

The European bison (*Bison bonasus* L., 1758)
reintroduction programmes within the
Carpathian Chain

Report of study visit - December 2008

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The aim of the study visit

The objective is to study bison management in Poland with the aim of reintroducing them into Romania.

Within this study tour, we visited some of the locations where bison live in freedom - Poloniny National Park (Slovakia), Bieleszady National Park and Bialowieza National Park (Poland) - in order to learn and gather practical advice from other successful bison introductions from several perspectives: local communities support, public awareness, compensation measures in case of damages, monitoring, impact of predators, etc.

1. Background

The European bison (*Bison bonasus* L., 1758) – the biggest mammal of Europe, has a status of endangered species according to IUCN Red List, and has been selected as a priority species under EU Habitat Directive. The world population of the European bison slightly exceeding level of 3000 individuals is divided into two genetically different lines (Lowland and Lowland-Caucasian). A majority of the species is managed in free-living herds but its considerable part is maintained in captivity.

According to Species Action Plan, the long-term conservation program for European bison recovery should include the continuation of the captive breeding of the species. Continued should be the process of reintroduction and re-establishment of free-ranging populations into portions of the historical range. It is necessary to link isolated populations in a natural way or stimulate transfers of individuals from one herd to another.

The activities on bison reintroduction and re-establishment of free-ranging bison populations into parts of the historical ecological range, increasing in last 10 years, should be continued and further enhanced, but require more coordination.

To gradually create self sustainable meta-populations, natural suitable areas and habitats will have to be enlarged, and bison ranges effectively connected. It is necessary to link isolated small populations in a natural way and/or stimulate transfers of individuals from one herd to another. It is also very important to transfer all the founder genes as represented in the captive world population into free-ranging herds.

2. The Aggtelek National Park, Hungary (03 – 04 December 2008)

Objective: field visit, discussions about bison reintroduction programme, etc.

The Aggtelek National Park was founded in 1985. It is situated in the Northern Hungary, in a famous karst region. It has been part of the UNESCO World Heritage since 1995, together with the neighbouring Slovak Karst Landscape Protection Area from Slovakia. It contains 198.92 km². The karst-area of the Aggtelek National Park shows an abundance of special natural phenomena both above and underground, of protected plants and animals .

The primary task of the National Park is to explore, protect and preserve the natural and cultural assets, and also to develop ecotourism. One of the most endearing treasures of the National Park is the Baradla Cave, which is the biggest and the most magnificent cave in Hungary. Aggtelek is characterised by rolling hills of 160-600 metre altitudes. This is the region where the climate of the 'Carpathians' meets the milder Mediterranean world. More than three-quarters of the area is forested. Where forests have been preserved they are dominated by oak and durmast (*Quercus sessiliflora*). Mountain ranges are ruled by durmast (*Quercus sessiliflora*) mixed with maple (*Acer campestre*) and ash (*Fraxinus excelsior*). Shrubbery is rich in cornel (*Cornus*) and privet (*Ligustrum*). After cutting down most of the forests in the region during the centuries erosion started and the thin layer of soil has been washed away leaving stone deserts behind. Birch, quaking-ash and goat-willow taking are also well represented.

In recent decades, small populations of wolf and lynx have re-established themselves, yet they remain a rarer sight than even the elusive wild boar. Also, coming from Slovakia, the brown bear was remarked in the last years. The coming back of these top predators is the sign that the Aggtelek NP conditions are proper for big wild fauna.

The only Hungarian Hucul horse-herd lives near Jósvalfő, in semifree conditions (additional food only in winter time). In the close vicinity of the National Park, at Fuzerkomlos, based on the studies done by Polish experts, a 25-hectare area for the European bison were established, with a view to re-introduce them in Hungary. Already five European bison have arrived in Fuzerkomlos, from Poland, where they will live amidst natural conditions in this preserve.

Due to this beginning, the Park Administration thing seriously about the possibility to reintroduce European bison in the Park, first in semi-free conditions. My discussions with the director of NP, Mr. Salamon Gabor, and some of the staff convinced me about their determination (it is already a person encharged with the "bison problem"). Thinking to the bison releasing in freedom, knowing that all European bison Carpathians populations are Lowland Caucasus line, I considered compulsory the animals will be brought to be Lowland Caucasus.

