

# PROTECTED LANDSCAPE AREA AND BIOSPHERE RESERVE POĽANA

BASELINE STUDY

**FINAL DRAFT**



**PREPARED FOR  
DEVELOPMENT OF NATURE CONSERVATION AND OF PROTECTED AREAS IN  
THE SLOVAK CARPATHIANS**

**Slovak-Swiss Cooperation Programme**

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## Summary

This baseline study for protected landscape area and biosphere reserve Pol'ana was prepared for the development of nature conservation and of protected areas in the Slovak Carpathians as part of Swiss-Slovak cooperation program. The document has four main chapters. The first chapter presents background information about history and subject of conservation including characteristic of territory and location of study area. The second chapter explains natural conditions, ecology and protection status of area according national and EU legislation. It shows that the area is under several overlapping protection regimes. The third chapter deals with land use and land management. While forestry is the dominant use, agricultural use has great influence on maintenance of grassland habitats which are important and typical feature of Pol'ana. These habitats are threatened by abandonment of grazing in these remote areas. Finally these activities are strongly connected with demography and economic situation in whole region. As shown in chapter four, Pol'ana, as other marginal regions, faces problems connected with ageing of local population and for most young people this area is not attractive any more for permanent residence. Key data used in chapter four are included in the Annex. The baseline study will be a core document for monitoring and for discussing options for sustainable development within the area.

## Acknowledgements

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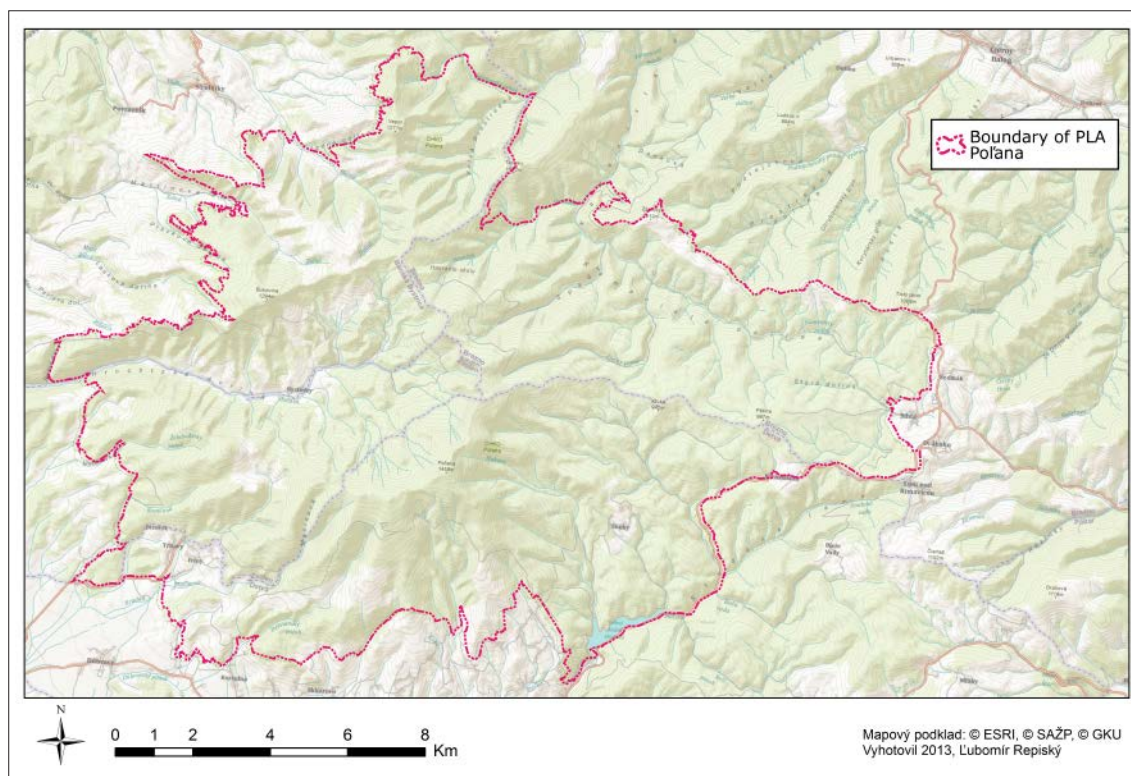




## 1 Background, territory, location



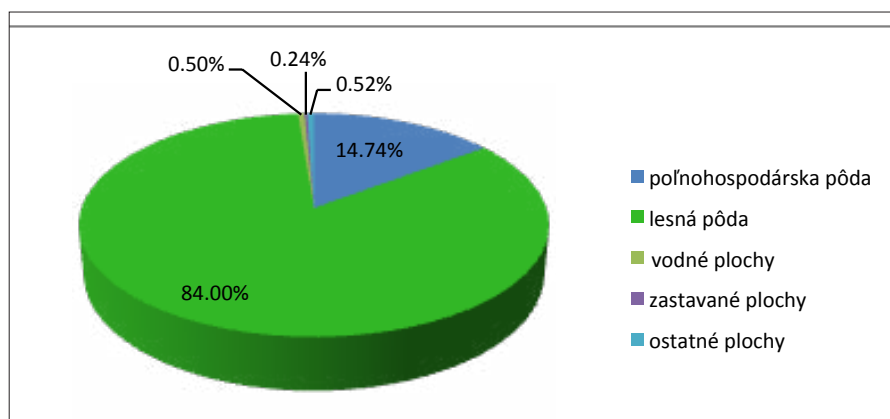
The Protected Landscape Area Pol'ana (PLA Pol'ana) was established by a Decree of the Ministry of Culture of the Slovak Socialist Republic on 12 August 1981 (legal act 97/1981 Coll.), as amended by an Act of the National Council of the Slovak Republic in 1994 (legal act nr. 287/1994 Coll.) and subsequently amended by a Decree of the Ministry of the Environment on 3rd September 2001 (legal act nr. 431/2001 Coll.). The object of protection, PLA Pol'ana, is a mosaic of different types of ecosystems that have evolved predominantly on volcanic soil. They create conditions for the continued existence of specific and protected plant and animal species and specific and protected habitat types. The area is also an example of a specific landscape influenced by forestry, traditional farming and rural settlements.



**Figure 1:** Basic Map - Boundary of Protected Landscape Area (PLA) Poľana

PLA Poľana is located in the central part of Slovakia, and it includes the geographic center of the country (Hrb 1255 m.a.s.l.) (Fig 1). The area lies on the border of volcanic massifs of the Slovenské Stredohorie and Slovenské Rudohorie Mountains. It occupies almost the entire orographic unit of Poľana and its eastern part extends into the Veporské Vrchy Mountains. The western and southwestern part of the PLA reaches out to the Zvolenská Kotlina Basin.

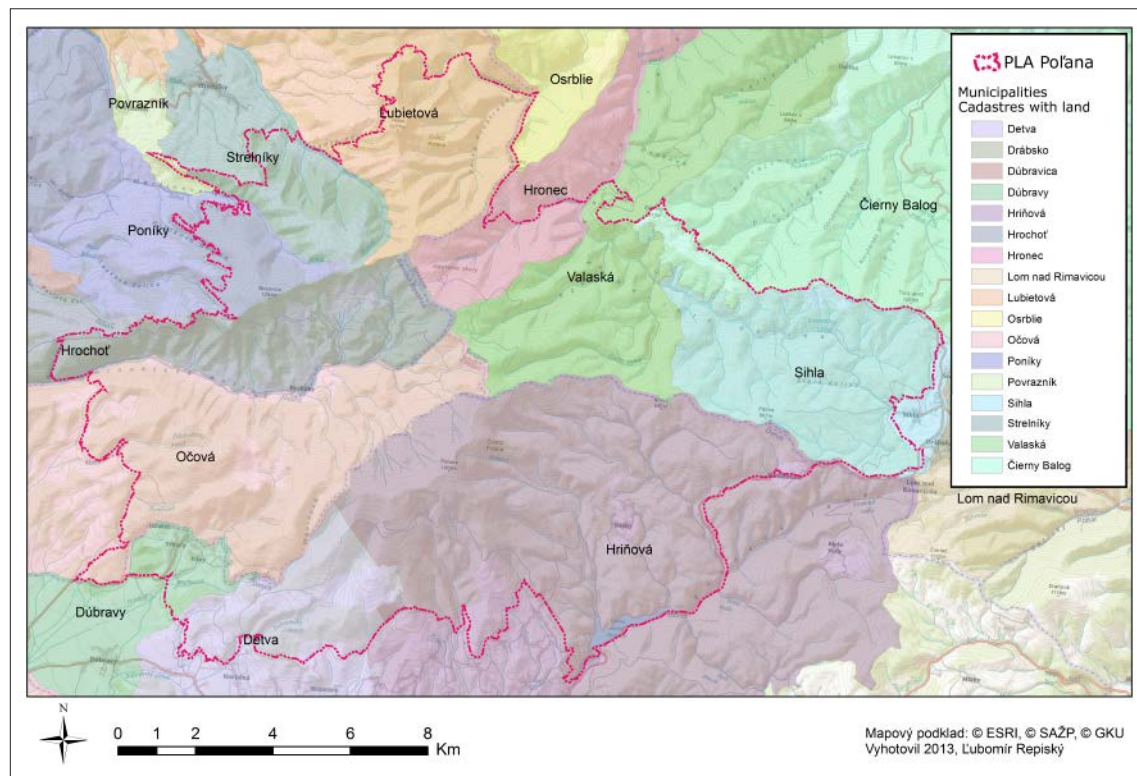
In administrative terms, PLA Poľana belongs to Banská Bystrica region and forms part of the districts of Banská Bystrica, Brezno, Detva and Zvolen. Within these districts, its territory is shared by 13 municipalities (cadasters): Čierny Balog, Detva, Dúbravy, Hriňová, Hrochoť, Hronec, Ľubietová, Očová, Poniky, Povrazník, Sihla, Strelníky, Valaská (Fig 2). A 14th municipality, Osrbliie, is a riparian of the protected area.



**Figure 2:** Land cover and land use categories in PLA Poľana (agricultural land – light green, forest land – dark green, water areas – blue, built-up areas – red, other areas – black) (in figure)







**Figure 3:** Municipalities (Cadastres) with land in PLA Poľana

PLA Poľana has an area of 20360 hectares. Of this, 3001 hectares are agricultural land, 17102 hectares forest land, the dominating land cover type, 102 hectares are covered by water bodies, 49 hectares are built-up areas and 106 hectares are other areas (Fig 3).

## 2 Nature, ecology, and protection status



### Geological conditions

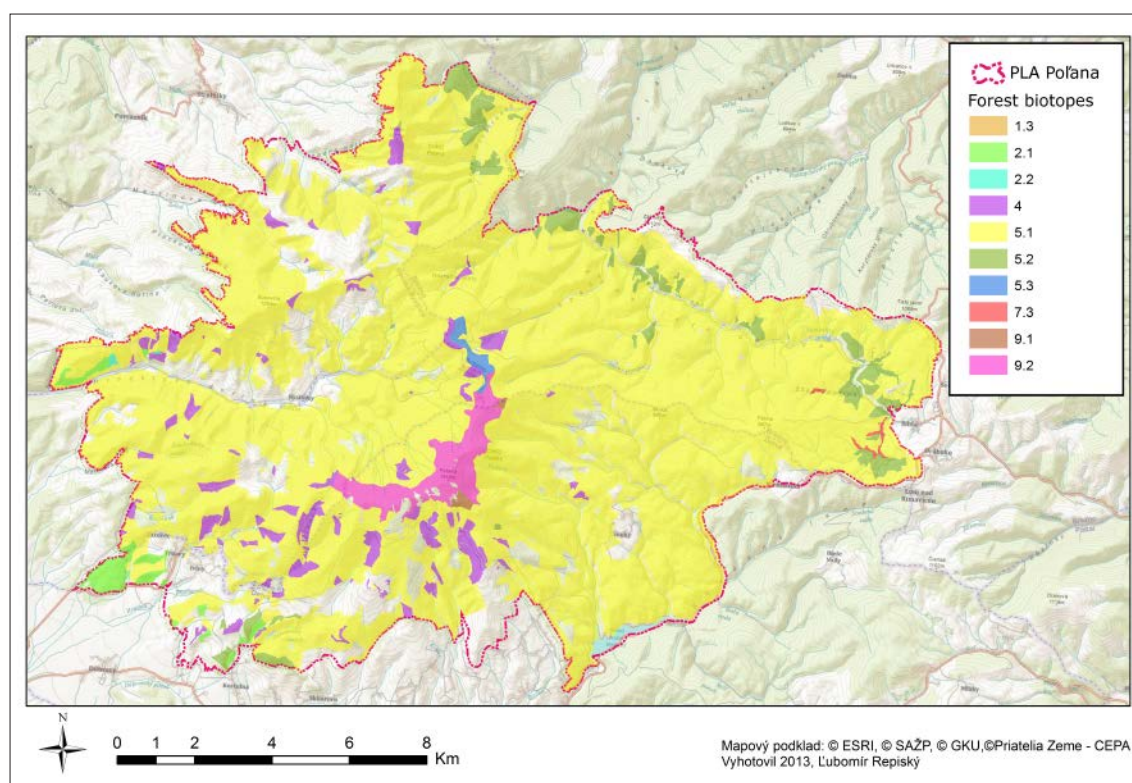
The greater part of PLA Poľana lies on tertiary volcanic rocks, which are remnants of the Poľana volcano. Layers of andesite are found, mostly as remnants of lava flows, with layers of andesitic tuffs and pyroclastics that were ejected from the volcano in the form of ash and bombs. The eastern part of the territory, lying in Veporské Vrchy hills, largely consists of different types of metamorphic schist. Dolomites are found in the northern part of the territory under the Hrb, and quaternary sediments appear at the site of village of Iviny.

### Geomorphological conditions

From a geomorphological point of view, Poľana is extremely specific and forms a unique area from a nationwide perspective. The central part of the territory is formed by the caldera of the ancient volcano. Circle-shaped edges of the caldera make up the main ridge of the mountain with the highest elevation point – Zadná Poľana (1458 m.). In the central part of the caldera a widespread depression was created in the surrounding of Kyslinky village. Residues of andesite flows are located in the highest mountain ridges with steep slopes and often with outcrops of andesite blocks (Zadná Poľana Ridge, Hrochotská Bukovina, Ľubietovský Vepor etc.). The less resistant tuffs form the lower and more concave parts of the relief. Volcanic buildups as well as erosion processes that are both involved in modeling mountain landscapes are documented at several small protected sites (e.g. Bátorový Balvan, Veporské Skalky, and Kalamárka). The western volcanic part of PLA contrasts with the eastern part formed of crystalline schist. Here, the relief is only very slightly undulated with shallow valleys and gentle ridges.

