INTERNAL ZONATION: A DELICATE ISSUE - THE CASE OF NERA GORGES - BEUȘNIȚA NATIONAL PARK (S-W ROMANIA)

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Abstract. *We present considerations about zoning protected areas and the zonation algorithm of the Nera Gorges – Beușnița, a remarkable national park in S-W Romania. Functional zones of national parks in Romania are established by the Government Emergency Ordinance no. 57/2007 adopted by the Law no. 49/2011. Incidentally, no juridical text gives indications about how to proceed to delimit internal zoning of protected areas, nor an envoi to technical guides or scientific references. Based on field research carried on during the period 2012-2015, we delimit the habitats for high conservative important species (large carnivores, bats, birds of prey). Another criteria we considered are the existent nature reserves within the national park (Nera Gorges - Beușnița, Ciclova Valley - Ilidia, Ducin, Șușara Gorges, Bigăr Spring, and Lisovacea) and the necessity to ensure corridors and connectedness with two neighbouring protected areas: the Semenic – Caraș Gorges National Park, at North, and the Iron Gates Natural Park, at South. Overlapping different thematic maps, we obtained a first variant of the internal functional zonation. Giving the fact that the Nera Gorges – Beușnița National Park (NG-BNP) is also a Site of Community Importance (with minor differences in their limits), the proposed functional zonation was submit to a public consultation in May 2015, an opportunity for the National Forestry Régie - Romsilva employees in territory to express their opposition; some representatives of local communities disagreed with the internal zonation, invocating vague development projects which could be blocked by the existence of functional zones within the national park. Taking into consideration some interests of local economic agents, we slightly reduced the extent of the integrally protected zone (the second in terms of restrictions imposed to human activities, behind the strictly protected zone) and accordingly increased the area of the sustainable management zone; the sustainable development zone of human activities is limited to human facilities already implanted within the national park. Finally, we proposed a concentric zonation, with a central strictly protected zone (10.97% of the national park total area), a surrounding integrally protected zone (44.58% of the national park total area), embedding all nature reserves excepting Nera Gorges - Beușnița which is included in the strictly protected zone, a sustainable management zone and sustainable development zone of human activities. At this moment, the Administration of the National Park itself blocks the approbation of the management plan (including zonation) by the Environment, Waters and Forest Ministry, on the pretext of its supposed inapplicability due mainly to lack of Natura 2000 or other similar type of subsidies, its capacity to generate conflicts with forest users, and some minor form defaults. Public consultations and subsequent appeals of the proposed management plan revealed deficiencies of Romanian legislation, bareness of technical national guides for nature conservation, poor awareness of local representatives about the potential of the national park for local sustainable development, and finally and unfortunately, the heaviness of short term economic arguments compared to ecological ones.*

Key words: *Nera Gorges – Beușnița, national park, management plan, conflicts, public acceptance*

INTRODUCTION

Zoning as a tool in nature conservation is mainly used in two situations:

a) To screen a huge area (country, region, marine area) in order to establish protected areas. This large-scale approach is often based of various soft's use, such as Marxam (e.g. DELAVENNE *et al*., 2012; LEHTMÄKI & MOILANEN, 2013; WU *et al*., 2014), or

Zonation (DI MININ, 2014); computational methods of spatial conservation prioritization (SCP) have been the object of strong methodological development, and could be used as decisional tool in green infrastructure design (SNÄLL *et al*., 2016).

b) To prioritise the zones within a given protected area (to establish the internal zonation of protected areas). Each zone (or compartment) of a protected area is associated with a management activities regime. View as a main tool in nature conservation, the zonation should be reviewed periodically, then is a part of flexible management; one can define zones on seasonal basis (ALEXANDER, 2013). Maintain large, compact zones (at patch scale) are more suitable, in order to reduce the edge effect (FREEMARK, 2002).

The criteria in setting internal zones of protected areas are the conservation value of abiotic landscape features and biotic components, their ecological significance, and it gives the map of priorities in term of management needs (ANGULO *et al*., 2013). Dividing a protected area into zones is a multi-criteria-based approach, in which ecosystems are considered to be spatial units, together with species habitats and habitats *sensu* Natura 2000, in conjunction with measuring anthropogenic interventions and the needs (current and prospective) for resources of human communities. The relevance of criteria to the management of national parks is variable, and it goes from the scale of individual's behaviour, population dynamics and communities structure (MAY, 1994). The zonation quantitative methods involve habitat and landscape metrics (e.g. MCGARRIGAL *et al*., 2002) and biological metrics.