The future fenced area, around 160 ha, is situated in deciduous forest (dominant species is oak), at an altitudinal range 300-400 meters, with different slope expositions (predominant are the S, SE expositions). In the middle of this area a permanent river flows, also on the bottom of the valley some marshes places can be found. It is interested that the percentage of open areas (glades, openings, pasturelands) represent around 15% of the future fenced area. This designed area is very close to the area where Hucul horses roam free during summer time.

Visiting this area and according to my experience, I consider that the place of future enclosure is a proper one, taking into consideration the natural conditions of the Park. Some investments are necessary (feeding places, hay stores etc) but I expressed my availability in order to advice them to choose the proper solutions regarding their area.

The settlements in the park, mostly small villages, safeguard the remnants of traditional architecture and thus offer excellent opportunities for rural tourism. Several handicraft workshops operate in the villages. The presence of European bison will offer new possibilities for this small entrepreneurs, so the Park administration agreed my opinion that the public awareness have to start early, when the bison are in semi freedom, in order to obtain economical benefits for local communities, but also to have a solid support for the bison totally releasing in freedom



Photo 1. Discussions with representatives of Aggtelek N.P.



Photo 2. Field assessment of the reintroduction area

3. The Poloniny National Park, Slovakia (04 - 06 December 2008)

Objective: meetings with representatives of Park Administration, representatives of local authorities, local stakeholders, field visit with radio-telemetry technology and discussions about bison reintroduction programme, etc.

The Poloniny National Park is situated in the eastern part of Slovakia, in the Bukovské vrchy mountain range, on the border with Poland and Ukraine, with an area of 29,805 ha and a buffer zone of 10,973 ha. The Bukovské vrchy is a rugged, medium-mountainous surface complex and its bordering ridge, attaining an altitude of between 1000 and 1200 m, is a water divide of the Black Sea and the Baltic Sea. The whole park is located in the district of Snina. Mountain meadows, called 'poloniny' (the unique flat areas between east and west Carpathians that support the distinctive selection of flora and fauna) are situated on the main ridges of the Bukovské vrchy and are a special feature of this park. Forests, mainly beech and fir-beech forests, covering 80% of the total area, are typical of the region of Poloniny. Major ecosystem type is the temperate broad-leaf forest and woodlands, the beech and fir-beech forest association is dominant; oak-hornbeam, mountain sycamore maple and alluvial grey alder associations cover only a small area; mountain meadows above upper forest limit ("poloniny") and valley meadows are also found. Found here is the largest concentration of natural forests (virgin woodland) in Slovakia. Huge, 400-year-old firs, but also beeches and maples impress the visitors with their immensity. Poloniny is unique for its fauna, with species which cannot be found anywhere else in Slovakia. 55 species of mammals have all been identified here, all the European major carnivores have their permanent habitats here and from the neighbouring Bieszczady NP in Poland the European bison and moose sporadically cross the border.

The presence of Starina reservoir is another feature of Poloniny NP. It was created in the 1980s, to provide drinking water for much of eastern Slovakia. The reservoir supposed that seven villages were flooded and 3,500 residents displaced. This is the reason that inside Poloniny NP there is no permanent human settlement.

Poloniny NP (Slovakia), **Bieszczady NP** (Poland) and **Ushansky NP** (Ukraine) compose the kernel of the East Carpathians Biosphere Reserve. The presence of European bison in freedom in Bieszczady NP and Ushansky NP, the presence of almost similar conditions, were the main reason for the bison reintroduction in Poloniny, so in 2004 the first 5

individuals were released, as a part of a broader project aimed at restoring the natural ecosystem of the Carpathians. Till now, another two releasing happened so nowadays, taking into consideration mortalities the free population of bison in Poloniny is composed by 7 individuals.

