

Location of the Dark-Sky park



The Poloniny Dark-Sky Park is located on the territory of the Poloniny National Park, which has exceptionally low density of habitation. As it is also the less frequently visited national park in Slovakia, the human influence to its environment is minimal. The Park rests on the borders with Poland and Ukraine. There are two neighbouring parks: the Bieszczadzki National Park in Poland and the Uzhans'kij National Natural Park in Ukraine. Concerning the light pollution, the Poloniny National Park is the darkest area in Slovakia. The natural night darkness and the night biorhythms of all the living species are not disturbed. Thanks to this, there is an exceptionally high concentration of endemic and endangered species of plants and animals.

The 49th parallel passes through the Park. The view point and the information board describing the Poloniny Dark-Sky Park is located near the Starina reservoir.



- Borders of the Poloniny Dark-Sky Park
- Territory of the Poloniny National Park
- The protection zone of the Poloniny National Park
- Cadastral territories of villages inside the Poloniny National Park and its protection zone.
- Borders of the cadastral territories of villages outside the Poloniny National Park and its protection zone.
- National borderline
- Settlements
- Water reservoir



Background © 2010 Google



Poloniny Dark-Sky Park Slovakia

The role of the Poloniny Dark-Sky Park

The role of the Poloniny Dark-Sky Park is to **inform** the laymen and the professional community of exceptional night preservation environment in the territory, **educate** in protection issues night-time environment and light pollution, promote and **protect** the natural dark night sky, which is the basis of protecting the natural environment from light pollution.

Declaration

The Poloniny Dark-Sky Park was officially proclaimed on the occasion of the International Year of Biodiversity on December 3rd, 2010 based on the Memorandum of the following partnership organisations:

- Astronomical Institute, Slovak Academy of Sciences
- Slovak Union of Amateur Astronomers
- Poloniny National Park
- Faculty of Sciences, Pavol Jozef Šafárik University in Košice
- Slovak Astronomical Society
- Vihorlat Observatory Humenné



Protect / Promote / Educate

poloniny.svetelnezncistenie.sk



Light pollution is light with undesired effects scattered in the atmosphere. It is human-made light, artificially added to the night countryside. It is light not shining where we need it – on the road – but on the clouds, stars, on the forest and into the windows of people, who need to rest during the night.

The **human body** is adapted to the regular 24-hour rhythm, which is synchronized by virtue of the hormone **melatonin**. It is produced only in darkness; otherwise its production is disrupted. This may lead to sleep disorders, fatigue, fretfulness, headache, etc. The hormone melatonin acts preventively against oncological diseases, obesity, diabetes and gallstone formation, it decelerates the process of aging. The occurrence of the hormone melatonin has also been demonstrated in animals and even in plants. They also have the circadian rhythm encoded in their genes.

Daylight **animals and plants** suffer from the lack of darkness like humans. On the other hand, nocturnal animals are dependent on darkness (livelihood, migration, reproduction). Light pollution disrupts whole ecosystems and disrupts the links in them.

The Poloniny Dark-Sky Park (48 519 ha) is demarcated by Poloniny National Park (29 805 ha), its protection zone (10 973 ha) and a select area in the cadastral territory of the villages of Kolonica, Ladomirov, Klenová, Kalná Roztoka and Ruská Volová (7 740 ha).

The park is **Slovakia's darkest site**, where the night sky is preserved in its natural appearance. There are only a few such sites in the civilised world. The average sky brightness* in the park is 21,5 mag/arcsec². Depending on place and atmospheric conditions, it varies between 21.3 and 21.7 mag/arcsec². The appearance of the sky corresponds to degree 2 or 3 on the Bortle Dark-Sky Scale. All the objects and phenomena typical for a natural sky are visible in good weather, such as zodiacal light**, zodiacal band and counter glow). The naked-eye limiting magnitude is usually 7.4 mag.

* measured with the Unihedron Sky Quality Meter.

** depicted in the photograph, as crosses the Milky Way at upper right, near the horizon.

Poloniny National Park is the easternmost Slovak national park with vast indigenous fir and beech forests and the primeval forests Stužica, Rožok and Havešová, which have been enlisted in the **UNESCO's World Heritage List** since 2007. There have been sites of European importance NATURA 2000 in the park since 2004. The park is part of the **International Biosphere Reservation the East Carpathians** declared by UNESCO in 1998, the only one in the world which contains the joined territories of three countries (213 211 ha).

Wooden temples (tserkov) of the Byzantine Rite – **national cultural monuments** – are part of the protected area. The oldest are from the 17th century. Some of them still hold Divine Liturgy to this day.

The highest hill Kremeneč (1208 m) is the **easternmost point of Slovakia**, where the borders of Ukraine, Poland and Slovakia have their common point.



What we really do not have to do

1. Do not shine to the other piece of land and areas, as for instance, to the neighbouring yards, gardens!
2. Do not shine into the forest, on the slope above your village, into the windows of houses, only on the pavement, road or other such area!
3. Do not shine into the eyes of pedestrians, drivers, employees and guests!
4. Do not shine where it is not really necessary! Do not shine unnecessarily strongly!
5. Never shine above the horizon or simply into the air!

What is the benefit?

1. We will save energy on unnecessary lighting, thus lowering the burden on your budget and the environmental.
2. By reducing the glare, street traffic becomes safer.
3. Tranquil sleep for people, less disturbed biorhythms of nocturnal animals.
4. Thanks to functional and regulated lightening, our towns and villages will be safer and will look more interesting and attractive.
5. The sky will be again dark and full of stars.

Astronomical observatory at the Kolonica saddle

is situated on the territory of the Poloniny Dark-Sky Park between Kolonica and Ladomirov villages. It is a branch of the Vihorlat Observatory Humenné. The main instrument is VNT – the Vihorlat National Telescope with the primary mirror of 1 m in diameter. The quality of the night sky predestines this observatory for mining of quality scientific data as well as for dissemination actions and the development of astro-tourism.

There are accommodation opportunities on the premises of the observatory and a planetarium, built in the frame of the project "Carpathian Sky – development of tourist products based on astronomy in the area of the Polish-Slovak border"

Some „Mosts“ in Slovakia:

- the largest complex of primeval forests,
- the easternmost point in Slovakia,
- the greatest number of national cultural monuments of all national parks in Slovakia – the wooden temples,
- the biggest water reservoir for drinking water in Central Europe – Starina (60 million m³ of water),
- the highest frequency of big forest animals (gray wolves, brown bears, European Bisons, wild cats, Eurasian lynxes),
- the highest-placed military cemetery of the First World War on the Hodošik mountain (851 m),
- part of the only UNESCO reservation in the world (1998) made up by the joined territories of three countries (213 211 ha).