IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 23 October 2014

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# Białowieża Forest

## SITE INFORMATION

Country:
Belarus, Poland
Inscribed in: 1992
Criteria:
(ix) (x)

Site description:

Situated on the watershed of the Baltic Sea and the Black Sea, this immense forest range, consisting of evergreens and broad-leaved trees, is home to some remarkable animal life, including rare mammals such as the wolf, the lynx and the otter, as well as some 300 European Bison, a species which has been reintroduced into the park. © UNESCO

## SUMMARY

# 2014 Conservation Outlook

**Good with some concerns**

¨This site has been affected by a number of threats in the past which have left an impact. The main value of the site – the near-pristine forest ecosystems - has undergone certain degradation, mainly due to forest management practices not primarily aimed at nature conservation in some parts of the site. However, the recently enlarged boundaries of the site now include the most significant areas of old-growth forest and the areas that were impacted by past activities have been recovering. The recent renomination and extension of the property has resulted not only in significant additions to the site, but also in intensification of transboundary cooperation. However, effective coordination between three authorities responsible for the management of the site – the Belovezhskaya Pushcha National Park in Belarus and the Bialowieza National Park and the Forestry Administration in Poland – still needs to be established and operationalized.

## Current state and trend of VALUES

**Low Concern**
**Trend: Stable**

While the diversity of forest flora and fauna of the site seems to remain relatively well preserved, some concerns remain about the state and overall integrity of forest ecosystems, especially on the Belorussian side where parts of the site were subject to unsustainable forest management practices in the past. However, the recently enlarged boundaries of the site now include the most significant areas of old-growth forest and the areas that were impacted by past activities have been recovering.

## Overall THREATS

**Low Threat**

Some of the threats that used to affect the site in the past, such as legal and illegal logging, have now decreased. However, a number of threats remain, such as extensive road network within the site, tourism infrastructure and the border fence which prevents free movement and gene among large mammals' populations. Non-native plant and animal species have also been observed and their current and potential impacts need to be further studied. Climate change may turn into a new serious threat to the integrity of the site, including potentially increasing the risks of forest fires.

## Overall PROTECTION and MANAGEMENT

**Mostly Effective**

The recent renomination and extension of the property has resulted not only in significant additions to the site with the most important old-growth forest stands now being included into the property, but also in intensification of transboundary cooperation. However, effective coordination between three authorities responsible for the management of the site – the Belovezhskaya Pushcha National Park in Belarus and the Bialowieza National Park and the Forestry Administration in Poland – still needs to be established and operationalized.

# FULL ASSESSMENT

## Description of values

### Values

#### World Heritage values

- **Diverse complex of forest ecosystems with extensive old-growth forests**
  **Criterion:(ix)**

  “Bialowieza Forest conserves a diverse complex of forest ecosystems which exemplify the Central European mixed forests terrestrial ecoregion, and a range of associated non-forest habitats, including wet meadows, river valleys and other wetlands. The area has an exceptionally high nature conservation value, including extensive old-growth forests. The large and integral forest area supports complete food webs including viable populations of large mammals and large carnivores (wolf, lynx and otter) amongst other. The richness in dead wood, standing and on the ground, leads to a consequent high diversity of fungi and saproxylic invertebrates” (SoOUV, 2014).

- **Extraordinary diversity of forest flora and fungi**
  **Criterion:(x)**

  The site includes a large area with substantially undisturbed natural vegetation that mainly includes old-aged deciduous and coniferous forests. The forest vegetation in BF is dominated by fresh oak-linden-hornbeam forest. The second most significant forest communities are ash-alder flood plain forests, and bog-birch forest (Thelypterido-Betuletum pubescentis) (IUCN, 2014). There are over 1,060 vascular plant species and an estimate of over 400 lichen species. Recent data confirms over 230 bryophyte species, 71 liverworts and 2 antocerotes. In terms of its mycoflora, Bialowieza Forest

can be considered one of the most important refuges for large-cap fungi (macromycete) in the whole boreo-nemoral region. Just in a small area of 10,000 ha, over 1,600 macromycete species were listed. Out of 33 macromycete species regarded as critically endangered in Europe, at least 5 occur in the site (IUCN, 2014).

▶ **Outstanding diversity of forest fauna**
**Criterion:(x)**

The site is home to the largest free-roaming population of European Bison. The diverse fauna of the site also includes 59 mammal species, over 250 bird species, 13 amphibians, 7 reptiles, and over 12,000 invertebrates (SoOUV, 2014).

