

Nature mosaic - protection of species and habitats in Natura 2000 site "Pieniny"

"Mosaic" is the best way to describe the "Pieniny". It is an area characterized by enormous natural richness, diversity of landscapes and mosaics of land ownerships. In order to preserve this unique site it is necessary to apply various protection methods.

The main objective of the project (implemented from 2013 to 2018) is protection of natural habitats and species in the "Pieniny". This will require steps taken to re-establish traditional extensive farmland activities that support grassland habitats on land purchased during the project, and perform protective activities that will reduce negative impact of tourism on the environment. The project framework includes active protection on: thermophilous rock grasslands Festuco Brometea (6210), Mountain hay meadows (6520), Alkaline fens (7230), Asperulo-Fagetum beech forests (9130), Medio-European limestone beech forests (9150) and Tilio-Acerion forest of slopes, screes and ravines (9180).



mountain fen

phot. Marek Majerczak

Land purchase and its protection

Over 40% of the land in "Pieniny" is private, community or municipal property, which makes it difficult to conduct protective activities. Therefore approximately 40 ha of private land is planned to be purchased during the implementation of the project. An estimated 24 ha of non-forest habitats (meadows, fens and grasslands) is planned to be protected by cutting shrubs and trees, annual mowing with removal of biomass and layer of dead grass from previous years. These activities will protect valuable habitats and their floristic richness. Remaining 16 ha constitutes forest land and is planned to be excluded from the current extensive use.



abandonment of extensively managed meadows may lead to decrease in habitats

phot. Grzegorz Vondřina

Trails repair

In order to protect natural habitats of Asperulo-Fagetum beech forests (9130), Medio-European limestone beech forests (9150) and Tilio-Acerion forest of slopes, screes and ravines (9180), some 1260 meters of trails is planned to be renovated. This activity will prevent from negative impact of uncontrolled tourism (shortcuts, straying off designated trails that can cause soil erosion).

In addition, the project foresees the improvement of tourist infrastructure aiming at development of signposts, information boards, benches, stairs etc. The repairs will be carried out in several sections: Trzy Korony, Góra Zamkowa, Czer-też and Sosnow.



trail repair enhances and protects forest habitats

phot. Edward Michał Dudek

Protection of the Pieniny Treacle-mustard (Erysimum pieninicum)

The population of Pieniny Treacle-mustard growing in the area of the castle hill in Czorsztyn is exposed to mechanical destruction caused by shedding of the external walls of the castle. It is also threatened by unfavourable changes in the habitat (overgrowing by shrubs). As a part of the planned activities, the renovation of external walls of the castle will be finished. This will allow to clean up the castle area by removing scaffoldings and tools needed for the renovation works. The castle surrounding area will also be managed by annual shrub cutting to protect the habitat for this endemic species.



Pieniny Treacle-mustard

phot. Maciej Szajkowski

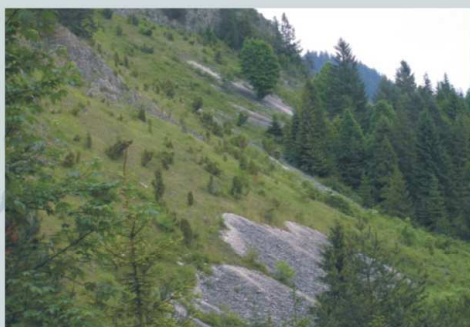


Pieniny Treacle-mustard growing by Czorsztyn Castle walls

phot. Marek Majerczak

Protection of rock grasslands

Since the abandonment of grazing rock grasslands they have been threatened by encroaching forest species, allowing natural afforestation to occur. In order to stop this process, it is necessary to introduce shrub cutting with manual removal of the biomass, which will replace the current extensive agricultural activities. The project will be implemented on about 8 hectares of rock grasslands.



mosaic of thermophilous habitats

phot. Grzegorz Vondřina



Smooth snake

phot. Bogusław Kozik

Protection of breeding sites for amphibians

Cultural sheep grazing in the Majerz glade in Hąkusowa contributes to preservation of traditions and maintain specific grazing land biocenosis. However, it also poses a threat to the breeding sites of amphibians. One pond and drinking bowls for sheep will be constructed within the framework of the project. In addition, the outflow of water will be secured for animal use.



