

European bison in Janowskie Forests

Jakub Myszak

Janów Lubelski State Forest District, Poland

Abstract: In January 2021, European bison came back to Janowskie Forests after few hundred years of absence. The project of reintroduction was developed by Janów Lubelski Forest District under the frame of the project: “Complex project of European bison protection in Poland”. After over one year it could be noticed that animals have adapted very well and behave as typical wild herd. Many measures were implemented before and after the reintroduction by forest employees and scientists Those actions aimed at maintaining proper food resources and monitoring the herd.

Key words: *Bison bonasus*, Janowskie Forests, reintroduction, monitoring

The area of Janów Lubelski Forest District is nearly 31.7 thousand ha. The district is located in the south-western part of the Lubelskie and the north-eastern part of the Podkarpackie voivodeship. It overlaps with 3 poviats (Janowski, Biłgoraj, Stalowa Wola) and 12 communes. The Janów Lubelski Forest District belongs to the Regional Directorate of State Forests in Lublin.

The large part of this Forest District is located in the VI Małopolska Region, District 10 of the Sandomierska Lowlands, the Solska Forest Mesoregion. As much as 98.9% of the area of the Forest District is within the plain of Solska Forest covered mainly with river sands deposited at accumulation terraces. The terrain is diversified with numerous dunes and waterlogged depressions filled up by peat bogs or ponds. The landscape of terraces with dunes dominates. The mesoregion is dominated by forest ecosystems (over 50% of the area), mainly by coniferous forests (wet and fresh habitats). Pine stands predominate, and apart from fir, the proportion of other tree species is below the average for the region. Within the area of Janowskie Forest occur many rare and protected animal and plant species. Because of high natural values of the area numerous nature reserves covering 13.7% of the district (434 7.87 ha) have been established as well as many monuments of nature, mainly old trees. There are Natura 2000 sites: PLB 060005 “Łasy Janowskie” and PLH 060031 “Uroczyska Lasów Janowskich”. Part of the area of the forest district is within the Roztocze area of protected landscape. There are six nature reserves: “Jastkowice”, “Łasy Janowskie”, “Kacze Błota”, “Imielty

Ług”, “Szkłarnia” and “Łęka” (Kapuscinski 1996; Karetta 2005). In the Forests District, 17 protection zones were established around the nests of rare bird species, i.e. white-tailed eagle, lesser spotted eagle, black stork, capercaillie. In order to increase the size of the local capercaillie population and create conditions for its reconstruction, from 2018, the project “Restitution and active protection of the capercaillie in the Solska Forest” is being implemented here. The value of the area can be measured by nature reserves (434 787 ha) and old trees as monuments of nature.

Of course, Janowskie Forests are not limited to just the nature. In the local forests could be find numerous traces of the past, wonderful, often little-known monuments of wooden architecture, interesting objects of secular and sacred architecture (roadside chapels and crosses), places of national remembrance. Janów Lubelski, a city somehow a bit lost today, has written a beautiful page of history. For almost three centuries, it was one of the economic supports of the Zamość Estate, famous for the production of the finest cloth. It was from here and from the surrounding villages that the excellent ceramics came from, the reputation of which went far beyond the region. Craft traditions are cultivated to this day in the village Łążek Garncarski. The region is particularly attractive for cycling – many marked routes, low traffic and high availability of potential resting places make this region unique for cyclists (Szunke 1995; Mazurek-Kusiak 2016).

The headquarters of the Forest District are located in Janów Lubelski, the town with almost 12 thousand residents. In 1994, the entire area of the Janów Lubelski Forest District was assigned to the “Łasy Janowskie” Forest Promotional Complex on the basis of the Regulation No. 30 of the General Director of the State Forests. The basis for recognition were unique natural values of the area, the rich history of forest management, scientific and popularizing achievements, and highly qualified foresters (Szunke 1995).

Within the forested area of the district, excluded seed stands and commercial seed stands which play an important role in seed production, selection and silviculture have been designated. They protect the selected, highest-quality and local-origin genetic material used in the creation of subsequent generations of forests.

The forest district consists of 23 forest complexes. The largest complexes are Janowskie and Lipskie Forests, divided by the Biała River valley. In the northern part of the Janów precinct, in the Zofianka forestry, there is a complex of 200 hectares called Otrocz.

In the past, these forests were a homogeneous primeval forest. However, at the end of the 19th century three separate forest complexes were distinguished: Solska, Janowskie and Lipskie Forests. Currently, these forests



Figure 1. The small river on the edge of Janowskie Forest

extend over an area long for 120 km and 5–30 km wide, from the Vistula River to the eastern border of Poland, joining the forests of Roztocze in the east and the Sieniawskie forests in the south.

