated with a rope decoration. Doors with fittings and hinges from the 18th century.

Inside, the interior of the dome is exposed in the nave, a mirror vault in the chancel, and a ceiling in the women's gallery. The large baroque crucifix above the altar was donated to the temple in 1973 by Bishop J. Tokarczuk - it was brought to Przemyśl in 1945 by refugees from the east. Nothing of the original furnishings of the church has survived, but traces of the former decoration can be found: on the walls of the nave near the presbytery there are recesses in which the iconostasis was mounted, and in the middle of the side walls, at a height of approximately 80 cm, there are rectangular holes for mounting side altars. . It is worth climbing to the choir, from which there is a wonderful view of the interior of the church and the structure of the dome. To do this, you need to go to the first floor above the women's gallery (there is a large, modern icon of Christ Pantocrator here), from where there is a low passage to the choir under the roof connecting the walls of the women's gallery and the nave (19)The oldest wooden church in the Bieszczady Mountains is located in Średnia Wieś. It was built as a court chapel of the Bal family in the second half of the 16th century, although tradition associates its beginnings with the will written in 1621 by the village's owner, Piotr Bal, chamberlain of Sanok. A convert from Calvinism, he expressed the wish that his wife Jadwiga would also abandon her foreign faith and build a Catholic chapel in which he would be buried. Probably at some time the church actually served as a Protestant congregation. It was renovated at the turn of the 1950s and 1960s. The tower was added only in 1983.

The building served as a court chapel until World War II. The church has a single nave and a log structure. The chancel is closed on three sides and faces south. Room tower of columnar construction. The walls and single-ridge roof are covered with shingles. At the ends of the ridge there are wooden balusters finished with openwork sheet metal plaques.

The entrance to the nave leads through the door frame, closed with oval arches (16th century). During the last renovation, two additional portals of the same shape were added on the sides. The suspended music choir is secondarily supported on a pole made of a former rood beam with a trace of a Latin inscription. The interior is decorated with figural and illusionistic polychrome from the first half of the 18th century. Architectural divisions painted on the walls of the presbytery.

“The late Baroque altars founded by Katarzyna Bal are the work of wood carvers from Krosno. In the central field of the main altar there is a painting of the Virgin Mary with the Child giving Her an apple (18th century). The bas-relief Stations of the Cross in the nave were made by a local Bieszczady legend, artist and rover, the late Jędrzej Wasielewski “Połonina”. His work is also the sculpture of the Last Supper placed in the porch” (19).

Specialized assets

Specialized elements contribute to the possibility of practicing particular types of specialized tourism (fishing, hunting, sailing, etc.). A very important element for tourists is the presence of surface water:

- purity of waters,
- development of coastal areas,
- water bodies for fishing,
- presence and appropriate parameters of water routes (width, depth),
- scenic value of mountain landscapes.

The complementary base in the tourist development of the Bieszczady Mountains includes: tourist equipment rentals, information points, gas stations, post offices.

Gas stations are located, among others, in Sanok, Lesko, Uherce, Solina, Baligród, Szczawno, Komańcza, Czarna deep in the mountains in Cisna and Smolik nad Sanem. The stations in Ustianowa and Sanok are open 24 hours a day. The rest work from 6 a.m. to 10 p.m. (2).

In the southern part of the Bieszczady Mountains, there are excellent conditions for cycling tourism, thanks to a rich network of asphalt and gravel forest roads, built for the purpose of exporting wood. Bicycle rentals exist in major tourist centers - most of them are located in Polańczyk (Sale and service of bicycles - "Bike Sport" Lesko). Bieszczady Cyclists' Society. Ustrzyki Dolne.

A large water equipment rental is located in Solina-Jawor. You can rent: kayaks, rowing boats, pedal boats (including wheeled ones), cabin yachts, surfboards and canoes.

