Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe

2017 Conservation Outlook Assessment

SITE INFORMATION

Country: Albania, Austria, Belgium, Bulgaria, Croatia, Germany, Italy, Romania, Slovakia, Slovenia, Spain, Ukraine
Inscribed in: 2007
Criteria: (ix)

Site description:

This transboundary property stretches over 12 countries. Since the end of the last Ice Age, European Beech spread from a few isolated refuge areas in the Alps, Carpathians, Dinarides, Mediterranean and Pyrenees over a short period of a few thousand years in a process that is still ongoing. The successful expansion across a whole continent is related to the tree’s adaptability and tolerance of different climatic, geographical and physical conditions. © UNESCO
Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe - 2017 Conservation Outlook Assessment
SUMMARY

2017 Conservation Outlook

SIGNIFICANT CONCERN

Finalised on 08 Nov 2017

This is a serial transboundary site comprised of 77 components located in 12 countries – Albania, Austria, Belgium, Bulgaria, Croatia, Germany, Italy, Romania, Slovakia, Slovenia, Spain and Ukraine. While the values of the site have so far been relatively well preserved, the external pressures are high for some components. The small size and isolation of the components do not necessarily guarantee the integrity of the property in the long term and preservation of ongoing natural processes which are the essential part of the site’s Outstanding Universal Value. The components of the property are influenced by increasing development pressures, of which the forest resource exploitation in the Poloniny national park in Slovakia is of particular concern. Some progress has been achieved in ensuring multilateral cooperation with the establishment of a Joint Management Committee. However, the efficiency of the Joint management structure is still to be demonstrated.

Current state and trend of VALUES

Low Concern
Trend: Stable

Overall, the values of the property are being maintained. In many of its components primeval forests are well protected and have been so for many years. However, the 2017 extension of the property added a number of very small components with unclear buffer zone protective prescriptions and concerns exist whether their size is sufficient to maintain integrity and support ecological process.

Overall THREATS

High Threat

Many of the current threats are localized and limited to some of the components
only. Logging in the buffer zones and reportedly also within the Slovak components of the property will remain a high threat until all the areas within the property are legally protected from logging. On the other hand, small size of the components, particularly those added through the 2017 extension of the property, and habitat fragmentation are issues that are relevant for the entire property. This raises a significant concern with regards to the future integrity of the property. Whilst potential threats across the majority of the serial site remain low there are specific concerns regarding hydropower development impacting on the Albanian components.

Overall PROTECTION and MANAGEMENT

Some Concern

All component areas have a high legal protection status. However, there are some concerns about the consistency of the legal regimes of the property as a whole, as demonstrated by concerns repeatedly expressed with regards to the protection regime of the Slovak components of the property. With the 2017 extension, this serial property now includes 77 components in 12 countries. While intentions have been expressed to establish an Integrated Management System building on the existing cooperation between Germany, Slovakia and Ukraine, the effectiveness of such measures will need to be evaluated.
FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ An outstanding example of the re-colonization and development of terrestrial ecosystems and communities since the last Ice Age  
Criterion:(ix)

Beech is one of the most important elements of forests in the Temperate Broadleaf Forest Biome and represents an outstanding example of the re-colonization and development of terrestrial ecosystems and communities since the last Ice Age. The continuing northern and westward expansion of beech from its original glacial refuge areas in the eastern and southern parts of Europe can be tracked along natural corridors and stepping stones spanning the continent (World Heritage Committee, 2017). The property is indispensable to understanding the history and evolution of the genus Fagus, which, given its wide distribution in the Northern Hemisphere and its ecological importance, is globally significant. These undisturbed, complex temperate forests exhibit the most complete and comprehensive ecological patterns and processes of pure stands of European beech across a variety of environmental conditions and represent all altitudinal zones from seashore up to the forest line in the mountains (IUCN Evaluation Report, 2007).