With the help of Marian Gic (the Park IT specialist) and one ranger, using telemetry methods I succeeded to see the free herd, which is a really achievement. Based on the previous monitoring, we moved with the car in the most suitable area for bison, for this period of year. This area is composed by the main river banks, covered by forest, where trees as poplar, ash, willow, alder represent the main forest species. Even the houses are damaged or dissapeared, alot of fruit tree are still present(apple, pear, plum etc). Because no one harvest these trees, the fruits are naturally fell down and represent an attractive food for bison during winter. I was able to reach very close to the herd, around 20 meters. The bison, even they observed me, did not like theretened, only the dominant male Archie adopted an agresive attitude. During summer time, the Slovak herd(two animals wear radiocollars, so the movements are monitored) pass in Poland and exchange of individuals wererecorded.



Foto 3, 4, 5. Field applications at Poloniny National Park, Slovakia

For Poloniny National Park, the goal is to increase the number of bison in the wildness, to transform this sub-population in a larger and more sustainable populations in the future. There are plan to move a part of animals from Stupancka (the largest Slovak bison reserve) to Poloniny in order to release them.

The reintroduction of the European bison but also of the beaver and Hutzul horse (which are under progress) in Poloniny NP can raise tourist attractiveness and facilitate development of nature-based tourist services.

4. The Bieszczady National Park, Poland (06 - 07 December 2008)

Objective: meetings with representatives of Park Administration, representatives of local authorities, local stakeholders, field visit with radio-telemetry technology and discussions about bison reintroduction programme, etc.

The only place in Poland to find bison belongs to the Lowland - Caucasian line is the Mountains of Bieszczady. In the Carpathian Mountains, bison were totally exterminated in the 18th century.

The Bieszczady represent low mountains in south-eastern Poland on the border with Ukraine and Slovakia. The Bieszczady Mountains are in turn part of the Eastern Carpathian mountain massif - a chain of moderate altitude (400 to 1300 m a.s.l.) overgrown with mixed forests in which beech, spruce and fir dominate the canopy. The many valleys combine with the open grasslands at higher altitude to offer a varied food base. The different ranges are linked by accessible passes, ensuring that there are no natural barriers to migratory movements.

The Bieszczady herd lives in a National Park and a managed forest and it is the only herd in Poland of the Lowland-Caucasian line. The area is about 500 km² of which the European Bison occupy about 300 km². Between 1963 and 1976 the bison population was founded with 34 animals, 17 males and 17 females, out of different Polish reserves. The population is big enough (around of 200 individuals) to form a stable population and therefore has a low risk of genetic losses in the future.

At this moment, there are three populations in the Bieszczady Mountains (eastern, central and western population).

There were meetings with representatives of StacjaKarpacka Unit which are encharged with the monitoring of bison restoration in Bieszczady area. There were described the most recent animals transfers to this area (bison monitoring with radio-telemetry, GIS analyses, habitat preferences of bison after studies, etc.

In the last years, in this area, several transports from other countries supplementd the local bison herd:

- Four individuals (3 males, one female) were imported from Scandinavian breeding centres – Boras, Stockholm and Ebeltoft). All of them arrived in December 2001, and were placed in wooden enclosure of about 5 ha, with facilities including a feeder for hay and shed for hay storage. Water was available directly from a creek. Animals were kept there until June next year, when after confirming a close presence of animals from free ranging herd, animals were released to the wild.
- Subsequently, in 2005 and 2006 were brought 3 individuals (1 male, 2 females) from Zoo at Prague. They were kept in the same enclosure, but only for 2-3 months since their arrival were in spring.
- In 2008 took place the last bison import with animals originated from Germany.

As well, I was informed about the study performed by a student from Academy of Agriculture (Faculty of forestry) on bison related damages to forest stands in this area. The overall conclusions were that apart from some debarking of young *Fraxinus excelsior* in the vicinity of feeders, no significant damages to rejuvenation of the forest was recorded in this forest district.

The threats for the bison from Bieszczady were tuberculosis, noted for the first time in 1996 among bison within Brzegi Dolne Forest District. A lack of appropriate legal regulations also ensures that the fates of any bison migrating into Ukraine or Slovakia remain unknown. Single cases of bison being attacked by wolves and bears are also recorded here.



