

<b>Name of the place:</b>			
<b>Big mammal forest (Puszcza Białowieska)</b>			
<b>Basic information</b>			
Cadastral zone	Podlaskie Voivodeship, north-eastern part of Poland		
Land register reference	200502_2.0001		
Owner	Białowieża National Park		
Contact	bpn@bpn.com.pl		
Latitude GPS	52.738282, 23.745725		
Area	6978 ha		
Altitude	155 m above sea level		
<b>Description of wider relations</b>			
Growing culture	Mixed old stands – under protection.		
The nature of the land	A natural forest of primary character, a zone of deciduous and mixed forests. North-Podlasie Lowland.		
Current use	Protected area	Comm.:	
Water or water source	Poorly developed river network. Main river – Narewka, with two tributaries: Orłówka and Hwoźna. Waterlogged river valleys are conducive to the occurrence of extensive meadows.		
Territorial relations	National Park		
Forest management plan (FMP)	No (Nature Conservation Plan)	Valid through	n/a
Age: in %		Up to 10 years	
	maple ( <i>Acer</i> ), oak ( <i>Quercus</i> )	10-25	5%
	ash ( <i>Fraxinus</i> ), elm ( <i>Ulmus</i> ), spruce ( <i>Picea</i> )	25-50	20%
	oak ( <i>Quercus</i> ), hornbeam ( <i>Carpinus</i> ), linden ( <i>Tilia</i> ), maple ( <i>Acer</i> )	50 and more	75%

<b>Biota – forest cover and its inhabitants</b>			
<b>Vegetation as from resources</b>			state
Phytocenology	Multi-species oak-hornbeam-linden forest with maple, spruce, ash and elm.		
Original natural vegetation	<i>Tilio-Carpinetum</i> Mixed forest		
Potential natural vegetation	<i>Tilio-Carpinetum</i>		
Forest stand: in %	Tree layer:	oak ( <i>Quercus</i> ), European spruce	

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		( <i>Picea abies</i> ), European hornbeam ( <i>Carpinus betulus</i> ), small-leaved linden ( <i>Tilia cordata</i> ), sycamore ( <i>Acer pseudoplatanus</i> ), European ash ( <i>Fraxinus excelsior</i> )	
	Shrub layer:	hazel ( <i>Corylus</i> ), European spindle ( <i>Euonymus europaeus</i> ), fly honeysuckle ( <i>Lonicera xylosteum</i> ), dogwood ( <i>Cornus sp.</i> )	
	Herb layer (description):	wood sorrel ( <i>Oxalis acetosella</i> ), wall lettuce ( <i>Mycelis muralis</i> ), liverwort ( <i>Hepatica nobilis</i> ), greater starwort ( <i>Stellaria holostea</i> ), bugleherb ( <i>Ajuga reptans</i> )	
<b>Fauna – remarkable, known-but-not-seen</b>			state
Birds and mammals	European bison ( <i>Bos bonasus</i> ), red deer ( <i>Cervus elaphus</i> ), moose ( <i>Alces alces</i> ), roe deer ( <i>Capreolus capreolus</i> ), wild boar ( <i>Sus scrofa</i> ), wolf ( <i>Canis lupus</i> ), Eurasian three-toed woodpecker ( <i>Picoides tridactylus</i> ), yellow-necked mouse ( <i>Apodemus flavicollis</i> ), European fat dormouse ( <i>Glis glis</i> ), lynx ( <i>Lynx lynx</i> ), European pine marten ( <i>Martes martes</i> ), bank vole ( <i>Myodes glareolus</i> ), 14 species of bats ( <i>Chiroptera</i> ), woodpeckers, raptors, owls		
Insects	The most well-known groups: <i>Zygentoma</i> , <i>Odonata</i> , <i>Orthoptera</i> , <i>Dermaptera</i> , <i>Dictyoptera</i> , <i>Raphidioptera</i> , <i>Siphonaptera</i> , <i>Coleoptera</i>		
Amphibians	European fire-bellied toad ( <i>Bombina bombina</i> ), European tree frog ( <i>Hyla arborea</i> ), garlic toad ( <i>Pelobates fuscus</i> ), common toad ( <i>Bufo bufo</i> ), common frog ( <i>Rana temporaria</i> ), smooth newt ( <i>Lissotriton vulgaris</i> ), warty newt ( <i>Triturus cristatus</i> )		
Reptiles	slow worm ( <i>Anguis fragilis</i> ), sand lizard ( <i>Lacerta agilis</i> ), common European adder ( <i>Vipera berus</i> ), grass snake ( <i>Natrix natrix</i> ), viviparous lizard ( <i>Zootoca vivipara</i> )		