## Assessment information

### Threats

### Current Threats

**Low Threat**

Some of the threats that used to affect the site in the past, such as legal and illegal logging, have now decreased. However, a number of threats remain, such as extensive road network within the site, tourism infrastructure and the border fence which prevents free movement and gene among large mammals' populations. Non-native plant and animal species have also been observed and their current and potential impacts need to be further studied.

▶ **Logging/ Wood Harvesting**
**Low Threat**
**Inside site**
**Outside site**

There has been widespread legal and illegal commercial logging around and in some areas inside the site that belong to Belovezhskaya Pushcha National

Park (Belarus), and also around but not inside Bialowieza National Park on the Polish side (Wesołowski 2005). Sanitary cuttings were conducted to control outbreaks of spruce bark beetle (Ips typographus) in spruce stands, which might have been a result of forest composition shift towards spruce plantations and the disturbed hydrological regime (UNEP-WCMC, 2011). The values of the Belorussian forests formerly not considered part of the World Heritage Site by the State Party suffered from inappropriate forestry management (Heiss and Patry, 2008). However, the current boundaries of the property include the most valuable stands of old-growth forest under effective protection regime (IUCN, 2014).

### ► Tourism/ Recreation Areas

**Low Threat**
**Inside site**
**Outside site**

There are three large hotel complexes in and around Bialowieza village on the Polish side, with about 19,000 visitors annually (Heiss and Patry, 2008). Despite being relatively well-managed, this is a significant visitation pressure (Council of Europe, 2009). On the Belorussian side, the “Father Frost House”, situated in an exclave of the National Park, receives up to 10,000 visitors daily during the orthodox Christmas season. Annual visitor numbers have been estimated at 300,000 (Kobyak, 2011). A new tourism complex with a capacity to accommodate around 600 visitors per month is being built in Kletnoye village near the site. It also includes horse riding and sports facilities (Kuijken, 2012). In addition, the new 190 km “bypass” road skirting Belovezhskaya Pushcha and improving access to the Belorussian part of the site from Brest, Hrodna and also Poland, may result in increased and potentially poorly managed tourism development (Karpik, 2011). However, the core areas of the site are under strict protection and are not affected by tourism development.

### ► Commercial hunting

**Low Threat**
**Inside site**

It appears that herbivores numbers (deer and bison) are being artificially maintained at a high level, mostly by feeding in winter. It is assumed that their culling is carried out as commercial trophy hunting on Belorussian side.

Predators' numbers, on the other hand, seem to be at an unnaturally low level, at least on the Belorussian side. The artificially maintained high density of herbivores may compromise forest rejuvenation, and hence the long-term integrity of the site (Kuijken, 2012).

### ► Other Ecosystem Modifications

**Low Threat**
**Inside site**

The border fence between Belarus and Poland (located on the Belorussian territory) impairs large mammal migration and gene flow between the component PAs of the property on both sides of the border (Heiss and Patry, 2008; Daleszczyk et al., 2009). At the same time, it prevents interbreeding of two genetically different populations of European Bison (with the Belorussian population carrying genes of the Lowland-Caucasian line (Kuijken, 2012). The overall impact of this habitat fragmentation is considered limited (Heiss and Patry, 2008).

### ► Invasive Non-Native/ Alien Species

**Data Deficient**
**Inside site**
**Outside site**

Replacement of Pendunculate Oak (Quercus robur) and other native dendroflora by Red Oak (Q. rubra) is a significant threat, which requires further monitoring (Heiss & Patry, 2008). Invasions of other not-native plant (e.g. Impatiens parviflora, Malus domestica, Acer negundo) and animals (e.g. Neovison vison, Nyctereutes procyonoides) have also been observed.

### ► Roads/ Railroads

**Low Threat**
**Inside site**

A network of roads exist within the property, particularly on the Belorussian side, many of which are maintained for fire prevention purposes. During its evaluation of the site's extension IUCN recommended that "the States Parties carefully assess the real need for maintaining these roads and fire prevention corridors, and reduce their numbers through a programme of rationalization,

accompanied by appropriate monitoring” (IUCN, 2014).

## Potential Threats

**Data Deficient**

Climate change may turn into a new serious threat to the integrity of the site, including potentially increasing the risks of forest fires, but this needs to be studied further.

### ▶ Temperature changes

**Data Deficient**
**Inside site**
**Outside site**

Changes in temperature and precipitation (Pierzgalski et al., 2002), and shifts in phenology of spring flowers (Sparks et al., 2009) and seasonality of bird breeding (Wesolowski and Cholowa, 2009) have been observed, but the overall extent and impact of climate change on the values of the site needs to be studied further.