▶ An outstanding example of undisturbed complex temperate forests  
Criterion:(ix)

The components of this serial property represent an outstanding example of anthropogenically undisturbed, complex temperate forests and exhibit the most complete and comprehensive ecological patterns and processes of pure
and mixed stands of European beech across a variety of environmental conditions (World Heritage Committee, 2017).

Other important biodiversity values

▶ **Forest flora and fauna**

The site displays an important diversity of flora and fauna. This includes all major plant and animal species normally found in higher-elevation European forests of all tree species, especially those that are rare or dependent on virgin, undisturbed forests, such as black stork. Larger and more well-known species considered rare and unique (brown bear, bison, wolf, wildcat, lynx, elk, etc.) also occupy the area (IUCN Evaluation Report, 2007).

▶ **Beech forest associated habitats and communities**

The phytosociological associations found range from dry to moist, lowland to alpine. Included are montane to altimontane alpine spruce-fir-beech forests Atlantic Acidophilous Beech forest. There are many sub-associations of habitats and communities according to the high landform complexity. There are mixed beech-silver fir stands, complexes of beech, beech-fir, beech-fir-spruce, Swiss pine-spruceand spruce-Swiss pine communities of mountain primeval forests. Mixed stands also include sycamore-beech forests (Acereto pseudoplatani-Fagetum humile), in fragments there are distributed sites with Dwarf Beech, sorb-beech and beech-sycamore blackberry coenosis and alluvial forests (IUCN, 2017; Nomination dossier, 2016).
Current Threats

High Threat

Many of the current threats are localized and limited to some of the components only. Logging in the buffer zones and reportedly also within the Slovak components of the property will remain a high threat until all the areas within the property are legally protected from logging. On the other hand, small size of the components, particularly those added through the 2017 extension of the property, and habitat fragmentation are issues that are relevant for the entire property. This raises a significant concern with regards to the future integrity of the property. Controversial hydropower development in Valbona Valley National Park, Albania could significantly impact on these components of the serial property.

▶ Other Biological Resource Use

Very Low Threat
Outside site

Collection of non-timber forest products (e.g. mushrooms, wild plants) occurs within the broader protected areas within which some components are located (IUCN, 2017). While the risks exist that this might occur within the components of the property as well, overall the level of this threat is very low.

▶ Commercial hunting, Subsistence hunting

Low Threat
Inside site, extent of threat not known
Outside site

Hunting has previously been reported as an issue within the Slovak components of the property (UNESCO, 2013; Galland, 2014); however, the current extent of this threat is unknown.

▶ Tourism/ visitors/ recreation

Low Threat
Inside site, scattered(5-15%)
Outside site

Some components of the property are popular tourism destinations (for
example, in Germany); however, tourism appears to be well managed. Other components form part of strictly protected areas and therefore tourism in those components is limited to guided walks and is strictly controlled (Nomination dossier, 2016). Actual visitation numbers in components as opposed to larger protected areas within which they are located or buffer zone is not systematically documented.

▶ **Other**

**High Threat**

**Inside site, not applicable**

**Outside site**

The small size and isolation of some of the components of the property were noted by IUCN already in 2011 in its evaluation of the first extension of the property (IUCN, 2011). The 2017 extension also included a number of small components, with the average size of components in the 2017 extension being 871 ha compared to 2,200 ha average (IUCN, 2017). Fragmentation of Habitat is particularly a problem in Belgium where the components are very small and the forest buffer zone is divided by roads and rail and is in close proximity to the city (IUCN, 2017). There is a particular concern for the ecological viability of components which are less than 50 ha (IUCN, 2017).