### Climatic conditions

The area of the PLA is characterized by the dominance of a cold mountain climate in the higher parts, which passes into cold and mild cold climates in the lower parts. Average annual air temperature is between 3-5°C. The coldest months are January and February, the hottest are July and August. Average annual precipitation ranges from 600 to 900 mm, and reaches up to 1100 mm in the highest parts of the protected area.



**Figure 4:** Forest biotopes – unique types of forest Natura 2000 habitats (1.3 – mixed ash-alder alluvial forests, 2.1 – Carpathian oak and hornbeam forests, 2.2 – Pannonic oak and hornbeam forests, 4. – lime and maple scree forests, 5.1 – beech and fir flowerly forests, 5.2 – limestone beech forests, 5.3 – subalpine beech forests with maple, 7.3 – bog woodlands, 9.1 – acidophilous spruce forests with blueberries, 9.2 – spruce forests with tall grasses)

## Hydrological conditions

The specific geomorphological structure of the area is reflected in its unique river network. The central part of the caldera is drained by Hučava stream, which tributaries form a centripetal network of streams. Around the caldera a centrifugal – radial network of rivers was formed which drains the area into all directions. The total length of rivers in the PLA is 357 km. The most important streams alongside the Hučava are the Hukava and Slatina in the southwest area, Kamenistý Potok in the northeast, Hutná in the northwest and Zolná in the west. All streams belong to the watershed of the Hron River. In the southeastern part of the PLA, Hriňová water reservoir is located. This part of the PLA has a special protection status to safeguard the reservoir's water quality.

## Soil conditions

The dominant soils are Cambisols. Most of these are moderately deep to deep (0,4 – 1,2 m) and acidic (4,5 – 5,0 pH/KCL). In the higher volcanic part of PLA Cambisols give way to Andosols. They are characterized by a high content of volcanic glass and humus in the soil profile. To the specific characteristics of these soils are attributed the remarkable dimensions of some solitary trees (e.g. firs at the end of Hrochotská Valley) or presence of thermophilic habitats at unusually high altitudes (oak and hornbeam forests near Kalamárka at 800 m). Other soil types are less common and occur only locally. In the highest altitudes, these are Podzolic soils with a significantly prewashed regime due to higher rainfall. On the deep sediments of the alluvial cones at the foot of the slopes especially on the southwestern foreland of Poľana, Pseudogleys are found. Their characteristics feature is an uneven moisture regime: in wet periods they are humid, during the dry season they dry out considerably. In the valley bottoms along small streams typical organic and glue soils occur. They are characterized by an elevated level of groundwater. Near larger rivers which create fluvial floodplain and are subject to irregular flooding, Fluvisols can be found. Shallow soils such as Lithosols and Regosols are found throughout the PLA; as the Ranker soils, they occur in small islets of exposed surfaces on steeper rocky slopes. In the northern part of PLA, a small area with Renzina soils is found.



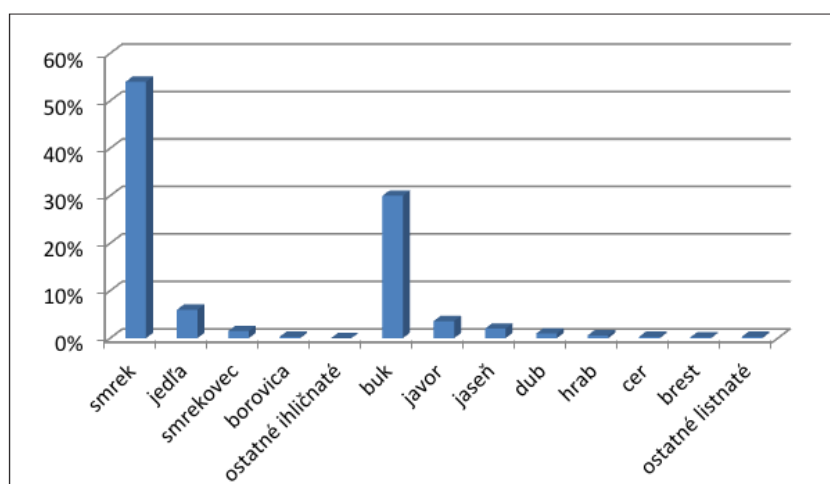


Figure 5: Tree species composition of forests in PLA Poľana



### Forest and non-forest habitats

According to geobotanical maps of the territory, the original vegetation was dominated by beech (88%), followed by spruce (4.5%), with an equal representation of oak and oak-hornbeam forests. The forest typology registers 107 forest types within PLA. Transformed into 14 habitat types, beech and beech-fir flowery forests are the most extensive habitats. In total, 6 forest vegetation zones are found in the PLA area, the largest of them the fir-beech zone which covers 55% of the area. Regarding nutrient regimes, almost 75% fall into mesotrophic (series B). Based on the project Protection of primeval forests in Slovakia, four major localities where such forests still occur were identified (Hrochotská valley with 73 ha, Bútľavka with 27 ha, Hrončecký Grúň with 47 ha and Poľana with 477 ha). Tree species composition in these primeval forests is mainly made up of spruce (54%) and beech (30%).

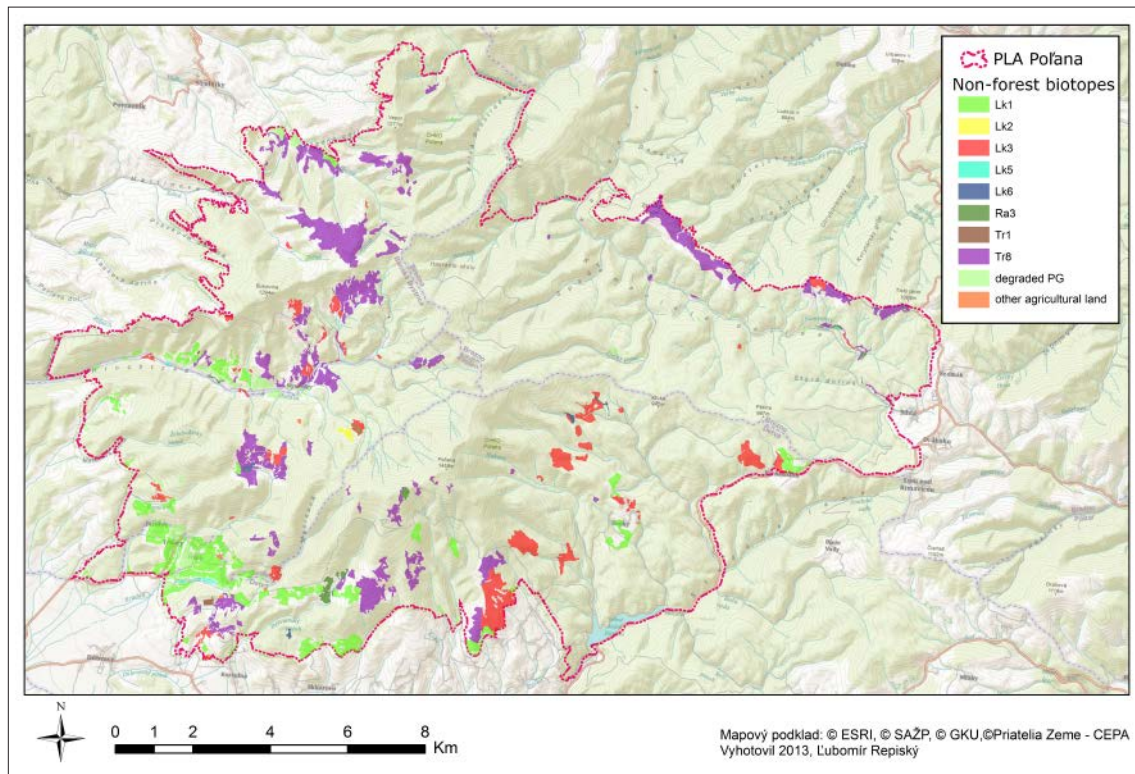
Non-forest habitats in the PLA are represented by 11 habitats of European importance and by 5 habitats of national importance. In terms of acreage the largest area is occupied by vegetation of trees growing outside the forest (various shrubs and trees) (Fig 6).

### Flora

Regarding biogeographical distribution of flora, area belongs to the Western Carpathian flora region, Pre-Carpathian flora subregion, Slovenské Stredohorie district and Poľana subdistrict. While lower plants were not the subject of systematic survey in Poľana, 194 species of mosses have been recorded so far. Of these, one is protected by law, and 18 are endangered species. As to lichens, 268 species have been recorded of which 10 are legally protected and 110 endangered. Epiphytic species and species linked to specific habitats such decomposing wood are particularly prominent. The flora of the volcanic and the crystalline part of the PLA is different, and the area shows an overlap of mountainous and thermophilic flora elements. 7 endemic species - one of European importance and five of national importance – are on record in the area. Eight sites with invasive species have also been registered, mainly linked to human settlement or spreading along rivers. The PLA administration implements measures to eliminate them.

### Fauna

The high diversity of the area corresponds to the diversity of fauna. The influence of the varied relief and the geographical position of the area is reflected in the occurrence of both thermophilic and mountainous species of animals. Mainly invertebrates are represented by a number of rare and endemic species. Molluscs are particularly widespread in preserved forest ecosystems; but the richest group is the insects; on the meadows within PLA, one can find close to 50% of all Orthoptera species in Slovakia. However, meadows have been underutilized in recent decades and overgrown; which gradually leads to liquidation of interesting habitats and species living in meadow environments. From group of beetles are interesting species of relatively well-preserved primeval forest communities, from butterfly group especially meadow species. In total,



**Figure 6:** Non-forest biotopes – unique types of non-forest Natura 2000 habitats (Lk1 – lowland and underhill mowed meadows, Lk2 – mountain mowed meadows, Lk3 – mesophilic grazed pastures and meadows, Lk5 – tall herb communities on wet meadows, Lk5 – waterlogged meadows in mountain regions, Ra3 – transition mires and quaking, Tr1 – natural dry grasslands and scrubland vegetation on calcareous substrates, Tr8 – flowery alpine and mountain grasslands with *Nardus* on siliceous substrates) + degraded permanent grasslands + other agricultural land

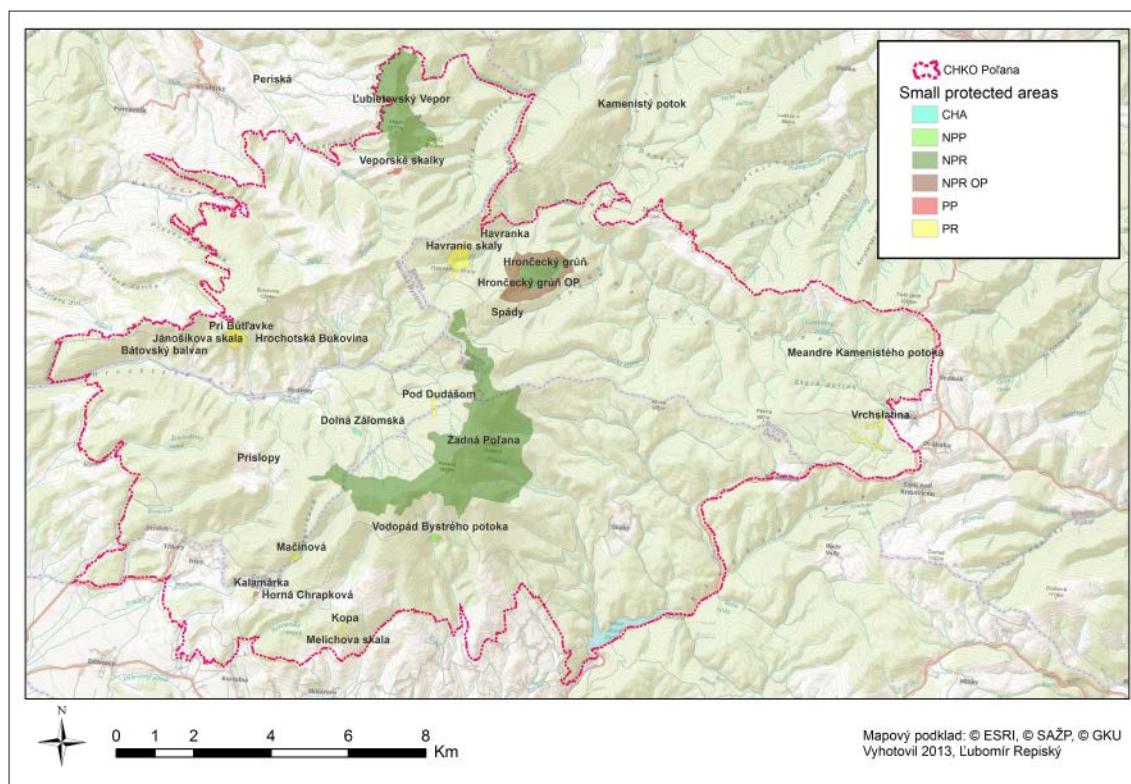
11 species of amphibians, 9 of reptiles, 176 of birds and 56 of mammals can be found in PLA. Regarding game – animals for hunting – deer is the most prevalent and has a high trophy value. PLA was declared a protected hunting area in 1975, with specific regulations to safeguard the genetic fund of the animals hunted. 49 fauna species of European importance and 63 of national importance are reported in the area.

