

**Report on the State of Conservation of the Białowieża Forest World Heritage Site
(Poland, Belarus) (N 33ter)
– the Polish part**

1. Executive Summary of the Report

The State Party of Poland has prepared a package of measures to protect the Outstanding Universal Value (OUV) of the Site against the adverse impacts caused by the construction and operation of the border barrier and the current impossibility of transboundary cooperation with Belarus for the conservation of the Site. These measures will cover three levels: monitoring, mitigation of adverse impacts and their compensation. The effect of the monitoring activities will be the presentation of recommendations for ad hoc improvement of the operating conditions of the barrier, the mitigation of the adverse impact of the barrier on the wildlife population, especially lynx, and the preparation of an ex-post assessment of the impact of the barrier on the OUV of the Site. As part of the measures to mitigate the adverse impact of the barrier, the State Party of Poland will first analyse whether the present securing of the concertina (razor wire added to the barrier) with forest netting is a sufficient measure to mitigate the risk of wildlife injuries and falls. Subsequently, interministerial consultations will be launched to check the possibility of eliminating or reducing the adverse impact of the concertina wire located in river valleys. However, as part of the compensatory measures, it will be crucial to maintain the absence of economic interference with the most valuable natural habitats and species habitats through forest management. The State Party of Poland emphasises the need to establish and strengthen this state of things by introducing provisions in national law to ensure that decisions concerning the management of the Site are based on expert knowledge and conform to the goal of protecting the Site. Moreover, the State Party of Poland will submit a proposal for increasing the area of Zone III excluded from forest management with fragments of Zone IV which meet the criteria for such inclusion. As regards the organisation of a World Heritage Centre/IUCN Reactive Monitoring Mission, the State Party of Poland has already initiated contacts with the UNESCO Secretariat and proposed that the Mission should take place by the end of the first quarter of 2024. The State Party of Poland has reviewed the draft Integrated Management Plan for the Site and diagnosed the crucial problems which make the draft Plan inconsistent with the recommendations of the 2018 UNESCO/IUCN Mission. In light of the above, the State Party of Poland declares that by the end of 2024 it will revise the draft Integrated Management Plan for the Site and implement remedial measures. The State Party of Poland also informs that the process of approving the Forest Management Plans (FMPs) for the Forest Districts in Białowieża Forest will be suspended until the Integrated Management Plan for the Site is approved and the provisions of the FMPs are harmonised with the superior guidelines laid down in the Integrated Management Plan for the Site. As regards the reaffirming of measures to mitigate the Narewowska Road impact on wildlife and ecological connectivity, the State Party of Poland will take actions to ensure lower traffic speeds and prevent fatalities among amphibians and small mammals by rebuilding the system of crossings for small animals and fencing the roadway along the amphibian migration routes. A continuous traffic monitoring system will set up in the Narewowska Road. All the above mentioned measures are feasible, justified in substantive terms and needed to preserve the course of natural processes and to protect the habitats of the greatest importance for the biodiversity of the Site. They are an expression of the State Party of Poland's mobilisation and launch of coordinated efforts to protect the Site and prevent its inscription on the List of World Heritage in Danger.

2. Response to Decision 45 COM 7B.21 of the World Heritage Committee

2.1. Information on the barrier on the Polish-Belarusian border

In its Decision, the UNESCO Committee points out the risks related to the operation of the barrier, such as fragmentation and degradation of habitats, changes in the hydrological regime, the spread of invasive species and the isolation of fauna on both sides of the border. Subsequently, it urges the States Parties to take adequate measures to guarantee ecological connectivity and considers that, if such measures are not taken urgently, the Site may meet the conditions for inscription on the List of World Heritage in Danger, in line with Paragraph 180 of the Operational Guidelines. The UNESCO Committee also expects a joint mission to be organised to assess, among others, whether the animal crossings and breaks in the continuity of the barrier on watercourses represent sufficient mitigation measures to maintain the OUV of the Site and to review progress in the implementation of the recommendations of the 2018 Mission.

The State Party of Poland would like to emphasise that the new Government of the Republic of Poland, which was established on 13 December 2023, has begun to implement measures to ensure effective protection of the OUV of the Site. It should be pointed out that the implementation of the project to build and operate the barrier did not involve an earlier (pre-implementation) assessment of the impact of the OUV of the Site. The construction of the barrier was a result of the adoption of the Act on the Construction of State Border Security Installations in October 2021 by the Parliament of the Republic of Poland in an urgent procedure as a means of preventing the crossing of the state border at places unintended for this purpose. The Act provides that separate regulations, including those of construction law, water law and environmental law, as well as the regulations on the provision of environmental information and the regulations on the protection of farmland and forestland, will not apply to the investment consisting in the construction of the barrier.

The State Party of Poland confirms that the barrier constitutes an obstacle to the dispersion of medium-sized and large terrestrial animals. There is no evidence indicating that the technical solutions applied to act as animal crossings are effective in ensuring free migration of wild animals, e.g. European bison, lynx, wolves or moose. Holes with a 10 cm diameter in the concrete base of the barrier enable only the smallest mammals to cross it. In addition, the absence of connectivity caused by the construction of the barrier on the Polish side is exacerbated by the operation of the Belarusian barbed wire fence (the so-called “sistema”). In recent years, it was modernised and sealed (among others, with razor wire). In light of this, the State Party of Poland stresses that at present crossings for large animals cannot be opened since this would cause them to be directed towards the Belarusian barrier and be trapped between the barriers, thus causing their high mortality. Ecological connectivity can be restored only in cooperation with the State Party of Belarus.

The restoration of ecological connectivity requires the following:

- 1) implementation by the State Party of Belarus of measures that will stop the mass infiltration of refugees from third countries into the Site;**
- 2) complete dismantling of the “sistema” or its fragments situated opposite to crossings for large animals installed in the Polish barrier.**

As a result of the operation of the barrier, the attributes of the OUV are also affected by: the cutting of trees and the lighting of fires by uniformed services in Zone I, the increased penetration by refugees into the Site, the littering of the Site (see Section 3 of the Response), animal fatalities caused by collisions with heavy vehicles (3 cases of fatal hits of European bison have been documented) and the risk of injury and falls of animals in the razor wire spread along the barrier (including river valleys).