▶ **Droughts, Temperature changes**

**Data Deficient**

**Inside site, throughout (>50%)**

**Outside site**

While no comprehensive data on climate change impacts is available for the entire property, climate change is of high concern in some components, for example with regards to declining rainfall particularly during the growing season due to long dry summers. In Spain, particularly in Tejera Negra, climate change is an important risk factor increasing the death rate of old beech trees, particularly on the rocky slopes where the soils are shallow (Nomination dossier, 2016). There are also questions over the ecological viability in the face of climate change of some of the smaller size components added in 2017 (IUCN Evaluation 2017)

▶ **Dams/ Water Management or Use**

**High Threat**
Outside site

A hydropower project has been approved within the boundaries of the Valbona Valley National Park in Albania and some preparatory construction works appear to have started. IUCN's evaluation noted in 2017 that at least ten more hydropower projects are planned on the Valbona River. Whilst these are unlikely to directly impact the components of the property, potential impacts on hydrology, ecology and social systems are hard to predict (IUCN, 2017). WWF has raised serious concerns regarding a reported total of 14 hydropower development within Valbona Valley National Park and reports that construction has started in late September 2016 on the Dragobia Energy Hydropower Plant (WWF, 2017). There are numerous concerns on record from conservation NGOs concerning this threat (WWF, 2017; Grand Teton Research, 2017; Ecologist, 2016).

Logging/ Wood Harvesting

High Threat

Inside site, extent of threat not known

Outside site

High demand for timber exists in some areas surrounding some components of the property, particularly in Slovakia and Ukraine (IUCN, 2007). This represents a threat mainly for buffer zones but has an influence on the natural processes within the property as well. According to the information included in the report of the Council of Europe, the forest management plans of the forest reserves which form the Slovakian part of the World Heritage property provide for logging in those areas. The expert mission of the Council of Europe concluded that 93% of the Poloniny National Park in Slovakia was under serious pressure from unsustainable logging, as well as hunting and poaching and these issues were also considered by the World Heritage Committee (UNESCO, 2011). More recently the State Party of Slovakia has ensured that no logging was occurring within its components of the property through voluntary commitments of concerned entities; however, only parts of the Slovak components of the property are legally protected from logging (UNESCO, 2017).
Potential Threats

Low Threat

A number of potential threats have previously been reported, such as potential infrastructure development in the vicinity of the Slovak components of the property. Climate change already poses a risk to some components and further impacts can be expected in the future, including changes in species composition and habitat shifting. However, it should be noted that one of the attributed of the OUV of the property is its demonstration of the ability of the beech to adapt to different ecological and climatic regimes throughout its range. Therefore potential future changes need to be monitored and documented in order to better understand these processes.

▶ Commercial/ Industrial Areas

Data Deficient
Outside site

It has previously been reported that several infrastructure projects (e.g. an antenna, roads and mass tourism infrastructures) were planned in the immediate surroundings of the Slovak components of the World Heritage site (UNESCO, 2013). However, their current status and potential impact on the OUV of the site is unknown.

▶ Habitat Shifting/ Alteration, Temperature changes

Low Threat
Inside site, throughout(>50%)
Outside site

Some forests at lower or higher elevation margins may change species composition as climate change occurs. However, it should be noted that one aspect of these properties’ value is the ability of the beech to adapt to so many different ecological regimes (and in a number of different and varying forest associations) throughout its range. (IUCN Evaluation Report, 2007).

▶ Housing/ Urban Areas

Low Threat
Outside site

In Belgium, close proximity of the components of the property to urban areas is of concern. There is a narrow buffer zone separating some of the components from residential areas and pressures might increase in the future (Information received during IUCN Evaluation mission, 2016).

▶ Fire/ Fire Suppression

Low Threat
Inside site, extent of threat not known
Outside site

Fluctuations in precipitation and periods of drought can lead to increased risk of forest fires caused by human action. This is particularly a concern in the Italian components (Nomination dossier, 2016).