### Small protected areas

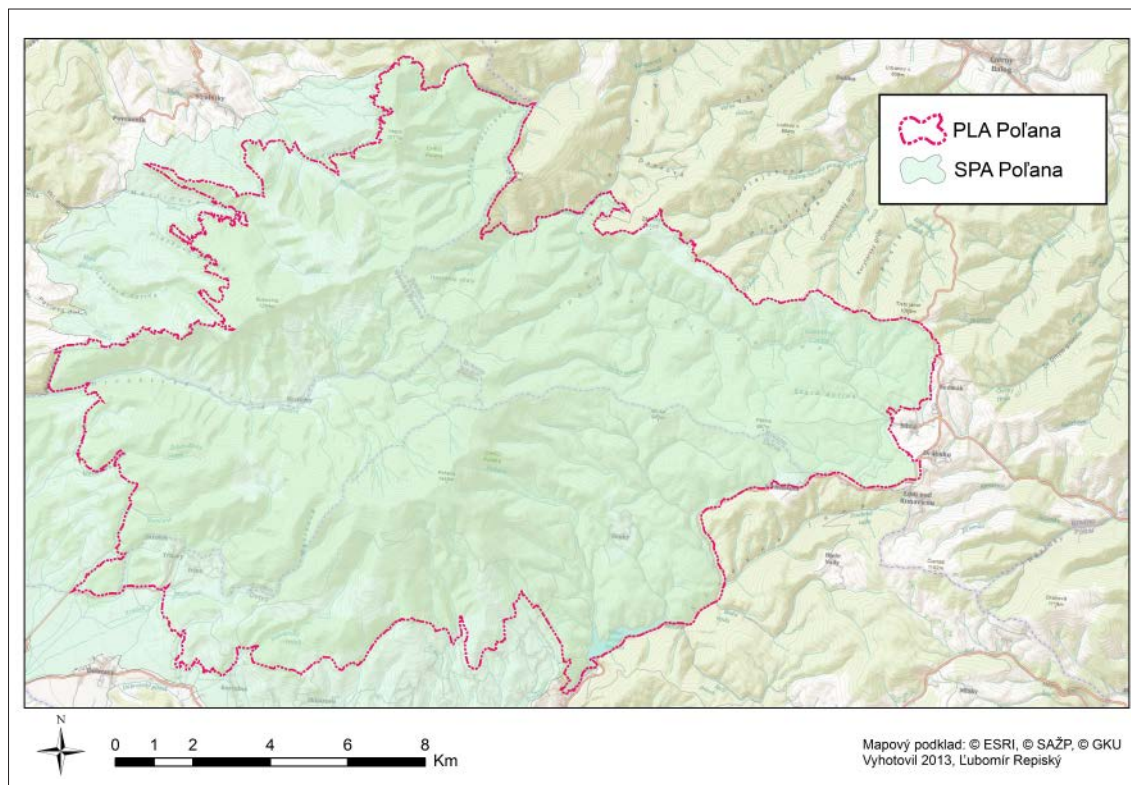
PLA has three national nature reserves (Hrončeský Grúň, Ľubietovský Vepor, Zadná Poľana), seven nature reserves (Havranie Skaly, Kopa, Mačinová, Pod Dudášom, Pri Bútľavke, Príslopy, Vrchslatina), one national natural monument (Vodopád Bystreho Potoka), seven natural monuments (Bátovský Balvan, Havranka, Jánošíkova Skala, Kalamárka, Melichova Skala, Spády, Veporské Skalky) and four protected local sites (Dolná Zálomská, Horná Chrapková, Hrochotská Bukovina, Meandre Kamenistého Potoka). Their total area covers about 6.7% of the PLA (or 1369 hectares) (Fig 7).

### Natura 2000 sites

The bird protected area Poľana (SKCHVU022) was designated on 1 February 2008. It encompasses an area of 32188 hectares and is thus larger than the territory of PLA (Fig 8). Eight sites of community importance are also situated within PLA (Repiská SKUEV0008, Koryto SKUEV0009, Kopa SKUEV0045, Javorinka SKUEV0046, Močidlíanska Skala SKUEV0248, Hrbatá Lúčka SKUEV0249, Poľana SKUEV0319, and Detvienský Potok SKUEV0400). Their total area is 3824 hectares, which is about 18.7% of PLA (Fig 9).

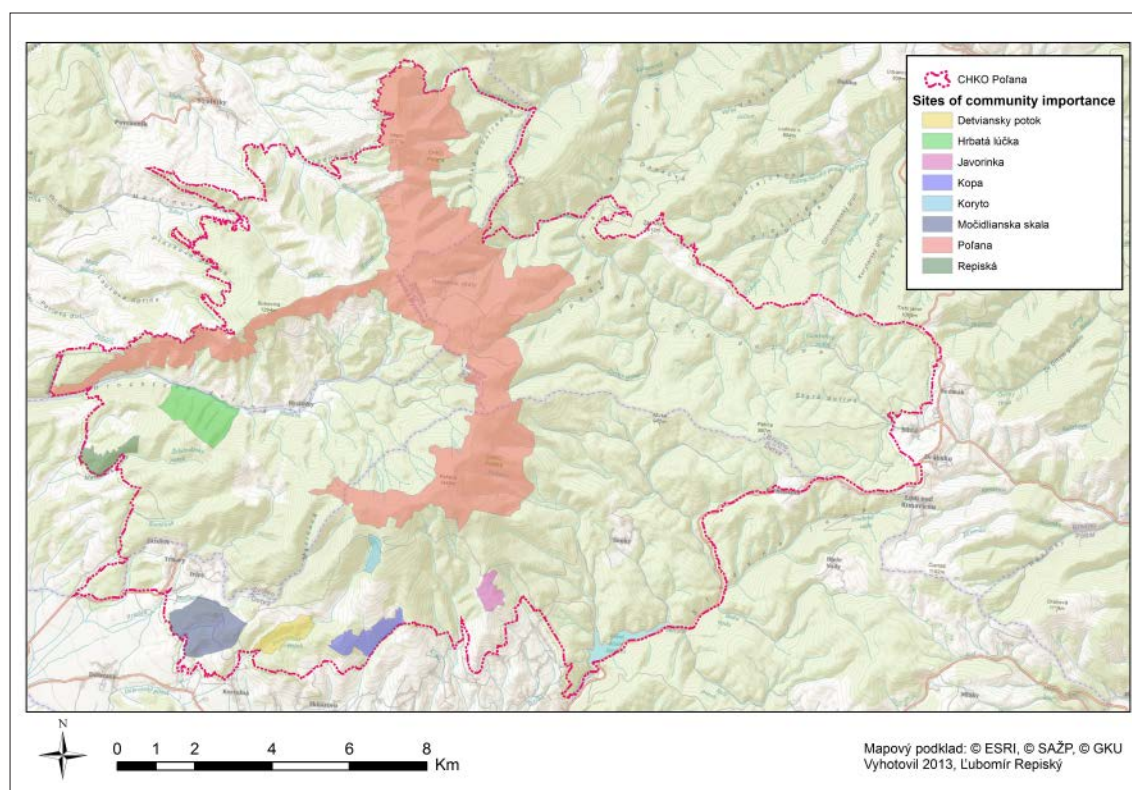


**Figure 7:** Small protected areas with the highest level of protection according national legislation (protected local site, national natural monument, national nature reserve, protective zone of national nature reserve, natural monument, nature reserve)



**Figure 8:** Protected bird area – SPA Poľana

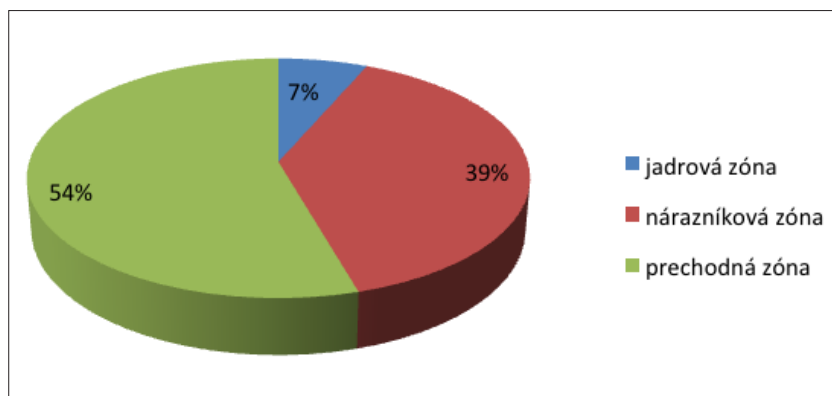




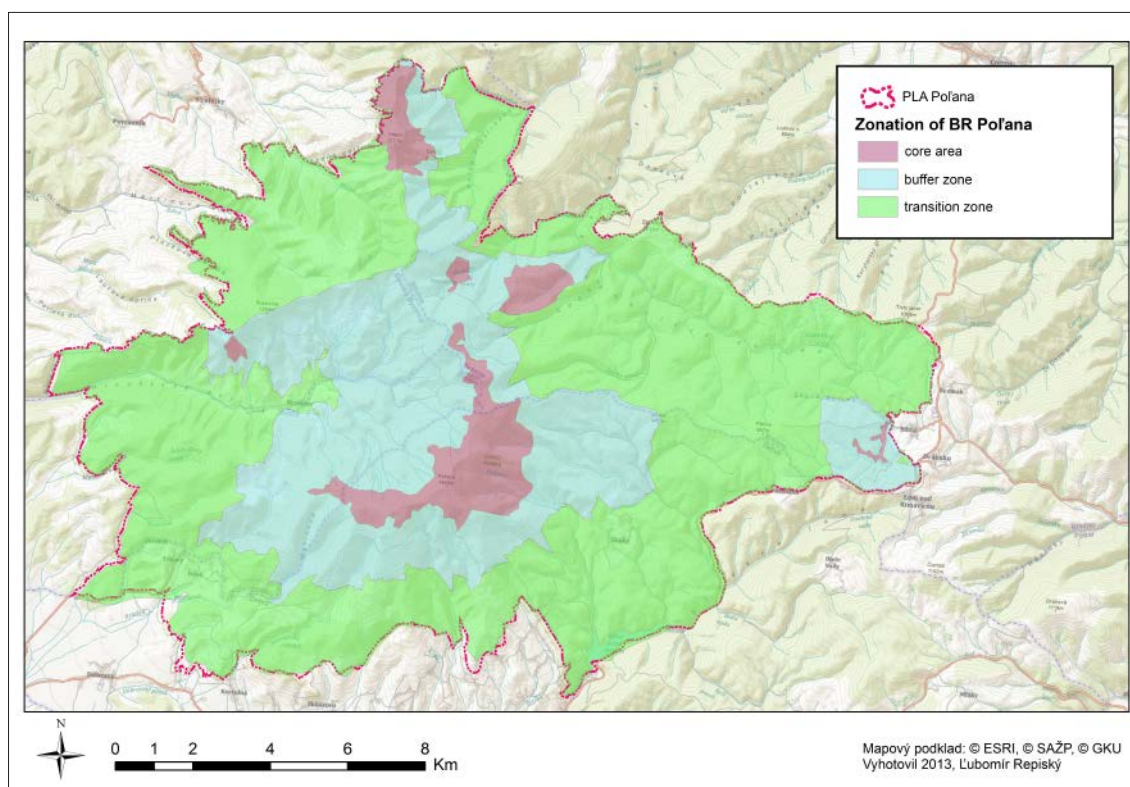
**Figure 9:** Sites of community importance – SCI

## Biosphere Reserve Poľana

In 1990 PLA became a part of the biosphere reserves network. It is divided into three zones: the core area includes small protected areas with fourth and fifth levels of protection (1333 hectares), the buffer zone with an area of 7931 ha, and the rest of the area which is the transition zone and covers the largest part (11097 ha) (Figs 10 and 11).