Yellow-Bellied Toad

phot. Bogusław Kozik

Removal of invasive species

People often contribute to the spread of alien invasive plant species. When appearing in the environment, these plants become a serious threat to valuable native species and plant communities. Protection of riparian alluvial forests, located along the Dunajec river, and their specific flora will be implemented through the removal of foreign species: Japanese Knotweed and Sakhalin Knotweed. All protective measures will be subject to monitoring their effectiveness for the conservation of natural habitats and species and regeneration of ground cover.



Sakhalin Knotweed - an invasive species found in riverine forest

phot. Grzegorz Vondřina

For the dissemination of information about Natura 2000 and the idea to preserve the wealth of "Pieniny" area, a series of educational activities for children and young people is planned, along with workshops for teachers, tour guides, raftsmen and representatives of the local authorities. The project outcomes and gained experience will be summarised at the final conference which is planned on 2018.

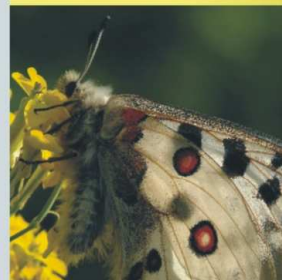


harmony between man and nature

phot. Grzegorz Vondřina

Natura 2000 in Pieniny

Nature mosaic - protection of species and habitats in site "Pieniny"



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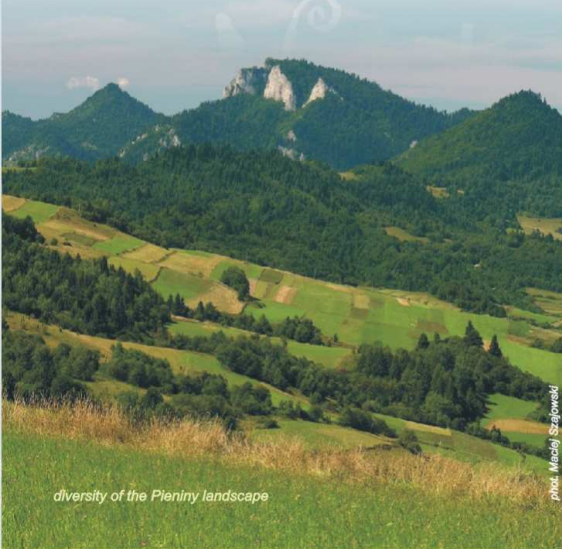
Lady's-slipper orchid

phot. Michał Szajowski

Natura 2000 is a network of nature protection areas established in all EU countries. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. Natura 2000 is comprised of Special Areas of Conservation (SACs) designated for species other than birds, and for habitats (Habitats Directive) and Special Protection Areas (SPAs) for birds (Birds Directive). To the proper network functioning it is necessary to maintain and restore the optimum state of the natural habitat of some species of plants and animals in the area and the preservation of sites providing connectivity between these areas.

Habitats and species whose protection is important from a European point of view and expressed in EU directives are determined in each protection area. Their condition is regularly monitored and if necessary, special protection is conducted.

Pieniny is a part of European network. The most attractive part of the Pieniny is situated within Pieniny National Park. Pieniny is a common name for two areas designated here: PLH120013 and PLB120008 that make up one common area PLC120002 called "Pieniny", area of 2336,4 ha. The outstanding qualities of this area is determined by its geological structure manifested by the presence of towering Dunajec River Gorge and the history of climate change. Complex topography, mosaic of habitat conditions and multigenerational, consistent with the rhythm of nature human activity is reflected in the richness and specificity of organisms occurring here and it is also an example of harmony between man and the surrounding nature.



diversity of the Pieniny landscape

phot. Michał Szajowski

Habitat Directive in "Pieniny" PLH120013

(the code of habitat in Natura 2000 is presented in brackets after its name)