Foto 6, 7. Applications at Bieszczady National Park, Poland

5. EBCC MEETING, Warsaw, Poland (07 -10 December 2008)

Within this internship, I had the opportunity to participate take part at the first meeting of European Bison Conservation Center (EBCC), a new initiative of specialists involved in European bison conservation, event which took place at Warsaw, Poland.

Between 07 and 10 December 2008 at Animal Science University, Agricultural University from Warsaw, took place the first European Bison Conservation Center (EBCC) board meeting.

The meeting was leaded by Professor Wanda Olech – the president of IUCN – SSC/BSG (Bison Specialists Group) and were involved over 25 representatives from Bison Reserves, European Bison Friends Society, European Bison Pedigree Book, Warsaw University of Life Science, veterinarians, experts, etc.

The topic of the meeting is to bring relevant parties together and facilitate cooperation, to identify a seed money strategy to initiate and/or support projects in the field, identifying and establishing partnerships for European bison conservation and to increase knowledge and appreciation of the bison conservation importance.

The main goal of the European Bison Conservation Center (EBCC) is to coordinate the process of the genetic variability maintenance of the species and to create platform of communication between European bison breeders, decision makers, conservationists and others and improve the situation of European bison.



Photo 8, 9. EBCC meeting, Warsaw, Poland

Through the conclusions and recommendations from this workshop are:

1. Proposed legal form of EBCC: a Society (NGO) established in Poland, with international membership.

2. A structure of EBCC:

- Main Office at Warsaw
- Regional Offices/Centers (members of EBCC) established as independent NGOs: During meeting declaration of future involvement and creation of regional centers are as follows: Germany (3 centers with one on leading position), France, Poland, Romania, Russia, Scandinavia (Sweden, Finland, and Denmark), Spain, and The Netherlands. Other countries also may organize their own offices or join present regional offices.
- Board – consisting of representatives of all centers

Tasks of the Main Office:

Initial phase:

- establishment of legal entity
- organization of the office

Normal:

- collection of all available information on European bison in co-operation with regional centers
- co-operation in updating the EBPB
- Provision of advice to breeders, recommendations on animals' exchange, breeding etc.
- fund raising

Tasks of Regional Offices/Centers:

Initial phase:

- establishment of legal entity
- collection of members within the region

Normal:

- collection of information at regional level
- co-ordination of all actions within region
- fund raising

Tasks of the Board:

- Preparation of EBCC statute

- Formulation of EBCC policy
- Setting up plans for EBCC activities

3. Main goals for EBCC

- Implementation of European Strategy
- Collection of available info on E. bison and establishment of a database
- Analysis (genetics, demography, population, health, ecology) of available information
- Co-ordination of bison exchange and introduction plans
- Updating of stakeholders at regional level on EBCC activities and E. bison status
- Certification of breeders
- Establishment of a genetic bank (with semen collection?)

4. Involvement of EBCC into European nature conservation structures

- establishment of connection with IUCN through BSG - SSC
- contact with European Commission
- contact with organizations involved in conservation on international level

5. Fund raising

Main platform: European bison conservation – the obligation of EU

- stable funding (office running costs) – through members (Regional Offices) (estimated basic level - 50 thousand € annually)
- project funding: EU structural funds, sponsors (companies, other foundations)

6. Logo

- Main for EBCC - a contest – proposals from all regional centers
- Regional centers – own logos, a name should include: Regional Centre of EBCC

TIMETABLE for nearest future

January 2009 - Draft of EBCC Statute prepared in Warsaw and send to all involved person (members of the meeting and few others who could not come)

February 2009 – Discussion on the Statute and creation of final version

? - June 2009 – Registration of EBCC in Polish court

6. The Borecka Bison Reserve, Poland (10 December 2008)

Objectives: meetings with representatives of reserves, techniques of culling, legislation, etc.

The second largest free population of the bison of the Lowland line can be found in the Forest of Borki. The first animals were brought here in 1962. The Borecka herd lives in a managed forest area of about 180 km². About 107 km² of this area is occupied by the European bison.

The dominant tree species here are Norway spruce (35,4%), oaks (19,4%), birches (16,3%) and alders (11,9%). The forests have a luxuriant understorey that mainly comprises hazel, raspberry and rowan, as well as wealth of herb-layer species typical for oak-lime-hornbeam forest. Water is accessible in the many forest streams. These forests are exploited for forestry, target areas being cut and then left for restocking without being fenced off. At most, trees are protected against debarking on a case-by-case basis.

