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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE AND NATURAL HABITATS

GROUP OF SPECIALISTS –EUROPEAN DIPLOMA OF PROTECTED AREAS
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APPRAISAL REPORT
RETEZAT NATIONAL PARK
WITH EXTENSION TO PIATRA CRAIULUI
(ROMANIA)

Document prepared by Mr Pierre Galland (Switzerland)

1. INTRODUCTION

The Ministry of Waters and Environment Protection of Romania presented in 2005 an application of Retezat National Park for the European Diploma of Protected Areas. The Group of Specialists recognised, in January 2006, the interest of Retezat. This nomination evaluation took place from 15 to 17 June 2006. The expert recommended to award the European Diploma to the national park with some recommendations. This was endorsed by the Group of specialist.

The on the spot appraisal for the 5 years renewal of the Diploma took place from 4th to 9th of September, with a short visit to Piatra Craiului on the way back. The visit was perfectly organised by Mr. Zoran Acimov, Director of the National Park and his team. The undersigned was accompanied for the first 2 days by the Chief rangers Alin Alimpesc and his colleague Daniel Tataru. The visit encompassed a 2 day field excursion across the Park which included climbing on the highest Peak (Peleaga 2509m), overnight stay in the Salvamont Refuge at Bucura Lake and crossing the Gemenel strict nature reserve (core area) on the way back. A third day was devoted to discussion with the Park Director and visit to 2 mayors of park Municipalities.

On the way back the expert stopped at Piatra Craiului where he met the chief ranger and visited the Curmatura – Pietrei Mici area (see short report at the end)

Many people were met during the course of the visit, in particular the The Mayor of Salasu de Sus Sorin Marica, the Deputy-mayor of Pui Creciunesc Doinel and the Forest district chief Raul Negru.lThe author wishes to express his sincere thanks to the Director of the Park and his team for the good organisation of the visit, their knowledge of the situation and their availability.

This report gives only a short description of the Park. More detailed or more specific information is available on the excellent and comprehensive website of the park (www.retezat.ro), where several maps and practical information can be found.

General situation of the Romanian national Parks

Romania has an excellent network of national and nature parks, under the supervision of Romsilva (national forestry board). The 2 visited parks, Retezat and Piatra Craiului, have very good management teams, management structures and the legal basis is adequate. However the financial resources are a recurrent issue. Budgets are cut, final decisions on yearly amounts are taken very late (September), etc. Both parks have new administrative information and administrative structures which are not fully operational by lack of funding. Given the difficult context, the team of the 2 parks are performing very well and the general conservation status is good.

The establishment of a Park service in the Ministry of Environment and Forests is foreseen, but for the time being the parks are still under Romsilva. However their management has been centralized and they are not any more depending upon the regional forest administration, which has given them more autonomy.

2. SITUATION AND VALUE OF THE PARK

Retezat National Park is the oldest Romanian national park and was established in 1935, including a large strict nature reserve created in 1927. Its present surface covers 38'138 ha. It is now part of a network of protected areas (national and nature parks) covering most of the Southern Carpathians, from Brasov to the Danube (Iron gates)

The park is located in the Southern Carpathian Mountains, 170 km E S E of Timisoara, almost entirely in the Hunedoara County, with small areas in Caras-Severin and Gorj Counties. It includes the main part of the Retezat Massif and parts of Godeanu and Tarcu massifs. It has an altitude range from low mountains to alpine landscape. Peak Peleaga with 2'509 meters above sea level is the highest elevation in the Park; several other peaks are over 2'200 m.

The Retezat Massif is a well-defined upland block, separated on most sides from the rest of the range by deep valleys and overlooking the Tertiary Hateg basin to the north. The rocks are mainly crystalline. There are two outcrops of limestone, one on the eastern periphery of the Retezat (the Tulisa crest) and one in the South-Southwest (Retezatul Mic).

The area was glaciated in the quaternary and has many landforms caused by glacial erosion. There are 58 permanent and about 20 temporary glacial lakes, a very spectacular aspect of Retezat. This Park is significant for the conservation of European mountain forest diversity. The vegetation is very diverse due to the varied relief and the junction of three floristic regions in this area. Rainfall varies from 900 mm at the foot of the mountains to 1'300 – 1'400 mm at high altitude. The biodiversity is very rich, with close to 1'200 species of plants, and a good diversity of animals including the 3 European large carnivores: bear, wolf and lynx.

The Park is not inhabited; however rural communities outside the Park depend on agriculture, livestock raising and forestry. Impacts on the environment come mainly from grazing, forestry and recreation activities.

Major ecosystem types and natural habitats[1]

Ecosystem types: Temperate broadleaf forests or woodlands (Coniferous forest, Mesophyllous broad-leaved forests, Mixed broadleaved and coniferous woods);, Cryophyllous alpine grasslands, Mesophyllous grasslands, Saxicole and petrophyllous formations, Cryophyllous small alpine bushes, Subalpine bushes). Natural and semi-natural habitats: Alpine and subalpine grasslands; alpine and subalpine scrub; bogs, mires, fens; cliffs, rock outcrops and shelves (siliceous and basic); coniferous woodland, deciduous broadleaved forest; dry grasslands; inland surface waters (running and still), together with their littoral zones; mesic grasslands; mixed broadleaved and coniferous woods; riparian scrub; scree slopes; shrub habitats; snow-patch habitats; sparsely or unvegetated areas; terrestrial underground caves and waterbodies; wet grasslands; woodland fringes and clearings (tall grass/fern)

3. PROTECTION AND ADMINISTRATION

Established by a decision of the Council of Ministers in March 1935, Retezat National Park was confirmed by the Law of the Protection of the Environment in 1995, and by the Protected Areas Law of 2001. From an original surface of 20'000 ha, is was enlarged to its actual size of 38'047 ha in 2000.