**Figure 10:** Zonation of BR Poľana in percent (core area, buffer zone, transition zone)



**Figure 11:** Map of zonation of BR Poľana (core area, buffer zone, transition zone)

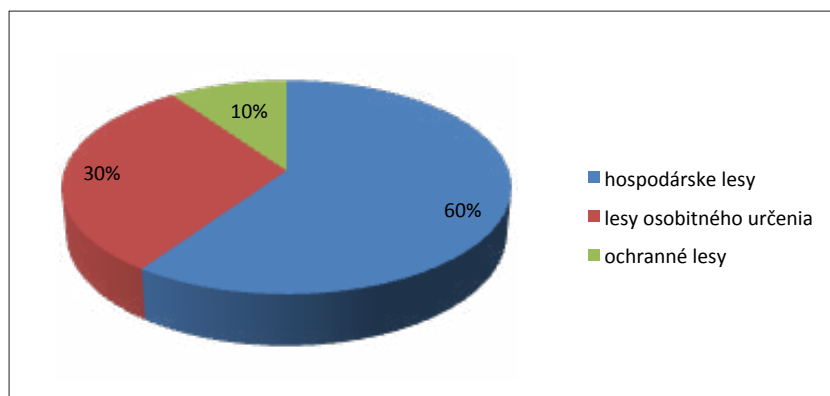
### 3 Land use and land management



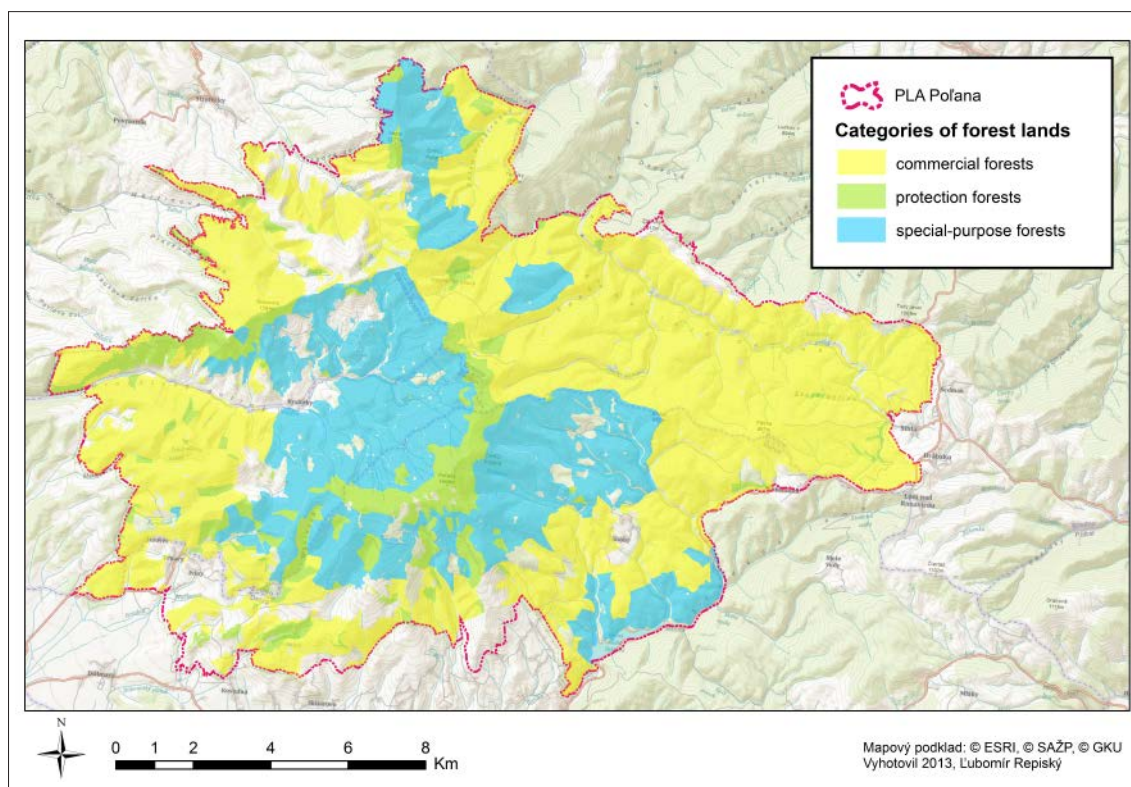
#### Forestry

As forests are the dominant element of the landscape in Pol'ana, forestry is the most important land use both in spatial extent and economic terms. Forests in the PLA are classified into three groups: 10287 hectares are commercial forests; 5272 hectares are special-purpose forests, i.e. lying inside protected areas and in buffer zones of water sources. 1696 hectares are protective forests, designated to protect extreme sites in order to prevent erosion. (Figs 12 and 13). Only tall-shaped forest is recognized as forest under the above three categories. Management in commercial forests is dominated by the small-scale shelter-wood method of management with a 110 year rotation period. The main aim is to achieve natural regeneration; the parent forest stand is thus gradually reduced to allow the creation and development of understorey generation of trees; small-scale form refers to a more complex age and spatial structure. Forests within PLA are largely owned by the state, represented by a state company – Forests of the Slovak Republic – and administered its branch companies in Kriváň, Čierny Balog and Slovenská Ľupča. State forests comprise 14881 hectares or 86% of forests in PLA. Communal ownership (local municipalities) covers 1245 hectares. 828 hectares are under collective ownership i.e. land associations or urbáre (Detva, Dúbravy, Hrochoť, Povrazník and Strelníky). Private individual owners and their associations have 250 hectares. Church forest accounts for 52 hectares and belongs to the evangelical church of Hrochoť and the roman-catholic church of Detva. The agricultural cooperative of Hrochoť owns about 1 hectare (Fig 14).

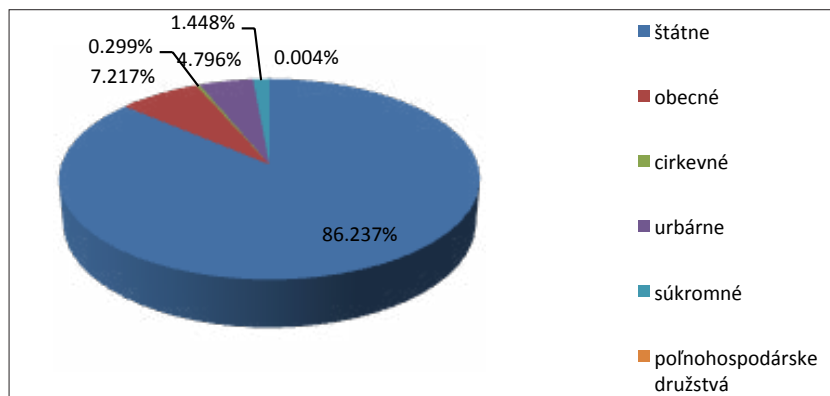




**Figure 12:** Categories of forest lands in percentage – PLA Poľana (commercial forests, special-purpose forests, protection forests)



**Figure 13:** Map of categories of forest lands - PLA Poľana

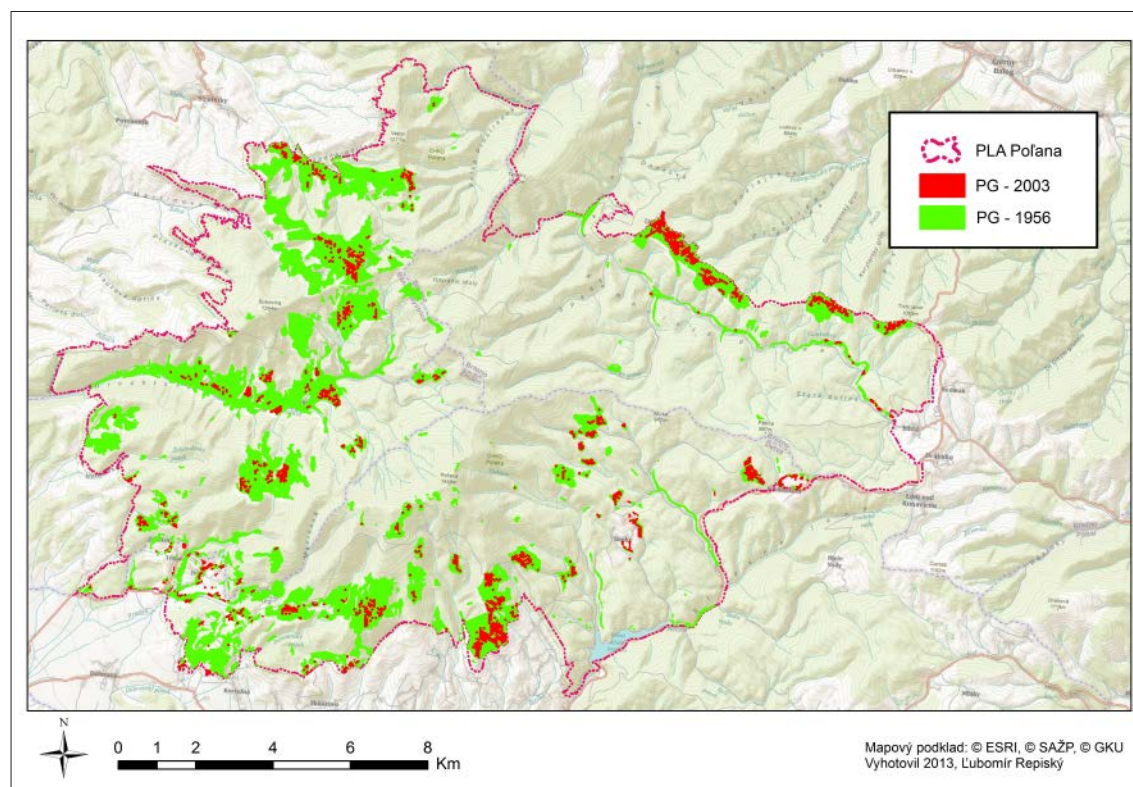


**Figure 14:** Owners of forest land in PLA Poľana

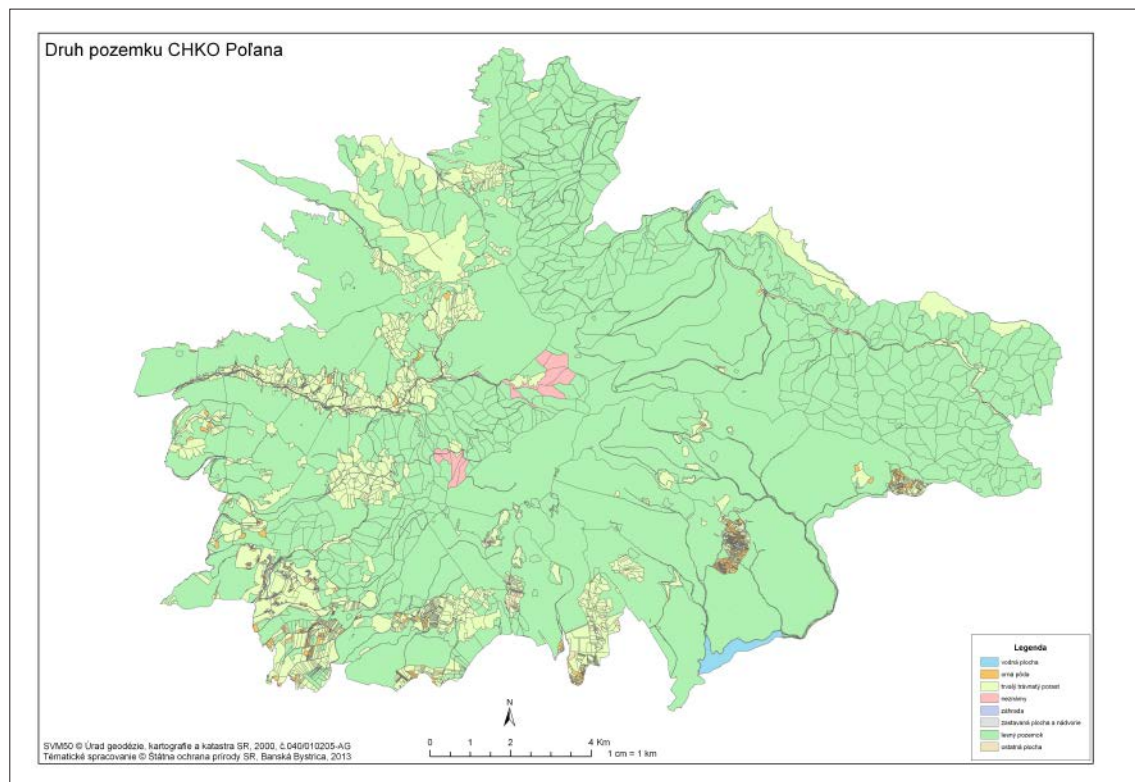


## Agriculture

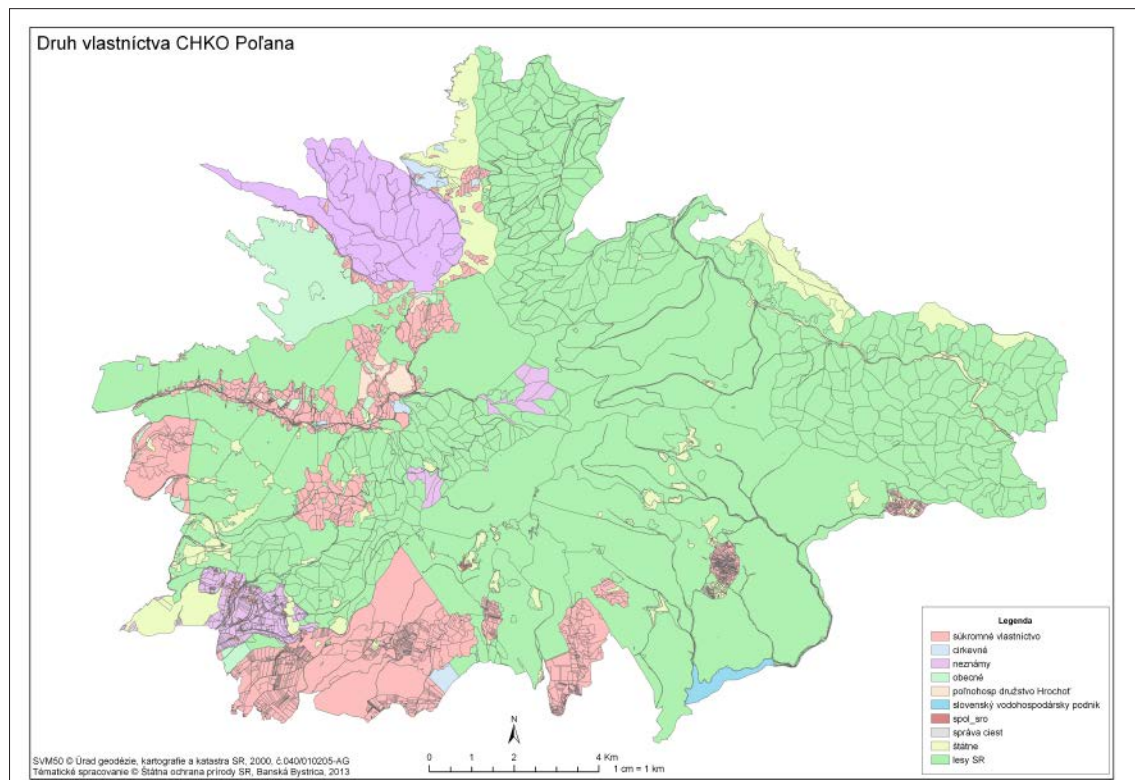
The open grasslands within Pol'ana, which are typical for the area and lend the name to the PLA, owe their existence largely to farming. They are thus a testimony of human influence and as such are part of the cultural landscape. Agricultural use – grazing or mowing – is necessary to keep them open and maintain them as semi-natural grassland habitats. In the past, use of these open spaces was more intensive and regular mainly due to significantly higher number of grazing stock. Lack of interest in grazing these remote areas, especially after 1945, has led to bush encroachment and natural reforestation. Between 1949 and 2003, their size decreased from 2700 to 1700 hectares (Fig.15). One of the possible options to prevent, or revert, this negative trend is support through subsidy, for example through payment for grazing. The quality of grasslands was influenced in the past by recultivation, which included interventions in order to improve soil fertility such as drainage, and fertilization. At present time, farming within PLA is practiced by big enterprises on the one hand – agricultural cooperatives and companies, as well as small private farmers on the other hand. Small meadows in the forests are also managed by the state forest enterprise and by hunting associations. The main users can be divided into three groups: large-scale users include the agricultural cooperatives of Hrochoť, Bukovina and Očová, Agrorev Detva and Forests of SR; middle-size users are Agropol Polomka and Pol'noprodukt Čierny Balog and small-scale users are the associations of farmers or individual farmers of Detva (Jozef Zvara), Hriňová, Pol'ana (Jozef Golian), Hriňová-Snohy (Ján Bariak), Sihla (Stanislav Bitala). (Figs 16 and 17).



