



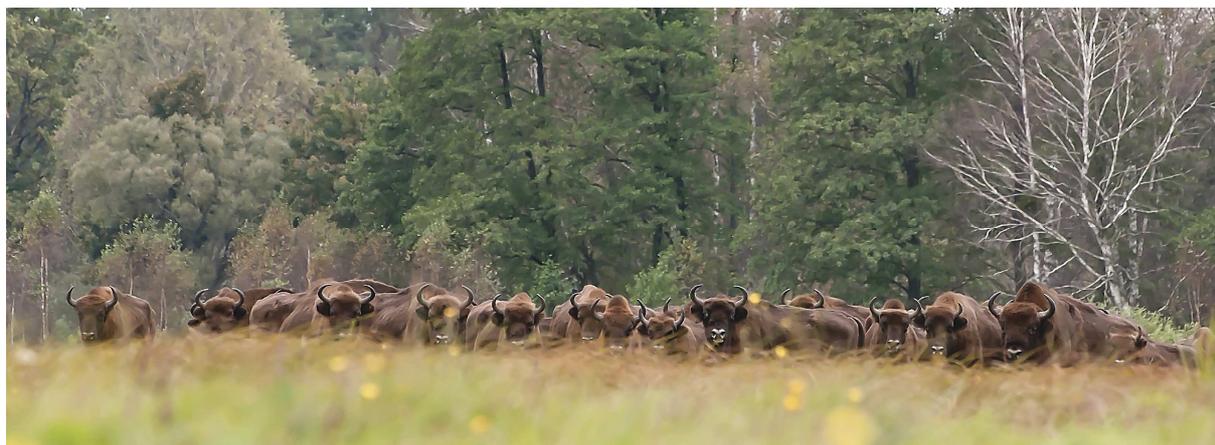
## **After-LIFE conservation plan**

LIFE06NAT/PL/000105

European bison conservation in the Białowieża Forest, Poland

BISON LAND

Project co-financed by European Union – LIFE Nature programme and the Frankfurt Zoological Society



Mammal Research Institute PAS, December 2010

## **I. Overview of the project and the assessment of the project results**

The bison is the largest terrestrial mammal and herbivore in Europe which has survived until our times. Bison have survived thanks to several hundred years of protection by Polish kings and Russian tsars. Białowieża Primeval Forest was the last place where the lowland subspecies of the bison was present until 1919. It was also there that the bison population was reconstructed following the extinction which took place during World War I. From the beginning of the restoration process of this species in 1929 the number of free-ranging populations as well as the population size of bison worldwide have gradually been increasing. However, the bison is still an endangered species with the list of following threats: (1) fragmented and limited distribution range and isolation of herds; (2) low genetic variation and lack of gene exchange among bison populations; (3) inappropriate forms of management and low naturalisation of the species (4) diseases and parasites (5) low social acceptance of this large herbivore. The Białowieża population constitutes the core of the world herd of the species. In the Forest, nearly 1/3 of all free-living specimen occur. The protection and appropriate management of the Białowieża population is hence of tremendous importance for the preservation and permanence of the world bison population. It has been therefore a necessary to undertake complex actions preventing from the threats and increasing the chances for the species survival in the future.

In the Polish part of the Białowieża Forest a conservation programme for the European bison has been carried out for many years. In 2004, European Bison Programme – a broader initiative for the sustainable development of the south-eastern part of the Podlasie region was initiated. One of the most important elements of this programme was project “European bison conservation in the Białowieża Forest – Bison Land”, co-financed by European Union – LIFE Nature programme and the Frankfurt Zoological Society. The project was coordinated by the Mammal Research Institute Polish Academy of Sciences in 2006-2010, and the partners in the project were: Białowieża National Park, the Regional Directorate of the State Forests in Białystok together with three forest districts: Białowieża, Browsk and Hajnówka, and the Green Lungs of Poland Foundation. Joint work of researchers, managers, foresters and conservationists for protection of endangered species is the great value of the project. The main purpose of the project was to improve the situation of the European bison in the Białowieża Forest and its surroundings and to assure the long-term survival of the species. Reaching of the main objectives of the project were supported by actions enabling expansion of the bison range, improvement of their feeding and habitat base and gradual altering the species management. The tasks of the project already executed are as follows: determination of ecological corridors joining Białowieża Forest with adjacent areas and their implementation into the regional development planning, reclamation of over 46 hectares of forest meadows, construction of 14 watering places and 19 feeding sites, counteraction of potential human-bison conflicts, and spatial and genetic monitoring of the population. Environmental activities were accompanied by wide programme of social consultations and information-educational actions aimed at increase of bison acceptance among inhabitants of the region. Besides the social consultations, thematic meetings at schools and seminars for

