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THREATS AND VALUES IN THE AREA OF SILESIAN VOIVODESHIP

Pełka-Gościniak J. **Zagrożenia i walory na obszarze województwa śląskiego**. Województwo śląskie jest jednym z najmniejszych w Polsce, ale należy do regionów o największej antropopresji. Obszar ten jest bogaty w surowce mineralne, których wydobycie i przetwarzanie spowodowało z jednej strony intensywne uprzemysłowienie i urbanizację tego regionu, a z drugiej strony silne przekształcenie środowiska naturalnego. Dlatego województwo utożsamiane jest głównie z jego centralną częścią, postrzeganą jako obszar klęski ekologicznej. W ostatnich latach, ze względu na restrukturyzację przemysłu i znaczne ograniczenie zagrożeń dla środowiska, obraz województwa śląskiego zmienia się. Tereny o dobrze przeprowadzonej rekultywacji, ciekawe zabytki dawnej techniki w połączeniu z wysokimi wartościami przyrodniczymi i krajobrazowymi, dużą lesistością oraz licznymi obszarami chronionymi sprawiają, że województwo śląskie staje się bardzo ciekawym i atrakcyjnym miejscem dla rozwoju turystyki i rekreacji.

Пэлка-Госьциняк Й. **Природные ресурсы и риски Силезского воеводства.** Силезское воеводство в Польше является одним из самых малых по площади, но относится к регионам с наибольшим антропогенным воздействием. Район богат минеральными ресурсами, добыча и переработка которых привела, с одной стороны, к интенсивной индустриализации и урбанизации в регионе, а с другой – вызывала сильное преобразование окружающей среды. Поэтому воеводство в основном отождествляется с его центральной частью, воспринимаемой как область экологического бедствия. В последние годы, в связи с реструктуризацией промышленности, отмечается значительное снижение вредного воздействия на окружающую среду, меняется образ всего Силезского региона. Территории с хорошо проведенной рекультивацией, интересные памятники истории техники, в сочетании с высокой природной и ландшафтной привлекательностью, значительной лесистостью и многочисленными охраняемыми территориями, формируют новый образ Силезского региона, который становится интересным и привлекательным местом для туризма и отдыха.

Key words: Silesian Voivodeship, threats, values
Słowa kluczowe: województwo śląskie, zagrożenia, walory
Ключевые слова: Силезское воеводство, угрозы, достопримечательности

Abstract

The Silesian Voivodeship is one of the smallest in Poland but it belongs to regions of the largest human impact. It is rich of mineral resources, which exploitation and processing caused on the one hand the intensive industrialisation and urbanisation of this region and on the other hand the strong transformation of the natural environment. Therefore the voivodeship is mainly identified with its central part known as the area of ecological disaster. But in the last years owing to industry-restructuring and limitation of threats to the environment the perception of the Silesian Voivodeship changes. Examples of well-organized nature restoring and interesting monuments of old technique in connection with high natural and landscape values, large forest density and the presence of numerous protected areas make that the Silesian Voivodeship becomes a very interesting and attractive place for the development of tourism and recreation.

INTRODUCTION

The Silesian Voivodeship is located in southern Poland and is one of the smallest in the country (12 333 sq. km) with population of about 4,6 million people (*Rocznik statystyczny...*, 2013). Owing to long-lasting period of mineral resources mining and industry development its central part is known as an area of ecological disaster. Some people still consider that this catastrophic picture refers to the whole voivodeship. So, the paper focuses on presentation of threats and values in the study area on the base of analysis of topographic maps and source materials.

STUDY AREA

The Silesian Voivodeship is very diversified. Apart from terrains with well-developed industry, there are also agricultural lands, forest areas as well as the si-

gnificant natural and landscape places of interest, enabling the growth of various forms of tourism. This terrain lies in area of mountains, foothills, uplands and lowlands, therefore the geographical environment is here very varied in respect of geology, geomorphology as well as climate, hydrology and soil cover. In physicogeographical division made by KONDRACKI (2002) this area was numbered among some larges provinces – the majority of area investigated belongs to Silesian-Cracow Upland (SCU) and Little Polish Upland (LPU), southern part to Carpathian Mts. (Western External Carpathians – WEC) and Northern Subcarpathians (NS). The smallest western part of the area belongs to Middle Polish Lowland (MPL) (fig. 1B). The Silesian Voivodsh shows complex geology and diversified relief. The northern part has monoclinal geological structure, so relief typical for it is cuesta. It is built of mainly carbonate rocks – limestones, dolomites, so the predominant role in formation of relief had karst processes. Karst processes together with erosional and denudational processes caused the formation of slightly waved areas with karst sinkholes and holes and limestone rocks (photo 1). The central part of the Silesian Voivodeship is a tectonic horst built of the Carboniferous black coal bearing rocks. It was transformed by human activity, so there is possible to observe the most degraded areas in the whole voivodeship (e.g. DULIAS, 1999). The southern part is characterised by different type of relief – mountainous with elements typical for medium mountains of fold structure (photo 2). The most characteristic relief feature is here the dependence of landforms on rock resistance and tectonics and the most important contemporary process is here sliding and fluvial activity.