The Janów Lubelski Forest District covers the central part of the Solska Forest, which is one of the most extensive and dense forest complexes in Poland. The Solska Forest includes the eastern part of the forests east of the Frampol – Biłgoraj road, the central part is occupied by Janowskie Forests, up to the S19 road (Via Carpatia), while the western part are Lipskie Forests. Factors contributing to the preservation of such a large forest area were both natural and economic. Among the natural factors, the most important were poor and moderately fertile habitats, often wet, which made these areas of little use for settlement and agriculture, in contrast to Roztocze, which is adjacent to the Solska Forest. Although traces of human presence are known here from prehistoric times, until the 18th century there was a compact complex of forests and swamps over the whole area.

Dominant forest habitats in the forest district:

- coniferous forest – 39.57%
- mixed coniferous forests – 39.87%
- mixed deciduous forests – 17.07%
- deciduous forests – 3.49%

The main tree species in the forest district is the Scotch pine, which covers 84.4% of the area. Another species are: fir (6.56%), alder (4.03%), oak (2.08%) and birch (1.66%). The share of other species does not exceed 1% of the forest area



Figure 2. Janowskie Forests with adjacent forest complexes (Source: google.maps)



Figure 3. The free roaming herd in Janowskie Forests existing since 2021.

The Janów Lubelski Forest District is one of 25 State Forests units implementing the project “Complex protection of the European bison in Poland”. This project is aimed at the protection of this endangered species. Many measures of active protection are carried out in frame of the project (Klich *et al.* 2017). The main task was to create new herds of European bison in previously selected areas in this forest complex. The new herd can help to maintain the stability and safety of the species in Poland through the dispersion of animals and minimization the risk associated with the susceptibility of European bison to various diseases.

The Janów Lubelski Forest District joined the project in June 2019. The main activity was the reintroduction of a free herd of 8–10 animals to a relatively sparsely populated area with a small number of villages and agricultural lands.

One of the first steps that were undertaken before the arrival of the European bison was to improve habitat and assure best conditions for the reintroduction and existence of the herd in this area. Meadows, pastures, and mid-forest clearings, which are managed by the forest district and located in the valley of the Rakowa river, which provides the herd with access to water were identified. The valley was also chosen as the location of an adaptation enclosure for introduced animals. Moreover, in order to increase the acreage of the food base, 5 ha of meadows were leased from private persons.

Then, special measures were taken to restore and improve the quality of the natural food base by removing saplings, seedlings of trees and shrubs in the meadows. These areas are mowed every year.



Figure 4. Restoration of meadows in the Rakowa river valley was one of activities aimed to increase the food base for European bison herd

It was also necessary to create an appropriate infrastructure that would allow the European bison to adapt during a month to the new environment of the Janowskie Forests. For this purpose, an adaptation enclosure of 1 ha was built. The choice of the site was not accidental, because there are many factors that should be met in order for optimal location for adaptation. Important was availability of water and the habitat diversity of the area. It is desirable that the European bison could use the meadow and find shelter in the bushes and under the trees. Another important condition was the possibility of accessing the immediate vicinity of the enclosure by a large vehicles for animals' transportation. It was very important to locate the enclosure in a quiet place to assure that animals were not disturbed by people during the adaptation time (Olech & Perzanowski 2014).

The enclosure was equipped with a feeder that enables simultaneous food intake of many individuals and the possibility of storing large quantities of hay. The facility is also equipped with feeding troughs and salt licks. The second feeder with a storage for fodder was located outside the acclimatization enclosure in formerly selected place.



Figure 5. European bison willinly come back to the area of acclimatization enclosure (a picture from camera trap)

After the preliminary preparation stage, it was possible to start preparations to the transport of European bison to the acclimatization enclosure in the Janowskie Forests. Transport took place for several consecutive days, two or one animals each. The first animals arrived on January 19, 2021, and the last ones on January 25, 2021.

There were some surprises – on the first night, a 9-year-old cow together with the calf broke the fence for unknown reasons and released herself. The female was wearing a GPS collar so she was quickly located. Until they joined the herd, they were fed and constantly monitored.



Figure 6. Female with calf – they have leaved acclimatization enclosure as the first

Despite the conditions necessary for European bison welfare during the transport and the experience of the people involved in the process, one of the females died shortly after arriving. An autopsy of the animal showed disturbed blood circulation due to heart failure.

Immediately after the European bison were released into the enclosure, there was a great interest in the herd from the media and people. The scale of the problem was so large that it was necessary to have permanent duty hours of the forest district employees at the enclosure, so that the curious people would not disturb the animals. The European bison became a magnet that quickly intensified information and promotion of activities regarding the implementation of the project in the forest district.

On February 25, 2021, animals were released from the adaptation enclosure. On the third day, they reunited with a pair of European bison that were already in the wild.