teachers were also carried out. The social campaign was supported by distribution of the promotional and informational materials, publications and a film produced within the framework of the project, as well as the website dedicated to the European bison conservation and the project. Several activities of the project were aimed at introduction of science-based management of European bison in the Białowieża Forest. The project has also contributed to the promotion of the bison and Białowieża Primeval Forest and put emphasis on threats and problems related to the protection of this species. A great value of the project was joint actions of different institutions and involvement of local communities in the protection of the bison.

The project LIFE "Bison Land" has initiated a range of actions strengthening the long-term protection of the bison and at the same time has been conducive to the protection of other animal species. Reclamation and mowing of meadows have resulted in the reconstruction of environments used by other animal species (e.g. lesser spotted eagle, ungulates and a lot of insect species) and ecological corridors ensure the ecological connectivity in the region, which is of great importance for the protection of other species referred to in Annexe II to the Habitat Directive (the wolf, the lynx). The project was conducted in the Białowieża Primeval Forest - the best preserved lowland natural forest on the European continent. Immense biodiversity of the Forest and the network of connections linking organisms and the state of preservation of ecological processes make up the basis for the protection of this area in the form of a biosphere reserve, a world heritage of humanity site and the Special Area of Habitat Conservation Natura 2000 no. PLC200004. The project area included Białowieża Primeval Forest and the adjacent territories located in the area of 11 communes. These territories together with the adjoining forest areas of Knyszyńska Forest in the north and Mielnicka Forest in the south constitute "Bison Land" - the area of the targeted occurrence of dispersed European bison populations.

### **Ecological effects of the project implementation**

- increase in the population size - during the project period the population size increased from 402 to 451 specimen;
- the dispersal of winter groupings – winter aggregations decreased and new herds were formed;
- spread of the population - the area of occurrence of the population within Białowieża Primeval Forest increased by 32%, from 610 km<sup>2</sup> in 2006 to 808 km<sup>2</sup> in 2010.
- ecological corridors were created and introduced into the Provincial Land Development Plan and a complete documentation of the developed network of ecological corridors on the local level was delivered to commune offices located on the territory of the Bison Land. The corridors will protect the links between present and potential areas of the species herds occurrence within the Bison Land and will make migrations and flow of genes possible. The corridors are essential not only for the bison but also for other rare animals dwelling in the region (the wolf, the lynx);

- improvement in the environment conditions - as a result of the project actions the surface area of attractive grazing sites of bison increased. Bison regularly use reclaimed meadows and the centres of their activity overlap with the areas of meadows located within forests and with open river valleys.

### **Social effects of the project implementation**

- increase in the social acceptance of the bison and the knowledge of the species - over 300 representatives of local communities, 60 teachers and nearly 1700 students of different schools participated in lectures, workshops and field trips run during public consultations. Among the persons initially exhibiting a neutral or negative attitude to the bison, following the consultations as many as 70% declared a change in their attitude to this species.
- decrease in the volume of damages to agricultural crops - contracting meadows from farmers and protecting crops resulted in the decrease in the number of damages and compensation amounts paid within Białowieża Primeval Forest;
- promotion of the bison and the project - the website of the project was visited over 100,000 times (100 hits a day) during the project implementation; the information on the project was presented in the domestic and foreign press, on different Internet portals and regional and national television programmes;
- improvement in the road safety - information and warning signs with the silhouette of a bison were put up in order to enhance safety on roads and to promote the species and the Land of the Bison;
- promotion of the bison as a tourist attraction and the driving factor for the sustainable development of the region.