Significant part of the area investigated has traces of glacial and glacifluvial relief. There are old disturbed frontal moraines as well as kames of Oder glaciation, sanders and basal tills. There are also very interesting landforms connected with glacial plucking activity – roche moutonnées. In the majority of the voivodeship occur erratics. In mountains and uplands there are also effects of fluvial processes: valleys of different types, terraces, water gaps and falls. In depressions between cuestas and basins developed aeolian relief with typical parabolic dunes and cover sands.

THREATS

The Silesian Voivodeship is rich of numerous natural resources, among others black coal, zinc and lead ores, methane, sand, dolomite, limestone, healing, exploitation and processing of natural resources

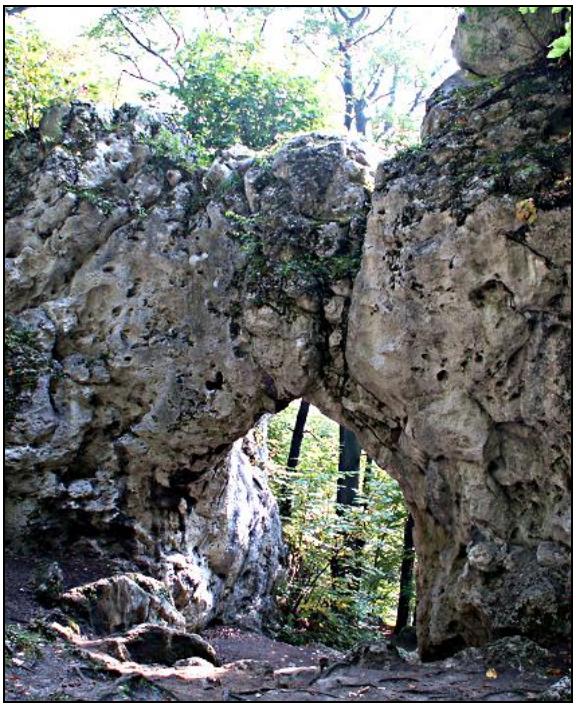

Photo 1. Limestone rocks near Złoty Potok (phot. by J. Pełka-Gościniak)
Fot. 1. Skałki wapienne w pobliżu Złotego Potoku (fot. J. Pełka-Gościniak)

Photo 2. Beskidy Mts. (phot. by J. Pełka-Gościniak)
Fot. 2. Beskidy (fot. J. Pełka-Gościniak)

caused on the one hand the intensive industrialisation (with plants of fuel-energy power, metallurgical, machine and electrical engineering industries) and urbanisation of this region (DULIAS, HIBSZER, 2004; TKOCZ, 2008). On the other hand it caused the strong transformation of the natural environment. Among many changes in the environment, the transformation of relief seems to be the most visible (SZYPUŁA, 2011, 2014). Although the number of anthropogenic landforms slightly decreased, they still make very important morphological accent in the landscape of the voivodeship.

Presently the black coal mining and iron and steel metallurgy are subject of restructuring processes.

The transformation in the mining consists not only in the decrease in the employment and the improvement of effectiveness, but also in the basic changes in the ownership form and management structure. The restructuring processes in the metallurgy resulted in almost entire privatisation of this branch. It is also noticeable that the position of the electrical engineering, information technology, power engineering industry is increasing. The automotive and food industry are also growing (www.slaskie.pl).

In the last years in the Silesian Voivodeship much has been done within the range of the environment and nature protection: limiting the atmospheric pollution, limiting so-called "low emission", the application of better quality fuels, liquidation of the industry pollution "at its source" ("pure production" technology implementing), soil protection, successive limitation of the ground surface pollution, degraded land restoring, non-agricultural land foresting, executing the land reclamation works within the range of flood consequences and works over the flood protection, work execution under the so-called small retention (water resources management through drainage areas), building new sections of sewage collectors and buiding new and modernizing waste-water treatment plants, succesive recycling of packages and managing other industrial and municipal waste under the Regional Waste System, introducing fees for using the environment end penalties for its contamination, integrating the heat-generating system as wel as the works over the renewable energy sources and alternative sources, noise levelling for the inhabitants and natural environment, arranging the town building structure and restoring the monuments, participating in the EU "Natura 2000" program (www.slaskie.pl).