It should be emphasised that the present situation on the Polish-Belarusian border is absolutely exceptional and that for this reason it requires the launch of extraordinary measures. In addition, it should be pointed out that even in these circumstances the State Party of Poland approaches the protection of Białowieża Forest as a Natura 2000 Site and a UNESCO World Heritage Site with full seriousness and commitment as well as care to preserve their timeless values intact.

Aware that at present it is impossible to ensure ecological connectivity and integrity of the Białowieża Forest Transboundary Site, the State Party of Poland declares that it would take in its territory within the Site adequate minimising and remedial measures, which will be specified in consultation with experts (including the Mammal Research Institute of the Polish Academy of Sciences and the Geobotanical Station of the University of Warsaw) and submitted to the UNESCO for consultation.

The proposed range of monitoring measures:

- (1) Since 2023 the Białowieża Geobotanical Station of the University of Warsaw has monitored the impact of the operation of the barrier on selected components of the environment as part of the research project “Understanding and mitigating the ecological footprint of state border barriers” financed by the Polish National Agency for Academic Exchange under the contract No. BPN/GIN/2023/1/00007/U/00001. The project will be completed in August 2024 and, on the basis of its results, by the end of 2024 the State Party of Poland **will prepare preliminary recommendations for ad hoc mitigation of the adverse impact of the barrier on the OUV of the Site and submit it to the UNESCO Committee by the end of the first quarter of 2025;**
- (2) Since 2023 the Mammal Research Institute of the Polish Academy of Sciences has been monitoring the status of the lynx population in Białowieża Forest as the species most at risk of the loss of connectivity and integrity in the area of the Site. The monitoring results will be used to **prepare preliminary recommendations for minimisation and possible compensation for the adverse impact of the barrier on the lynx population;**
- (3) The State Party of Poland will plan, agree with IUCN experts and implement the monitoring of the effects of the operation of the barrier on the attributes expressing the OUV **to carry out an ex-post assessment of the impact of the barrier on the OUV of the Site, also taking into account the results of monitoring surveys under points (a) and (b).** A pilot monitoring project and a report will be submitted to the UNESCO Committee by the end of 2025. On the basis of the results – if needed – further measures will be planned to mitigate the adverse impact of the barrier and so will compensatory measures.

The monitoring will be planned in a manner which takes into account the legal restrictions on access to the border road along the barrier.

The proposed range of measures to mitigate the adverse impact of the barrier:

- (1) In 2023, two concertina wire belts were added to the barrier – one located on the ground on the external side of the barrier and the other in the form of storied coils, located in front of the border road facing the forest. In order to minimise the risk of wildlife injury and falls into the razor wire, **the concertina fence will be secured by forest netting on the side of the forest. The State Party of Poland will monitor the effectiveness of this solution;**
- (2) The State Party of Poland will analyse **the possibility of eliminating or reducing the adverse impact of the concertina wire located in river valleys which are natural wildlife migration routes;**
- (3) The State Party of Poland is already conducting **coordinated measures to identify and remove invasive species**, not only in the vicinity of the barrier, but also throughout the Site.

The proposed range of compensatory measures:

1. Compensation for the adverse impact of the barrier on such attributes of the OUV as ecological connectivity and integrity of the Site requires **the maintenance of the present absence of economic interference by forest management with the most valuable natural habitats and habitats of species**. Massive logging in 2017 exerted direct and indirect impacts on more than 4,000 ha of the Site and involved the harvesting of 200,000 m³ of wood, with half of it cut in Zone III protecting stands aged more than 100 years. Since 2018, as the result of a judgment of the Court of Justice of the European Union and an interim measure to secure the claim in a civil action, in the form of a court injunction against wood harvesting throughout Białowieża Forest, the forest management has been limited to Zone IV of the Site, while since 2021 wood harvesting has been stopped throughout the Site. Trees are cut only to ensure public safety along the major transport routes. Cut trees remain in place until their natural decomposition in the ecosystem. The long-term lack of cuttings and artificial planting in the area of the Site has improved the state of conservation of natural habitats and habitats of species, with no adverse social effects (assured availability of fuelwood from other forest districts). The State Party of Poland recognizes the need to maintain this state of affairs and develop national legal provisions that will guarantee decisions on the management of the Białowieża Forest, which is a UNESCO World Heritage Site, based on expert knowledge and the goal of the conservation of the Site and which will eliminate future conflicts related to forest management. This can be ensured by the adoption of a dedicated Act which will regulate in detail the management of the area of Białowieża Forest, which is, at the same time, a UNESCO World Heritage Site. This solution will ensure a transparent, durable and effective system for managing the Site. The State Party of Poland will begin to prepare relevant legal regulations in this scope;
2. Until the above mentioned regulations are prepared, the State Party of Poland **will present a proposal for increasing the area of Zone III excluded from forest management with fragments of Zone IV which meet the criteria for such exclusion**. The suitable areas in Zone IV include tree stands aged more than 100 years, pioneer stands, those in swamp habitats, as well as those representing, among others, the documented habitats of protected bird species (white-backed woodpecker and little flycatcher), epiphytic bryophytes and lichens, and organisms related to deadwood. As indicated by cartographic analyses, in Zone IV there are e.g. 550 ha of stands aged more than 100 years (including almost 250 ha of those aged more than 150 years) the preservation of which is of key importance for strengthening the protection of the OUV of this Site as the main goal of the management of the Site;
3. The State Party of Poland will take actions **to limit the hunting economy in Zone III of the Site as a measure to improve the prospects for the lynx population protection in Białowieża Forest**, consisting, in particular, in the cessation of commercial hunting (for hunters who are not members of local hunting clubs) and the imposition of a ban on feeding and baiting game animals. Lynx is a species which is very sensitive to **disturbing and scaring**, while the state of its conservation directly depends on the adequate compensation for the absence of ecological connectivity within its habitats as a result of the operation of the barrier.