## II. Current situation – SWOT analyses

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Good conservation status of the Białowieża Forest</li> <li>• Local knowledge on species increased and improved local attitudes</li> <li>• Solid scientific background and facilities (institutes) and experienced local personnel (BNP)</li> <li>• Good public image of the species</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Non operational management structures for free living populations</li> <li>• Overall some problems with the operation of national protected areas' policies</li> <li>• Relying on opinion-based management</li> <li>• Still limited knowledge on bison</li> <li>• “Strong beliefs” presence in the region (for example on damaging role of bison for the forest trees)</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Increased funding opportunities</li> <li>• Nature’s importance as a sustainable development factor</li> <li>• Gradual establishment of environment in the political agenda</li> <li>• A great value of the bison as a driving factor for the economic development, promotion of the region, symbol of the nature conservation</li> <li>• Role of the bison as an “umbrella species” for other species and the biodiversity conservation</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Intensive development of transportation infrastructure</li> <li>• Strengthening of the transmission of diseases and parasites due to the warming-up effect</li> <li>• Natural catastrophes (forest fires, extended droughts, etc)</li> <li>• Commercial hunting and/or poaching</li> <li>• Low genetic variation and limited migration between Białowieża population and neighbouring population in Knyszyn Forest</li> <li>• Increase of touristic pressure</li> <li>• Conflicts with farmers and land owners</li> <li>• Limited distribution range</li> <li>• Continuing opinion-based</li> <li>• Increase of culling aimed at stabilization of growing population</li> </ul>

## III. Recommendations for future actions – objectives, methodology and possibility of funding

The completed project does not exhaust the need for the continuation of protective actions and for the observation of ecological effects it has produced, as the process of the species naturalization requires implementing the long-term programme.

These are recommendations to the strategy of the protection and management of the species population living in the wild:

- introducing the strategy of the management and protection of the bison population based on scientific evidence, preventing current threats to the species;
- aiming at the decrease in the species dependence on the human;

- aiming at greater participation of natural factors in the shaping of the population size dynamics;
- maintaining the largest possible surface area of meadows located within forests - key environments for the bison;
- changing the system of feeding, consisting in the dispersal and gradual limitation of feeding;
- responding to conflict situations caused by bison rapidly;
- monitoring health condition of bison and undertaking actions aimed at its improvement;
- carrying out education actions increasing the acceptance of the species and involving local communities in the protection of the bison via agricultural and environmental programmes and other resources;
- conducting scientific research oriented towards solving problems within the scope of the species protection and aimed at developing sound scientific bases for the management of bison populations.

The solutions and practices developed in the project will be continued in the next few years as part of subsidies available in Poland from the Operational Programme of Infrastructure and Environment, Programme of Rural Areas Development and the LIFE financial instrument itself.

**There are 2 new conservation projects started in the Białowieża Forest and its vicinity in 2010:**

**Project<sup>1</sup>:**“Ochrona in situ żubra w Polsce – część północno-wschodnia” no 5/2009, 2010-2013, Program Operacyjny Infrastruktura i Środowisko (European bison conservation in situ, Poland – the north – east part of Poland”, 2010-31.12.2013, Operational Programme Infrastructure and Environment)

**Project<sup>2</sup>:** LIFE08NAT/PL/00510 Restoring populations of Lesser Spotted Eagle at chosen areas of Natura 2000, 2010-31.12.2014, LIFE+

These projects will make the ecological results of the Bison Land project sustainable or even strengthen and improve them.

## Planned and recommended conservation activities for the European bison population in the Białowieża Forest and its vicinity

Conservation activities	Scope of continuation	Responsible institution	Funding possibilities	Foreseen budget	Time schedule	Comments
<b>Implementation of the ecological corridors into spatial planning documents, strategies (protection of the ecological corridors for bison migration)</b>	The implementation of the ecological network becomes an obligation for the communes so the process is in progress now. Both Voivodship and communes authorities (11 from project) are obliged to take into account delivered documents with the ecological network in spatial planning procedures (preparation of spatial local plans-maps, strategy policies, other binding documents). The ecological corridors will be also used by the Regional Directorate of Environment Protection (Regionalna Dyrekcja Ochrony Środowiska) when providing different kind of binding permissions for construction	Communes(gminy) and voivodship authority (Podlaskie Wojewódzkie Biuro Planowania Przestrzennego, Urząd Marszałkowski, Urząd Wojewódzki, Regionalna Dyrekcja Ochrony Środowiska)	State budget	Ca. 200.000 PLN for preparation of each studium/ local spatial plan	successively by 2020	