As in many other ecological applications, the issue of scale cannot be overlooked when considering zoning of protected areas (SABATINI *et al*., 2007). So, internal zoning of national parks differs (as types of areas and criteria) from country to country.

In Romania, zonation of national and natural parks is regulated by Government Emergency Ordinance (GEO) no. 57/2007, approved by Law no. 49/2011; under this law, a national park can be divided into the following zones:

- *strictly protected zone*, with genuine ecosystems (all human activities are forbidden, except research, education, and eco-tourism);
- *integrally protection zone* (traditional activities as extensive pastoralism permitted; interventions on forests allowed only in exceptional situations);
- *sustainable conservation zone* (a transition zone from the strictly and integrally protected zones to the area with all human activities permitted);
- *sustainable development zone of human activities* (human activities permitted).

The core areas of a national park are to be included within the strictly or integrally protection zones. The law stipulates primarily the types of activities allowed, focusing on management / exploitation of forests, making no reference to any methodology for delimitation of these areas. National EPA (Environmental Protection Agency) implemented the program Sincron[1] (*Integrated management and awareness system in Romania of NATURA 2000*), which resulted in a guide for drawing up management plans to facilitate reporting and integration at national and European levels, but it contains, as far as zoning is concerned, a reference to GEO no. 57/2007. As it follows, those who draw up management plans of national and natural parks are free to put large areas under a strict protection plan; lack of guides that contain zoning algorithms (for example) or other provisions (such as the requirement that all nature reserves to be included in the strictly protected zone), the vague definition of degrees of human impact depending on which natural and national parks are zonated, make the scientific arguments be

[1] www.anpm.ro/ro/proiect-sincron/ accessed on January 30th, 2016.

left without a legal support in balance with economic arguments.

In many cases, in order to avoid conflicts with investors and communities, national parks managers prefer a minimal zoning, developing *strictly protected zones* and *integrally protected zones* only over previously existing natural reserves, before the parks were built, or over special conservation areas established in 2003 through an order of the Ministry of Environment (Ministerial Ordinance no. 552/2003) called *special conservation zones*, representing former natural reserves, but frequently having reviewed surfaces, smaller than that ones.

These considerations are taken into account especially in the context of growing pressure to exploit natural resources and some features of nature conservation in Romania, highlighted by several authors:

- the specific biodiversity of semi-natural grasslands in hill and mountain areas of Romanian Carpathians is exceptional (e.g. AKEROYD & PAGE, 2001; BAUR *et al*., 2007 in COGĂLNICEANU & COGĂLNICEANU, 2010);
- in Romania, there still are large areas of virgin or little touched forests, compared to other European Union countries (BIRIȘ & VEEN, 2005, in COGĂLNICEANU & COGĂLNICEANU, 2010 etc.);
- „*The first difficulty* (to the nature conservation in Romania, our note) *is the absence of ecological education among common people. The second one is the unsympathetic feelings of many economists, businessmen and office holders about the needs of genuine nature. The third one is the fact that there are many older people within Nature Monuments Protection Committee of Romania that do not clearly understand the significance of biodiversity conservation*. " (SORAN *et al*., 2000);
- „*…protected areas in Romania are still regarded as a peripheral issue and insignificant to the sustainable development of the nation*." (IORAS, 2003);
- "*…the efficacy of Romania's Protected Areas network seems to have decreased following the creation of the Natura 2000 sites*." (IOJĂ *et al*., 2010);
- „*The effectiveness of Romania's protected area network in terms of its ability to safeguard biodiversity is therefore most likely decreasing*." (KNORN *et al*., 2012);
- „*…the payment of agricultural subsidies to farmers after the accession of Romania to the European Union has resulted in the increase of livestock grazing in the alpine areas*." (PROMBERGER & PROMBERGER, 2015);
- „*…without improvements in governance, the future of Romania's old-growth forests and the important ecosystem services they provide remains uncertain*." (Knorn *et al*., 2012 in KŘENOVÁ & KINDLMANN, 2015);

Romania does not provide Natura 2000 subsidies up to date; farmers with surfaces in the Nera Gorges – Beușnița National Park (NG-BNP), or in any protected area, may apply for Agro-environmental Schemes subsidies within the frame of the National Rural Development Programme.

