

Protection of the Bulgarka Natural Park against safety risks (Gabrovo, Bulgaria)

The Bulgarka Natural Park in Bulgaria is protected under NATURA 2000. The possible threats for the natural value of this area include safety risks like forest fires and land slides. In the NATURA 2000 management plan the possibilities for spatial mitigation measures for these risks will be considered.

Typology of Bulgarka

Bulgaria is a relatively small country, but is rich in biological diversity due to its highly varied climatic, geologic, topographic and hydrologic conditions. Bulgaria's biota consists of 94 species of mammals, 416 birds, 36 reptiles, 207 species of fish, 16 amphibians, about 27,000 insects and other invertebrates, above 3,500 species of vascular plants and more than 6,500 non-vascular plants and fungi while only about 50% of Bulgaria's biota is well studied.

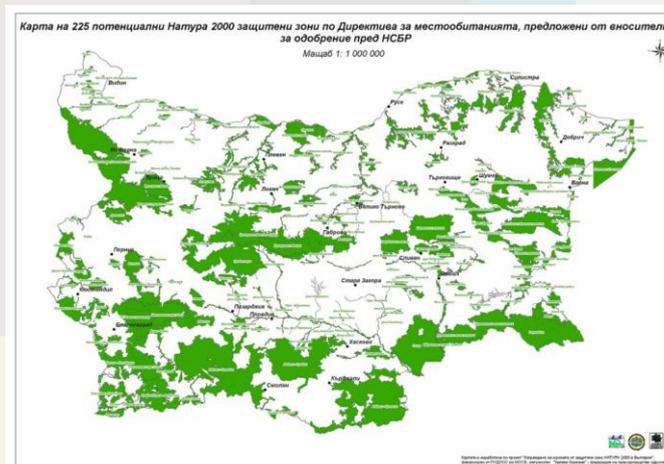
Bulgaria operates a network of protected natural areas, which cover 5 percent of the country and combines areas with different types of protection regimes:

- strict reserves
- maintained reserves

- national parks (3)
- nature Parks (11)
- natural monuments (352)
- protected habitats (402).

The Bulgarka Natural Park is one of these protected areas, located on the northern slopes of the Balkan Mountains, occupying 22,000 hectares of territory in central and eastern part of Stara Planina between the cities of Gabrovo and Kazanluk. The whole territory of the park is protected under NATURA 2000.

80,2% of the total area is covered with forests and more precisely beech forests – about 60%. The risk of forest fires and of land slides are the most outstanding, but also other risks like floods and droughts may threaten the protected area and species.



Risk assessment

In order to be able to make a risk assessment terrain researches, mapping and evaluation of the habitats' condition have being carried out. 19 habitats were identified. 4 of them are priority habitats according to Directive 92/43/EEC. In order to get insight in the vulnerabilities the habi-

tats of rare species have been mapped with GPS coordinates.

Landslides turned out to be one of most destructive risks in the Park. Erosion is identified as a key problem. The slopes of a specific hill used as a stone-pit were found to be very erosive. As a result the flora on them have been devastated. The landslide also filled up a lake in its foothills. It threatens 6 protected flora species and 4 fauna species protected by different regimes.

Objectives of the project

To protect Bulgarka against the identified risks (mainly the land slide and erosion risk), the project “Restoration of habitats and bio-diversity on the territory of Bulgarka Natural Park” was developed and implemented. This project is financed under the Environment Operative Programme.

The general objectives of the project where:

- To achieve compliance with all relevant European Union legislation and directives, including the EU Directive 92/43 on the conservation of natural habitats and of wild fauna and flora and the EU Directive 79/409 on the conservation of wild birds.
- To identify, map, evaluate and assign protection of species and habitats in Nature Park “Bulgarka” against different risks like fires, landslides, floods, droughts, etc.
- To restrict the active erosion processes in the



Nature park and their destructive power over the flora and fauna species.