### ▶ Fire/ Fire Suppression

**Low Threat**
**Inside site**
**Outside site**

Forest fire is a potential threat, though only very limited fires happened in the last few years. However, climate change may increase the danger of forest fires (IUCN, 2014).

## Protection and management

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## Assessing Protection and Management

### ▶ Monitoring

**Mostly Effective**

There is some long-term monitoring carried out on permanent study plots as well as wildlife monitoring in both component parts of the site (UNEP-WCMC,

2011). However, intensified monitoring of key threats (invasive alien species, tourism impact, hydrological regime) has been recommended for Belovezhskaya Pushcha (Kuijken, 2012), and may also be needed in Bialowieza National Park.

### ► Relationships with local people

**Mostly Effective**

Local people are involved relatively well into decision making and management of Bialowieza National Park on the Polish side of the property. For instance, local municipalities had to agree to extensions of the site (Council of Europe, 2009). The new management plan for this national park was subject to public consultation, although it is unclear to what extent it includes mechanisms for continued stakeholder participation (Kuijken, 2012). The current level of local stakeholder involvement of Belovezhskaya National Bark (Belarus) is unclear, but there seems to be no formal participation of local people in the management planning process and no local stakeholder council for continuous management input (Kuijken, 2012). NGOs and other stakeholders expressed consistent support for the renomination and extension of the site which was approved by the World Heritage Committee in June 2014.

### ► Legal framework and enforcement

**Mostly Effective**

The legal basis for the conservation of the Belovezhskaya Pushcha National Park (Belarus) consists of the Land Code of the Republic of Belarus (1999), Forest Code (2000), and the Law of the Republic of Belarus on Special Protected Natural Areas (1994, 2000). The National Park was established in 1991 on the basis of a former hunting reserve, which was founded in 1940 (Heiss and Patry, 2008). Like all Polish protected areas, Bialowieza National Park is based on 1991 Act on Nature Protection. The Bialowieza National Park was re-established after the Second World War by an Ordinance of the Council of Ministers in 1947 (Heiss and Patry, 2008). Both component protected areas are also UNESCO Biosphere Reserves (UNEP-WCMC; 2011). The legal protection regime is considered effective (WHC, 2006), although some concerns about enforcement (e.g. against illegal logging and hunting) persist (UNEP-WCMC, 2011).

The entire Polish part of Bialowieza Forest including the Bialowieza National Park is also part of Natura 2000 network.

### ► Integration into regional and national planning systems

**Mostly Effective**

The management of Bialowieza National Park is embedded into a wider regional and national sustainable development framework, which also includes sustainable tourism planning (Council of Europe, 2009). Although there is a developed planning framework for nature protection in Belarus (Heiss and Patry, 2008), it is not clear how the management of the site is integrated into it.

### ► Management system

**Mostly Effective**

This transboundary property consists of the Belovezhskaya Pushcha National Park in Belarus and the areas belonging to the Bialowieza National Park and to the Forest Administration in Poland.
In Belarus the whole area is managed by the National Park Authority. The administration and management of Bialowieza National Park on the Polish side is under the Ministry of Environment. A new management plan for the National Park has been in preparation for a number of years and not been approved yet. In October 2013 a Steering Committee was established to coordinate the management of the Polish part of the site between the National Park and the Forest Administration.
The Bialowieza National Park, the Polish Forestry Administration and the Belovezhskaya Pushcha National Park have recently signed an agreement regarding preparation and implementation of the management plan for the whole transboundray property. It is envisaged that a transboundary steering committee will be established that will then prepare a management for the whole transboundary property (IUCN, 2014).

### ► Management effectiveness

**Data Deficient**

No formal management effectiveness assessment is on record for either of the component protected areas of the site. Significant progress has been achieved in formalizing transboundary cooperation, but the effectiveness of it

is still to be evaluated at a later stage.

### ► Implementation of Committee decisions and recommendations

**Some Concern**

The slow and/or incomplete implementation of some Committee decisions and recommendations regarding the management of the site is a recurrent problem (WHC, 2006, 2008). This includes slow implementation of the 2004 reactive monitoring mission recommendations, establishment of a joint management framework for the entire property, removal of migration barriers.

### ► Boundaries

**Highly Effective**

The 2014 renomination and extension of the site has extended the area on the Polish side from 5,069 to 59,576.09 ha and has resulted in an overall much better boundaries which now include the most important old-growth stands (IUCN, 2014).