Despite such activities and achievements threats still exist. The largest ecological problems are as follows: surface waters pollution, amount of produced municipal sewage and industrial wastes, wild landfill sites and dust and gas emission as well. Another problems are numerous degraded and devastated areas of mining tips located in the strict neighbourhood of housing estates.

VALUES

Owing to industrialisation and urbanisation the Silesian Voivodeship is perceived as unattractive in respect of nature. Meanwhile, the below-mentioned facts contradict this statement. The Silesian Voivodeship is characterised by high afforestation rate which amounts to 31,8% (average for Poland is 29,3%). There are many objects of animated nature protection here: 8 landscape parks, 64 nature reserves (mainly forest) and 15 ecological lands (photo 3), nature monuments, documentation sites and natural-landscape complexes (fig. 1A). Owing to a large landscape variety in the Silesian Voivodeship there are also many interesting objects of inanimate nature. Some of them are protected by means of different legal forms (fig. 1B). Many objects are proposed to European Network of Geosites (PEŁKA-GOŚCINIAK, 2010). Diversified relief promotes the development of tourism and recreation.

Photo 3. Ecological land Pogoria II (phot. by J. Pełka-Gościniak)
Fot. 3. Użytek ekologiczny Pogoria II (fot. J. Pełka-Gościniak)

The mountain ranges of the Carpathian Mts. (WEC) as well as the areas of Silesian-Cracow Upland (SCU) are excellent places for active tourism. The Beskidy Mts. are ideal for skiing because of more than one hundred ski slopes (the majority of them is artificially snowed and lighted) and over 150 ski lifts (e.g. Szyndzielnia in Bielsko-Biała, Skrzyczne in Szczyrk, Czantoria in Ustroń). The ideal conditions for skiing are also in Wisła, Brenna, Istebna and Korbielów. The Beskidy Mts. are also an ideal place for walking and cycling. They posses health resorts with numerous spas, providing curative and leisure facilities, which are located among others on the slopes of Równica Mt. in Ustroń. (www.slaskie.pl).

In the northern part of the voivodeship, in Cracow-Częstochowa Upland, where the diversified limestone relief exists, there are excellent conditions for walking and scrambling. This part of the voivodeship is ideal for para- and hang-gliding. It is possible to organize here survival schools, horse-riding, track car drives, rock climbing.

The anthropogenic relief is still visible in the landscape of central part of the voivodeship, but people seem to notice the positive aspects of these specific landforms. Paradoxally, postindustrial terrains seem to be very valuable for investors because they are usually well located and improved (www.slaskie.pl).