2.2. Information on the invitation of the World Heritage Centre/IUCN Reactive Monitoring Mission

In November 2023, Poland sent an invitation to Mr. Lazare Eloundou Assomo, Director of the World Heritage Centre, to arrange a mission to the Polish party of the Site. Subsequently, it was proposed that the mission might take place by the end of the first quarter of 2024. The date was

accepted and the mission will take place in the last week of March. As part of this mission, the State Party of Poland also expects to meet experts of the International Union for Conservation of Nature (IUCN) to present the current situation on the ground and exchange opinions on the proposed remedial measures. At present, given the international political situation, it is impossible to carry out a joint mission with the State Party of Belarus. The State Party of Poland looks forward to restoring transboundary contacts and cooperation.

2.3. Information on the Transboundary Integrated Management Plan

As the present response is prepared, given the international political situation and the continued migration crisis on the Polish-Belarusian border, it is impossible to engage in transboundary cooperation with Belarus in order to prepare a joint Integrated Management Plan for the Białowieża Forest Transboundary World Heritage Site.

2.4. Information on the Management Plan for the Polish part of the Białowieża Forest Site

In its Decision, the UNESCO expects that the State Party of Poland would finalise the Integrated Management Plan for the Polish part of the Site, taking into account the technical review of the IUCN and the recommendations of the 2018 Reactive Monitoring, ensuring the participation of all stakeholders and rightsholders. It notes with concern the proposal for revision of zones and urges the State Party of Poland to avoid decreasing the area excluded from active forest management, in line with the recommendation of the 2018 Mission. It also expects that the protection of the OUV of the Site will be strengthened as the main goal of its management. The UNESCO Committee also points out that the Integrated Management Plan should guide other documents related to the management of the site (e.g. Forest Management Plans) so as to ensure that they are aligned with the protection of the OUV of the Site.

Responding to these expectations, the State Party of Poland informs that the work on the Integrated Management Plan was started under the contract signed on 24 August 2021 between the Ministry of Climate and Environment and the Institute of Environmental Protection – National Research Institute (thereinafter referred to as the IOŚ). As part of the implementation of this task, 14 thematic expert studies were carried out, workshops and meetings were organised in both in-person and remote formats – as a total, 30 events. Throughout the duration of the project its website was run: <https://ios.edu.pl/bialowieza-forest/>. The project website provided current information on progress in the work on the draft Management Plan, including information on all the planned workshops for stakeholders. 50 persons attended the conference summing up the implementation of this task on 4 July 2023. 758 persons watched the conference in social media. On 6 November 2023, the draft Management Plan was published as part of public consultations. The consultations on the draft Management Plan for the Polish part of the Białowieża Forest World Heritage Site lasted from 6 November to 3 December 2023. All stakeholders could review the documentation and submit comments and suggestions. One consultation meeting was also organised for scientists and non-governmental organisations on 30 November 2023 at the seat of the Forest Research Institute in Białowieża. The State Party of Poland points out that the participation of stakeholders and rightsholders was ensured in the preparation and consultation of the draft Integrated Management Plan.

In December 2023, the Ministry of Climate and Environment reviewed the draft Integrated Management Plan for the Site and diagnosed 3 essential problems:

- (1) lack of sufficient reference in the draft Plan to the impact of the barrier on the OUV of the Site and the related lack of proposals for actions to mitigate its adverse impact and compensatory measures;**
- (2) the presentation of proposals for revisions of the UNESCO conservation zones which would decrease the area of Zone III excluded from forest management (including areas with tree stands aged more than 100 years) in favour of Zone IV (where wood**

harvesting is allowed), which cause inconsistency with the recommendations of the 2018 Mission and may endanger the protection of the OUV of the Site;

- (3) **the presentation of the fire protection plan which assumes the harvesting and artificial planting of trees in Zone III** excluded from forest management, which causes inconsistency with the recommendations of the 2018 Mission and may endanger the protection of the OUV of the Site.

The State Party of Poland declares that by the end of 2024 it will revise the draft Integrated Management Plan for the Site in order to eliminate the above inconsistencies with the Operational Guidelines and the recommendations of the 2018 Mission.

Given the fact that the areas meeting the criteria for Zone III (tree stands aged more than 100 years, pioneer stands, those in swamp habitats and those representing the habitats of protected bird species) have now been identified in the active conservation zone IV, the State Party of Poland will incorporate them in Zone III as a compensatory measure described in point 2.1.b). The aim of this measure is to strengthen the protection of the OUV of the Site (by increasing the area of natural habitats and the habitats of deadwood-related species, as well as increasing the area of sites with undisturbed natural processes).

Self-evident mistakes in the delineation of zones will also be rectified, such as e.g. including a forest nursery in Zone III. The Management Plan for the Site will also address the need to carry out an in-depth analysis of the impact of the construction and operation of the barrier on the OUV of the Site, possibly indicating minimising and compensatory measures additional to those declared in the present report. The updated version of the document will be submitted to the IUCN for review and subjected to repeated consultations with stakeholders and rightsholders. **The Integrated Management Plan for the Polish part of the Site will probably be adopted in the second quarter of 2025.**

At the same time, the State Party of Poland will launch work on a dedicated Act on Białowieża Forest, which is a UNESCO World Heritage Site. It will be consistent with the adopted and approved solutions in the improved Integrated Management Plan for the Site and provide effective mechanisms for the management of the Site, taking into account the need to ensure the participation of all stakeholders.

2.5 Information on draft Forest Management Plans (FMPs)

In its Decision, the UNESCO Committee stresses that new Forest Management Plans need to be consistent with the recommendations for the management of the Site and encourages seeking advice in this scope from the IUCN in order to ensure that these requirements are met.

Responding to these expectations, the State Party of Poland indicates that the draft FMPs for the Białowieża, Browsk and Hajnówka Forest Districts were prepared in 2021; i.e. prior to the formal start of the work on the draft Management Plan for the Polish part of the Site. In accordance with the procedure for the preparation of the FMPs, the elaboration of the documents was preceded by a session of the Committee on the Assumptions of the Plan and a Technical and Economic Consultation Meeting, which were open to those concerned. The draft FMPs were also forwarded to nature conservation services (the Regional Director for Environmental Protection in Białystok) for opinion. It should be pointed out that the draft FMPs have not been approved; therefore, they are not implemented. Currently, measures resulting in wood harvesting (e.g. as part of active conservation) are not implemented in the part of the Site managed by the State Forests National Forest Holding. However, trees assessed as posing a safety risk are being felled. In the period from 01.10.2021 to 31.10.2023 45,429 trees were felled along roads and trails within the part of the Site managed by the Forest Districts.