A biosphere Reserve of 20,000 ha was declared in 1979. Its status and limits are not very clear. According to the MaB websites, it encompasses now the whole surface of the Park (38,047ha; Core area: 20,127; Buffer zone: 17,720). It is under the responsibility of the national

[1] http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?code=ROM+02&mode=all

MaB committee. The intention is to extend the reserve outside of the National Park, to include for example Narcissus hay fields in the Nucsoara area and other botanical reserves.

The Retezat National Park Administration was created in 1999 to implement an international project "Biodiversity Conservation Management Project", mainly funded by the Global Environmental Fund (GEF). This project greatly improved the organisation and management of the Park. The administration of the Park depends on the National Forest Administration (Romsilva), which belongs to the Ministry of Environments and Forests. It formerly responded to the Head of the County Forest Administration, located in Deva; it is now directly under the central Romsilva administration in Bucarest, which provides the regular funding for the Park. The Headquarters of the Park moved in June 2006 from Deva to new premises just constructed and located in Nucsoara, very close to the Park.

The activities in the Gemenele Scientific Reserve are mainly under the control of the Romanian Academy of Sciences (RAS) and additional guarding is provided by the Academy. The relationships between the Academy and the Park would benefit from some formal clarification. The management and control of the Biosphere reserve is not clear; however there are currently no significant management problems.

In addition the Park was PAN Parks certified in 2005; it was due to renewal in 2010 but this was postponed for unclear reasons (financial problems seem to be part of it).

Ownership: 46 % of the Park belongs to the Romanian State, 54 % to local communities or associations of owners. The land restitution can be considered as completed and the relation with most local communities has significantly improved. Authorisations and conditions for summer grazing in the park and forestry measures (mostly linked to bark beetle problems) in the transition zone are given by the park administration, following rules set up by the scientific council.

The Consultative Council includes currently 34 representatives of all stakeholders of the Park and makes proposals related to its management. The members are designated by the Ministry upon suggestion from the Park administration. They meet twice a year in average.

The Scientific Council oversees the activity of the Park and makes decisions on management and protection measures. It encompasses 11 members and is currently in the renewal process. It meets also twice a year in average. The first meeting has taken place on October 11th, 2012.

It is interesting to note that, contrary to what happens in most other protected areas, it is the Scientific Council which is the decisional authority on management measures. Both Councils were established in 2002.

It has to be mentioned the lack of coordination between the Academy of Sciences (scientific authority of the strictly protected zone = Gemenele scientific reserve), the MaB committee and the Park administration. This issue should definitely be addressed in the future.

4. MANAGEMENT

4.1 Objective

The main objective of the Retezat National Park is the conservation of biological diversity, scientific research, educational and recreation activities. Exploitation and utilisation of natural resources which are contrary to the conservation objectives are excluded. Traditional activities of the owners are authorised within the limits set by the regulations (summer grazing, forestry).

A management plan, covering the period 2012 – 2021, has been submitted to the Ministry in spring 2012. A summary will be translated into English after approval. In addition 5 years action plans will be prepared and implemented.

4.2 Zoning

The Park is divided into the following zones:

Zone A: "Strict" protection, with scientific research, in the Scientific Reserve Gemenele. Access is authorised only with the authorisation of the Romanian Academy of Sciences (< 100 / year). No control by the park.

Zone B: "Integral" protection. Controlled tourism and educational activities are authorised, as well as grazing in designated areas. Areas of forests and bushes are under strict protection.

Zone C : Transition, or sustainable conservation zone. The valorisation of natural resources is allowed, if the sustainable use principles fixed in the management plan are respected.

Zone D: Development zone. Zone of tourism infrastructures, where constructions are allowed within the limits fixed by the management plan.

In zones B and C, areas of special interest are defined, for example for the protection of vegetation on limestone, virgin alpine prairies, or plants and animals of special interest.

There is no hunting in the park; fishing is authorized in streams but not in the lakes.

4.3 Geology and habitat conservation

The alpine and sub- alpine pastures , rocky regions, dwarf pine areas, alder tree areas, mountain leafy forests, boreal coniferous forests, aquatic habitats and river valley bushes represent the most important habitats for conservation in RNP. Retezat is part of the Carpathian Eco- Region and is considered, through the World Wildlife Fund- WWF- *Global 200* Project, a severely threatened eco- region.

Retezat National Park is composed of the Retezat- Godeanu mountain ranges. The Retezat range extends north from the center, and rises from between the Petrosani and Hateg tectonic hollows.

The main characteristic of the Retezat Mountains is given by the presence of **two big eruptive blocks** that stretch out in the direction of Lapusnicul Mare and Barbat rivers: the Retezat type granodioritic massif to the North, stretching out over a length of more than 40 km and width of around 20 km and the Buta granodioritic massif, located in the south of the Lapusnic- Barbat valley corridor, which drops under the Jurassic deposits of the Retezatul Mic. A strip of crystalline schists with quartz schists, mica-schists and clorito -amphbolic schists stretches between the two blocks.