Protection and management

Assessing Protection and Management

▶ Relationships with local people

Some Concern

The key stakeholders have been identified and most of the land is publicly owned and managed by public administrations or state enterprises. In the small percentage of privately owned land contractual and legal arrangements have been made to ensure strict protection of the areas. The maintenance of relationships with local people is ensured through the Integrated Management Panels for stakeholder participation (Nomination dossier, 2016). These panels are only planned for several components and need to be fully operationalized. However, in many cases stakeholders are already involved in the management of larger National Parks within which the components of the property are located or buffer zone (Nomination dossier, 2016). Overall, relationship with local stakeholders and effectiveness and degree of their involvement in management varies across the different components of the property.
Legal framework and enforcement

Mostly Effective

The serial property spans 12 States Parties and 77 components. All component parts have legally designated protection status e.g. through Ministerial or Presidential Decrees, Acts or other legal declarations. In the small percentage of privately owned land contractual and legal arrangements have been made to ensure strict protection of the areas (Nomination dossier, 2016). In some countries, components are part of strictly protected areas (corresponding to IUCN category Ia).

Enforcement

Some Concern

The implementation of individual measures is the responsibility of the management bodies at component scale. Enforcement occurs through the local management bodies such as through park rangers and wardens. (Nomination dossier, 2016). Activities which could have negative impacts on the OUV of the property, such as for example grazing, in some cases are allowed in the buffer zones (IUCN, 2017) and therefore significant efforts are required to ensure that no such activities would occur within the property.

Integration into regional and national planning systems

Some Concern

Each State Party has the responsibility to coordinate between components at the national level through steering groups these form part of the Integrated Management System. At the time of the 2016 Evaluation not all national steering groups were fully established and functioning (IUCN, 2017).

Management system

Some Concern

The States Parties are extending the existing multi- lateral management system (already established between Germany, Slovakia and Ukraine) to incorporate the 12 States Parties (Nomination dossier, 2016). The Integrated Management System (IMS) builds on the Joint Declaration between the States Parties signed after the most recent inscription of the extension.
At the component level the management is building on existing systems that are fully funded and operational. However, at the level of the entire serial transboundary property the management requires a great deal of coordination, communication and cooperation at national and supranational scales.

The component legal management bodies exchange with the National Steering Groups which are part of the Joint Management Committee. For stakeholder involvement and engagement, the component level management engages with local and regional stakeholder representatives that are on the Integrated Management Panels. In addition there are several thematic working groups such as on research and monitoring. (Nomination dossier, 2016, IUCN, 2017).

**Management effectiveness**

Some Concern

As the Integrated Management System has recently been enlarged to include the components added via the recent 2017 extension, it will take time to assess management effectiveness of the new and enlarged system. In this regard the World Heritage Committee requested the States Parties to "ensure that committed funding arrangements are able to safeguard consistent site management at the component level as well as coordinated management across the transnational serial property" (World Heritage Committee, 2017). Concerns also remain over management effectiveness at component level in some cases, as for example in the Slovak Republic (UNESCO, 2013).

**Implementation of Committee decisions and recommendations**

Serious Concern

A number of requests and recommendations have been made by the World Heritage Committee with regards to some individual components, particularly those in Slovakia (UNESCO, 2013, 2015 and 2017) and some of them have not yet been implemented, the most serious being a guarantee of legal protection from logging. In its most recent Decision the World Heritage Committee, while approving the extension of the property, has also made a number of recommendations and requests regarding the integrated
management of this serial transnational property (World Heritage Committee, 2017). However, it is too early to evaluate the implementation of these most recent Decision.

**Boundaries**

- **Serious Concern**

The small size and isolation of some of the components of the property were noted by IUCN already in 2011 in its evaluation of the first extension of the property (IUCN, 2011). The 2017 extension also included a number of small components, with the average size of components in the 2017 extension being 871 ha compared to 2,200 ha average (IUCN, 2017). Additionally, in many cases the boundaries of the components and buffer zones do not consistently align with existing protected areas zoning boundaries. Furthermore very different approaches to site configuration have been adopted across different States Parties (IUCN, 2017). Concerns have also been repeatedly expressed over the boundaries design of the Slovak components of the property (UNESCO, 2013 and 2015).

**Sustainable finance**

- **Some Concern**

There is a significant range in funding available to the different components, with the 270 ha Belgium components receiving significantly more (EUR 4.2 million) than the larger areas in Albania, Bulgaria, Romania, Slovenia and Ukraine (Nomination dossier, 2016). It also of some concern how coordination across the multinational serial site will be funded (IUCN, 2017).