The State Party of Poland has suspended the approval of the draft Forest Management Plans (FMPs) until the adoption of the Integrated Management Plan for the Site, after it is

approved by the UNESCO Committee. Subsequently, it will align the provisions of the FMPs with the superior provisions of the Integrated Management Plan and the provisions of the Plan of Conservation Measures (or the Conservation Plan) for the Białowieża Forest Natura 2000 site.

Subsequently, along with an updated prognosis of their impact on the Białowieża Forest Natura 2000 site and the assessment of their impact on the Outstanding Universal Value (OUV) of the Site, environmental protection authorities will provide their opinions on the draft FMPs and the documents will be subjected to public consultations. **Probably, it will be possible to adopt updated FMPs which will be aligned with the Integrated Management Plan at the earliest at the beginning of 2026.**

In addition, the State Party of Poland indicates that the implementation of the FMPs will also be affected by the ruling of a national court to impose on State Forests a ban on cuttings in Zone III and the removal of trees aged more 100 lat years out of the area of the Site as an interim measure to secure the claim in a civil action.

2. 6 Information on the Narewowska Road

In its Decision, the UNESCO Committee requests information on road traffic (intensity and vehicle speeds) and on the measures taken to minimise and manage impacts.

Responding to these expectations, the State Party of Poland informs that the improvement of the technical and performance parameters of the Narewowska Road has caused an increase in traffic intensity and vehicle speeds. The first and so far the only systematic surveys were carried out from February 2019 to October 2020 and in June 2021, examining the key factors of anthropogenic pressure caused by the modernisation of the road, i.e. traffic intensity, vehicle speeds and wildlife mortality¹. Their results indicated that the traffic intensity grew three times on average after the modernised road was opened. After the modernisation, the median of the daily number of cars was 96, while the maximum one reached 351 cars a day. The vehicle speed survey showed that the average speed was 52.4 km/h and the maximum registered speed was 84 km/h. Only 3.5% of cars travelled in the monitored road section with an average speed of up to 30 km/h, i.e. in compliance with the speed limit in effect. The increase in the technical and performance parameters affected animal mortality on the roadway – on average in a year 43 vertebrates were killed per kilometre of the road (672 vertebrates in a year over the whole 15.6 km long road section). Half of them (51%) were amphibians (mostly toads and brown frogs), 28% reptiles (mostly grass snakes), 12% mammals (mostly shrews) and 8% birds (finches and blackbirds). Since 2022, not only on the Narewowska Road, but throughout the Site, there has been the increased traffic of vehicles of military services, police and border guard in relation to the continuing migration crisis.

The State Party of Poland also indicates that the Supreme Administrative Court has upheld the defectiveness of the proceedings and annulled the environmental decisions on the basis of which this project was implemented (2 sections in the Browsk and Białowieża Forest Districts). At present, a legal process is underway to determine the invalidity of the permit to build the Narewowska Road.

The State Party of Poland will implement measures to minimise the impact of the Narewowska Road on wildlife and ecological connectivity by:

- 1) **reducing vehicle speeds with measures other than speed limit signs.** Lower speeds will reduce the animal mortality on the roadway and the roadway traffic noise intensity adversely affecting the integrity of the Site;
- 2) **fencing off the roadway to protect small mammals and the expansion and**

¹ Chylarecki P. Selva N. 2021. Car traffic changes and wildlife mortality resulting from the upgrade of the Narewowska road, Białowieża Forest Natura 2000 site. Unpublished report.

reconstruction of the existing crossings under the roadway for amphibians and small mammals. The aim of these measures is to minimise the mortality of small animals on the roadway (the main victims of the traffic on the Narewowska Road). The existing culverts do not meet the methodological guidelines for the construction of crossings for small animals as part of road investments and, therefore, they are non-functional. Additional culverts should be built and the roadway should be permanently fenced off at the sites of increased amphibian migrations;

- 3) **continuously monitoring the traffic on the Narewowska Road (using cameras and phototraps), along with a regular data analysis and reporting to the UNESCO Committee in periodical reports on the state of conservation of the Site. This will enable the collection of detailed data on the traffic.** In case a significant adverse impact on the OUV is found, the State Party of Poland will take measures to limit the traffic.

2.7 Information on the hydrological situation and the work to improve the hydrological conditions

The process of shrinking water resources which can be seen in most of the area of the country also affects the area of the Site. Already now, periodically there is no flow in certain rivers in Białowieża Forest. In particular, this the case with such rivers as the Braszcza, Łutownia and Hwoźna. In the Plan of Conservation Measures for the Białowieża Forest Natura 2000 site, the lowering of the groundwater table has been identified as one of the major threats. The planned adequate protective measures include the maintenance of the correct water regime and the preparation of a water runoff project. Due to the migration crisis caused by the State Party of Belarus on its border with the European Union, for objective reasons any transboundary cooperation was suspended, including the cooperation to carry out joint hydrological activities – which the State of Poland regrets.

As part of efforts to prevent the drainage of the Site, **the State Party of Poland carried out a detailed hydrological analysis of the area of Białowieża Forest. This study made it possible to select priority measures to improve the groundwater conditions.** It selected the places where the improvement of the hydrological conditions was a priority, i.e. areas with a periodical water shortage in the top soil layers and areas with a large soil retention potential.

In accordance with a prepared expert study², the Forest Districts of the Białowieża Forest Promotional Forest Complex began to implement the first measures consisting in the construction, from natural materials, of periodical damming structures on watercourses which slow down the water runoff (Figure 1). The existing hydro-engineering facilities (culverts) were also repaired. The expected outcome is to reduce the drying up of watercourses in the summer period, thus also enabling the restoration and emergence of new amphibian breeding grounds. The provisions enabling the implementation of low water retention measures in Zone III were adopted in the draft Integrated Management Plan for the Polish part of the Site as an exception to the prohibition of interference with natural processes.

² Grygoruk M. 2022. Warunki hydrologiczne Dobra Światowego Dziedzictwa UNESCO Białowieża Forest (The hydrological conditions of the Białowieża Forest UNESCO World Heritage Property - in Polish). IOŚ-PIB, Warsaw



Figure 1: An example of a damming structure to slow down the water runoff in the Browsk Forest District (Photo by the Browsk Forest District).