Another strip of crystalline schists, adherent to the Danube domain, stretches out to the Northwest of the northern granite block. The crystalline mass fuses with the eruptive intrusions.

The sediments are represented by some Paleozoic and Mesozoic geological patches (especially Superior Jurassic and Inferior Cretaceous limestones), they are located on the eastern periphery of the Retezat (the Tulisa crest) and in the South- Southwest (Retezatul Mic).

4.4 Flora and Vegetation

The flora is rich with around 1,200 species, i.e. one third of the Romanian flora. It includes 130 plants from the Romanian red list and over 90 endemic taxa.

Forests cover 48 % of the Park area with pine-oak forests in lower areas, beech forests up to 1,200 m, mixed forests between 1,200 and 1,400 m, spruce fir forests between 1,400 and 1,800 m. and dwarf pine forests up to 2,200 covering large areas (11 % of the Park area). Swiss Alpine Pine (Pinus cembra) is present close to treeline.

The prevailing forest species are the beech (Fagus sylvatica), the spruce fir (Picea abies), the dwarf pine (Pinus mugo), the European pine (Pinus cembra), the fir tree (Abies alba), the sycamore maple (Acer pseudoplatanus), the birch tree (Betula pendula), the alder tree (Alnus viridis), the elm tree (Ulmus glabra) and the rowan tree (Sorbus aucuparia). The resinous forests, the beech forests and their mixture are the most prevailing forests. The forests of Small Retezat are unique, taking into account the abiotic characteristics of the area (the calcareous substratum, low humidity and higher temperature etc.).

The pristine and quasi pristine forests are a special aspect of Retezat National Park. They cover 4,800 ha, i.e. a quarter of the forest area and contain associations such as *Luzulo sylvaticae piceetum* and *Fagetum carpaticum*. They are large enough to allow functional natural processes.

The alpine and sub- alpine pastures are habitats with special importance. They cover around 11% of the area of the Park at altitudes between 1700- 2300 m. Protected species can be found here, such as: Rhododendron kotschii, Gentiana acaulis, G. punctata, Soldanella, Potentilla, Pulsatilla, edelweiss (Leontopodium alpinum) and others,

The contact zones between the cliff areas and the alpine pastures are another area of special interest, where the rhododendron (*Rhododendron kotschii*) and dwarf pine (*Pinus mugo*) can be found. The dwarf pine (a protected species in Romania) is widely spread over the steep slopes of Retezat, The Swiss alpine pine (*Pinus cembra*), a rare species, appears in larger and more compact groups than in other massifs. The detritus and cliff areas cover a large area in Retezat, both in the granite and calcareous areas. The characteristic habitats are populated with few species; the saxicolous lichens, invertebrates (the saxicolous spiders), reptiles and birds can be mentioned.

The dwarf tree areas are situated between the superior limit of the forest and up to 2000- 2200 m, covering the area between the spruce fir area and the alpine pastures. One can find, among the characteristic species to the dwarf pine area: the blueberry (Vaccinium myrtillus), the cowberry (Vaccinium vitis-idaea), Homogyne alpina, Soldanell hungarica.

There are many lakes, small and large watercourses, and swamps, including many bogs, often on slopes:

- lakes, pools, alpine and sub- alpine streams : important populations of aquatic invertebrates, fish and amphibians live here. Endemic species exist among some of the invertebrate groups (trichopterans and plecopterans). The latest studies show higher biodiversity in the Stanisoara and Galesul streams, comparative with the other valley.

- the swamps with peat; the ones at Zanoaga- Judele have been studied more and are of special interest from a palynologic point of view.

- the Gura Apei lake, on the western limit of the Park, is an artificial aquatic habitat formed by a dam, existing since 1984. There are no studies on the impact of the lake upon the neighboring areas, nor on the fauna and fauna of the lake.

There are over 60 **plant associations** included in 10 classes of vegetation; this proves the floral diversity of the Retezat Mountains. The most various associations can be found here: from *Pino-Quercetum moehringietosum pendulae* in the low regions of the RNP to *Oreochloo-Juncetum trifidi;* itspopulate, on small areas, the peaks, crests and very inclined slopes of the alpine level. Being highly important from the point of view of the flora, **the calcareous area of the Retezatul Mic** has a large number of rare and/ or endemic plants such as *Barbarea lepuznica, Pedicularis baumgarteni* and many others. The area is very vulnerable to the impact of grazing.

4.5 Fauna

Thanks to a high habitat diversification, Retezat National Park shelters a particularly rich fauna in number of species and populations.

Invertebrates:

The invertebrates, represented by thousands of species from all the Carpathian habitats have not been categorized, although they were studied a lot. Most of the endemic animals in Retezat are among the invertebrates; 9 endemic species of day butterflies, 6 endemic species of plecopterans and 4 species of trichopterans have been so far identified. The last two groups are particularly associated to the major riverine systems in the alpine area. The worms (nematodes) have been well studied, more than 143 species are found in this area (including 8 endemites).

Some genera, like Erebia (Lepidoptera), for example, have a high specific diversity in this area; this genus is a glacial relict. As recognition of the importance of butterfly conservation in Retezat, Lunca Berhinei has been declared Area of European Lepidopterous Importance.