In 1970 and 1971 the herd was founded with 15 animals and today the herd counts around 70 animals (Raczynski, 2005). Inventorying is done by way of counts at winter refuges. The Borki Forest enjoys special status with respect to bison as there is only limited hunting activity is allowed, which means shooting specifically selected specimens. The bison population receives additional feeding in the winter and is scientifically managed and regulated.

Winter is a time of supplementary feeding for the bison of this Reserve, with hay, silage, and a mix of concentrates plus mineral supplements and tree bark.

Furthermore, at 50-70, the size of the population in the Borecka Forest is at the optimal level for this forest complex.



Photo 10, 11. Borki Reserve, Poland

7. The Bialowieza National Park, Poland (11-14 December 2008)

Objective: meetings with representatives of Park Administration, representatives of Mammal Institute Research and European Bison Pedigree Book.

In North-Eastern Poland, on the border with Belarus and in the voivodship of Podlaskie and powiat of Hajnowka, this center is some 80 km to the south of the city of Bialystok.

The bison in Bialowieza have a large area available for them and therefore their population has been steadily increasing. Between 1952 and 1966 the herd was founded with 28 animals.

In 1993 the population counted 251 animals, whereas in 2005 this number got as high as 397. The bison in this park are all of the Lowland line, but show a high level of homozygoteness.

The population of Bialowieza is big enough to be a stable population and has a low chance of genetic losses. The European Bison in the Bialowieza National Park receive additional feeding during the winter and are scientifically managed and regulated.

The Bialowieska herd lives in the Bialowieza National Park. On the east it borders the Beloveshkaya National Park in Belarus. Unfortunately, these two herds are separated from each other by a fence. Regardless of this fence dividing the two populations the Bialowieza herd is one of the biggest free-ranging European bison herds in Europe. The forest type in Bialowieza National Park is mostly deciduous.



Photo 12, 13. Bialowieza National Park, Poland

8. Conclusions:

- Sharing work and practical experience is the key for facing the reintroduction of the biggest mammal of Europe.
- As a result of this study tour, I identified common aspects in order to work under a common approach for bison management in captivity and freedom herds and. In this respect, I submitted a proposal for a future project idea INTERREG IV (regional initiative) regarding bison management in freedom, **priority: environment and risk prevention.** The idea of the project is posted on the official web-page of this Programme (www.interreg4c.eu/ the online project idea data base/ search projects).

Below you can see the concept of the project idea called European bison and local communities.

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Future project ideas

Project name:	European bison and local communities
Lead partner:	Vanatori Neamt Mayoralty
Which priority does your project fall under?	Environment and risk prevention, Natural and technological risks
What type of intervention do you intend to apply for?	Regional Initiative Project
Issues tackled by your project?	-Conservation of biodiversity : European bison is a priority species for European Union - local communities welfare in relation with the presence of European

	bison
What are the main objectives of your project?	<p>1)Management and coordination: finalisation of the partnership agreement; progress reports;organisation of Commit. meetings;</p> <p>2)Communication: web site for the promotion of the project;organisation of meetings and press conferences; organisa-tion of joint launch and closing conference</p> <p>3)Exchange of experience:organisation of study and site visits in each area; thematic seminars about local approaches (tourism, handicrafts, public awareness, etc) regarding European bison; production of a case study book which will include a hared strategy.</p> <p>4)Application of the result: little experimentation in each area about the shared strategy</p>
What are the main expected outputs and results?	a common strategy regarding European biosn and local communities for different places; a web site; a case study book; thematic seminars; study and site visits; integration of the spe-cies management with the local communi-ties approaches;
Is your project a follow-up to a previous project? If so - which programme and project?	no
Partners already identified at this stage:	
Partners needed: Please indicate the desired partner profile (country, activity/sector, experience)	- Local council, mayoralities of the places where European bison(in freedom, semi-freedom, cap-tivity) represent a point of interest for local communities and are interested to integrate the development of local busi-ness with species protection and public awareness.