3. Other current conservation issues identified by the State(s) Party(ies) which may have an impact on the property's Outstanding Universal Value

3.1. Anthropopressure caused by the migration crisis on the Polish-Belarusian border

Since 2021 there has been an increase in the number of persons crossing in the area of the Site the Polish border at places not intended for it. The section running through the Białowieża Forest World Heritage Site is a little longer than 50 km. Over 3 years from 2021 almost 40% of attempts to cross the Polish-Belarusian border took place in this section (the Polish Border Guard Stations in Białowieża, Narewka and Dubicze Cerkiewne), while in 2023 their percentage was already as high as 63% (Figure 2).

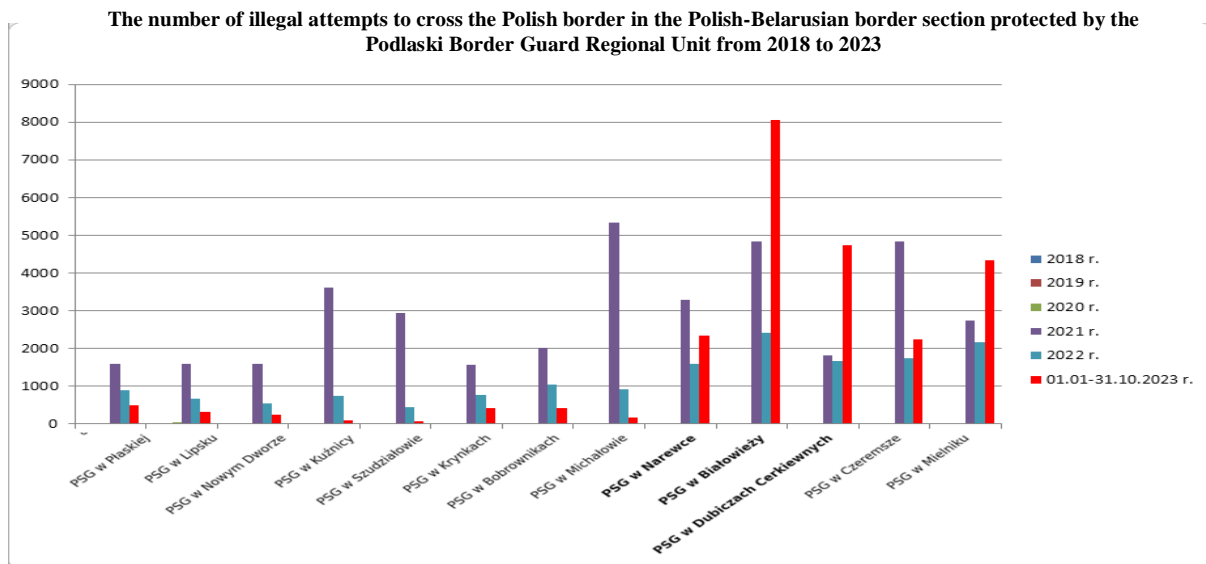


Figure 2. The number of attempts to cross the Polish-Belarusian border from 2018 to 2023 by the Polish Border Guard Stations (PBGS).

The effects of the presence of a large group of refugees in Zones I and II (where so far the presence and interference of humans have been greatly limited) include the lighting of fires, the trampling of vegetation, the scaring of animals and littering. From July 2021 to October 2023 the services of the Białowieża National Park found and disposed of over 25 m³ of waste and registered 24 places where fires had been lit in the UNESCO Zone II as well as 12 m³ of waste and 13 places where fires had been lit in the UNESCO Zone I. The cases of lighting fires in the periods of water

shortage in forest areas pose a potential risk of the outbreak of a fire.

In addition, in the period from the end of September 2021 to July 2022, at a distance of up to 250 m from the border road strip (i.e. in a total area of about 230 ha in the UNESCO Zone I), the services of the Białowieża National Park found:

- (1) numerous cases of illegal cutting of trees by soldiers of the Polish Army (PA) who did duty on the border; the harvested wood was used to build makeshift shelters (huts) and as fuelwood for fires lit by soldiers in the border strip;
- (2) the use of an open fire in the form of bonfires on the border strip and in its vicinity;
- (3) the deployment of motor vehicles of the Polish Border Guard, the PA and other services strengthening the border protection outside the roads indicated by the Director of the Białowieża National Park;
- (4) the contamination of the border strip and its vicinity with household waste by the uniformed services serving at the border.

When the first cut trees were found the services of the Białowieża National Park took the following measures to minimise further damage:

- (1) during their daily visits to the border road strip, the staff of the Białowieża National Park informed soldiers in what type of area they were and what restrictions applied there under the law, including a ban on cutting down trees, lighting bonfires and littering;
- (2) letters were sent to: the commanders of the Polish Border Guard Stations in Białowieża and Narewka as well as the commanders of military units, informing them that the cutting of trees, the lighting of fires, littering and the traffic of motor vehicles outside the indicated roads without a consent of the Director of the Białowieża National Park were violations of the prohibitions laid down in Article 15(1) of the Nature Conservation Act;
- (3) during his meetings with the commanders of military units supporting the protection of the border and the commanders of Polish Border Guard Stations in Białowieża and Narewka the Director of the Białowieża National Park repeatedly noted violations of Article 15 of the Nature Conservation Act of 16 April 2004 and requested that these actions should cease immediately.

All the identified cases of violations were registered and documented by the field services of the Białowieża National Park. This resulted in the almost complete cessation of illegal cutting of trees by the PA.

3.2 Alien species

Forest management, especially intensive logging in 2017, contributed to the dispersal of alien species in disturbed areas and along roads. The presence of alien species contributes to a deterioration of the state of protected natural habitats. The dominating alien species included: small balsam (*Impatiens parviflora*), black cherry (*Padus serotina*) and Canadian horseweed (*Conyza canadensis*). Fireweed (*Erechtites hieraciifolius*) was found for the first time in clear-cut areas of the Site, to spread in successive years in a large area of the Site (Figures 3 and 4) and persist at places in mature and undisturbed tree stands.



Figure 3. Fireweed (*Erechtites hieraciifolius*) in a clear-cut area.



Figure 4. Fireweed (*Erechtites hieraciifolius*) in a clear-cut area.