The study area

The Nera Gorges – Beușnita National Park is located in south-western Romania, in Caraș-Severin County, and extends over Anina Mountains (approx. 80% of the park surface) and over Locvei Mountains (approx. 20% of the park surface). The two mountains are bounded by the Nera River, which crosses the middle of the park from east to west. The park area is approx. 37 100 ha, of which forest cover ratio is approximate 4/5, of which about 90% is owned by the Romanian state; forests, including small private areas, are Administrated by the

National Forestry Régie - Romsilva, a structure which is the main stakeholder. The national park altitudes vary between 90 m and 1.160 m. An important part of the area is largely karstic, with a high concentration of caves near the rivers Nera and Miniș. Nera River canyon has a length of 22 km inside the park, and is one of the most spectacular canyons in Romania. Miniș and Șușara rivers flow through portions of gorges. Waterfalls Beușnița, Bigăr and Șușara are areas frequented by tourists. Descriptions of the biotic and abiotic background were made by: PAȘCOVSCHI (1956 - biogeographic considerations), Borza (1958), Nicolin & Imbrea (2009), ARDELEAN *et al*. (2015), SCHRÖTT & PURDELA (1993), etc. - flora and vegetation, BOTOȘĂNEANU & NEGREA (1969 - karst, zoology), PRUNAR *et al*. (2013) - invertebrates. Flora and negetation in Nera Gorges - Beușnița nature reserve are the subject of a Phd. thesis (SCHRÖTT, 1972). Pollution problems for river Nera mainly were indicated by BOTHAR (1982).

The NG-BNP was established in 1990, but did not have its own administration until 2004. Prior to 1990, in this area there were several nature reserves:

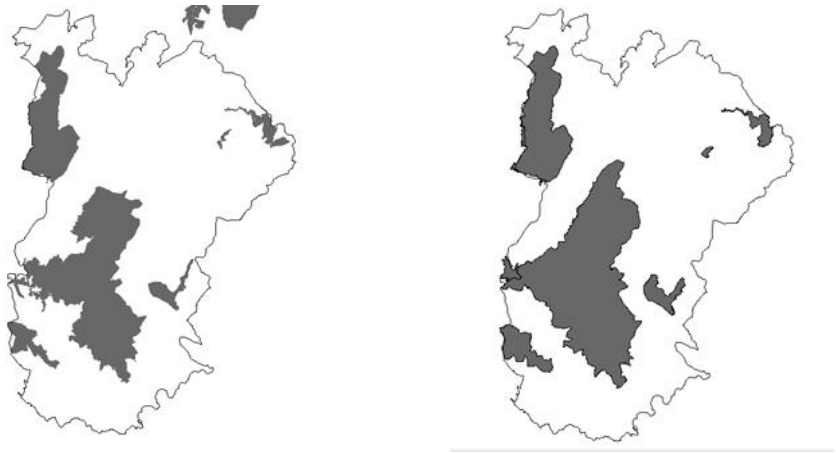
- Nera Gorges - Beușnița (WDPA[2] ID 14573),
- Ciclova Valley - Ilidia (WDPA ID 183538),
- Bigăr Spring (WDPA ID 183540),
- Lisovacea (WDPA ID 183541),
- Șușara Gorges (WDPA ID 183539),
- Ducin (WDPA ID 183542).