### ► Sustainable finance

**Mostly Effective**

All bodies responsible for the management of the property (Bialowieza National Park and Forest Administration in Poland, and Belovezhskaya Pushcha in Belarus) appear to be relatively well-resourced in terms of human and financial resources. In Belarus the Belovezhskaya Pushcha National Park is considered a high priority area and it receives significant budget allocations from the government; its budget appears secure in the long-term. In Poland the Forest Administration appears to have a significant budget secured by its commercial activities; however there is a need to clarify the additional budget that will be allocated for the management of the proposed extended property (IUCN, 2014).

### ► Staff training and development

**Mostly Effective**

The 2006 Periodic Reporting round reported 37 staff for Belovezhskaya Pushcha National Park (WHC, 2006). The Bialowieza National Park in 2000

had 113 staff members (UNEP-WCMC, 2011). Staff numbers are reportedly more or less adequate in both component protected areas. Senior staff turnover in Bialowieza National Park is high, and local expertise of senior staff members consequently low. The general level of staff qualification in both protected areas is unclear. Staff in both protected areas have access to some external training (WHC, 2006).

### ► Sustainable use

**Some Concern**

There was an extensive and not in all cases sustainable use of the site's natural resources in the past, including timber production, haying and grazing, hunting and fishing, mushrooms and berries picking, as well as apiculture (UNEP-WCMC, 2011). Significant areas of the site are now under strict protection with some zones where forest products collection (e.g. mushrooms) is allowed for local people. At the same time, commercial timber production in the vicinity of the site may still be unsustainable in that it exerts a negative impact (e.g. fragmentation) on the overall functionality of the forest ecosystems.

### ► Education and interpretation programs

**Mostly Effective**

Education and awareness raising programmes are covered extensively in the new management plan of Belovezhskaya Pushcha National Park (Kuijken, 2012). There are museums and ecological education centres on both sides of the border. There are also guided excursions on visitor trails in Bialowieza National Park (Heiss and Patry, 2008). A more coordinated approach to education and interpretation and a stronger focus on the World Heritage status would improve management of this area.

### ► Tourism and interpretation

**Mostly Effective**

Tourism development is not always accompanied by an equal development of interpretation programmes. It is unclear what role interpretation plays in the newly planned tourism projects on the Belorussian side of the property (Kuijken, 2012). There is also a significant tourism development pressure near Bialowieza National Park on the Polish side, but this appears to be more

integrated with interpretative activities such as guided tours on the visitor trails (Heiss and Patry, 2008).

### ► Research

**Mostly Effective**

There is a scientific research centre and laboratory in Kamieniuki on the Belorussian side, and an extensive research collaboration involving Bialowieza National Park Administration, the University of Bialystok, European Centre of Natural Forests, five research centres of other universities and the Polish Academy of Sciences, and visiting scientists on the Polish side (UNEP-WCMC, 2011). Important research areas include forest ecology, entomology and bison ecology.

## Overall assessment of protection and management

**Mostly Effective**

The recent renomination and extension of the property has resulted not only in significant additions to the site with the most important old-growth forest stands now being included into the property, but also in intensification of transboundary cooperation. However, effective coordination between three authorities responsible for the management of the site – the Belovezhskaya Pushcha National Park in Belarus and the Bialowieza National Park and the Forestry Administration in Poland – still needs to be established and operationalized.

### ► Assessment of the effectiveness of protection and management in addressing threats outside the site

**Data Deficient**

Data deficient

## State and trend of values

## Assessing the current state and trend of values

## World Heritage values

### ► Diverse complex of forest ecosystems with extensive old-growth forests

**Low Concern**
**Trend:Improving**

The forest ecosystems in the Polish part of the site appear to be in a good state. The same is true for part of the forest ecosystems of Belovezhskaya Pushcha National Park (Belarus) that has been managed as World Heritage in the past, but not to the same extent to those parts that have been subject to a multi-purpose management (Heiss and Patry, 2008). However, the recently enlarged boundaries of the site now include the most significant areas of old-growth forest and the areas that were impacted by past activities have been recovering.

### ► Extraordinary diversity of forest flora and fungi

**Low Concern**
**Trend:Stable**

No local extinctions of flora have been reported, although the spread of Red Oak which replaces the native Pendunculate Oak (Heiss and Patry, 2008) is of some concern, as is a number of other non-native plant species. Overall the state of flora diversity is good with few concerns and stable.

### ► Outstanding diversity of forest fauna

**Low Concern**
**Trend:Stable**

No local extinctions or dramatic reductions of fauna have been reported, and the status and trend of forest fauna are considered of low concern and stable overall. The scientific views on the effects of the border fence on the populations of large mammals differ.

## Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values**

**Low Concern**

**Trend: Stable**

While the diversity of forest flora and fauna of the site seems to remain relatively well preserved, some concerns remain about the state and overall integrity of forest ecosystems, especially on the Belorussian side where parts of the site were subject to unsustainable forest management practices in the past. However, the recently enlarged boundaries of the site now include the most significant areas of old-growth forest and the areas that were impacted by past activities have been recovering.

## Additional information

### Key conservation issues

▶ **Need to further strengthen transboundary cooperation**

**Regional**

While significant progress has been achieved in improving transboundary cooperation and a number of agreements have been signed, this still needs to be translated into day-to-day work.

▶ **Unclear potential impact of ongoing tourism development around the site**

**Local**

With the new road skirting Belovezhskaya Pushcha (Karpik, 2011) and a wide range of existing or planned large scale tourism projects in both parts of the property (Kuijken, 2012), there is a need to conduct a systematic Environmental Impact Assessment for this tourism development, including an analysis of the carrying capacity of the site for tourism and ways to minimize its ecological footprint

▶ **Absence of a management plan for the Bialowieza National Park**

**National**

A new management plan for the Bialowieza National Park has been in preparation for several years now and has not been approved yet.

## Benefits

### Understanding Benefits

**► Does management of the site provide jobs (e.g. for managers or rangers)?**

The component protected areas of the site offer ca. 150 jobs. In addition, a significant number of jobs (possibly hundreds of jobs in tourism) are likely to be created in the course of tourism development and the development of sustainable natural resource use schemes within the site (UNEP-WCMC; 2011, WHC, 2006).

**► Sacred natural sites or landscapes**

Also only partly consisting of primary forest, Bialowieza Forest is one of the last great wildernesses in central/eastern Europe (UNEP-WCMC, 2011), with considerable wilderness values and iconic importance. The reintroduced population of European Bison strongly contributes to this value. This is also the last opportunity to experience primeval forest of this type for current and future generations (Heiss and Patry, 2008).

**► Collection of genetic material**

In addition to the rich local and traditional knowledge and scientific articles that have been written already about the flora of the property, it is likely that the site harbors significant genetic resources that may be used for medicinal or other relevant uses.

**► History and tradition**

The site straddles the EU borderand is a symbol of the joint heritage of EU and non-EU countries. If joint management can be established there, it can become an example of international cooperation and contribute to pan-

European peace building.

▶ **Outdoor recreation and tourism**

Tourism, including nature based tourism is practiced at an increasing intensity. If developed in a sustainable way, the site may offer a unique opportunity to experience an undisturbed wilderness. This might also contribute significantly to income generation and the socio-economic development of the region (Heiss and Patry, 2008). Currently, ca. €350,000 for entrance fees, hunting licenses and horse riding are paid annually in Bialowieza National Park alone (Pabian and Jaroszewicz, 2009).

▶ **Collection of wild plants and mushrooms**

Several non-timber forest products are used from the site (UNEP-WCMC, 2011) and this use might be expanded. The annual value of mushrooms and honey extracted from Bialowieza NP alone has been estimated at €180,000 and €100,000 respectively (Pabian and Jaroszewicz, 2009). The management regime of both component PAs of the property should be adapted in a way that the sustainable use of these resources in support of local livelihoods and regional development is permitted and promoted.

## Summary of benefits

The property already provides multiple conservation, economic and scientific benefits and ecosystem services to local inhabitants, the citizens of Poland and Belarus, and also to the few interested foreigners who currently know about it as well as the international conservation community. There is considerable potential to maintain and enhance these benefits through equitable participatory management of the property, particularly in areas such as sustainable and equitable tourism development, sustainable natural resource use, and the potential exploitation of natural resources. Equitability will be a crucial issue, for instance in the future sharing of benefits from natural resource use and tourism development.

## Projects

## Compilation of active conservation projects

| № | Organization/ individuals | Project duration | Brief description of Active Projects |
|---|---|---|---|
| 1 | APB-BirdLife Belarus | | Bird and ecosystem conservation projects throughout the Belorussian side of the property |
| 2 | Polish Bird Protection Society | | Bird and ecosystem conservation projects throughout the Polish side of the property |
| 3 | Mammal Research Institute of the Polish Academy of Sciences | | Monitoring of Lynx population, including effect of habitat fragmentation on conservation status of populations |
| 4 | Institute of European Environmental Policy | | Research into ecosystem goods and services from the property |

## Compilation of potential site needs

| № | Site need title | Brief description of potential site needs | Support needed for following years |
|---|---|---|---|
| 1 | N.A. | Environmental impact assessment of tourism development | |
| 2 | N.A. | Ungulate management plan for Belovezhskaya Pushcha NP | |

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