As part of the efforts to combat alien species, the sites of fireweed (*Erechtites hieraciifolius*), a new species in Białowieża Forest, were eliminated, and so were those of species which had

already been long present in Białowieża Forest, such as invasive goldenrod species (*Solidago* sp.) or self-sown alien woody species, e.g. red oak (*Quercus rubra*) and black cherry (*Padus serotina*). Alien plant species will continue to be monitored and eliminated in the coming years.

The increased traffic of the vehicles of the services protecting the border has also contributed to the spread of alien and invasive species. In 2023, the monitoring and elimination of alien and invasive plant species began in the area of the Białowieża National Park. The largest number of plants of these species has been observed in the border road strip (UNESCO Zone IV) and along one of the roads leading to the border in UNESCO Zone II.

3.3 Completing the knowledge about the attributes expressing the OUV of the Site, including deadwood abundance

In the area of the Site managed by the State Forests National Forest Holding and the Białowieża National Park, 65 research and monitoring projects were carried out in the period from 01.10.2021 to 30.09.2023. A list of the research projects can be provided on request. The implementation of the research contributes to enhancing the knowledge of the Site and enables the launch of adequate conservation measures. In the area of the Site, deadwood abundance measurements are also carried out, indicating that its volume grows. The presence of deadwood is a crucial factor conditioning the course of many ecological processes (e.g. the matter and energy cycles, carbon and water storage, trophic connections and the habitats e.g. of relict species). The following average deadwood volumes were recorded:

- the Białowieża Forest District: 98.5 m³/ha (in 2012, it was 27.7 m³/ha);
- the Browsk Forest District: 65.3 m³/ha (in 2012, it was 16.6 m³/ha);
- the Hajnówka Forest District: 90.2 m³/ha (in 2012, it was 30.5 m³/ha).

3.4 Selected active conservation measures, forest regeneration, measures to protect rare species and insect outbreaks

3.4.1 Conservation of European bison

European bison is one of the most important species constituting the OUV of the Białowieża Forest World Heritage Site. The European bison subpopulation living in Białowieża Forest is the largest one in Poland and in the period from 2020 to 2022 it was assessed to consist respectively of 715, 779 and 829 animals. In recent years, the number of European bison in Białowieża grew at an annual rate of 6-9%. Given the IUCN conservation status of the species (Near Threatened - NT) and its high genetic inbreeding, the species still continues to be subject to special care and dedicated breeding procedures. The animals are provided with additional feed in the winter period, while in the summer period, in order to maintain the feeding grounds of European bison, almost 300 ha of midforest meadows are mowed. Moreover, ill individuals, those that were aggressive towards people and the victims of road accidents were eliminated from the herd. In the period from 01.10.2021 to 30.09.2023, 18 European bison (14 males and 4 females) were thus eliminated from the herd living in the wild.

3.4.2 Forest regeneration

At present, the tree stands in the area of the Site regenerate spontaneously and the natural regeneration of almost all the forest-forming species, except pine, is observed.

In the active conservation zone (IV) and the buffer zone, in small areas the Forest Districts took measures to speed up the forest reconstruction towards a species composition appropriate for the habitat. In the period in question, in the Forest Districts in Zone IV 50.84 ha of natural regeneration was approved, while in the buffer zone 9.74 ha of natural regeneration was approved

and artificial regeneration was carried out on 3.58 ha, adjusting the species compositions to those corresponding to the soil and habitat conditions.

3.4.3. Current size of the spruce bark beetle population

The outbreak of spruce bark beetle (*Ips typographus*) which began in 2012 and reached its maximum in 2016 ended spontaneously at the end of 2019 (Figure 5). The outbreak caused the dieback of 43% of all the spruce trees present in the area of Białowieża Forest³. In the recent 2 years, the number of freshly infected spruce trees remained on a very low level, typical of the 7-11 years long periods between successive outbreaks of this species in Białowieża Forest. As the outbreak ended, the grounds for extensive sanitary cuttings, implemented intensively in the area of the Site in 2016 and 2017, ceased.

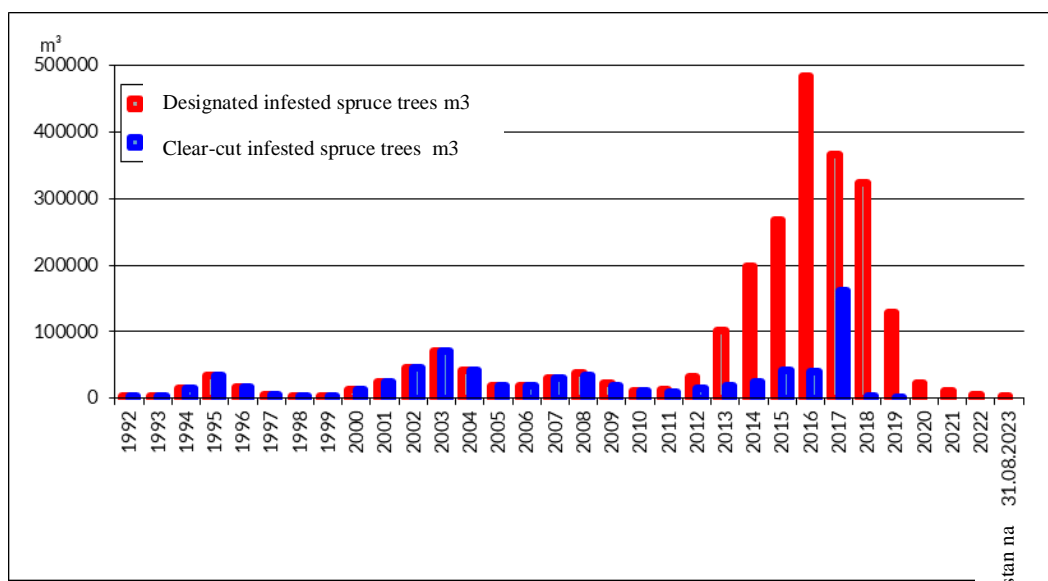


Figure 5. Volumes of designated and removed spruce trees infested by spruce bark beetle in the period from 1992 to 30 June 2023 (Source: Regional Directorate of State Forests in Białystok).