Because it was decided to supplement the loss of a cow in the herd, on May 10, 2021, the European Bison Friends Society transported one year old heifer from the liquidated enclosure in Kiermusy (Podlaskie voivodeship). The animal quickly joined the herd once again confirming that European bison are social animals.

Table 1. The list of animals transported to Janowskie Forests

Chip No	Name	Sex	Age [years]	Breeder	Date of arrival	Date of releasing	comments
981020000500923	PO...	M	1	Borecka Forest	19.01.2021	19.01.2021	
981020000500889	KA...	F	10		24.01.2021	25.02.2021	
981020000500918	KA...	M	4		20.01.2021	25.02.2021	
981020000500900	KA...	F	3		20.01.2021		died 21.01.2021
981020000500925	PO...	F	1		22.01.2021	25.02.2021	
981020000500910	KA...	F	5		22.01.2021	25.02.2021	
981020000500921	KA...	F	9		19.01.2021	19.01.2021	
616000000000142	POLATEK	M	2	Pszczyna (Kobiór Forest District)	25.01.2021	25.02.2021	
616000000000139	POMAMIN	M	2		25.01.2021	25.02.2021	
981020000500892	POS-MYKAŁKA	F	1	Kiermusy	10.05.2021	13.05.2021	died 02.06.2022

In order to provide suitable living conditions during winter, additional feeding is carried out. Feeding places were regularly visited by the herd. During the winter, 45 tons of feed was distributed, consisting of 20 tons of fodder beets, 10 tons of hay silage in bales, 5 tons of crushed oats, 3 tons of hay, 2 tons of carrots, 2 tons of pumpkins, 2 tons of feed pellets and 1 ton of salt.

The availability of open and semi-open areas for grazing, such as mid-forrest meadows, glades, etc., provides optimal foraging conditions for the herd. In order to improve and increase the area of the feeding base, the forest district developed area of 8 ha branch lines, sowing alternately winter cereals and buckwheat. This contributes to preventing the European bison from going beyond the forest complex.

It should be mentioned that the herd is under constant veterinary care, which includes assessing the health condition of the animals. The animals are looked after at their place of residence at least once a month. As part of the veterinary service, feces samples are also collected, on which parasitological tests are performed. If necessary, emergency treatment is also performed.



Figure 7. European bison on the pasture in Rakowa river valley

Currently, the herd lives in two forest districts, penetrating mainly the valleys of mid-forest rivers and visiting sand baths where they often spend the night. European bison avoid contact with people and so far have not gone outside the dense forest complex.

Project activities carried out by the forest district in the forest habitat are permanent and consist in caring for the animals welfare through proper population management. Those activities include:

- maintaining and improving the natural food base,
- current monitoring of the herd number and health condition of animals,
- keeping feeding places in proper condition,
- mitigating conflict situations related to the presence of European bison,
- improving the social perception of the species by organizing meetings, workshops or distributing educational materials.

The plans for future are very clear. Except the continuation of all activities in the field, Janów Lubelski Forest District plans to prepare detailed program about population development and management strategies. Also planned are studies mainly dedicated to interactions between European bison and other wildlife species.

References

- Kapuściński R. 1996. Lasy Janowskie. Przyroda Polska, 10: 19–20.
- Karetta M. 2005. Lasy Janowskie. Przyroda Polska, 9.
- Szunke Z. 1995. Lasy Janowskie-Park Krajobrazowy Leśny Kompleks Promocyjny. Las Polski, 18: 4–6.
- Klich D., Olech W., Cielniak K. 2017. A complex project for the conservation of European bison in Poland by State Forests (2017–2020). European Bison Conservation Newsletter, 10: 11–20.
- Mazurek-Kusiak A. 2016. Ocena infrastruktury turystycznej oraz promocja produktów turystycznych parku krajobrazowego „Lasy Janowskie”. *Ekonomia i Środowisko*, 1: 156–166.
- Olech W., Perzanowski K. 2014. Podręcznik najlepszych praktyk ochrony żubra. Centrum Koordynacji Projektów Środowiskowych.

Żubry w Lasach Janowskich

Streszczenie: W styczniu 2021 r. żubry powróciły do Lasów Janowskich po kilkuset latach nieobecności. Projekt reintrodukcji został zrealizowany przez Nadleśnictwo Janów Lubelski w ramach „Kompleksowego projektu ochrony żubrów w Polsce”. Po ponad roku zwierzęta bardzo dobrze się przystosowały i zachowują się jak typowe dzikie stado. Wiele działań zostało wykonanych przed i po reintrodukcji przez pracowników leśnych i naukowców. Działania te miały na celu utrzymanie odpowiednich zasobów żywnościowych oraz monitorowanie stada.