Information points in the Bieszczady Mountains are located in the following places:

- Ustrzyki Dolne – Bieszczady Information and Promotion Center, ul. Rynek 16 and the Bieszczady Branch of the PTTK, ul. Rynek 16, BdPN Tourist Information ul. Bełzka 7;
- Ustianowa – Tourist Agency "Eko-Karpaty"; Ustianowa Górna 48;
- Solina – Tourist Information of the Solina Commune (Commune Office in Polańczyk);
- Lutowska – BdPN Information and Education Center, Lutowska 2;
- Baligród – Tourist Information of the Baligród Commune, Plac Wolności 7;
- Cisna – Tourist Information of the Cisna Commune and the Bieszczady Forest Railway Foundation in Cisna-Majdan;
- Lesko – Bieszczady Tourist Information Center, ul. Tysiąclecia 16;
- Czarna – Tourist Information of the Czarna Commune;
- Komańcza – Tourist Information of the Komańcza Commune;

Post office can be found in the following locations (2):

- UP Baligród; UP Cisna; UP Czarna Góra; UP Glade; UP Polańczyk; UP Dwernik; UP Komańcza; UP Rzepedź; UP Sanok UP Solina; UP Ustrzyki Górne; UP Wetlina; UP Zagon.

Services provided by post offices include: letter and courier items EMS Pocztext, telegrams, postal orders, insurance, and payments to bank accounts. At post offices, tourists have access to: fax, telephone, and buy postcards.

Specialist advantages undoubtedly include the possibility of practicing extreme sports, air tourism or horse riding.

Air tourism is possible in the vicinity of Lesko and Ustrzyki Dolne, but also in the Słonne Mountains. There are aviation centers in Bezmiechowa and Weremien offering tourist and sightseeing flights in motor planes, motor gliders and paragliders. The center also offers parachute and glider training. Paragliding can also be practiced from the top of Laworta in Ustrzyki Dolne, in Dźwinacz Dolny on the slope of Ostry Dział, near Tarnawa Dolna (Mount Makówka) and in Hłomcza near Sanok. The existing gliding and paragliding schools, as well as the offer of tandem flights, contribute to the fact that every tourist can enjoy their favorite form of recreation and admire the charms of the Bieszczady Mountains "from above".

An attractive tourist offer are horse trails and horse riding opportunities. There is a horse trail in the Bieszczady Mountains, which starts at the "Latarnia Wagabundy" Mountain Equestrian Tourism Center in Wola Michowa, and then leads through: Żubracze, Przysłup, Jaworzec, Nasiczne. The next stage of the route is Wołosate near Ustrzyki Górne. The Beskid horse trail allows you to get to know mountain regions that are not available for hiking and cycling. The route is marked in orange in the field. Thematic horse rally routes combined with the history of Boyko and the Bieszczady Mountains are undoubtedly an attractive offer. In the spring-summer period, Summer Mountain Horse Tourism Stations are open, offering riding lessons. In stud farms and hostels you can meet Hutsul ponies, Polish horses, Małopolska horses, Shetland ponies, Anglo-Arabians and even pure-bred Arabian horses. The Bieszczady stud farms include (10):

- Wołosate – Hutsul Horse Stud Farm BdPN Wołosate (<https://www.bdpn.pl> – access: April 14, 2022);
- OTG "Wagabundy's Lantern" by Wojciech Gosztył in Wola Michowa (<https://www.latarniawagabundy.pl> - access: April 14, 2022);

- Stanisław Myśliński's Hutsul Horse Stud "Tabun" in Polana (<http://www.tabun.pl> - date of entry to the website: April 14, 2022);
- OTGJ "Karino" in Berezka (<https://karinospa.pl> - access April 14, 2022);
- "U Prezesa" by Ryszard Krzeszewski in Chmiel (<http://www.koniewbieszczadach.pl> - access: April 14, 2022);
- "Rusinowa Polana" in Dwerniczek (<http://rusinowa.pl> - access April 14, 2022);
- OGTJ "Lipie";
- "Łukoraj" in Mirów;
- "KTK Stanica" in Lesko;
- Equestrian Tourism Center "Połoniny" by Tomasz Kwiatkowski in Żubracze (<http://www.kwiatkowie.pl> - access: April 14, 2022).