The position of these nature reserves zones in the national park is shown in fig. 1. MĂNTOIU *et al.* (2016) considers that, in Romania, areas designated in 2003 under the Ministerial Ordinance no. 552/2003 are Park Core Areas (PCAs) and are special conservation zones: "*The wilderness concept can be best linked to the Romanian legislation as a "wild area". The National and Nature Parks Law, 49/2011, defines it as a site that has not been affected by human intervention or the level of any such intervention is deemed insignificant. The act also states that the wild areas must be afforded the highest protection status available that benefits from no human intervention. However, the term only applies within the limits of existing national or nature parks, and refers to their internal zoning, which translates into special zones for conservation, or park core areas (PCA).*"

That understanding eludes several aspects:

- The definition from Law 49/2011 takes no referral to "Wild areas" but to strictly protected zones (Art. 22 (2));
- Ministerial Order 552/2003, in which special conservation zones are delimited, has the transient nature of a law, underlined in Article 3 (1), which applies, as far as zoning is concerned, up until the approval of management plans;
- the criterion of anthropogenic non-intervention in these special conservation zones, when they overlap natural reserves as it frequently happens, can create contradictory situations, if taken into account the fact that natural reserves are defined in Law 49/2011 as protected areas of IV IUCN category, i.e. protected areas managed mainly conservation by management interventions, while national parks are defined as category II IUCN protected areas. Only the scientific reserves (*rezervații științifice*, in Romanian) included by the same Law 49/2011 in I IUCN category, have a management regime that approaches them to the "Wild areas".

[2] World Database of Protected Areas – at: http://www.protectedplanet.net, accessed on April 30th, 2016.



a b

Fig. 1. Nera Gorges – Beușnița National Park: special conservation zones (8,075.1 ha), according to Ministerial Ordinance no. 552/2003 (a), and natural reserves areas (b), according to INSPIRE[3] proposal (9,630.7 ha).

With the accession of Romania to the European Union (2007), Natura 2000 network was established, so that the area of the national park was included almost entirely in Community Importance Site Nera Gorges - Beușnița (ROSCI0031 - 37 719 ha) and Special Protection Area Nera Gorges - Beușnița (ROSPA0020 - 40 422 ha). The Administration of these two Natura 2000 sites, including their surfaces not included in the national park, was entrusted to the Administration of Nera Gorges - Beușnița National Park. The Administration has legal personality under the name *National Forestry Régie ROMSILVA – Administration of Nera Gorges - Beuşniţa National Park - Autonomous Administration* and manages the national park and the two homonymous Natura 2000 sites under a management contract signed with The National Forestry Régie Romsilva, which was entrusted, in turn, by the Ministry of Environment, with the administration of most national and natural parks in Romania. The first contracts of this type were signed in 2004 and renewed in 2014. The Administration takes the important decisions based on the advice of the Scientific Council of NG-BNP (consisting of personalities appointed by the Ministry of the Environment), with regular consultation of the Consultative Council of the park (consisting of representatives of institutions and communities from the park areas and vicinities).

The area of the national park was part of the industrial zone Reșița, the oldest centre of metallurgy (iron and steel) on the current territory of Romania. Originally based on wood (charcoal), metallurgy developed in Ciclova, where the first furnaces (smelters) were built in 1718. The town of Anina arises out of the settlement by people from Styria, at Steierdorf, in 1773 in order to produce charcoal for the Oravița copper smelter. In 1790, coal was discovered near Anina. Coal extraction began in 1803. In the period before World War I and during the 1920s, on the current territory of the national park several narrow-gauge railway were built to transport wood and coal south of Anina, near Pleșiva Peak, but they were used only for a short period of time (HILLINGER *et al.*, 2001). Traces of this transport network are visible in Miniș River valley in the north of the national park; the Mayor of Anina intends to rehabilitate a segment of this line for touristic purposes.

[3] http://www.mmediu.ro/app/webroot/uploads/files/2016_02_26_Limitele_ariilor_naturale_protejate.rar

Although the first management plan for the national park was to be established, according to the first management contract, until 2006, this has become the main objective of an European-funded project (within the frame Sectoral Operational Programme - Environment), which started in 2012 and is going to end in 2016. The project team consists of experts from Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I", Timisoara, as well as independent experts. NG-BNP Administration was a partner in this project.

MATERIAL AND METHODS

Although Romanian law strictly defines the types of national parks and natural zones (internal zoning of Natura 2000 sites is neither mandatory nor defined), it makes no reference to the ways in which this zonation can be done. Also in Romania there are no methodological guidelines regarding such zoning approach.

From a logical standpoint, the general approach of a zoning should include the following steps (SNÄLL *et al*., 2016):

- engagement of stakeholders;
- data collection;
- target setting;
- analysis;
- implementation of management activities.

