

The benefits of the past projects aiming on conservation and the habitats' management in the Iron Gate Natural Park, for 10 years of existence

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Abstract

The Iron Gate Natural Park includes the most important and unique gorge of the Danube Basin, together with the southern slopes of the Banat Mountains (from west to east: Locvei, Almajului, Mehedinti Mountains). The research and the steps to proclaim this area, with remarkable value for Europe, as a natural protected area have started at the end of the seventh decade of the past century, simultaneous with the creation of the big Iron Gate Dam. Science studies, carried out between 1970 and 1997, pointed out quantitative and qualitative changes that the hydro electrical system and others activities in the area have influenced the natural ecosystems and human communities. They also substantiated the setting up in 1998 of the Iron Gate Natural Park.

This paper tries to evaluate the power of these transdisciplinary or interdisciplinary projects for conservation or/and management of the habitats in ten years (1998 – 2008) and the benefits in the amelioration or improvement of the quality for ecosystems with a high degree of naturalness and for human communities as well.

Keywords

Iron Gate Natural Park, ecosystems, local communities, benefits, projects

Aims

The study tries to analyze the progresses of the protection and conservation strategies upon natural and human ecosystems in the Iron Gate Natural Park since 1989 in order to maximize its sustainable development in the context of global changes.

It is an emergent product of a new project, named « The interaction of the climate variability, structural configuration changes, pollution and their impact upon the functional and support capacity in the Lower Danube Sector» which started in 2009 and lasts till 2012 involving all faculties and research centres of the Bucharest University whose results are planned to be used both in researching-teaching process and as a database for the sustainable local community's management of the Danube River resources.

The area of study corresponds to the Iron Gate Natural Park (Modova Noua-Drobeta Turnu Severin Sector) which conserves a unique landscape nucleated on the left bank of Danube Gorge, covering an area of 115 655 ha which represents 9.3% in whole Romania protected area. As the most important gorge of the Danube Basin it gathers over 4000 plants and 5300 animals species (14 species being endemics) adapted on several diverse biotopes offered by compact rocks limestones, magmatic intrusions, marls in Locvei (735m), Almajului Mountains (1226 m) Mehedinti Mountains and Plateau in alternation with sands, clays in lower depressions (MATEI, 2004), soils, subtropical climate influences, associated to some intense biogeographic processes (migration, speciation, vicariation), (MANEA, 2003).

Objectives

The analysis of the database concerning science activities for conservation and protection awareness of local communities; the identifying through investigations of the success and gaps in the established targets at the beginning of setting up of this protected area and the identification of some opportunities to maximize the natural and cultural values of the park.

Methods

field observations, interviews, GAP analysis.

The interview was semi structured, applied to local communities and authorities, on ten subjects. The GAP method was very useful because it allowed evaluating the efficiency of conservation programs through the comparison of the priorities of biodiversity conservation with proposed and established protected areas. Even though this method was informal used to the initiation of a new protected area it identifies gaps or the degree of fulfilment of the specific objectives for protection. GAP analyse includes 6 direction (sequences) of implementation, but for this study the most important was the third sequence: the protected area is verified in order to determine what is protected and what is not and the degree of coverage. In fact, the study identified gaps of the objectives' fulfilment in their complexity: protection and preserving, economical and social management.

Results and discussions

There were identified benefits for natural ecosystems and human communities in the Iron Gate Natural Park and some unfulfilments or constraints were met in this area as well.

Benefits for habitats and biocenoses are classified in two categories: indirect and direct benefits.

The indirect benefits are hinted by actions focused on protection and preservation launched consequently with the setting of the area as V category (IUCN) such as:

1. The setting up of the managing board composed by specialists, of the advisory council which includes 54 institutions from the two counties and a scientific council made of 13 scientists or academicians;
2. The management plan of the IGNP;
3. The impelling of scientifically research about habitats management (*Life Nature LIFE00/NAT/RO/007171* Iron Gate Natural Park – *CCMESI-University of Bucharest* in order to rise the local communities awareness for endanger species :*Vipera ammodytes ammodytes*, *Testudo hermanni hermanni*, *Egretta garzetta*, *Ciconia nigra*, *Phalacrocorax pygmaeus*, *Falco naumanni*; three PhD thesis);
4. Closing of several economical activities with a strong negative impact upon natural ecosystems and human health state (copper and coal mines);
5. Inventory and GIS mapping of stones quarries and banning of new ones to avoid overexploitation and habitats breaking up;
6. Park zoning (strictly preservation– 18 scientific reserves, buffer, recreational and rural development);
7. Creation of a very dynamic centre for captive breeding of Herman tortoise (*Testudo hermanni boettger*) in Eselnita;
8. Environment education: *Tulipa hungarica* Celebration on 6-7 April;
9. Unifying the effort of protection and environmental education on both banks of Danube River- a partnership with Djerdap NP from Serbia;
10. Establishment of five information centres;
11. Consulting and approval of any building or activity by the park managing board.