**Figure 15:** Changes in the area of permanent grassland in PLA Pol'ana between 1956 and 2000 years



**Figure 16:** Type of land use in PLA Poľana (water area, arable land, permanent grassland, unknown, garden, built-up area and courtyard, forest land, other area)

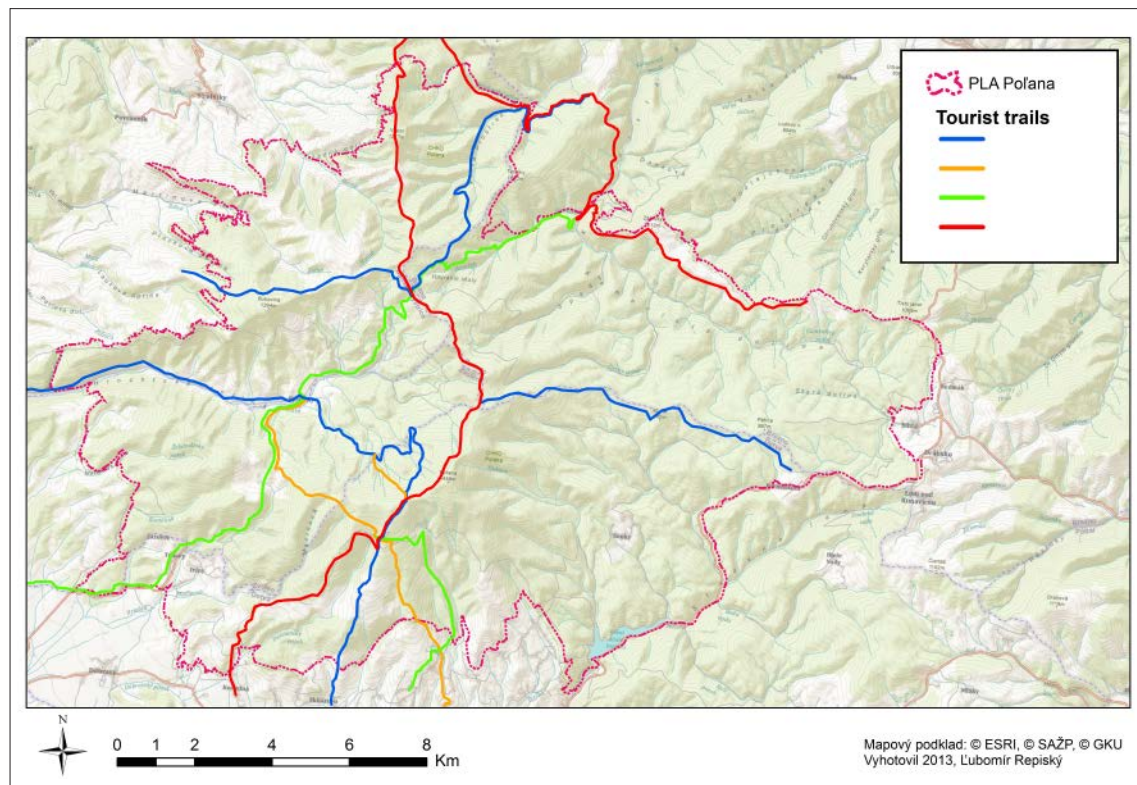


**Figure 17:** Land owners in PLA Poľana (private, church, unknown, village, agricultural cooperative Hrochoť, Slovak water management enterprise, limited company, road administration, state, Forests of Slovakia)



## Recreation and sports

The main tourist facility in the PLA is the mountain hotel Poľana near the top of the area. It has three ski lifts and an accommodation capacity of 198 beds. Plans are there for its reconstruction that includes a parking lot and the overall modernization of the resort. A scheme for artificial snowing is part of the plan. Other accommodation facilities are provided by the huts at Pod Hrbom (44 beds), Grúň and Hukavy (10 and 8 beds) and Kalamárka (14 beds) and by the hostel at Hrochotský Mlyn (25 beds). It is estimated that about 25000 visitors of whom 20% are foreigners visit PLA per year. The area has a network of approximately 120 kilometers of marked hiking trails, including 2 educational trails (Kyslinky – Zadná Poľana; Kalamárka) (Fig 18). Hiking, biking, rock climbing and horseback riding are the preferred summer recreational activities. Illegal activities such as riding four-wheelers sometimes occur. The surrounding municipalities also have plans for tourism development, as documented in their land-use plans. The focus is on cycling, conversion of abandoned houses and estates into holiday cottages for family recreation and agricultural tourism.



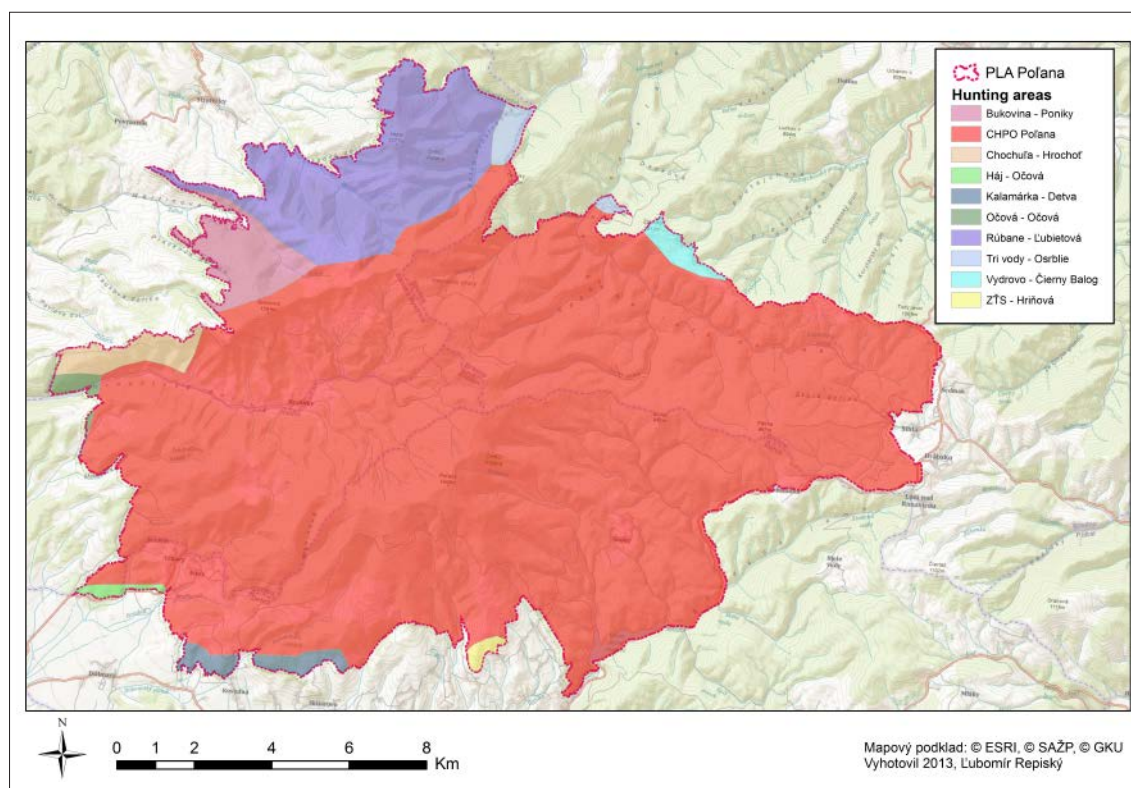
**Figure 18:** Marked tourist trails in PLA Poľana. The different colours represent different categories of trails.

## Water management

The territory of the PLA overlaps with areas for water management and watershed protection. The most important zone concerns the water reservoir near Hriňová with a hygienic protective zone of more than 7100 hectares. Hygienic protective zones also exist for smaller water courses (Šípošová, Abčíná, Studená), and for other water courses and their catchments. A number of water management projects are planned such as the construction of a sewage treatment plant in the village of Sihla and the extension of public water supply to the village of Skliarovo. Plans also exist for dam construction near Hronček and Očová. All these projects concern water originating from PLA.

## Wildlife and hunting

PLA belongs to the red deer hunting region (J XVIII) Poľana and to the roe deer region (S VII) Zvolen. These comprise several hunting areas (Fig 19). The current issue in wildlife and conservation management is monitoring and management of large carnivores (bears, wolves) in the area.



**Figure 19:** Hunting areas with their local names in PLA Poľana

## Extraction of mineral resources

On the eastern border of the PLA, near Tlstý Javor is a quarry for the extraction of ornamental stone. These activities until now have no negative effect on PLA but one has to observe the development of the quarry in the years to come.

## Settlement

There are three villages within the area of the PLA. Two of these – Snohy and Vrchslatina belong to the municipality of Hriňová, and the third, Iviny, belongs to Dúbravy municipality. There is also a small settlement by the Slovak State Forest Enterprise in Kyslinky in the central part of PLA. Small settlements also exist on the border of PLA (Suché Lazy, Skliarovo, Dolná, and Horná Riečka). Spatial development of these settlements is in accordance with the conservation functions of the PLA, and foresees a combination of different functions in future – residential, farming and recreation.



## 4 Demography and economic activity



### Demography – the regional picture<sup>1</sup>

#### Population numbers

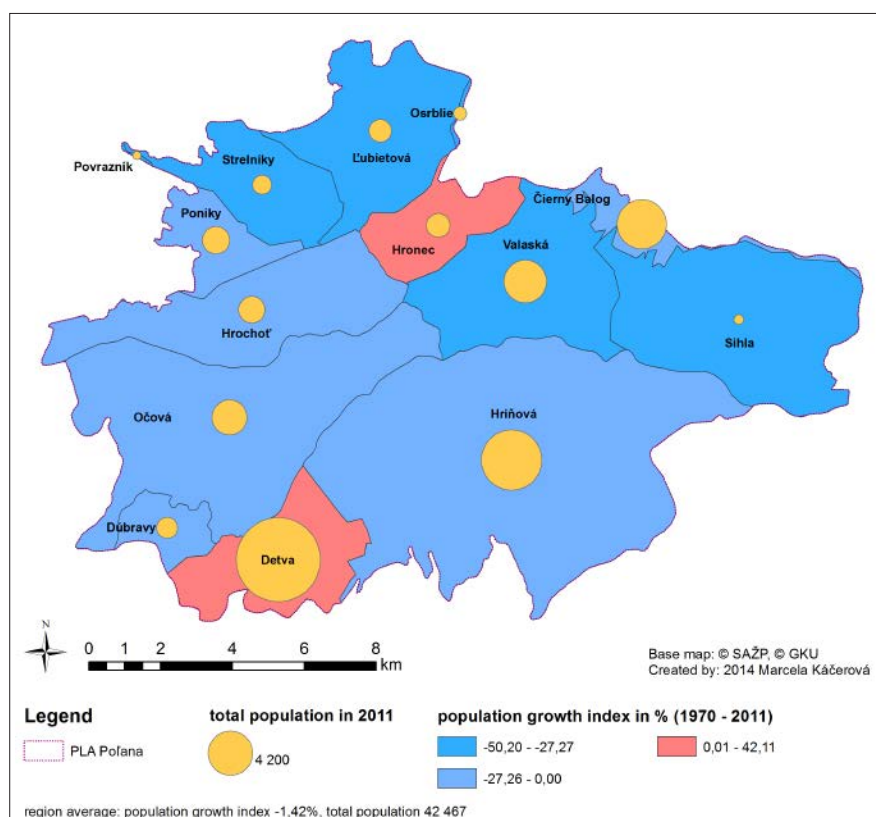
PLA Pol'ana is embedded in a primarily rural setting. It is surrounded by 14 municipalities<sup>2</sup> which share parts of the territory of the PLA in their uppermost sections or have a common border with it. These 14 municipalities are here referred to as the region. Their population ranges from 149 (Povrazník) to over 15,000 (Detva; data from 2011). It shall be added that Detva is an urban settlement; Hriňová has been another town in the region since 1989. Rural municipality Čierny Balog has according to the last census the highest number of inhabitants of the rural municipalities in the region.

Overall, population numbers have stagnated over the last decades, showing a slight decline from 43,079 to 42,467 between 1970 and 2011, which represents a loss of 612 persons or 1% since 1970 (Fig. 20). In comparison, the population of the whole country has grown by 14% over this period. The most significant growth was recorded until 1991. Of all municipalities, only Detva and Hronec show an increase in population. In Detva, this increase is about 40% and thus very substantial; the municipality grew from about 10,000 to over 14,000 within the above period. The main reason thereof was the fact that the growth of number of urban settlements was conditioned by the process of urbanisation and pro-natal measures<sup>3</sup> in the 1970s. The degree of urbanisation was in the SR 41.1% in 1970 and its value is currently at the level of 54.4%. Detva grew in numbers also thanks to the fact that it was an industrial centre (mechanical engineering enterprises were built here in the 1960s and 1970s). The rural municipality Hronec shows as

<sup>1</sup> Assessment of the demographic situation of Pol'ana region is based on data from the census of houses and flats inhabitants done in 1970, 1980, 1991, 2001 and 2011 in parts dealing with the number of population, economic structure and households. These data are used also for the analysis of the age structure of municipality parts Iviny, Snohy and Vrchslatina (local picture). The age structure of the population in this region (its municipalities) is assessed on the grounds of data from the publication Age composition of the population Slovak Republic (those are data as to 31 December of the respective year). Unemployment was evaluated on the grounds of data of the official unemployment rate from the Central Office of Labour, Social Affairs and Family as to 31 December of the respective year.

<sup>2</sup> This section includes Osrbie which shares a common border with Pol'ana in the north of the PLA.

<sup>3</sup> Pro-natal measures a program to help families with children (maternity benefits, extension of maternity leave, providing newlyweds loans



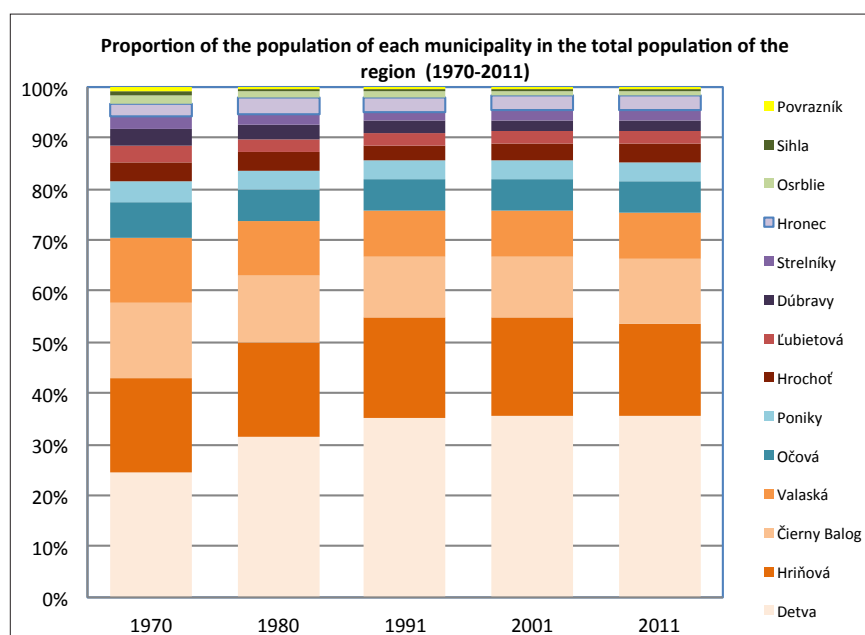
**Figure 20:** Population numbers of municipalities (Poľana) 1970-2011<sup>4</sup>

the only one an increase in the number of population of 13.2%. The highest loss is 50% (Osrbli), meaning that this municipality has lost half of its population since 1970. As a tendency, smaller municipalities have suffered heavier losses in relative terms than larger municipalities, but this may be region-specific and should not be generalised. All other municipalities show considerable population losses, a development that was there already in the socialist period and continued after 1992. (Figs. 20, 21 and for details Annex).