Effectively speaking, the zonation integrates ecological researches, stakeholders` proposals, and is validated by public consultation. Involving local communities, stakeholders and the public is essential. Although Habitats Directive does not state any obligation or procedure for (public) participation in the establishment of the Natura 2000 network or the development of management measures for the Natura 2000 sites (e.g. BOUWMA *et al*., 2010), the democratic principle of public consultation is applied differently in EU countries. As far as national parks (and other types of protected IUCN areas) are concerned, establishing constructive relationship with stakeholders, the stakeholders engagement in implementing activities and management, obtaining public support for protection (even in the case of areas with severe restrictions to public access) is a basic principle (DUDLEY, 2008). The process of decision making in natural resources management should be structured, in order to ensure transparency and legacy (CONROY & PETERSON, 2013). In Romania, any project or plan is subject, by law, to the procedure for obtaining an environmental approval from county or national EPAs.

In delimitating the NG-BNP internal zones, the team of experts took into account the following principles, criteria and recommendations:

- International Union for Conservation of Nature (IUCN) recommendations on the management of protected areas in accordance with their respective categories (DUDLEY, 2008). One of the main recommendations is to achieve the primary / main conservation objective on at least 75% of the surface of the protected area;
- Zoning first targeted natural and semi-natural ecosystems, habitats of species, species and habitats Natura 2000, but also the landscape and cultural-historical values;
- Internal zoning proposal presented in Minute no. 2886/20.VII.1990 on the establishment of Nera Gorges - Beuşniţa National Park, within the legally established frame by the Order of the Ministry of Water, Forests and Environment no. 7/1990, between ICAS (Institute of Research in Forestry) Bucharest and IDJ (Inspectorate for Forestry) in Caraş-Severin County. Under this protocol, the surface of the NG-BNP

was divide into z*one I*, which includes all the reserves, and the *buffer zones*, divided into *buffer zone I* and *buffer zone II*;

- Collating and comparing of all inventory and mapping data for species and habitats, obtained from field studies;
- Delimitation of a central zone and concentric zoning to ensure effective conservation of habitats, wild and almost virgin areas, a tranquil area for wild animals with large habitats;
- Taking into consideration the special conservation zones, previously established by legislation and documents, and including them in the strictly protecting zone, possibly into the integrally protected zone;
- Eliminating / reducing fragmentation of elementary animal species habitats. Taking into consideration ecological requirements of animal species: feeding areas, nesting areas that have been undisturbed;
- Including the main karst systems, the perimeters of hydro-geological protection of the 8310* habitat *(Caves not open to the public* - containing important populations of bats and many invertebrate species that have been little studied so far) into the strictly protected zone and / or integrally protected zone;
- Continuation of traditional activities of exploitation of natural resources on which the existence of local communities depends;
- The recommendations and examples of good practice contained in the Natura 2000 documents and guides[4];
- Establishing uniform management units, without islands, enclaves or small bands. Such enclaves in which habitats / ecosystems are, at present, in a state of conservation worse than their surrounding area, are considered areas where relevant enforcement measures for ecological restoration can be applied;
- Ensuring of physical connectivity (contiguity) (e.g. FREEMARK *et al.*, 2002) and functional connectivity, given the position of the park between two protected areas: Semenic – Caraș Gorges National Park and the Iron Gates Natural Park;
- Prevention of anthropogenic disturbance of internal corridors for fauna species that insure a connectivity between the NG-BNP and the Semenic – Caraș Gorges National Park, respectively the Iron Gates Natural Park;
- The precautionary principle: avoidance of planning actions that can lead to irreversible or difficult to be repaired damage to the natural heritage.