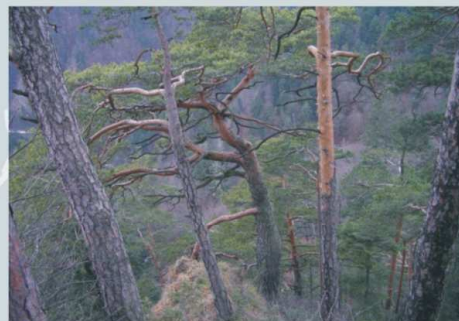
There are 14 habitats for which "Pieniny" site was established. These habitats covers 80% of total SAC's area and are distributed from the lowest-lying banks of the Dunajec river covered by riparian forests, up to the mountain peaks occupied by rock grasslands. Within the Polish part of the Carpathians Pieniny are unique in terms of a group of non-forest habitats associated with southern exposures and underlying calcareous limestone. They are represented by small, often irregularly distributed habitats, constituting only about 3% of the area, where most of xerophyte and thermophilic species can be observed. In this one location several habitats can be found: Juniperus communis formations on heaths or calcareous grasslands (5130), Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometea) (6210), Alpine and subalpine calcareous grasslands (6170) with unique plant species on the national scale, Medio-European calcareous scree of hill and montane levels (8160), Calcareous rocky slopes with chasmophytic vegetation (8210). Other non-forest habitat, occupying approximately 9%, is Mountain hay meadows (6520) with rare and locally occurring Alkaline fens (7230). At the edges of fens or along water courses Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430) can be found. This group of habitats also includes 30 Caves not open to the public (8310) which are major refuge areas for bats.



xerothermic grassland

phot. Bogusław Kozik

The condition of non-forest habitats in most cases depends on the maintenance of traditional and sustainable farming practices. However, traditional farming in Pieniny has been abandoned because of its low profitability. Changes observed in these habitats (the spread of perennial plants, the disappearance of species typical for these habitats, overgrowing with shrubs and trees, changes in habitat conditions) have adverse effects on plant communities. This means that active protection measures are required.



relict pine forest

phot. Grzegorz Vončina

Among forest habitats covering 70% of "Pieniny" area, three of them deserve particular attention as they make "Pieniny" distinguished from other parts of the Carpathians. These are: Medio-European limestone beech forests of the Cephalanthero-Fagion (9150), Tilio-Acerion forest of slopes, screes and ravines (9180) and Western Carpathian calcicolous Pinus sylvestris forests (91Q0) occupying exposed places on the rocky and limestone soil. Habitats of Medio-European limestone beech forests of the Cephalanthero-Fagion and Western Carpathian calcicolous Pinus sylvestris forests occupy slopes with southern exposures, and therefore are characterized by a presence of xero-thermophilic flora and fauna. The habitat of Medio-European limestone beech forests of the Cephalanthero-Fagion is threatened by the presence of alien invasive species Small Balsam, while the Western Carpathian calcicolous Pinus sylvestris forests are threatened by mechanical destruction of the roots of trees growing near the hiking trails.

Northern, shaded and steep slopes are suitable habitats for Phyllitido-Aceretum community with protected fern Hartstongue Phyllitis scolopendrum. The biggest part of the "Pieniny" is occupied by Asperulo-Fagetum beech forests (9130), which covers about 40% of the total area, forming pure stands, mainly on the northern slopes of the "Pieniny".

The alluvial areas of the Dunajec river and areas around springs are occupied by Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) communities (91E0). Easy dispersal of alien invasive plants by Dunajec waters, particularly Japanese and Sakhalin Knotweed, has contributed to their occurrence in riparian forests and poses real threats to native flora. The lack of periodic flooding of the Dunajec river valleys (Niedzica and Sromowce Wyzne dams caused less variable flows in the river downstream) and the absence of large dead wood have resulted in lower conservation status of these alluvial forests.