Direct benefits summarise all countable progresses in natural habitats or biocenoses. As positive feedback of 10 years of protection they were identified next benefits:

1. Reconstruction trends of natural habitats for those animals or plants species spoiled by mining, overgrazing, poaching, speculative and informal commerce of endangered organisms;
2. Minimizing the endemic fauna or plants species extinction belonging of the IGNP bio complexes (fig.1) or those threatened by human activities;
3. Restocking of Hermann tortoise and Ammodytes viper populations;
4. Enlarging the area for several species with limited spreading in Romania using water surface of the reservoir (*Ciconia nigra*, *Egretta garzetta*, *Nycticorax nycticorax*, *Phalacrocorax pygmaeus*, wild ducks, swans etc.).

It is also decent to underline the positive impacts upon human communities in the two towns and 15 villages of the park. The interviews applied on 10 people aged over 14 reflect perception about brought benefits in the analysed period.

All respondents recognised an increasing in tourists' number especially after 2007. Rural communities appreciated the opportunities for agro-tourism and rural tourism and stimulation of multicultural values. In the last 10 years 26 boarding houses were built, all of them being classified and having specific leisure facilities. Local communities were trained to develop art craft souvenirs and to respect the environment.

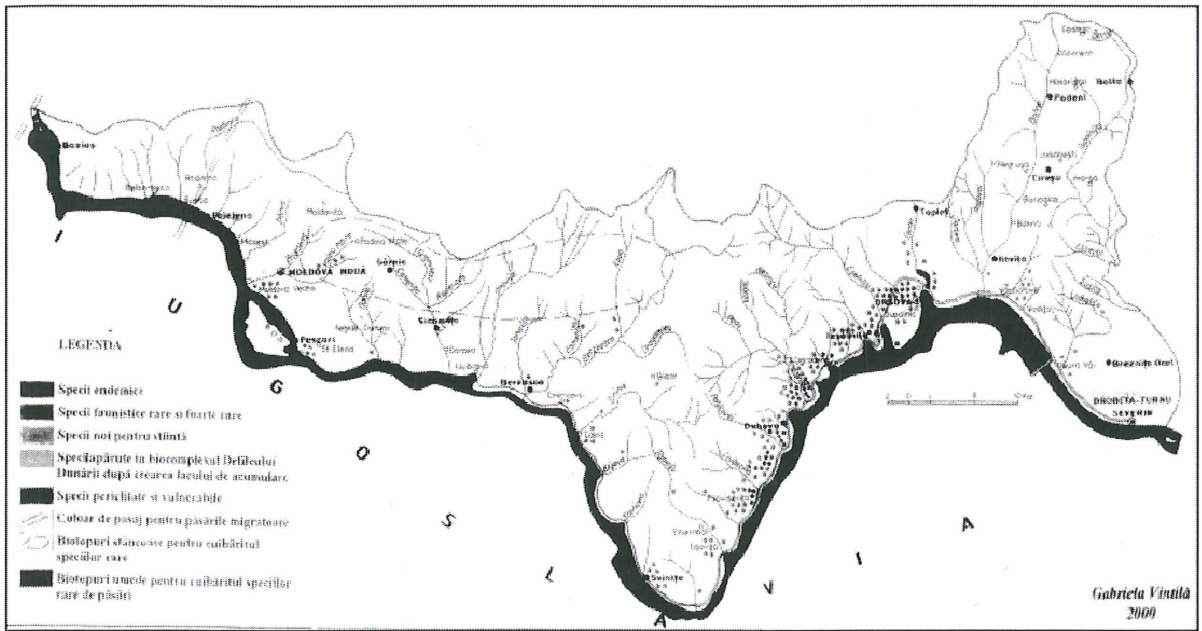


Figure 1: Fauna species as biodiversity tracers in the Iron Gate Natural Park

As the initial target was protection of 349 fauna species and 117 plants species, threatened by extinction due to impact of flooding by the Iron Gate Lake formation, the largest reservoir dam built ever in Romania or mining activities, land use and deforestation, several regulations were approved: Law no 5/2000 concerning the approval of the National Spatial planning, Section III-protected areas and the Environmental Ministry (MAPPN) Act, no. 84/1998. Despite all completions and success there were identified some unfulfillments, pressures and constraints.

A main topic recognized both by local authorities and communities is the bureaucracy which delays the administration as a formal body and hence the repercussions in monitoring and penalisation of informal fishing or hunting episodes. It is also well-known the disjunction between some articles of the Environment Law and Public Administration Act. Before European adhesion the insufficient funds were reinterred, because only 0.2% of GDP was directed toward the environment at all.

Another problem is the continuous demand for second home residence, even the approval of them is closed and specific urban facilities are limited (tap water, sewage system etc.). The poorness in domestic waste disposal management determines the cleaning activities done by the park employees. At last but not least, the spreading and increasing of rabbits (*Oryctolagus cuniculus*) of homeless dogs, horses on the Modova Veche Island-2000 Nature site-compromise the quality of this wet habitat, meanwhile the biologist position dissapeard due to the lack of financial subsidiaries.

In conclusion, after ten years of existence the park can't self sustain and needs access to structural funds, needs a new vision in organizing tourist's entrance, develop ecotourism (CEBALLOS-LASCURAIN, 1996), booking and fees payment system, diversifying of tourist accommodation and leisure facilities on water sports, green promotion and stimulation of suitable alternative sources of energy. Probably, these and other studies could lead local authorities in collaboration with scientists to develop and to influence a large participation in protection and at least in students' minds they remain as a part for environmental education.

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