Mammals:

55 species of mammals, 23% of the European terrestrial mammals, have been recorded in the Retezat National Park, proving once again the diversity of the natural habitats of this area. The Park offers survival conditions to the most important European big carnivores: the wolf (*Canis lupus),* bear (*Ursus arctos)* and lynx (*Lynx lynx*). Big herbivores such as chamois (*Rupicapra rupicapra*), deer (*Cervus elaphus)* and the roe deer (*Capreolus capreolus)* can also be found here. The smaller carnivores, such as wildcat (*Felis silvestris)* and mustelidae can find a food source.

The bears use caves in Small Retezat during the wintertime and while bats use them for sheltering during summer days and for hibernation. There have been 13 species of bats identified in the Park, among them *Rhinolophus ferrum-equinum, Vespertilio murinus* and *Pipistrelus pigmaeus.*The otters *Lutra lutra* can be found in some of Retezat's rivers, using the rich fish resource as food

In 1973 a team of scientists from the Romanian Academy- Comission of Natural Monuments introduced, 20 alpine marmots which originated in the Austrian Alps. The marmots were released in the Gemenele Lake basin and can now be found in all the glacial valleys and basins from under the Custurii Saddle to the Zanoaga Lake basin. The impact of this **non-native species** on the vegetation and soils is unknown, but does not appear to create serious damages.

Birds:

Of the encountered 185 species (more then half of the species known in Romania) 122 are nesting in the Park. The number of **bird** species in the park is large for a mountain area. Rare species like the mountain aquila, *Aquila chrysaetos,* (also represented on the Park logo), Lesser spoter aquila *Aquila pomarina*, the serpent eagle (*Circaetus gallicus),* the migratory falcon (*Falco peregrinus),* the mountain cock (*Tetrao urogallus), Bubo bubo, Glaucidium paseinum*, the black stork (*Ciconia nigra)* and other rare species can be found here.

Amphibians:

11 species, with one Carpathian endemic subspecies of Triturus vulgaris, have been found. More than a half of the Romanian **amphibian** species totaling 11, can be found in Retezat . The specialists consider **8 of these species as rare and vulnerable**, at the national level. All these species are recorded in Annex II, regarding the strict protected fauna species (4 species) and Annex III regarding the protected fauna species (7 species) at the Convention on the conservation of European wildlife and natural habitats, adopted at Bern and ratified by Romania through Law 13/1993. One of these species is also recorded in Annex II, another species in Annexes II and IV, three species in Annex IV and one in Annex V to the 92/43/EEC Directive. According to **Law 462/2001**, 3 park species are recorded in Annex III, 2 in Annexes III and IV, one in Annex IV and one in Annex V. This proves the vulnerability of these species and the need of special conservation measures for them.

The subspecies *ampelensis* of the common triton, *Triturus vulgaris,* was also found in Retezat; the subspecies is considered to be endemic to the Carpathians and a priority subspecies, being recorded in Annex III to Law 462/2001.

The red mountain frog *Rana temporara* is consumed in some localities in the Park area, many of them, mostly females, are collected during the reproduction period.

Reptiles:

The reptiles in the park are represented by 9 species, almost 40% of the Romanian terrestrial reptiles. Although just one species is considered rare at the national level, six of them are considered vulnerable.

Fishes:

There are 11 species, including the cyclostome Eudontomyzon danfordi, and the loach Sabanajewia aurata, endemic to the Danube basin. Salmo trutta, non native, has been introduced to some lakes. The fish are represented by 11 species, *Sabanajewia aurata* being one of them, which is an endemic species in the Danube area and listed in Annex III to Law 462/2001.

In the 60s and70s of the last century, some of the lakes in the Retezat National Park were populated with lake trout, *Salmo trutta lacustris,* a non- indigenous species brought in from the Alps. The researchers found this species to be one of the key factors that caused the amphibian populations, which use the glacial lakes as breeding grounds, to diminish.,

4.5 Water resources

With a high rainfall, a very developed hydrological network and many lakes, the Retezat National Park provides excellent water, in quality and quantity, to the villages and cities around the Park.

The construction of the Gura Apei dam, on the Rau Mare, in 1973 within the Park territory, but close to its limits, is unfortunate. Rausor and Paros rivers were diverted, while further lans for diverting water from four other river basins (Nucsoara, Rau Alb, Raiu Barbat 1 and Rau Barbat 2, located within the Park, have been abandoned. The Park's legislation was sufficient to kill the project.

4.6 Agriculture

The only agricultural activity in the Park is the traditional use of pastures for cattle, horses and sheep from communities and associations owning land in the Park. Goats are excluded. There are well defined limits to the number of animals and the use should be sustainable. Herds are guarded and conflicts with large carnivores are limited. Predation from bears on sheep remains a problem. A compensation scheme exists but is so complicated that nobody uses it.

4.7 Forestry

Forests are protected in the strict protection in zones A and B as well as in special protection areas of zone C. They can be exploited in the transition zone according to the forest management plan. After restitution to private owners, these forests are automatically subject to the conditions set out in the Park regulations and in the forest management plan. The Park authority can authorize limited intervention for sanitary measures, in particular in case of bark beetle attack, according to precise rules.