## Age structure

The structure of population shall be observed together with the drop of the number of inhabitants in the region in question. The age structure is one of the most important basic demographic characteristics of each population. The main reason for the great interest in assessing it results from its current most significant changes called the process of population ageing. In the 20th century, ageing, as a crucial factor in the population age structure, won an extraordinary scientific, but also social attention. When seen from the national perspective, changes of the age structure of inhabitants of Slovakia are manifested in a long-term trend. It is the last period that is characterised by bottom-up ageing of population (i.e. the decrease in the number and share of inhabitants of the youngest age categories) due to the fall of fertility. Top-down ageing of population (i.e. the growth of the number and share of inhabitants of the oldest age categories) due to the prolongation of age is also obvious, although its manifestations are not that marked. Representation of children in the Slovak population fell from 37.0% (1900) to 15.4% (2011). During the 20th century, in Slovakia the population category of 65 and over increased 4.2-fold (while the total population increased only 1.8-fold) and its proportion increased from 5.3% to 12.3% (Káčerová, Ondačková, Mládek 2012). Any higher territorial unit can be characterized by the presence of different population structures in its particular sub-units. The level of the differentiation of demographic behavior in particular territorial units of Slovakia is evident from the changes of age structures and from the different levels of ageing. According to the Landscape Atlas of Slovakia (2002), the municipalities around Poľana mostly belong to the municipality type with a rather low percentage of youth (0-14 of age) and a high percentage of post-productive population (Fig. 22). This is confirmed by research (Mládek, Káčerová 2008), which classifies districts of the Poľana region to the regional type of an old age structure.

<sup>4</sup> This map and all following maps show the outline of PLA Poľana. It should be noted that the overwhelming majority of the population of the 14 municipalities lives outside the PLA.



**Figure 21:** Proportion of the population by municipality 1970-2011

The trend towards ageing seems to have continued in recent years; between 2001 and 2011, the share of the young population among total population has gone down by 3.9 percentage point, (a reduction of over 21% within the age group), while that of the age group above 65 years has increased by almost 1.8 percentage point within these 10 years. This is an increase of 15.8% within this age group (For details see Annex). As a result, the ageing index<sup>5</sup> went up from 66% to 97%. Values of the Poľana's ageing index indicate a very marked process of ageing of region's population. Its values still show a slight absolute dominance of 0-14-years-old over 65-years-old and older. When compared to the ageing index of the country (which grew from 60.8% to 83% during examined years), Poľana region shows higher level of ageing. As shown in Fig. 22, the lowest values of the ageing index had in 2001 towns Hriňová and Detva and rural municipalities Čierny Balog, Sihla and Poniky, meaning they were the youngest. On the other hand, the "oldest" municipality was Osrbliie and municipalities Očová and Dúbravy. The most marked growth of the ageing index until 2011 was recorded by previously youngest Hriňová, Detva and Dúbravy. On the other hand, the above said growth of the number of inhabitants in municipality Hronec was reflected also in the age structure when its ageing index fell between 2001-2011 from 122.3% to 106.0%. A similarly significant fall to a lower level of ageing can be seen in 2011 also in the municipality Osrbliie (154.2% to 122.4%) (for details see Annex).

## Households

Post-Communist countries have been experiencing since 1989, in addition to important social-political changes, also dynamic transformations of family behaviour. Those are visibly manifested in the growing plurality of family forms, under our conditions previously unheard of (Tydlitátová, 2011). Changes of population's family behaviour are very markedly reflected in the size and types of forms of partnership cohabitation. The size of Slovak households is radically changing its average value in census period 1961-2011. In these 50 years, the average number of members of a Slovak household dropped from 3.53 to 2.42 people. We are examining households in census years 2001 and 2011 for our area. The average size of a household in this region dropped only slightly, from 2.34 to 2.19 members.

In 2001 we registered 18,188 households in the region, a number which grew by 2011 to 19,348. The internal structure (according to the number of household members) reveals a significant increase of one-person households (for details see Annex). It is similar when seen from the nation-wide perspective, where "households of single individuals recorded such an intensive growth as no other type of census-subjected households" (Pilinská, 2005). In 2011, of the 19,348 households in the region, 42.5% were one-person households and an additional 24.9% are two-person households (for details see Annex). This means that

<sup>5</sup> Number of old persons (here 65+) / number of youth (here 0-14) \*100

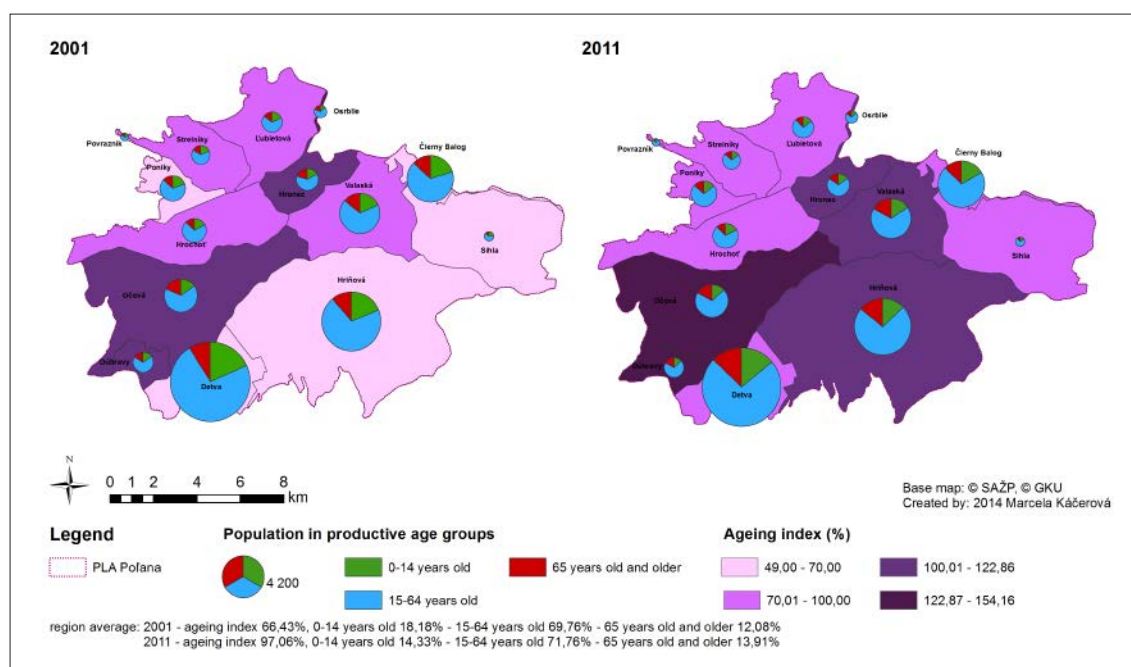


Figure 22: Age structure of region Poľana

two third of all households consist of one or two persons only. Several reasons are behind this high number of small households. One-person households, for example, are mostly formed by single older persons, divorced or separated persons of the middle generations, or young singles who establish their first household (Tappeiner et al., 2008). A high number of one (or two) - person households is thus not necessarily only an indicator of an ageing population. Only more detailed data about the household condition would explain more concretely the household structure according to the number of members in individual municipalities. Distribution and household structure in spaces are shown in Fig. 23. The growth of one-person households takes place in all municipalities with the exception of the municipality Ľubietová, where we record the decrease of this household type.

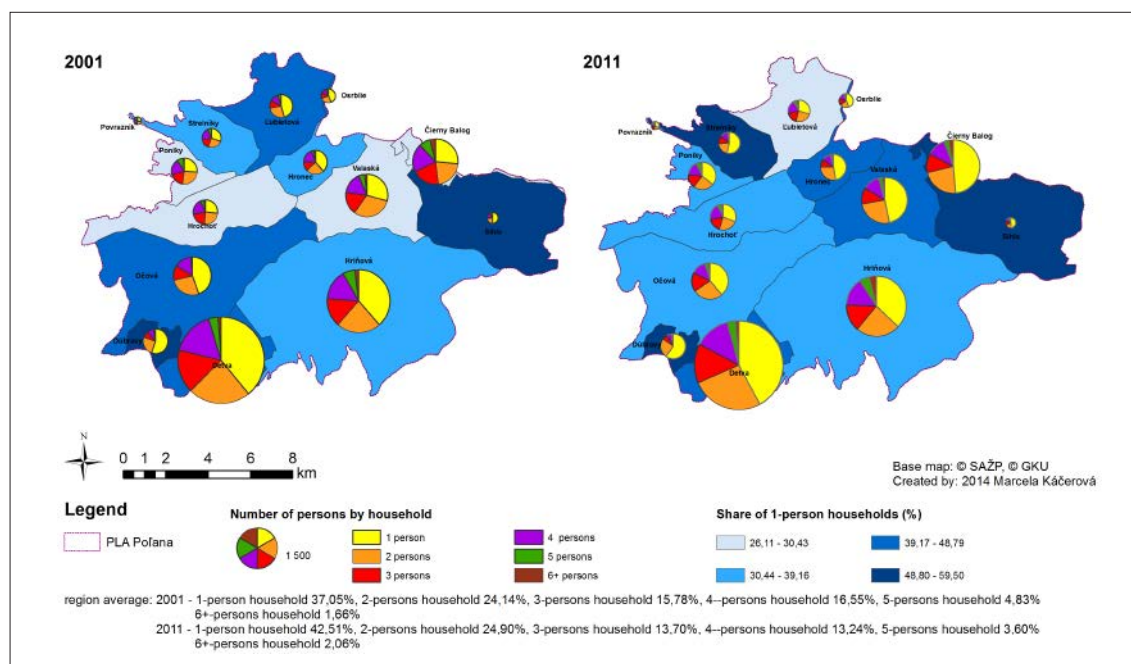


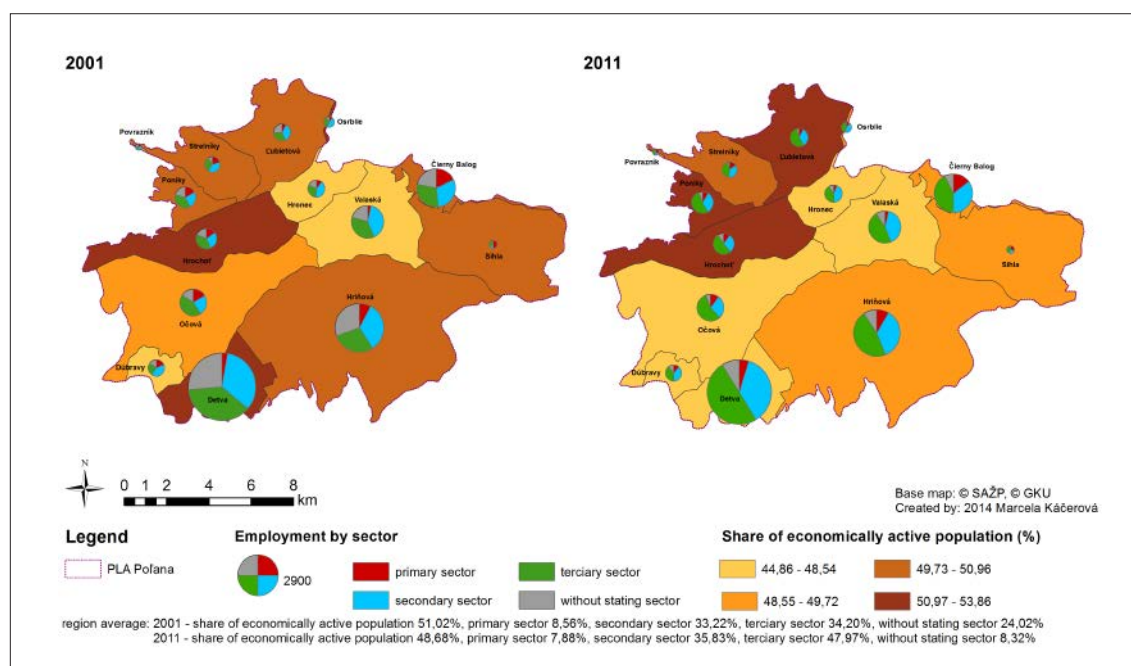
Figure 23: Households of region Poľana



## Economic activity

The economic activity of population results predominantly from the achievable employment possibility in a certain sector. At the same time it reflects the general socioeconomic situation in the country. The number of economically active population in the Poľana region fell between 2001 and 2011 from 21,716 to 20,671. The share of economically active of the total number of population in the region slightly fell from 51.0% to 48.7%. The structure of employment shows a decrease in the primary sector (8.6%-7.9%) and an increase in the secondary (33.2% to 35.8%) and tertiary sectors (39.2%-52.3%). When compared with the Slovak average of the share of economically active population (2001 = 51.1% and 2011 = 48.7%), the region is average in both years. The share of unspecified employment areas, which was as much as 24% in 2001, can also have a significant impact on sector division in 2001.