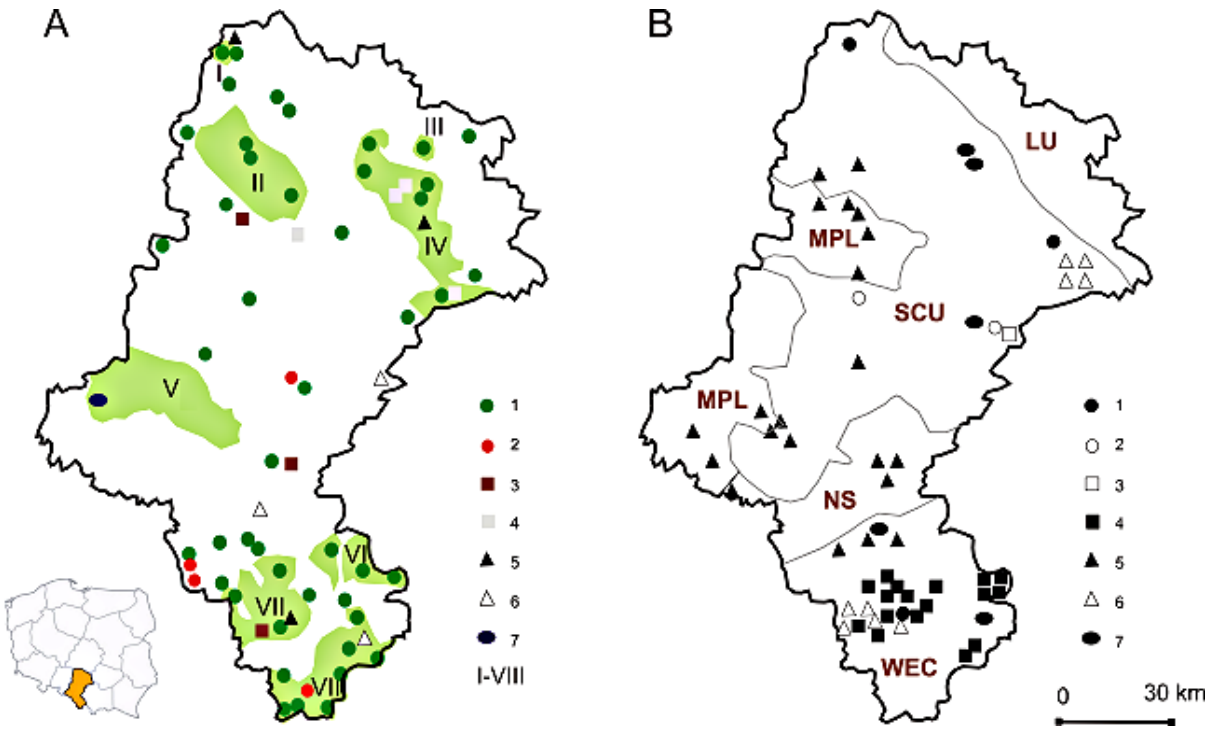

Fig. 1. A: Nature reserves and landacape parks in the area of the Silesian Voivodeship (after DULIAS, HIBSZER, 2004, changed and completed):
1 – forest, 2 – floristic, 3 – faunistic, 4 – landscape, 5 – inanimate nature, 6 – peatbog, 7 – water, I–VIII – landscape parks;
B: forms of inanimate nature protection in the area of Silesian Voivodeship (after BULA, WIELAND, 2000):
1 – inanimate nature reserves, 2 – documentation sites, 3 – ecological lands, 4 – monuments – landslide caves, 5 – monuments – Scandinavian erratics, 6 – monuments – natural rocky outcrops, 7 – other monuments of inanimate nature (karst spring, waterfall, karst caves, roche moutonnée)

Rys. 1. A: Rezerwaty przyrody i parki krajobrazowe na obszarze województwa śląskiego (wg: DULIAS, HIBSZER, 2004, zmienione i uzupełnione):
1 – leśny, 2 – florystyczny, 3 – faunistyczny, 4 – krajobrazowy, 5 – przyrody nieożywionej, 6 – torfowiskowy, 7 – wodny, I–VIII – parki krajobrazowe;
B: formy ochrony przyrody nieożywionej na obszarze województwa śląskiego (wg: BULA, WIELAND, 2000):
1 – rezerwaty przyrody nieożywionej, 2 – stanowiska dokumentacyjne, 3 – użytki ekologiczne, 4 – pomniki przyrody – jaskinie osuwiskowe, 5 – pomniki – głazy narzutowe, 6 – pomniki – naturalne odsłonięcia skalne, 7 – inne pomniki przyrody nieożywionej (wywierzyska, wodospady, jaskinie krasowe, mutony)

Well-organised human activities as well as self-restoring cause the formation of attractive space for rest and recreation (MYGA-PIĄTEK, NITA, 2006, 2008; PEŁKA-GOŚCINIAK, 2006, 2011; DULIAS, 2010). Processes of water direction of reclamation and self-restoring are considered to be very advantageous for the natural environment because aquatic, wetland and peatland vegetation developing at artificial habitats do not differ in its composition and character from analogous occurring in natural ones (e.g. CZYLOK, RAHMONOV, 1998). Thanks to well organised improvement activities the landscape has the chance to regain its primary function. It also appears that even anthropogenic landforms can be legally protected (MOLENDA, 2013).

Long-lasting period of industry development caused that in the Silesian Voivodeship there are also rare and unique monuments of old technique. To these, which are worth seeing belong as follows: the Historical Silver-Mine and the Black Trout Adit in Tarnowskie Góry, the "Queen Louise" Heritage Park in Zabrze, the Brewery Museum in Tychy, the Museum of Matches in Częstochowa, the Museum of Textile Industry in Bielsko-Biała and the Central Museum of Fire-Fighting in Mysłowice (NITKIEWICZ-JANKOWSKA, 2006; LAMPARSKA, 2013).

CONCLUSIONS

In the last years owing to well-done processes of industry-restructuring and limitation in the threats to the environment the perception of the Silesian Voivodeship changes. Examples of well-organized nature restoring and interesting monuments of old technique in connection with high natural and landscape values, large forest density and the presence of nu-

merous protected areas make that the Silesian Voivodeship becomes a very interesting and attractive place for the development of tourism and recreation.

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