4.8 Cultural heritage

The human occupation of the Park area has always been very limited and restricted essentially to the use of pastures and some forest exploitation. Part of the Park was a royal hunting reserve up to 1920. The cultural heritage in the Park itself is therefore scarce. However, in the surroundings, there are very rich historical and cultural monuments, from ruins of a Roman fortress (the capital of the Roman province "Dacia") to churches dating back to the 10th century. The Municipality of Pui has a large rehabilitation EU project underway.

4.9 Social and economic aspects

Several communes are concerned by the Park at various titles: Rau de Mori, Salasu de Sus, Santamaria Orlea, Uricani, Pui as owners and adjacent to the Park; Bretea Romania, Orastie, Pianu de Sus and Sasciori as owners.

The main economic activities in the communes around the Park are agriculture, animal husbandry, and logging. The unemployment rate is very high. Infrastructures are limited and traditional activities such as agriculture are declining. Tourism is a limited economic activity. Some guest houses belong to the rural tourism association and offer good accommodation. The tourism is not very well organized; no tourist office, no taxes, etc.

There are no large scale industries existing or planned around the Park. The important mining towns around Petrosani are located some 50 km away from the Park.

The communes around Retezat expressed various opinions regarding the existence of the Park, but are not really affected as they have limited interaction with the protected zone. 2 mayors expresses their consideration for the natural values of the Retezat mountains; another mayor, concerned with the possible development of the small ski resort, could not (or did not want?) meet us, though the meeting had been planned by the park director. The commune of Pui has on its territory an interesting karstic area including a geopark with fossils of dinosaurs.

5. EDUCATION, INFORMATION AND TOURISM

Education activities are regularly organised for schools in the region, in co-operation with the Hunedoara education board. This includes special events and various contests.

Two visitor centers have recently been built. The main one is located just outside of Nucsoara. The main building is finished but only partially equipped. It hosts the park administration and a small exhibition. There are possibilities for accommodation, but the park would need a licence for a commercial exploitation. The number of visitors is very low; the location is not very favourable. Another information center had been established in Pietrale, where there is accommodation facilities and a camping area. In addition 2 information points have been set up.

Panels with information are put at the main entrance points to the Park and a code of mountain behavior is distributed. The Park has introduced an entry fee (ca. 1 € for a period of 7 days) but there is no entry gates. Apparently people agree to pay the fee when they are asked for, but they simply largely ignore its existence. There are 15 to 17'000 visitors a year, concentrated during the summer period (ca.10'000 5 years ago). The Park is not easily accessible through public transport.

Camping is authorized only on designated places. Fires are strictly forbidden. The toilettes are a real issue, in particular for the Bucura camping area and hut. They do not exist and the bushes which form the "toilettes" present a spectacle inacceptable in a national park.

Small ski lifts exist at Rausor and Cheili Buti. They are within the Park, but have no significant impact and are limited by the present zoning plan. However, a planned local ski development project could bring dangerous pressure for extension (commune of Rau de Mori). The project is still present in the mid of some local developers.

Rescue teams from the organization "Salvamont" are active in the Park in summer and in winter. They participate to the guarding of the park and contribute to trail marking and huts maintenance. They operate the huts and the collaboration with the Park administration is excellent. Trail marking on the ground (painted marks) is good; a good map is available with routes description, indicating the schedules and the difficulties. Signs and marking poles exist but are quite old and in poor condition: rusty, lying on the ground, held by stones or pieces of wire, sometimes not fully readable. The panels of the scientific reserve are particularly bad looking, some completely washed by the years. Such sign should be replaced, or at least removed since they are useless and not nice looking.

Park administration and visitor center – Nucsoara

6. SCIENTIFIC RESEARCH

Scientific research has been conducted in Retezat National Park since the beginning of the last century. There are more than 500 known references, covering many subjects. There is a network of observation and research points from the Romanian Academy of Sciences, which

maintains a Laboratory and housing facilities in the Scientific Reserve of Gemenele. The exceptional natural values of Retezat National Park attract every year scientists from all over the country and from abroad for studying species and populations in the park, as well as habitats and natural processes that exist here

The activities of the Park concentrate on inventory and monitoring of biodiversity, including evaluations of Natura 2000 habitats and preparing management plans. These activities are helped by a very good GIS system developed by the Park and used in particular for vegetation mapping, data analysis and studies on pastures.

In 2010 the park received 5 requests from scientists working with different institutions (universities, institutes, public administrations) asking for approval of different scientific research actions regarding topics like study of aquatic fauna in the alpine lakes, rivers and streams in RNP, geological studies, climate studies, inventory of fish populations of the alpine lakes, etc. In 2011 3 requests were presented.

In addition to these studies Retezat National Park Administration continues its own inventory and monitoring actions.