As shown in Fig. 24, we can see significant differences among individual municipalities. The maximum value of share of the economically active population in both years was found in two rural municipalities, namely to Hrochoť (2001-53.9%) and Poniky (2011-52.0%). Detva and Hriňová together offer more than 12,000 (2001) resp. 11,000 (2011) jobs, about half of the total. Their weight in the total employment of the region corresponds with their generally highest number of inhabitants. At the other end of the range, Sihla and Povrazník account for less than 100 each (for details Annex). Employment in the secondary sector has high figure overall with over 7,400 places in both years. Although the employment of this sector very slightly grew in the total number of population during the examined period, the absolute number of jobs was adequately increased by 200. The employment in the tertiary sector increased in the region in absolute terms from 7,427 jobs to 9,915; this trend being generally valid for Slovakia.

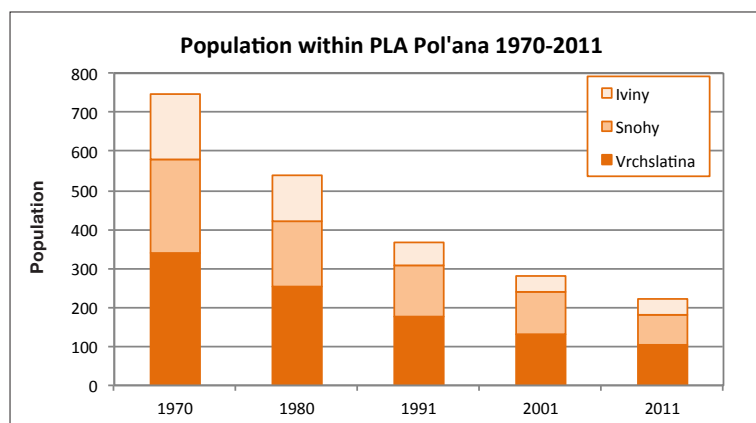


**Figure 24:** Economically active population of region Poľana

Despite the rural setting of the region, the primary sector offers only about 1,858 places (2001) and thus employs only 8.6% of the region's labor force (for details Annex). Sihla is an exception with its 50.9% employed in the primary sector; however the total employment figure for this community is 110, so a single small enterprise in the primary sector could explain this anomaly in 2001. Sihla also has the highest employment in the primary sector in 2011, but its value decreased to 30.0%. Currently a key enterprise in the municipality, a quarry for extracting ornamental stones, is not active.

## Demography– The Local Picture

The local picture refers to the population within Poľana, who lives in three traditional rural settlements (Iviny, Snohy and Vrchslatina) on the southern slopes of the PLA<sup>6</sup>. They predate the establishment of the protected area. These three villages represent a dispersed settlement pattern. Dispersed settlements have their specific names, called *lazy* in this area. This kind of scattered and isolated settlements was formed by a young colonisation or very young colonisation (16th-19th centuries) of forested hills as originally pastoral settlements (Verešík, 1974). Snohy and Vrchslatina belong to Hriňová municipality, and Iviny forms part of the rural municipality of Dúbravy. According to Verešík (1974) these municipality parts belong to the Poľana sub-area of dispersed settlements of *Slovenské rudohorie* and *Krupinská planina*.



**Figure 25:** Population within PLA Poľana 1970-2011 by settlement (Iviny, Snohy, Vrchslatina)

The number of permanent residents in these settlements has shown a strong decline over the last decades, including the socialist period. Their population decreased from 748 in 1970 to 220 in 2011, a loss of 71% (Fig. 25), which is much higher than any loss observed at the regional (municipal) level. In particular, it is considerably higher than the loss of the municipalities they belong to: Iviny shows a loss of 69%, while its municipality (Dúbravy) lost 26%; Snohy and Vrchslatina lost 68% and 78%, while its municipality (Hriňová) was stable with a loss of 1%. This high local loss can be seen as a result of the geographically marginal position of the settlements in the PLA; they are in the uppermost part of their municipalities – climatic conditions in winter may thus be more difficult, which may have exacerbated the lack of perspective and the wish to move out, as it is documented for other rural mountainous areas in Slovakia and Europe (and beyond).

In the same period 1970 to 2011, the number of permanently occupied houses within the Poľana settlements went down by half, from 168 to 83, and the average number of residents per house from 4.5 to 2.7 persons. The area is seasonally inhabited by about 80 non-permanent residents, both Slovakian and foreigners, during summer and winters seasons.

**Table 1:** Population structure of Iviny, Snohy and Vrchslatina 1980 - 2011

Age groups (sum of all three settlements)	Number of persons				Change 1982-2011		Change 1982-2011	
	1982	1992	2002	2011	by age group	by age group in %	share of total population in 1982, in %	share of total population in 2011, in %
0-14	88	63	24	14	-74	-84.1	16.4	6.4
15-59	338	182	150	138	-200	-59.2	62.9	62.7
60+	111	123	107	68	-43	-38.7	20.7	30.9
<b>total</b>	<b>537</b>	<b>368</b>	<b>281</b>	<b>220</b>	<b>-317</b>	<b>-59.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Ageing index (%)<sup>7</sup></b>	<b>126</b>	<b>195</b>	<b>465</b>	<b>485</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>

<sup>6</sup> The settlement of the state forest enterprise (Kyslinky) at the centre of the PLA is not included in this present analysis.

<sup>7</sup> Due to limited data was used to calculate the formula =Number of old persons (here 60+) / number of youth (here 0-14) \*100

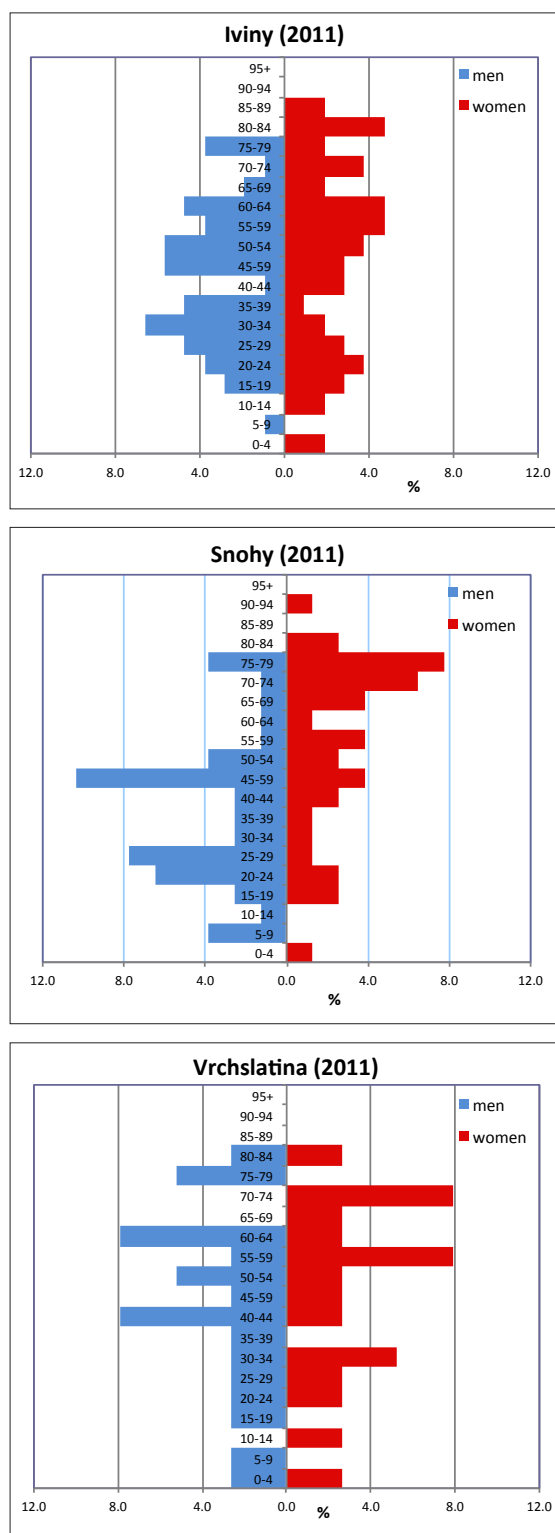


Figure 26: Age pyramids of Iviny, Snohy and Vrchslatina (2011)

The age structure is presented for the three settlements together. Ageing is conspicuous and a common characteristic of their population dynamics in recent decades: between 1980 and 2011 the share of youth (0-14 years of age) went down from 16,4% to as low as 6,4%, whereas the share of those with 60 and more years increased from 20.7 to 30.9%. The 15-59 age group went down in absolute number, but maintained their percentage share (Table 1). These data should not be compared directly with the regional age structure (for details see Annex), because they refer to a different period in time and to a different age structure. Comparison is possible for 2011 only, as the 2011 population pyramids (Fig. 25) can be used to derive the same age structure as for the region. The comparison shows that the share of youth (6.3%) in the three settlements within Poľana is much lower than in the region (14.3%), while for the elderly (65+) the opposite is true (23.5% in the settlements, 13.9% in the region). As a result, the ageing index is much higher in the settlements, where it reaches a value of 371.4% as against 97.1% in the region. An ageing index of 371.4% means, that there are 37 elderly (65+ years) persons per 1 young person (0-14 years), a value which is very high, also in comparison with other mountain areas in Europe. In the Alps, ageing index values of above 1.8 are found in particularly disadvantaged and largely abandoned regions, mostly in the Italian and French Alps (Tappeiner et al., 2008).

Table 2: Regional and local age structure

Indicator	Poľana region		Local settlements	
	absolut	in %	absolut	in %
0-14	6,086	14.3	14	6.3
15-64	30,474	71.8	155	70.1
65+	5,907	13.9	52	23.5
totals	42,467		221	
<b>Ageing index (%)</b>		<b>97.1</b>		<b>371.4</b>

## Economic activity

Between 1980 and 2011, the *number* of those economically active declined sharply which is of course due to the general depopulation of the villages within the protected area (Table 3). The rate of those economically active is much less drastic, but what has decreased strongly is the share of those working outside the municipality. This could be because there are either no such outside jobs available, or those holding them moved away, or jobs within the municipality are enough for the few now employed and living within Poľana .

**Table 3:** Economic active and inactive persons, Iviny, Snohy, and Vrchslatina 1980 and 2011

Economic activity - all 3 settlements within PLA	Total population	Persons economically inactive	Persons economically active	persons working outside of those econ. active	persons working outside of those econ. active, in%
in 1980	537	293	244	170	69.7
in 2011	220	132	88	25	28.4

Interestingly, in 2011, the number of economically active persons (88) is much smaller than the 15-64 years age group (155 persons). Many of this age group (66 persons or 43%) are thus economically inactive (retired people). If economically inactive is a term used for unemployment, then the unemployment rate is very high, but not beyond what is found in the wider region. The unemployment rate (pursuant to the Central Office of Labour, Social Affairs and Family) is high above the Slovak average in districts of Detva and Brezno (Table 4).

**Table 2:** The unemployment rate in Slovakia (in %)

Coutry/district	1999	2011
Average Slovakia	13.59	19.18
Detva	16.68	19.89
Brezno	18.41	25.01
Zvolen	10.94	13.44
Banská Bystrica	9.56	10.03





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### and:

State Nature Conservancy Banská Bystrica (Ján Černecký) (Land use and ownership data)

Statistical Office of the Slovak Republic (Pavol Škápik) (Data on demography)



## Annex

**REGIONAL DATA (= 14 municipalities with territory in PLA)****A 1:** Total population of area (number by cadastres during 1974-2011)

municipalities	1970	1980	1991	2001	2011	1970 to 2011 absolute	1970 to 2011 in %
Čierny Balog	6 460	5 931	5 099	5 067	5 234	-1 226	-19
Detva	10 599	14 261	15 039	15 122	15 062	4 463	42
Dúbravy	1 272	1 186	1 026	986	947	-325	-26
Hriňová	7 869	8 485	8 534	8 289	7 802	-67	-1
Hrochoť	1 577	1 591	1 355	1 374	1 502	-75	-5
Hronec	1 075	1 459	1 225	1 157	1 217	142	13
Lubietová	1 507	1 180	980	984	1 089	-418	-28
Očová	3 062	2 963	2 644	2 602	2 611	-451	-15
Osrblie	763	507	467	393	380	-383	-50
Poniky	1 748	1 664	1 525	1 551	1 591	-157	-9
Povrazník	272	188	145	147	149	-123	-45
Sihla	356	268	204	219	204	-152	-43
Strelníky	1 146	994	856	812	779	-367	-32
Valaská	5 373	4 726	3 898	3 862	3 900	-1 473	-27
<b>Region</b>	<b>43 079</b>	<b>45 403</b>	<b>42 997</b>	<b>42 565</b>	<b>42 467</b>	<b>-612</b>	<b>-1</b>

**A 2:** Age structure of population by cadastres (2001-2011)

indicator		2001		2006	2007	2008	2009	2010	2011	
		absolut	in %	absolut	absolut	absolut	absolut	absolut	absolut	in %
Čierny Balog	0-14	1 012	19,9	940	909	909	880	870	871	16,6
	15-64	3 418	67,1	3 612	3 601	3 639	3 657	3 678	3 694	70,6
	65+	661	13,0	641	634	637	649	653	669	12,8
	total	5 091	x	5 193	5 144	5 185	5 186	5 201	5 234	x
	Ageing index	65	x	68	70	70	74	75	77	x
Detva	0-14	2 755	18,3	2 330	2 226	2 126	2 078	2 059	2 118	14,1
	15-64	10 961	72,8	11 036	11 065	10 982	10 933	10 861	11 017	73,1
	65+	1 345	8,9	1 607	1 686	1 725	1 777	1 820	1 927	12,8
	total	15 061	x	14 973	14 977	14 833	14 788	14 740	15 062	x
	Ageing index	49	x	69	76	81	86	88	91	x