3.5. Fire risk

In the nomination dossier, forest fires were considered one of the major threats to the ecosystems in Białowieża Forest. Over the last 2 years (01.10.2021 - 31.10.2023), in the 3 Forest Districts occupying the area of the World Heritage Site, there were 19 fires with a total area of 8.17 ha. This means that the so-called fire density in the area of the Site was about 0.15 fires/1000 ha/year, i.e. noticeably more than the average from the last 2 decades (0.09/1000 ha/year). On the other hand, this fire density is still three times lower than the average fire density in the last 2 decades in the forest areas managed by State Forests throughout Poland (0.44/1000 ha/year). The largest number of fires breaks out in the tourist season, when high air temperatures are conducive to the outbreak and spread of fires. In recent years, the number of fires close to the state border fell, probably as a result of the continuing migration crisis in the area of the Site.

Dead trees, especially those in advanced classes of decomposition, do not significantly increase the fire risk. The fire risk is decisively determined by the type of vegetal cover, especially the share of grasses and ferns which appear at the site of the dieback of a tree stand, but primarily in

³ Kamińska A., Lisiewicz M., Kraszewski B., Stereńczak K. 2022. Mass outbreaks and factors related to the spatial dynamics of spruce bark beetle (*Ips typographus*) dieback considering diverse management regimes in the Białowieża forest. *Forest Ecology & Management* 498: 119530.

large areas of clear-cuts carried out in 2017 (Figures 6-8). The area of flammable grasses in a clear-cut area diminishes from year to year, the succession of pioneer tree species unfolds and the fire risk decreases.



Figure 6. Accumulation of flammable grasses in an area clear-cut in 2017.

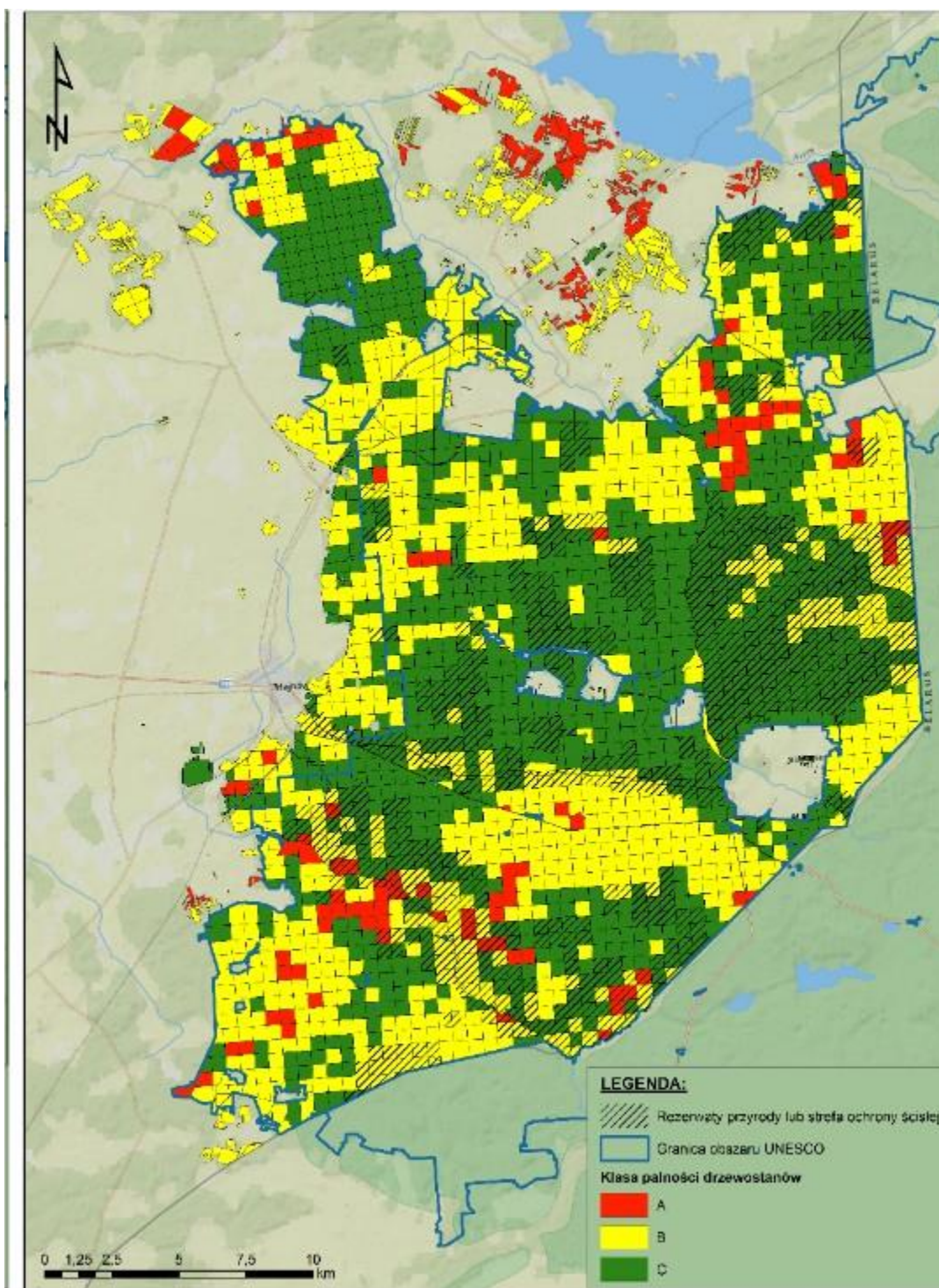


Figure 7. Accumulation of flammable grasses in a clear-cut area.



Figure 8. Natural succession in a clear-cut area where flammable grasses have been mostly replaced by pioneer tree species.

In Białowieża Forest, only 9.5% of its area was classified as tree stands belonging to Class A with high fire susceptibility. The share of Class (medium susceptibility) was 35.5%, while the share of the least flammable Class C was 55% (Figure 9).



KEY:	LEGENDA:
Nature reserves or strict conservation zone	Rezerваты прыроды луб стrefa ochrony ścisłej
UNESCO Site boundary	Granica obszaru UNESCO
Stand flammability class	Klasa palności drzewostanów
	A
	B
	C

Figure 9. Map of the fire risk of tree stands in the area of the Site broken down into three flammability classes: A – high risk, B – medium risk and C – lowest risk.