Zoning algorithm was as follows:

1. The categorization of zones - four, in the case of the national parks, under the GEO no. 57/2007. The need to establish a strictly protection zone was also proven by the request of the Ministry of Environment, Waters and Forests to ensure strict protection to the sites that will candidate for UNESCO (part of beech forests in the park have been proposed on January 30, 2015, to be included in the world heritage, through the project Extension to the Joint World Heritage Property "Primeval beech forests of the Carpathians (Slovak Republic and Ukraine) and the Ancient Beech forests of Germany (Germany)"[5];
2. Establishing a general concentric framework with an approximate centre in the

[4] http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm accessed on January 30th, 2016.
[5] http://whc.unesco.org/en/tentativelists/6023/ accessed on April 30th, 2016.

median area of the national park;

3. Taking the decision to include Nera Gorges – Beușnița - the only reservation and special central conservation area of the park - in the strictly protected zone; this also meets the criteria of an area with little human perturbations and rather old forests;
4. The adjustment of the limits of strictly protected zone, considering:
    a. Over-lapping the maps for the distribution of species, mainly those for mammals, including bats and birds – current habitats and potential habitats of species; easy to fix limits: roads, peaks, valleys;
    b. Ensuring a band of integral protection zones around strictly protected zones (the principle of concentricity) having the dimensions of at least one parcel of land;
5. All other natural reserves, with the exception of Nera Gorges - Beușnița have been included in the integral protection zone;
6. Delimitation of the Sustainable Development Areas of human activities: living zones, main constructions, zones with high human intervention;
7. Delimitation of a sustainable conservation zone at the end of the integral protection zone, considering:
    a. The current distribution and the surfaces of potential habitats of the species, mainly of mammals of conservation importance;
    b. The density of the road network;
8. The local communities and stakeholders' demands for development, submitted during the elaboration of the plan and during public consultations phases, have been taken into consideration through the delimitation of Sustainable Development Zone for Human Activities (SDZHA). Given the distributions of the habitats of species, requests for extending the sustainable conservation zone (SCZ) against the integrally protected zone (IPZ) were not taken into consideration because they were made on the basis of some vague development projects, poorly documented yet.

Management plan proposal, and by default zoning proposal, passed through several stages of consultation with stakeholders and representatives of state institutions, as follows:

- a preliminary presentation of the management plan with the Scientific Council of the NG-BNP - October, 2014;
- submitting the proposed plan to public consultation on the project web-site - April 2015;
- discussing relevant enforcement measures for habitats (forests mainly) and the internal zonation map of the park at Caraș - Severin Romsilva headquarters - May 2015;
- consulting with representatives of local communities, NGOs, and other stakeholders at Oravița City Hall - May 2015;
- submitting the proposal for a management plan and the rules and regulations to the Scientific Council of the National Park in order to be approved; the plan proposal was endorsed in September 2015;
- submitting proposed management plan approved by the Scientific Council of the National Park, to the Caraș-Severin County Environmental Protection Agency (September 2015) to be subject of the SEA (Strategic Environmental Assessment) procedure which involved the organization of a new public consultation. The SEA procedure has lasted up until December 2015, with two public consultations within it;

- submitting proposed management plan to Biodiversity Office in the Ministry of Environment, Waters and Forests (December 2015) to be subject to an intra-Ministerial approval (by the major departments of the Ministry of Environment, Waters and Forests), to an inter-Ministerial approval (by the Ministries of Agriculture and Rural Development, Culture and Regional Development) as well as to a new session of public consultations (by publishing the proposed management plan and the regulation on the website of the Ministry of Environment, Waters and Forests). Preliminary to the promotion of the management plan by order of the Minister of Environment, a letter of commitment was requested from the Administration of the park, its purpose being of ensuring the sustainability of the plan (such letters were requested from all administrators and custodians of protected areas who have developed management plans within projects with European funding).

After each stage of discussions and public consultations, the proposals, observations and recommendations were analysed by the team of experts or strictly by the concerned experts. They have made changes in the management plan and in the rules and regulations based only on those observations considered relevant. Many such proposals have been made only for the purposes of future development of economic activities without social or economic-financial arguments.