Dúbravy	0-14	150	15,2	132	133	130	127	119	115	12,1
	15-64	674	68,4	675	671	676	676	676	671	70,9
	65+	161	16,3	165	171	167	166	167	161	17,0
	total	985	x	972	975	973	969	962	947	x
	Ageing index	107	x	125	129	128	131	140	140	x
Hriňová	0-14	1 551	18,7	1 209	1 151	1 059	1 035	999	1 005	12,9
	15-64	5 794	70,0	5 783	5 739	5 756	5 718	5 685	5 691	72,9
	65+	928	11,2	1 035	1 033	1 044	1 068	1 083	1 106	14,2
	total	8 273	x	8 027	7 923	7 859	7 821	7 767	7 802	x
	Ageing index	60	x	86	90	99	103	108	110	x
Hrochoť	0-14	236	17,2	250	248	243	231	236	256	17,0
	15-64	953	69,6	1 006	1 013	1 031	1 036	1 045	1 059	70,5
	65+	181	13,2	180	180	174	174	176	187	12,5
	total	1 370	x	1 436	1 441	1 448	1 441	1 457	1 502	x
	Ageing index	77	x	72	73	72	75	75	73	x
Hronec	0-14	193	16,8	171	177	187	178	169	183	15,0
	15-64	722	62,7	761	780	811	810	815	840	69,0
	65+	236	20,5	208	213	208	201	192	194	15,9
	total	1 151	x	1 140	1 170	1 206	1 189	1 176	1 217	x
	Ageing index	122	x		120	111	113	114	106	x
Lubietová	0-14	178	18,3	157	153	150	153	151	162	14,9
	15-64	651	66,9	724	745	748	765	772	794	72,9
	65+	144	14,8	125	133	129	125	120	133	12,2
	total	973	x	1 006	1 031	1 027	1 043	1 043	1 089	x
	Ageing index	81	x		87	86	82	79	82	x
Očová	0-14	385	14,8	364	363	355	355	343	337	12,9
	15-64	1 740	67,0	1 798	1 800	1 795	1 795	1 799	1 827	70,0
	65+	473	18,2	430	432	420	420	435	447	17,1
	total	2 598	x	2 592	2 595	2 570	2 570	2 577	2 611	x
	Ageing index	123	x	118	119	118	118	127	133	x
Osrbie	0-14	48	12,7	51	43	45	45	47	49	12,9
	15-64	257	67,8	273	282	281	280	277	271	71,3
	65+	74	19,5	67	63	62	61	60	60	15,8
	total	379	x	391	388	388	386	384	380	x
	Ageing index	154	x	131	147	138	136	128	122	x
Poniky	0-14	296	19,1	244	220	214	219	225	231	14,5
	15-64	1 049	67,6	1 133	1 124	1 142	1 146	1 146	1 144	71,9
	65+	206	13,3	205	206	203	207	219	216	13,6
	total	1 551	x	1 582	1 550	1 559	1 572	1 590	1 591	x
	Ageing index	70	x	84	94	95	95	97	94	x

<b>Povrazník</b>	0-14	30	20,5	26	26	22	21	20	18	12,1
	15-64	95	65,1	102	107	109	116	117	115	77,2
	65+	21	14,4	17	13	13	14	15	16	10,7
	total	146	x	145	146	144	151	152	149	x
	Ageing index	70	x	65	50	59	67	75	89	x
<b>Sihla</b>	0-14	48	22,4	34	33	29	29	29	31	15,2
	15-64	135	63,1	144	145	140	144	144	150	73,5
	65+	31	14,5	26	24	24	25	23	23	11,3
	total	214	x	204	202	193	198	196	204	x
	Ageing index	65	x	76	73	83	86	79	74	x
<b>Strelníky</b>	0-14	149	18,3	139	127	123	125	116	107	13,7
	15-64	539	66,1	555	560	564	569	572	566	72,7
	65+	128	15,7	121	115	112	109	109	106	13,6
	total	816	x	815	802	799	803	797	779	x
	Ageing index	86	x	87	91	91	87	94	99	x
<b>Valaská</b>	0-14	693	18,8	648	638	622	607	593	603	15,5
	15-64	2 633	71,4	2 627	2 622	2 618	2 614	2 601	2 635	67,6
	65+	542	14,7	605	613	632	634	654	662	17,0
	total	3 868	x	3 880	3 873	3 872	3 855	3 848	3 900	x
	Ageing index	78	x	93	96	102	104	110	110	x
<b>region</b>	0-14	7 724	18,2	6 695	6 447	6 214	6 083	5 976	6 086	14,3
	15-64	29 621	69,7	30 229	30 254	30 292	30 259	30 188	30 474	71,7
	65+	5 131	12,1	5 432	5 516	5 550	5 630	5 726	5 907	13,9
	total	42 476	x	42 356	42 217	42 056	41 972	41 890	42 467	x
	Ageing index	66	x	81	86	89	93	96	97	x
<b>SR</b>	0-14	1 006 970	18,7	870 622	851 044	836 069	831 320	830 457	832 572	15,4
	15-64	3 759 296	69,9	3 883 376	3 903 172	3 921 880	3 928 471	3 932 092	3 881 088	71,8
	65+	612 685	11,4	639 639	646 782	654 305	665 134	672 724	690 662	12,8
	Ageing index	61	x	73	76	78	80	81	83	x

**A 3: Households by persons in the different cadastres in 2001 and 2011**

municipalities	2001								
	Number of persons by household						total	1-person	2-person
	1	2	3	4	5	6+			
Čierny Balog	483	389	361	370	148	75	1826	26,5	47,8
Detva	2612	1551	1087	1103	239	78	6670	39,2	62,4
Dúbravy	299	131	47	49	14	3	543	55,1	79,2
Hriňová	1361	810	518	545	222	73	3529	38,6	61,5
Hrochoť	140	131	112	109	27	10	529	26,5	51,2
Hronec	194	118	65	93	18	11	499	38,9	62,5
Lubietová	217	124	52	57	23	2	475	45,7	71,8
Očová	567	339	162	188	16	6	1278	44,4	70,9
Osrblie	79	46	23	24	10	1	183	43,2	68,3
Poniky	153	153	106	116	48	10	586	26,1	52,2
Povrazník	15	11	4	13	8	1	52	28,8	50,0
Sihla	54	22	4	16	9	0	105	51,4	72,4
Strelníky	98	79	53	67	22	3	322	30,4	55,0
Valaská	466	486	276	260	74	29	1591	29,3	59,8
<b>Region</b>	6738	4390	2870	3010	878	302	18188	<b>37,0</b>	<b>61,2</b>
<b>region (%)</b>	<b>37,0</b>	<b>24,1</b>	<b>15,8</b>	<b>16,5</b>	<b>4,8</b>	<b>1,7</b>			

municipalities	2011								
	Number of persons by household						total	1-person	2-person
	1	2	3	4	5	6+			
Čierny Balog	1233	567	293	285	76	73	2527	48,8	71,2
Detva	2960	1845	1006	906	213	89	7019	42,2	68,5
Dúbravy	332	137	37	38	12	2	558	59,5	84,1
Hriňová	1188	765	469	486	169	127	3204	37,1	61,0
Hrochoť	181	139	100	117	32	13	582	31,1	55,0
Hronec	278	163	61	65	12	12	591	47,0	74,6
Lubietová	126	104	72	83	23	13	421	29,9	54,6
Očová	460	312	194	155	38	20	1179	39,0	65,5
Osrblie	76	36	27	25	8	2	174	43,7	64,4
Poniky	240	162	106	111	39	11	669	35,9	60,1
Povrazník	20	12	8	11	6	2	59	33,9	54,2
Sihla	47	17	14	11	6	1	96	49,0	66,7
Strelníky	215	80	46	49	10	2	402	53,5	73,4
Valaská	869	479	217	219	52	31	1867	46,5	72,2
<b>Region</b>	8225	4818	2650	2561	696	398	19348	<b>42,5</b>	<b>67,4</b>
<b>region (%)</b>	<b>42,5</b>	<b>24,9</b>	<b>13,7</b>	<b>13,2</b>	<b>3,6</b>	<b>2,1</b>			

**4: Employment by sector in the different cadastres in 2001 and 2011**

		<b>2001</b>									
	<b>primary</b>	<b>secondary</b>	<b>tertiary</b>	<b>without stating sector</b>	<b>total economically active</b>	<b>primary (%)</b>	<b>secondary (%)</b>	<b>tertiary (%)</b>	<b>without stating sector (%)</b>	<b>total population</b>	<b>EAP (%)</b>
Čierny Balog	459	778	766	561	2564	17,9	30,3	29,9	21,9	5067	50,6
Detva	209	2700	3011	2121	8041	2,6	33,6	37,4	26,4	15122	53,2
Dúbravy	88	194	117	76	475	18,5	40,8	24,6	16,0	986	48,2
Hriňová	322	1392	1186	1273	4173	7,7	33,4	28,4	30,5	8289	50,3
Hrochoť	113	211	274	142	740	15,3	28,5	37,0	19,2	1374	53,9
Hronec	56	208	161	94	519	10,8	40,1	31,0	18,1	1157	44,9
Lubietová	37	179	158	122	496	7,5	36,1	31,9	24,6	984	50,4
Očová	208	312	558	204	1282	16,2	24,3	43,5	15,9	2602	49,3
Osrblie	21	93	68	20	202	10,4	46,0	33,7	9,9	393	51,4
Poniky	130	202	279	164	775	16,8	26,1	36,0	21,2	1551	50,0
Povrazník	14	26	15	16	71	19,7	36,6	21,1	22,5	147	48,3
Sihla	56	16	29	9	110	50,9	14,5	26,4	8,2	219	50,2
Strelníky	84	159	131	39	413	20,3	38,5	31,7	9,4	812	50,9
Valaská	61	744	674	376	1855	3,3	40,1	36,3	20,3	3862	48,0
<b>region</b>	<b>1858</b>	<b>7214</b>	<b>7427</b>	<b>5217</b>	<b>21716</b>	<b>8,6</b>	<b>33,2</b>	<b>34,2</b>	<b>24,0</b>	<b>42565</b>	<b>51,0</b>

		<b>2011</b>									
	<b>primary sector</b>	<b>secondary sector</b>	<b>tertiary sector</b>	<b>without stating sector</b>	<b>total economically active</b>	<b>primary (%)</b>	<b>secondary (%)</b>	<b>tertiary (%)</b>	<b>without stating sector (%)</b>	<b>total population</b>	<b>EAP (%)</b>
Čierny Balog	382	920	1084	198	2584	14,8	35,6	42,0	7,7	5234	49,4
Detva	343	2668	3618	647	7276	4,7	36,7	54,6	8,9	15062	48,3
Dúbravy	50	177	182	50	459	10,9	38,6	44,5	10,9	947	48,5
Hriňová	320	1361	1799	358	3838	8,3	35,5	51,7	9,3	7802	49,2
Hrochoť	75	225	399	72	771	9,7	29,2	57,1	9,3	1502	51,3
Hronec	32	228	219	49	528	6,1	43,2	45,7	9,3	1217	43,4
Lubietová	37	200	294	27	558	6,6	35,8	55,4	4,8	1089	51,2
Očová	131	347	716	72	1266	10,3	27,4	60,0	5,7	2611	48,5
Osrblie	19	82	78	9	188	10,1	43,6	43,6	4,8	380	49,5
Poniky	69	278	433	48	828	8,3	33,6	55,5	5,8	1591	52,0
Povrazník	21	22	29	2	74	28,4	29,7	40,3	2,7	149	49,7
Sihla	30	27	36	7	100	30,0	27,0	38,7	7,0	204	49,0
Strelníky	56	144	175	16	391	14,3	36,8	46,7	4,1	779	50,2
Valaská	64	728	853	165	1810	3,5	40,2	51,9	9,1	3900	46,4
<b>region</b>	<b>1629</b>	<b>7407</b>	<b>9915</b>	<b>1720</b>	<b>20671</b>	<b>7,9</b>	<b>35,8</b>	<b>52,3</b>	<b>8,3</b>	<b>42467</b>	<b>48,7</b>



## LOCAL DATA – (= settlements within PLA Pol'ana)

**A 5:** Settlements within Pol'ana I.: Total inhabitants, economically active and houses permanently inhabited

Settlement	population	economically active	permanently occup. houses
Iviny 1970	340	161	80
Iviny 1980	254	132	73
Iviny 1991	177	74	60
Iviny 2001	132	52	50
Iviny 2011	106	44	37
Snohy 1970	241	82	53
Snohy 1980	169	67	46
Snohy 1991	131	47	36
Snohy 2001	107	37	34
Snohy 2011	77	33	32
Vrchslatina 1970	167	65	35
Vrchslatina 1980	114	45	32
Vrchslatina 1991	60	30	25
Vrchslatina 2001	42	19	16
Vrchslatina 2011	37	11	14

**A 6:** Settlements within Pol'ana II.: Male/female ratio; age structure and number of people working outside

Settlement year	sex M /W	age structure 0-14/15-59/60+	working outside
Iviny 1980	133/121	41/147/66	128
<i>in %</i>	<b>52/48</b>	<b>16,1/57,9/26,0</b>	
Iviny 1991	87/90	35/86/56	54
<i>in %</i>	<b>49/51</b>	<b>19,8/48,6/31,6</b>	
Iviny 2001	65/67	11/73/48	29
<i>in %</i>	<b>49/51</b>	<b>8,3/55,3/36,4</b>	
Iviny 2011	54/52	5/69/32	18
<i>in %</i>	<b>51/49</b>	<b>4,7/65,1/30,2</b>	
Snohy 1980	89/80	28/119/22	10
<i>in %</i>	<b>53/47</b>	<b>16,6/70,4/13,0</b>	
Snohy 1991	74/57	26/61/44	14
<i>in %</i>	<b>56/44</b>	<b>19,8/46,6/33,6</b>	
Snohy 2001	54/53	12/56/39	1
<i>in %</i>	<b>51/49</b>	<b>11,2/52,3/36,4</b>	
Snohy 2011	41/36	5/48/24	3
<i>in %</i>	<b>53/47</b>	<b>6,5/62,3/31,2</b>	
Vrchslatina 1980	73/41	19/72/23	32
<i>in %</i>	<b>63/37</b>	<b>16,5/62,6/20</b>	
Vrchslatina 1991	33/27	2/35/23	11
<i>in %</i>	<b>55/45</b>	<b>3,3/58,3/38,3</b>	
Vrchslatina 2001	21/21	1/21/20	19
<i>in %</i>	<b>50/50</b>	<b>2,4/50/47,6</b>	
Vrchslatina 2011	20/17	4/21/12	4
<i>in %</i>	<b>54/46</b>	<b>10,8/56,8/32,4</b>	

**A 7:** Settlements within Poľana III: Number of recreational cottages in 1991 (data for 2011 not available)

<b>Settlement</b>	<b>number</b>
Iviny	10
Snohy	16
Vrchslatina	6

**A 8:** Settlements within Poľana IV: Ratio between economic active and inactive population inside villages in 2011

<b>Settlement</b>	<b>number</b>
Iviny	44 / 62
Snohy	33 / 44
Vrchslatina	11 / 26