<b>Forest as a cultural aspect of the landscape</b>		
<b>PAST</b>		
<b>Culture</b>		
What has influenced the forest so far, is it somehow connected with the culture of the surrounding environment, is it part of the cultural development of the landscape?	The massive cutting down of the Białowieża Forest began with the German occupation of the land in the 1915-1918. However, due to their passion for hunting, there were people who defended the forest. In 1932, a National Park was established in the area. Earlier use of these lands, both for hunting and for logging, resulted in a reduction in the space needed for large mammals, such as the wisent, also known as the European bison.	
<b>Civilization</b>		
What is the relationship between the forest and civilization now, how does the civilization reflect on its state and development?	Nowadays, people want to protect these forests. For them, Puszcza Białowieska is an important element of Polish nature. There are numerous discussions about how to protect and preserve it.	
<b>Story</b>		
Origin of the relation	Due to their popularity as hunting grounds, Puszcza Białowieska was visited by princes and kings over the course of many years. People also used the benefits of the forest by collecting mushrooms and berries.	
<b>PRESENT</b>		
Thanks to the restitution of the European bison in the Białowieża Forest, the largest free-living population of European bison in Poland has been preserved. Nowadays, activities to better protect the population are still being carried out.		Notes and questions
<b>Natural side of present development</b>		
	The protection of the European bison as an umbrella species has a positive effect on other species of animals and plants.	
<b>Threats and limits</b>		
	Limited availability of water for animals. Grouping of mammals causes competition for resources. The increased number of large mammals may pose a risk of traffic accidents.	
<b>FUTURE</b>		
Maintaining the protection of forest stands and animals, extending protected areas, active protection of the European bison.		Notes and questions

<b>Natural side of future development</b>		
	Increasing the protected areas will positively contribute to the development of the population of both large mammals and other components of the ecosystem.	
<b>Threats and limits</b>		
	Social conflicts related to the extension of protected areas. The local population wants free access to the forests to be able to freely pick mushrooms, berries, and to obtain firewood.	
	The presence of larger numbers of animals in new areas increases the risk of car collisions.	
	No money to spend on active protection.	
<b>Intention of the forest activities</b>		
Expectations	Increasing the range and dispersion of the European bison population, improving their genetic structure and health condition. Increased acceptance of the local community.	
What will my forest provide to people	Biodiversity, the benefits of tourism for the local community, the opportunity to observe large mammals in the wild.	
Plan – in 10 years	The existence of mid-forest clearings where large mammals graze, the creation of a natural feed bases, maintaining the availability of water, maintenance of supplementary feeding sites for mammals	
Plan – in 50 years	Diverse forest landscape, no hunting pressure, replacement of infrastructure for supplementary feeding of animals in winter.	
Who do we need to reach the goal?	Nature conservation organizations, National Park, State Forests	
<b>Proposals and steps</b>		
<b>What</b>	<b>Legend</b>	<b>Who</b>
Monitoring of the European bison population	Monitoring of health, abundance, habitat preferences	Nature conservation organizations
Improvement of genetic variation in the population	Introduction of animals from other populations to improve the genetic structure	Livestock breeding center
Public education	Raising social acceptance, presenting the importance of the European bison as an umbrella species.	National Park

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Supplementary feeding of animals in winter and creation of a waterhole	Increasing winter feeding sites to disperse existing populations and prevent conflicts.	Nature conservation organizations
Reconstruction of forest environments into a diverse landscape	Thanks to the diverse landscape, the biodiversity of the foraging base increases and the competition among animals for resources decreases.	National Park

### **Monitoring the development**

Time		
12.2022	Creation of supplementary feeding sites for big mammals	
03.2023	Annual monitoring of big mammals	
03.2024	Conservation of supplementary feeding sites	
03.2024	Annual monitoring of the European bison population	

### **Inspiration**

Literature		what
	Matuszkiewicz W., Faliński J.B., Kostrowicki A.S., Matuszkiewicz J.M., Olaczek R., Wojterski T., 1995, Potencjalna roślinność naturalna Polski. Mapa przeglądowa 1:300 000. Arkusze 1-12, IGiPZ PAN, Warszawa.	
	<i>Ochrona in situ żubra w Polsce</i>	
Heard around	<i>Prof. Bogdan Jaroszewicz</i>	
Meetings	10.2021	
Discussions within the project team	10.2021, 11.2022	