	work, urban development in the region.					
<b>Reclamation of meadows (good grazing area for bison)</b>  <u>14,69 ha out of 61 foreseen by the project were not completed – this area will be reclaimed within the new projects:</u>	<b>Project<sup>1</sup> 5ha</b> in the Białowieża District	Hajnówka Forest District	Operational Program  Infrastructure and Environment	80.00,00 PLN total	2010-31.12.2013	These activities will provide a great and sufficient area of meadows for bison utilization. We estimate that there won't be any need to continue such activities in future under the condition that reclaimed areas are regularly mown.
	<b>Project<sup>2</sup> - 195 ha</b> planned for reclamation in the Białowieża forest in total (3 districts and BNP and meadows in the Forest vicinity)	Polskie Towarzystwo Ochrony Ptaków  Regionalna Dyrekcja Lasów Państwowych	LIFE+	330-110 Euro ha	2010-31.12.2014	
<b>Construction of small water reservoirs</b>	New small water reservoirs (15) are planned to be established within <b>Project<sup>1</sup></b>	Białowieża Forest Districts	Operational Programme Infrastructure and Environment	90.000,00 PLN total	2010-31.12.2013	The new water places will further improve water accessibility for bison use in the long term period

	50 ponds in Białowieska forest outside of river valleys will be also provided by the Project <sup>2</sup>	Polskie Towarzystwo Ochrony Ptaków  Regionalna Dyrekcja Lasów Państwowych	LIFE+	1000 Euro/pond  50000 Euro total	2010-31.12.2014	
<b>Planting and conservation of wild fruit trees</b>	8 ha will be planted with wild fruit trees in Hajnówka Forest District tress within the <b>Project<sup>1</sup></b> supports also the conservation of previously planted areas in LIFE project (6ha).	Białowieża Forest Districts	Operational Programme Infrastructure and Environment  and/or  Forest Districts own financial means	80.000 PLN total	2010-31.12.2013	After the new project the forest district will take care for the planted areas
<b>Construction of feeding sites</b>	12 new feeding sites, conservation of the present feeding sites and also delivering hay for winter feeding is foreseen by the <b>Project<sup>1</sup></b>	Białowieża Forest Districts	Operational Programme Infrastructure and Environment	100.000 PLN total	2010-31.12.2013	Forest Districts will take care for the feeding sites after the Project <sup>1</sup> is finished.

<b>Mowing of meadows and provision of hay for winter feeding</b>	<b>124 ha</b> of meadows in 3 Białowieża Forest Districts will be mown within the <b>Project<sup>1</sup></b>	Białowieża Forest Districts	Operational Programme Infrastructure and Environment	200.000 PLN total		The hay will be delivered for winter feeding of bison.
	Mowing ca. <b>160-180 ha</b> will be continued by the forest district within the Agri-environmental EU subsidies.		Agri-environmental EU subsidies	100.000,00 PLN per year	By 2014	
<b>Protection of agricultural areas affected by Bison bonasus and managing damage-causing individuals</b>	In the <b>Project<sup>1</sup></b> 45 ha of area in the Białowieża Forest and Knyszyn Forest vicinities will be provided with the protection measures (fences, electric wires, etc). Protection of the areas affected by bison will be continued.	Białowieża National Park	Operational Programme Infrastructure and Environment	600.000 PLN total	2010-31.12.2013	After the project is finished the state (Regional Directorate of Environment Protection) will be obliged to compensate the possible damages caused by bison. The further improvement of social acceptance for the species will be present.

<b>Supervision and annual censuses Bison bonasus ; Monitoring of bison distribution and dispersal with satellite telemetry</b>	Widely continued with the <b>Project<sup>1</sup></b>	Białowieża National Park	Operational Programme Infrastructure and Environment	600.000,00 PLN total	2010-31.12.2013	More data will be gathered and will be used for the improvement of the management tools
<b>Genetical monitoring of expanding Bison bonasus population</b>	Widely continued with the <b>Project<sup>1</sup></b>	Białowieża National Park	Operational Programme Infrastructure and Environment		2010-31.12.2013	More data will be gathered and will be used for the improvement of the management tools
<b>Contracting of meadows for bison</b>	<b>318 ha</b> of meadows in the Białowieża and Knyszyn Forests will be contracted in the Project1	Białowieża National Park	Operational Programme Infrastructure and Environment	600.00,00 PLN total	2010-31.12.2013	Protection of the areas affected by bison presence will be continued by 31.12.2013. This will strengthen the ecological and social effects obtained in the