Scientific publications

Several scientific papers regarding research in the Park are publisend every year. Here is a short summary of those covering the years 1010 and 2011 (details in Annexe):

- Diversity and distribution patterns of benthic invertebrates along alpine gradients. Atmospheric contamination and ecological changes inferred from the sediment record of Lacul Negru in the Retezat National Park, Romania

- Evaluating the diversity of chironomid (Insecta: Diptera) communities in alpine lakes, Retezat National Park, Romania

- Ecological thresholds in European alpine lakes

- Effect of latitude and altitude on body size in the common frog (*Rana Temporaria*) populations

- Establishing an amphibian monitoring program in two protected areas of RomaniaThe Distribution of stone crayfish *Austropotamobius Torrentium* (Schrank, 1803) (Crustacea: Decapoda: Astacidae) in the south-west Romanian mountain and sub-mountain area-

- Effects of introduced salmonids on amphibian distribution and abundance in Retezat National Park

- Diatom-based evidence for abrupt climate changes during the Late Glacial in the SouthernCarpathian Mountains

- Radiocarbon chronology of glacial lake sediments in the Retezat Mts (South Carpathians, Romania): a window to Late Glacial and Holocene climatic and paleoenvironmental changes

- Population dynamics and genetic changes of Picea abies in the South Carpathians revealed by pollen and ancient DNA analyses

- Variation in the chloroplast DNA of Swiss stone pine (Pinus cembra L.) reflects contrasting post-glacial history of populations from the Carpathians and the Alps

Scientific strict Nature Reserve Gemenele

7. ELEMENTS REQUIRING SPECIAL ATTENTION

7.1 Elements mentioned in the 2007 report

Hydro power

"The existence of the Gura Apei reservoir is a fact which can be accepted. Located at the limit of the Park, it collects water from several watersheds of the Park, but without influencing the watercourses of the Park. The level of the reservoir itself has always remained much lower than expected. Work is underway to divert water from four other watersheds of the Park, with the construction of reservoirs well within the Park and underground pipes to bring water to Gura Apei. A tunnel of some more than 30 km has already been drilled between the two rivers concerned (Rausor and Nucsoara) and the Gura Apei reservoir."

The Park Administration has already clearly stated its opposition to that project. The project has been stopped (a tunnel has already been constructed). It is apparently dead, also for economic reasons.

New Road

"The road under construction at the south-east border of the Park has a very important direct impact in a narrow valley. The road is very close to the Park and it could also have an important indirect impact if it attracts an important traffic. A limited section is inside the Park's boundaries and it seems that the Park has given an authorisation for this section, but there is no impact assessment and construction seems to have started without a proper public inquiry and authorisation".

The Park Administration expressed in 1999 its agreement with that project, but at that time the national environmental legislation was quite weak, and no special requirements were necessary. The situation has changed in the last five years, and now the Park wants the current legislative provisions to be followed. The Park has now fined the builders, but the work continues."

The road is no finished, but has been realised in an acceptable way, namely with "passages à faune". The impact is limited, but the park director fears the development of tourist and holidays infrastructures along the road. An agreement has been found with the commune to prevent such development in the local spatial planning.

Gemenele Scientific Reserve

"The scientific reserve is actually run by the Academy of Sciences, and has its own team of guards employed by the Academy. On the positive side, it should be noted that the reserve is in very good condition, and subject to regular research. On the less positive side, it appears that there could be more co-ordination and a real synergy between the Park and the Academy, with more formal as well as working relationships. The Academy does not seem to have been involved in the European Diploma process."

Discussions with the responsible persons from the Academy of sciences occasionally take place, but there is little progress in the way of collaboration for the management. However the maintenance of the strictly protected zone is excellent and no management measures seem to be required.

Traffic in Lapusnicu valley

"*The road leading from Gura Apei to Rotunda and further up in the valley of the Lapunsnicu Mare river is small, with very limited parking space. It is open to public traffic and cars often pile up in summer at the end of the road, where good hiking trails start.*

The Park plans to close the road to private vehicles in the high season, and organise shuttles with minibuses. This initiative could bring a major improvement to the situation."

The situation has not changed and the problem remains, though the real impact appears to be limited (we have not seen the area).

7.2 New issues

Forestry measures

The forests are normally exploited outside of the park and limited interventions take place in the transition zone. These interventions are mainly linked to the impact of bark beetle in

well located places. It is worth mentioning that no problems with bark beetle were observed while crossing the Gemenele strict reserve. It appears that the natural forests, with trees of different age and composed of "natural" ecotypes, do not suffer of parasites attacks, with the exception of isolated old trees. On the other hand the formerly exploited forests in the transition zone, with tress of the same age, are subject to such attacks.

It is essential to preserve the old scientific reserve; it is a invaluable witness of how a natural forest would look like without human intervention.

National and International designations – Image of the Park

The national park includes the strict scientific reserve managed by the academy< of sciences; is also recognized as Natura 2000 site. It has been awarded the European diploma, it is designated as a biosphere reserve (UNESCO MaB) and is certified PAN Parks. These multiplications of designation, besides creating administrative duties to the park administration, are the source of 2 problems:

a) There is little coordination regarding the management. Though does not create real problems, this situation would certainly weaken the position of the park if it had to intervene regarding unsuitable development projects of request for unsustainable use from local municipalities.

b) The communication is really difficult. In fact there is almost no mention of the European Diploma and of the Biosphere reserve in the information material and in the information centres. Only PAN parks is visible, thought he certification has not been renewed after the initial 5 years period.

8. PROGRESSES REAGRDING THE 2007 RECOMMENDATIONS

Regarding the management of the Retezat National Park, the following recommendations were proposed in 2007:

1. reduce the impact of the road under construction on the south-eastern boundary of the park;

The road construction is completed; environemental has been reduced; they are some concerna about possible developments of construction close to the roas, but they appear to be under control.