RESULTS AND DISCUTIONS

Field investigations conducted by experts have broadly confirmed the presence in the national park of habitats and species previously reported in the standard form of the site[6]. Thus, they identified 8 priority habitats (40A0*, 6110*, 6210*, 6240*, 7220*, 8160*, 9180*, 91E0*, according to the codes Natura 2000) and 15 other habitats (3220, 3260, 5130, 6430, 6190, 8210, 8310, 9110, 9130, 9150, 91K0, 91L0, 91M0, 91V0, 91Y0); an example of how to study habitats is presented by Nicolin *et al*. (2014). Among invertebrate species listed in Annex II to Directive 92/43/EEC, there were found in the park: *Austropotamobius torrentium, Callimorpha quadripunctaria, Carabus variolosus, Cordulegaster heros, Euphydryas maturna, Morimus funereus, Nymphalis vaualbum, Osmoderma eremita, Pholidoptera transsylvanica, Rosalia alpina, Unio crassus*. Under the category of amphibians of conservative importance, populations of *Bombina variegata* were found in the park.

In the rivers from the park (mainly Nera, Miniş, Bei and Beuşniţa) populations of many fish species of community conservative importance were identified: *Aspius aspius, Barbus meridionalis, Cobitis elongata, Cottus gobio, Eudontomyzon danfordi, Gobio albipinnatus, Gobio kessleri, Rhodeus sericeus amarus, Sabanejewia aurata* and *Zinger strebel*. Ornithological research undertaken in the national park and in close vicinity areas included in the special protection area led to the identification of numerous species of birds, of which 30 are listed in Annex I of Directive 79/409 EEC: *Alcedo atthis, Aquila chrysaetos, A. pomarina, Bubo bubo, Caprimulgus europaeus, Ciconia nigra, Circaetus gallicus, Circus aeruginosus, C. cyaneus, C. pygargus, Coracias garrulus, Crex crex, Dendrocopos leucotos, D. major, D. medius, D. syriacus, Dryocopus martius, Emberiza hortulana, E. melanocephala, Falco peregrinus, F. vespertinus, Ficedula albicollis, Hieraetus pennatus, Jynx torquilla, Lanius collurio, Lullula arborea, Pernis apivorus, Picus canus, Strix uralensis, Sylvia nisoria*. Of all communitary importance mammal species, during 2012-2015 working seasons, there

[6] http://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=ROSCI0031 accessed on April 3rd, 2016.

have been identified in the park: *Canis lupus, Ursus arctos, Lynx lynx, Felis sylvestris, Lutra lutra* and species of bat: *Barbastella barbastellus, Miniopterus schreibersii, Myotis bechsteinii, M. blythii M. capaccinii, M. dasycneme, M. emarginatus, M. myotis, Rhinolophus blasii, R. euryale, R. ferrumequinum, R. hipposideros, R. mehelyi*.

For each habitat and each of the above species, distribution maps were made inside the park. For the species of bats, some circular feeding areas were figured, with the respective colonies in the centre. By putting together data from forest settings, a map resulted with the age of the forests, in three age groups: 0-30 years, 31-89 years and over 90 years. Areas of old forests, with low interference, as well as selectively exploited forest areas, which still have many old trees, are important for bat species (e.g. *Barbastella barbastellus* - RUSSO *et al*., 2013).

Superposition of these maps and corroborating them with the impacts map, resulted in a raw form of zoning (fig. 2). In this version, all natural reserves, old forests, areas of connectivity between reserves were included in the strict protection area and the integral protection area. It was also taken into account the connectivity with neighbouring protected areas: Semenic – Caraș Gorges National Park, at North, respectively Iron Gates Natural Park, at South. This first zoning proposal was subject to discussion with stakeholders since April 2015 continuing throughout the year (fig. 2). After each stage, the management plan was reviewed by the team of experts, by operating those changes required that were considered possible and appropriate. Even if, based on the data and maps compiled for each group of species, habitats respectively, in the first draft version of the management plan prior to public consultation SPZ and IPZ represented about 70% of the national park, due to the attitude of key stakeholders, the team reduced the surfaces of these two areas as much as it was considered possible, reaching approx. 57-55% of the total (tab. 1). By stage SEA, some written objections to zoning (mainly) and to other sections of the management plan were submitted: the NG-BNP Administration, Anina Town Hall, Caraș-Severin Forestry Department (the structure through which National Forestry Régie - Romsilva is represented at county level), Anina, Oraviţa, Sasca Montană and Bozovici FMUs (management subunits of Forestry Department, *ocoale silvice*, in Romanian), Banat Water Basin Administration (subunit of "Romanian Waters" National Administration), WWF-Danube-Carpathians Programme (DCPO) - Romanian Office, Sport Hunting and Fishing Association "Codrenii Văii Caraşului".