7 years after the maximum supply of deadwood as a result of dieback, the fire risk resulting from the presence of dead spruce trees in the area of the Site has significantly decreased and will continue to decrease successively ⁴.

In order to ensure appropriate fire protection in the forests which they manage, the Forest Districts in the area of the Site have taken a number of measures, including:

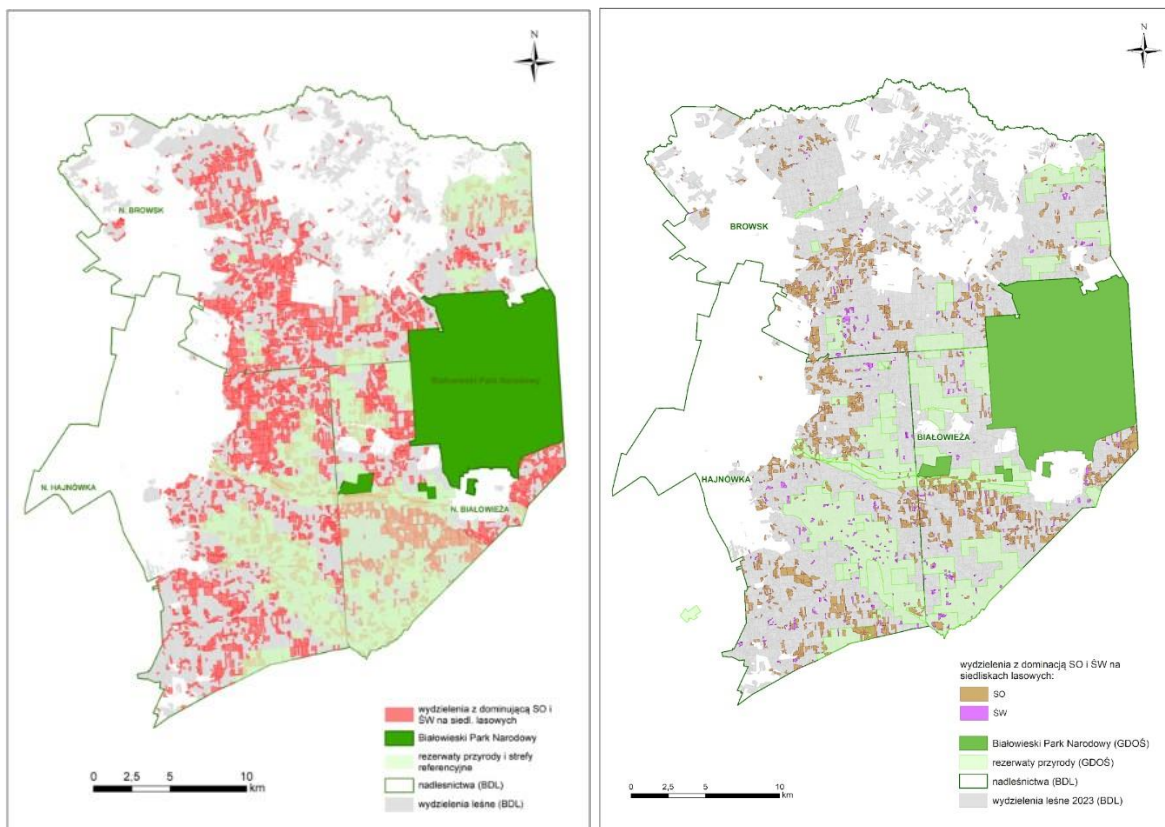
- 1) organisation of comprehensive forest observations and patrols in the fire risk period to detect fires and alert of their outbreaks;
- 2) provision and maintenance of water sources for fire protection purposes;
- 3) maintenance of fire access routes to water drawing points;
- 4) marking of water drawing points with information signs;
- 5) establishment and maintenance of bases of equipment for extinguishing forest fires;
- 6) removal of dangerous trees, shrubs and branches at fire access routes;
- 7) mineralisation of firebreaks at tourist sites.

3.6. Impact of climate change on the site

The climate change in recent years noticeably affected the characteristics of the Site, especially the species composition of its stands. In accordance with predictions, the share of spruce, which had until recently been the dominant species, substantially decreased. The share of pine also decreased (Figure 10).

Hornbeam is the species which regenerates most abundantly. Other species with a large share in regeneration include spruce and maple. At the sites of the dieback of spruce stands abounding in deadwood, at places ample oak regeneration was found (Figure 11). The share of coniferous species, sensitive to a water shortage, decreased, while the share of broadleaved species, better adapted to the new climatic conditions and less susceptible to fires, grew (Figures 12-13).

⁴ Szczygieł R., Kwiatkowski M., Tyburski Ł. 2022. Monitoring zagrożenia pożarowego Puszczy Białowieskiej jako narzędzie zarządzania i reagowania kryzysowego (Monitoring of the Fire Hazard of the Białowieża Forest as a Tool for Crisis Management and Regulation – in Polish). Final Report from Project EO.271.3.3.2020. Forest Research Institute, Sękocin Stary.



Compartments dominated by pine and spruces in broadleaved habitats	Wydzielenia z dominującą SO i ŚW na siedl. lasowym
Białowieża National Park	Białowieży Park Narodowy
Nature reserves and reference zones	Rezerwat przyrody i strefy referencyjne
Forest Districts (Forest Data Bank)	Nadleśnictwa (BDL)
Forest compartments (Forest Data Bank)	Wydzielenia leśne (BDL)
Compartments dominated by pine and spruces in broadleaved habitats	wydzielenia z dominacją SO i ŚW na siedliskach lasowych:

Figure 10. Pine and spruce stands in fertile habitats. On the left: 2012; on the right: 2023.



Figure 11. Oak regeneration among dead spruce trees.



Figure 12. Dead spruce trees in the stand are replaced by broadleaved species.



Figure 13. Dead spruce trees in the stand are replaced by broadleaved species.

4. Developments which may affect the Outstanding Universal Value of the property, including integrity

Not applicable

5. Public access to the state of conservation report

This report may be published in full.

6. Signature of the authorised person

Ministry of Climate and Environment
/ – digitally signed/