						<p>LIFE Bison Land project.</p> <p>The MRI PAS is discussing with the Ministry of Agriculture and Rural Development the possibility of introducing the new Agri-environmental EU package dedicated to the European bison (from 2014).</p> <p>The state is still obliged to pay the compensation for the damages caused by the bison.</p>
<p><b>Web site of the project LIFE (www.krainazubra.pl)</b></p>	<p>MRI PAS will keep the project website and update it for an indefinite period.</p>	<p>MRI PAS</p>	<p>Own budget</p>	<p>1000 PLN per year</p>	<p>Indefinite period</p>	<p>Updating will be continuous.</p>
<p><b>Production of promotional materials,</b></p>	<p>New information and education materials produced will be produced and distributed within</p>	<p>Białowieża Forest Districts</p>	<p>Operational Programme Infrastructure</p>	<p>400.000,00 PLN in total</p>	<p>2010-31.12.2013</p>	<p>These activities will strengthen and improve the social effects of the</p>

<b>educational materials, preparation of view towers, conducting public consultations</b>	<b>the Project<sup>1</sup></b> This new project foresaw also building of view towers, implementing tourists tours/tracks, setting the information boards on species in the field.	Białowieża National Park	and Environment			project LIFE Bison Land. The public ecological awareness will be further increased.
<b>Conference on the European bison issues and continuation of platform for knowledge exchange</b>	MRI PAS plans to organize the international scientific conference on European bison in 2012 thanks to the project BIOCONSUS (7th Framework Programme).	MRI PAS	7th Framework Programme	180.000 PLN in total	By May 2013	This will continue the development of cooperation between bison specialists from the whole world.
	The National Bison Conference will be also organized within the <b>Project<sup>1</sup></b>	Białowieża National Park	Operational Programme Infrastructure and Environment	100.000,00 PLN in total	2010-31.12.2013	
<b>Education of teachers and students and other specialists</b>	MRI PAS will continue giving lectures and organizing workshops on European bison aspects for the pupils, students, PhD students, professionals, other	MRI PAS	Own budget  7th Framework Programme	30.000,00 PLN per year	Indefinite period	The public ecological awareness will be further increased.

	groups of interest (tourist guides). The prepared Bison Educational Exhibition in MRI PAS will be widely used for these reasons.					
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#### **IV. Monitoring of project results and After-LIFE conservation activities**

Observation of ecological effects of the LIFE project and further conservation activities can be evaluated by following indicators:

1. Number of bison in the Białowieża Forest
2. Expanding range of bison distribution
3. Number of bison herds in the forest and outside the forest
4. Number of bison observation on main migratory routes (ecological corridors)
5. Number and/or scale of recorded damages caused by bison in the region
6. Number of interventions in case of conflicts between bison and human
7. Number of participants in the events dedicated to the species (for example: educational visits to the Bison Exhibition in the MRI PAS, lectures, seminars, conferences, workshops, public consultations)
8. Number of visits to the project website ([www.krainazubra.pl](http://www.krainazubra.pl))
9. Number of published scientific articles in the reviewed research journals
10. Results of the questionnaires on public awareness
11. Number of monitored bison – spatial and genetic monitoring

The whole project itself, which was one of the first LIFE projects implemented in Poland, have already become a model example of protective actions for other free-ranging populations of bison in Poland and in Europe. The proposed practices are already used or will be used in the following projects:

1. “Ochrona in situ żubra w Polsce – część północno-wschodnia” no 5/2009, 2010-2013, Program Operacyjny Infrastruktura i Środowisko (European bison conservation in situ, Poland – the north – east part of Poland”, 2010-31.12.2013, Operational Programme Infrastructure and Environment). The 3 free living bison populations are taken under the conservation activities: Białowieża Forest, Knyszyńska Forest, Borecka Forest. One new free living population in this region is planned – in the Augustowska Forest.
2. Ochrona żubrów in situ w województwie zachodniopomorskim –” 2010-2013, Program Operacyjny Infrastruktura i Środowisko (European bison conservation in situ, Poland, Zachodniopomorskie Voivodship”, 2010-31.12.2013, Operational Programme Infrastructure and Environment).
3. Ochrona in situ żubra w Polsce - część południowa” 2010-2013, Program Operacyjny Infrastruktura i Środowisko (European bison conservation in situ, The south of Poland,” 2010-31.12.2013, Operational Programme Infrastructure and Environment).
4. Conservation activities implemented in Ukraine, financed by the Frankfurt Zoological Society.
5. Project for the European bison conservation in Slovakia “Realization of management plan of protected species European bison” 2010-31.12.2011 Operational Program, Environment.