Dentario glandulosae - Fagetum association (9130)

phot. Marek Szajowski

Plants of European importance in the "Pieniny" site: Green Shield-moss, Pieniny Treacle-mustard (priority species) and Lady's-slipper orchid. Green Shield-moss occurs on rotten wood, particularly spruce and fir. "Pieniny" is one of the two main sites for Green Shield-moss in the Polish part of the Carpathians, where the condition of the local population is reasonable good. Pieniny Treacle-mustard is an endemic species which occurs only in Pieniny. Although an increase in its population has been observed in recent years, it does not expand outside the Pieniny area. Shrub encroachment has been observed at most sites in "Pieniny" and their excessive growth may have a negative effect on plants. Lady's-slipper orchid, which occurs only at 3 sites in "Pieniny", is the most impressive of our orchids. Unfortunately, overgrowing poses also a serious threat to the population of this rare orchid.



Green Shield-moss

phot. Grzegorz Vončina

Animals of European importance in the "Pieniny" site: two species of invertebrates Jersey Tiger, Ground Beetle; two amphibian species - Yellow-bellied Toad, Carpathian Newt and three species of mammals: Eurasian Lynx, Lesser Horseshoe Bat and Greater Mouse-eared Bat.



Carpathian newt

phot. Bogusław Kozik



Jersey Tiger

phot. Bogusław Kozik

The Jersey Tiger can most frequently be seen on the southern slopes of the "Pieniny" with a lush flowering tall herb communities. The most current information about the state of the Jersey Tiger population are only from several localities and do not allow for a full assessment of its entire population in the "Pieniny" area.

Similarly, we have an incomplete knowledge about Ground Beetle associated with wetlands (marshes, streams). Despite the confirmation of its occurrence there is a lack of detailed information about its population and habitat condition. Amphibians are represented in "Pieniny" by the Yellow-bellied Toad, which occurs quite commonly in the area, and by Carpathian Newt which is less common here. In both cases, the incomplete data do not allow to assess the conservation status of these species.

The mammal species of European importance in the "Pieniny" are Eurasian Lynx and two species of bats: Lesser Horseshoe Bat and Greater Mouse-eared Bat. "Pieniny" is only a part of European Lynx range, that is why it is necessary to maintain wildlife corridors - space allowing free migration of individuals between the nearest Natura 2000 sites: Ostoja Popradzka and Ostoja Gorczarska. Caves in "Pieniny" provide a good shelter for colonies of bats in winter as well as offer plenty of food.



Lesser Horseshoe bat

phot. Marek Mejercażak

Birds Directive in "Pieniny" PLB120008

The following bird species are protected in "Pieniny" (PLB120008) under the Birds Directive: Golden Eagle, Peregrine Falcon, Eurasian Eagle Owl, Eurasian Pygmy Owl, White-backed Woodpecker, Three-toed Woodpecker, Wallcreeper.

The Pieniny has been a part of the Golden Eagle breeding area for years. Also the Peregrine Falcon finds here a convenient place for breeding and since 2003 it has become a regular part of the avifauna of the "Pieniny" Although falcons nests in inaccessible places, the loss of brood occurs in some cases due to the predatory mammals or other birds. "Pieniny" is one of the most important areas for Eurasian Eagle Owl in Poland. The size of the local population is estimated at 4-6 pairs. Similarly, the Eurasian Pygmy Owl, the smallest owl in Europe, for which the "Pieniny" is also an important breeding area. Annually 3-4 pairs are recorded here. Spruce stands in the disintegrating phase observed in the western part of the area and the old-growth fir forests covered by strict protection, provide good conditions for Three-toed Woodpecker. Whereas, White-backed Woodpecker prefers deciduous and mixed stands. Despite the differences in dietary, both species bore their hollows in dead or dying trees. The only migratory species protected under the Birds Directive is the Wallcreeper arriving from the Tatra Mountains in autumn-winter period. The conservation status of birds, protected under the Natura 2000 Network has not yet been fully recognized.



Young Peregrine Falcons

phot. Bogusław Kozik