2. further increase information on the park and its assets in the visitor centres as well as in the park itself;

Some work has been done in that direction, but the lack of funding has limited the activities to the essential.

3. be more involved in spatial planning to encourage a better integration of new buildings in the vicinity of the park;

Very little progresses have taken place; the influence of the park outside of its boundaries remains very limited. However the threats to the park's values are very limited

4. find ways of continuing to support regional development, for example along the lines of the current small grant programme;

The general economic situation and the repeated political crisis certainly do not favour

such initiatives. Many efforts have been put on Natura 2000 in the region, but very little on regional development. The potential role of the Park is very limited;

5. pursue and increase evaluation and monitoring of the pastoral activities;

A study of the pastures was made several years ago; every pasture was described in terms of location, vicinities, herbal composition and carrying (or support) capacity. The Park allows for grazing on every pasture a number of animals below the carrying capacity. Every grazing agreement signed between pasture owners and pasture users must be approved by the park administration; this rule is written in the Park Regulation, and its break leads to a fine and the cancellation of the agreement.

6. closely monitor forest rehabilitation to make sure that the new owners are fully aware of the rules set out in the forest management plan.

The restitution process is completed; the forest and pasture owner are aware of the park regulations.

9. CONCLUSIONS AND RECOMMENDATIONS

Retezat National Park has many assets such as:

- remarkable landscapes;
- very diverse habitats, and a high biodiversity;
- large areas of very interesting and significant virgin or semi virgin forests of different types;
- long term protection;
- limited existing impacts;
- limited threats from outside;
- good management plan and organisation.

Considered altogether, these assets justify the European interest in the area. Moreover the park is part of a large network of protected areas in the Southern Carpathians. Two Parks are European diploma holders in the region: Retezat and Piatra Craiului. They are quite different: Piatra Craiului displays a typical limestone (karts) physiognomy and vegetation, while Retezat is essentially on acidic bedrock. They are quite complementary and represent well the landscape and biodiversity of the Southern Carpathians.

We recommend renewing the European Diploma to Retezat national park with the following recommendations:

1. The Romania State should secure sufficient budgets for the National Parks and allocate the funds early enough to in the year, in order to allow ensuring favourable working conditions to the staff, finishing and maintaining the Park's infrastructures, increasing the visitor's information and to improving the tourist facilities;

2. The respective Romanian authorities should work together to harmonize the different national and international designation in order to achieve an efficient joint management and to realize joint scientific research and monitoring programmes;

3. The Management Plan should be approved as soon as possible, and at least an executive summary be translated into English.

4. The park, in close collaboration with Salvamont (legally responsible) should maintain or renew, when necessary, the tourist infrastructure (trail marking, information signs, etc.). A particular effort should be made to solve the problems of the toilets in the camping areas and near the huts;

5. The Park should maintain pressure on local communities to prevent construction of inappropriate buildings in the park and its immediate vicinity;

6. The park rangers should monitor the pastures in order to identify early possible changes due to overgrazing and / or under-grazing. Before the next evaluation, the Park should repeat the pastures' study; the changes in terms of species composition, erosion, etc., should be analysed in relation to the type and amount of grazing.

Additional information – short visit in Piatra Craiului

On the way back to Bucharest airport, the experts stopped for one day in Piatra Craiului. It was a good opportunity:

1. To compare the situation of the 2 Romanian mountain National Parks holders of the European Diploma
2. To discuss the progress regarding the recommendation attached to the 2010 renewal mission

Both Parks belong to the Southern Carpathians; they display different features, but are facing basically similar problems. They are very complementary and give together a good image of the Southern Carpathians.

Retezat is mainly on acidic bedrock, while Piatra Craiului is exclusively on limestone. The landscape and the vegetation are therefore quite different. The visitation displays also significant differences: about 100'000 visitors per year in Piatra Craiului versus 15 – 18'000 in Retezat.

Both parks have very competent management teams, but are lacking sufficient financial resources to fully perform their duties. It appears that they have a good legal basis which has allowed stopping some construction projects not compatible with the NP status. Both parks have management plans waiting for government approval, but the changes of government are delaying the process. Both parks are also facing problems of construction in and around the park (integration in the cultural landscape). Similarly both parks have started constructing information centres combines with administration buildings; in both case they lack finances to complete the equipment; this is particularly the case in Piatra Craiului: the Zarnesti info and administrative building is largely empty and the visitor's information part is reduced to a small tourist information point.

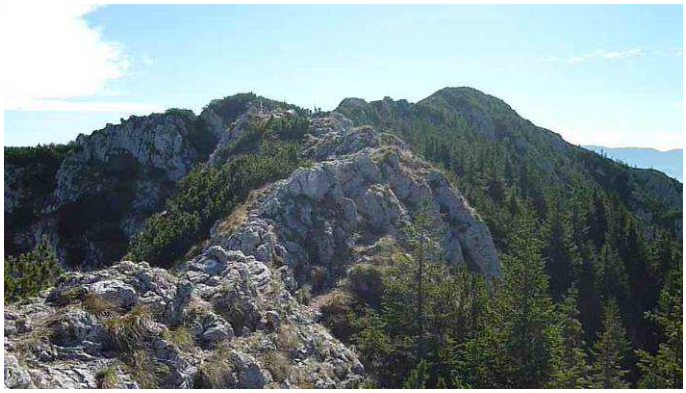
Piatra Craiului recommendations attached to the 2011 renewal which were discussed:

Rec. 2 : to complete the construction and the equipment of the headquarters, especially the exhibition room and other tourist accommodations as soon as possible, and make particular efforts to raise the appropriate funds ;

There is little or no progress to date and this remain a serious concern. The very nice building is largely empty.