During the talks, it has emerged some poor understanding shown by some representatives of local communities towards the impact of management actions and management plan on their future activities, fear of potential further problems, leading to behaviours rejecting some measures or the plan in general. Failure to pay subsidies for landowners in protected areas, especially to the owners / managers of forests have made it difficult to accept the request of the management plan.

Table 1. Evolution of internal zonation of NG-BNP (May 2015-April 2016).

	% of total National Park area at:			
Internal zone	May 2015*	September 2015**	December 2015***	April 2016****
Strictly protected zone (SPZ)	10.08	11.01	10.97	10.97
Integrally protected zone (IPZ)	47.19	44.74	44.43	44.58
SPZ + IPZ	**57.27**	**55.75**	**55.40**	**55.55**

Internal zone	% of total National Park area at:			
	May 2015*	September 2015**	December 2015***	April 2016****
Sustainable conservation zone (SCZ)	42.22	43.65	44.01	43.85
Sustainable development zone of human activities (SDZHA)	0.50	0.60	0.60	0.60

* Public Consultations; ** - Approval by the NG-BNP Scientific Council; *** SEA procedure - EPA Caraș - Severin; **** - Version sent to the Ministry of Environment, Water and Forests.

a b

Fig. 2. The strictly protection areas (gray) and integrally protection areas (hatch) of the Nera Gorges - Beușnița National Park before public consultations (May 2015 - a) and the version submitted to the approval of the Environment, Waters and Forests Ministry (December 2015 - b).

The up to date version of zonation (fig. 2b) was submitted to the Ministry of Environment, Waters and Forests for evaluation and national scale public consultations; until now (May 05, 2016), the evaluator expert appointed by the Ministry, made some recommendations but not concerning the zonation.

CONCLUSIONS

1. Internal zonation of the NG-BNP was made on multi-criteria basis: areas of natural reserves already existing, habitats of the species protected by Directive 92/43/EEC, areas occupied by priority habitats, the conservation status of habitats, and the necessity to maintain internal corridors for species.
2. The first variant of zoning was quite severely criticized by some representatives of local community and by the National Forestry Régie - Romsilva, especially due to limitations, in some areas, of logging activities. Their repeated argument was that the current zoning must meet the old zoning, defined by Ministerial Order 552/2003: an Order released before the moment when Romania joined European Union, and before the Government Emergency Ordinance no. 57/2007.
3. Local communities were interested about the implementation of some investment projects (creation of a railway for touristic purposes, building an entertainment park,

building a ski area etc.) or to solve problems such as that of former meadows currently covered with forests that owners want to clean, so they can sign up to subsidies through the National Programme of Rural Development.

4. Surprisingly, a vehement opposition to ecologically based internal zonation was manifested (starting with the approval of the Management Plan in the NG-BNP Scientific Council phase) by NG-BNP Administration; the main reason of this opposition was the desire of the Administration not to enter into conflict with the stakeholders.
5. Even if, based on the data and maps compiled for each group of species, habitats respectively, in the first draft version of the management plan, prior to public consultation, SPZ and IPZ represented about 70% of the national park area, due to key stakeholders imperious demands, the team of experts reduced the surfaces of these two zones as much as it was considered possible, reaching approx. 57-55% of the total national park area.
6. Following preliminary consultations with stakeholders, the internal zoning of NG-BNP has been adjusted by the team of experts, based on those objections that were considered relevant; thereby the percent of the strictly protected area and integrally protected area have decreased from 57.27% (of the total NG-BNP) to 55.75% at the moment when the plan was submitted for approval to the Scientific Council, and 55.40% when leaving the SEA procedure.
7. Currently, the Management Plan was sent to the Directorate of Biodiversity in the Ministry of Environment, Waters and Forests for endorsement. The Ministry expert has assessed the Management Plan and has brought up a few questions and recommendations regarding mainly matters of form.
8. We observe the lack in national guides for both national parks internal zoning and public consultations, mandatory for such important protected areas' management plans. Without such tools, stakeholders have tendency to consider ecological reasons to zoning and conservation measures as non-necessary and restrictive regarding to their economic activities.

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