- To provide information to citizens and encourage them to protect the environment.

Innovative techniques

The project envisages the strengthening of the sliding slopes by means of new building techniques, which will help for the biological recultivation of the hills:

- For the most steep parts - three-dimensional polymer geo-net and reinforced structures of wire-net . The nets are green in colour in order to prevent the seeds from the sun-heat
- For less steep parts - terraces with stone thresholds
- For the hill base – stone masonry – 1 metre higher than the level of the terrain and 50-70 sm thick. It will be filled up with wire-cages full of stones.
- Geodesic monitoring shall be done periodically for maintaining good condition of the landslide.
- Hydro sowing seeds shall be used for the biological recultivation of the slope and the rest of the terrain will be prepared for growing new vegetation.

Management plan

A plan for the management of the protected zone has been developed by World Wild Fund in cooperation with the local management team of Natural Park “Bulgarka”. The whole process took about 3 years from the proposal for the approval

of the protected area by the European Commission till the definitive management plan.

In order to gain support from the local inhabitants the management plan and its measures for the protected zone have been discussed in 4 public meetings.



The new methods for protection of habitats on the territory of the park have come into force with the approval of the management plan in October 2010.

Education on forest fires

Educational and informational programmes and campaigns were started for the surrounding inhabitants and visitors to the park, to teach them which the protected species are and how to protect forests against fires. The activities included thematic campaigns, publishing of information materials (books, posters, stickers, brochures, etc.) and specific methods for providing information for people of different ages (children, elderly).

Lessons learnt

EPF has learned some valuable lessons:

- Insight in risks begins with a thorough risk identification. Extensive research and risk mapping with GSP coordinates is needed to be able to comprehend the full extent of the threats to the protected area.
- For NATURA 2000 an all hazard approach is as important as for urban areas. Threats to protected nature areas are not only posed by human activity, but also by natural hazards like forest fires, land slides, floods and droughts.

- The protection against safety risks may sometimes conflict with traditional natural conservation. The conservation might for example call for an undisturbed life cycle of the forest, while forest fire prevention

might involve the cutting of dead trees, removal of dead branches or even creation of bare areas as a 'stopping line' for forest fires. Close cooperation between natural conservators and emergency services is very important for mutual understanding about these potential 'conflicts of interest'.

- The actual operations of emergency services during an incident, like a forest fire, might inflict substantial damage to the protected area in a short period of time. Fire trucks and fire fighters might for example crush endangered flora and fauna. Close cooperation with the emergency services and specific preparation (like guidelines or practices) for operations in protected areas might reduce this additional risk.
- Risk awareness of inhabitants and visitors is a very important way of protection. Education and information, but also public participation in the policy process of creating a management plan and enforcing mitigation measures, can largely contribute to mutual understanding.
- Active participation of environmental NGOs in the whole process of acknowledging the protected zone turned out to be of key importance for acceptance of the work done in the protected zone.



The MiSRaR project

The MiSRaR project is about Mitigation of Spatial Relevant Risks in European Regions and Towns.

The project is a cooperation between seven partners in six EU member states:

- *the Safety Region South-Holland South, The Netherlands (lead partner)*
- *the city of Tallinn, Estonia*
- *the region of Epirus, Greece*
- *the province of Forlì-Cesena, Italy*
- *the municipality of Aveiro, Portugal*
- *the municipality of Mirandela, Portugal*
- *the Euro Perspectives Foundation (EPF), Bulgaria.*

The goal of the project is to exchange knowledge and experiences on risk mitigation in spatial policies. The project will result in a handbook in which the lessons on the mitigation process are described and the good practices from the partners are presented. The Risk Assessment and Mapping Guidelines for Disaster Management of the European Commission will be implemented in the handbook.

The MiSRaR project is cofinanced by the European Regional Development Fund and made possible by the INTERREG IVC programme.

www.misrar.eu

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