Rec. 7: to complete the on-going process of approving the new management plan by the end of 2011.

Administrative and political problems have delayed the approval of the MP. They have to be approved by the Council of Ministers and the procedure has to start again after each government change.



Annexe 1

Scientific publications according to the 2010 and 2011 annual reports delivered to the secretariat

2010

3.2.1. Current or completed research (observation, experimentation, etc; identification or inventory of the species listed in the appendices to the Bern Convention, etc)
In 2010 we had a number of 5 requests from scientists working with different institutions (universities, institutes, public administrations) asking for approval of different scientific research actions regarding topics like study of aquatic fauna in the alpine lakes, rivers and streams in RNP, geological studies, climate studies, inventory of fish populations of the alpine lakes, etc.
In addition to these studies Retezat National Park Administration continues its own inventory and monitoring actions.

3.2.2. Scientific publications
The exceptional natural values of Retezat National Park attract every year scientists from all over the country and from abroad for studying species and populations in the park, as well as habitats and natural processes that exist here. In 2010 we have received the following scientific publications:
Diversity and distribution patterns of benthic invertebrates along alpine gradients. A study of remote European freshwater lakes- Arne Fjellheim, Gunnar G. Raddum, Vigdis Vandvik, Dan Cogălniceanu, Angela Boggero, Anton Brancelj, Joanna Galas, Ferdinand Sporka, Yanka Vidinova, Peter Bitusik, Elžbieta Dumnicka, Nicolae Gâldean, Andrzej Kownacki, Ilja Krno, Elena Preda, Geta Rîşnoveanu and Evzen Stughlik
Atmospheric contamination and ecological changes inferred from the sediment record of Lacul Negru in the Retezat National Park, Romania – Neil L. Rose, Dan Cogălniceanu, Peter G. Appleby, Anton Brancelj, Lluis Camarero, Pilar Fernandez, Joan O Grimalt, Martin Kernan, Andrea Lami, Simona Musazzi, Roberto Quiroz, Gaute Velle.
Evaluating the diversity of chironomid (Insecta: Diptera) communities in alpine lakes, Retezat National Park, Romania- Dan Cogălniceanu, Monica Tudorancea, Elena Preda, Nicolae Gâldean
Ecological thresholds in European alpine lakes- Jordi Catalan, M. Grazia Barbieri, Frederic Bartumeus, Peter Bitusik, Ivan Botev, Anton Brancelj, Dan Cogălniceanu, Marina Manca, Aldo Marchetto, Nadja Ognianova-Rumenova, Sergi Pla, Maria Rieradevall, Sanna Soriari, Elena Stefkova, Evzen Stuchlik and Marc Ventura
Effect of latitude and altitude on body size in the common frog (*Rana Temporaria*) populations - Raluca Ioana Bancilă, Rodica Plăiaşu, Dan Cogălniceanu
Establishing an amphibian monitoring program in two protected areas of Romania- Dan Cogălniceanu, Tibor Harte, Rodica Plăiaşu
The Distribution of stone crayfish *Austropotamobius Torrentium* (Schrank, 1803) (Crustacea: Decapoda: Astacidae) in the south-west Romanian mountain and sub-mountain area- Lucian Pârvulescu, Iorgu Petrescu
Effects of introduced salmonids on amphibian distribution and abundance in Retezat National Park- Dragos Cocos

2011

3.2.1. Current or completed research (observation, experimentation, etc.; identification or inventory of the species listed in the appendices to the Bern Convention, etc.)
In 2011 we had a number of 3 requests from scientists working with different institutions (universities, research institutes, public administrations) asking for approval of different

scientific research actions regarding topics like study of aquatic fauna in the alpine lakes, rivers and streams, geological studies, climate studies, inventory of fish populations of the alpine lakes, etc.
In addition to these studies Retezat National Park Administration continues its own inventory and monitoring actions.

3.2.2. Scientific publications

In 2011 we have received the results for a number of studies that have been carried out in the past:

Diatom-based evidence for abrupt climate changes during the Late Glacial in the Southern Carpathian Mountains – K. Buczko et all.

Radiocarbon chronology of glacial lake sediments in the Retezat Mts (South Carpathians, Romania): a window to Late Glacial and Holocene climatic and paleoenvironmental changes - Enikõ K. Magyari et all.

Population dynamics and genetic changes of Picea abies in the South Carpathians revealed by pollen and ancient DNA analyses - Enikő K Magyari, Ágnes Major, Miklós Bálint, Judit Nédli, Mihály Braun, István Rácz, Laura Parducci

Variation in the chloroplast DNA of Swiss stone pine (Pinus cembra L.) reflects contrasting post-glacial history of populations from the Carpathians and the Alps - Maria Hoehn1*, Felix Gugerli2, Peter Abran3, Gyoergy Bisztray**1**, Anna Buonamici4, Klara Cseke5, Levente Hufnagel1, Celestino Quintela-Sabarıs6, Federico Sebastiani7 and Giovanni Giuseppe Vendramin