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References

1. Gołembski G. Kompendium wiedzy o turystyce. Warszawa – Poznań: Wyd. Naukowe PWN; 2002. Polish.
2. Krukar W, Swianiewicz P, Olszański TA, Luboński P. Bieszczady. Przewodnik dla prawdziwego turysty. Pruszków: Ofic. Wyd. „Rewasz”; 2006. Polish.
3. Wojciechowski W. Bieszczadzki Park Narodowy. In: Spadzińska-Żak E, editor. Parki Narodowe i Krajobrazowe w Polsce. Katowice: Wyd. Videograf II; 2007. p. 116-121. Polish.
4. Winnicki T, Zemanek B. Przyroda Bieszczadzkiego Parku Narodowego. Ustrzyki Dolne: Wyd. BdPN; 1998. Polish.
5. Bekier L, Derwich A. Bieszczadzki Park Narodowy. Warszawa: Multico Ofic. Wyd.; 2003. Polish.
6. Dolecki L, Szwaczko A. Drzewa sztandarowe jako wskaźnik stosunków anemometrycznych na połoninach bieszczadzkich. Annales UMCS sec. B 1969 Vol. XXIV(9):295-312. Polish.
7. Dolecki L, Szwaczko A. Górna granica lasów w Bieszczadach Zachodnich. In: Streszczenia referatów i przewodnik wycieczkowy Zjazdu Regionalnego Polskiego Tow. Geogr. w Rzeszowie (26-28 VI 1970). Rzeszów: 1970. p. 33-35. Polish.
8. Dolecki L. Najwyższe podpiętra regłowe w paśmie połoninowym Bieszczadów Zachodnich w świetle statystycznej analizy średnich przyrostów buka. Annales UMCS sec. B 1974 Vol. XXVI(11):251-263. Polish.
9. Kłos S. Bieszczady. Przewodnik. Warszawa: Wyd. Sport i Turystyka; 1986. Polish.
10. Szarek J, Sitko G. Dzikie Bieszczady. Przewodnik. Rzeszów: Wyd. Carpathia; 2009. Polish.
11. Pękala K. Rzeźba Bieszczadzkiego Parku Narodowego. Roczniki Bieszczadzkie 1997 (6):124–126. Polish.
12. Haczewski G, Kukulak J, Bąk K. Budowa geologiczna i rzeźba Bieszczadzkiego Parku Narodowego. Kraków: Wyd. Naukowe Akademii Pedagogicznej w Krakowie; 2007. Polish.
13. Dolecki L. Karły świerkowe na połoninach Bieszczadów Zachodnich. Chrońmy Przyrodę Ojczystą R. XL 1984 (3):13-20. Polish.
14. Mleczek T. Jaskinie w Bieszczadach. In: Jaskinie 31. Kraków: Wyd. Szelerewicz; 2003. p. 29. Polish.
15. Kowalczyk A. Geografia turystyki. Warszawa: Wyd. Naukowe PWN; 2001. Polish.
16. Plamowski K. Bieszczady. Przewodnik. Kraków: Wyd. Bezdroża Sp. z o.o.; 2009. Polish.
17. Bańkosz R. Cerkwie szlaku ikon. Krosno: Wyd. Arete II; 2007. Polish.
18. Kryciński S. Cerkwie w Bieszczadach. Warszawa: Self-published; 1991. Polish.
19. Michniewska M, Michniewski A, Duda M. Cerkwie drewniane Karpat. Polska i Słowacja. Przewodnik. Pruszków: Ofic. Wyd. „Rewasz”; 2003. Polish.