**Staff training and development**

- **Mostly Effective**

Staffing levels and training are currently adequate in most of the components (Nomination dossier, 2016); however, this varies significantly between different countries. Staff numbers might also become insufficient in the future if visitation increase in the buffer zones or components themselves.

**Sustainable use**

- **Mostly Effective**
No use of biological resources is possible within the components. Limited access is permitted for scientific purposes and tourism in certain components under certain conditions (Nomination dossier, 2016).

▶ **Education and interpretation programs**

**Mostly Effective**

Education programmes and activities, including interpretative trails and guided walks, are offered by most of the protected areas within which the components are located (Nomination dossier, 2016); however, in some cases it is not clear how much focus is given to the interpretation of the OUV of the property.

▶ **Tourism and interpretation**

**Mostly Effective**

Where access to the components is permitted it is via the use of marked trails or paths often requiring guides and prior permission (Nomination dossier, 2016). Tourism in the buffer zones is elevated for several components and it is in these areas that visitor and tourism management efforts are focused.

▶ **Monitoring**

**Mostly Effective**

Key indicators have been established and a thematic transnational working group on research and monitoring has been established (Nomination dossier, 2016).

▶ **Research**

**Mostly Effective**

Some of the components of the property have a very long history of research (Nomination dossier, 2016). Following the extension of the property in 2017, additional efforts will be required to coordinate research activities across the transnational serial property.
Overall assessment of protection and management

Some Concern

All component areas have a high legal protection status. However, there are some concerns about the consistency of the legal regimes of the property as a whole, as demonstrated by concerns repeatedly expressed with regards to the protection regime of the Slovak components of the property. With the 2017 extension, this serial property now includes 77 components in 12 countries. While intentions have been expressed to establish an Integrated Management System building on the existing cooperation between Germany, Slovakia and Ukraine, the effectiveness of such measures will need to be evaluated.

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

Some Concern

There are direct and indirect pressures on the components from activities in the buffer zones and broader regions. Given the small size of some components and variability in site configuration (IUCN, 2017), their ability to address threats originating from outside their boundaries is of particular concern.

State and trend of values

Assessing the current state and trend of values

World Heritage values

An outstanding example of the re-colonization and development of terrestrial ecosystems and communities since the last Ice Age

Low Concern

Trend: Stable

While many of the components can be considered primeval or virgin forests, the ancient forests e.g. of Belgium and Germany have been subject to extensive impact and therefore will need time to recover to show higher
volumes of deadwood, older age classes and other indicators of low human intervention (Nomination dossier, 2016; IUCN, 2017). All components are under strict protection. However, in case of small components, the size is probably insufficient to preserve the component from outside influences. There are also concerns regarding the meaning of buffer zones and their capacity to protect components from surrounding impacts. Global climate changes might also affect the natural evolution.

▶ An outstanding example of undisturbed complex temperate forests

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

While there are concerns relating to boundaries and the legislation on forestry in the Slovak Republic, the potential impact of tourism development and hydropower in Albania (IUCN, 2017), the majority of the components and their forests continue to protect undisturbed and healthy temperate forest areas (Nomination dossier, 2016). However, the forests are influenced by surrounding increasing development pressure in the buffer zones which is of particular concern in case of small components.

**Summary of the Values**

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

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

Overall, the values of the property are being maintained. In many of its components primeval forests are well protected and have been so for many years. However, the 2017 extension of the property added a number of very small components with unclear buffer zone protective prescriptions and concerns exist whether their size is sufficient to maintain integrity and support ecological process.

▶ Assessment of the current state and trend of other important biodiversity values

**Low Concern**
Trend: Stable

Flora and fauna species associated with beech forests appear to be well preserved. In some cases lack of connectivity might affect populations of some species in the long term.

Additional information

Benefits

Understanding Benefits

► Wilderness and iconic features

Several components are recognized as wilderness areas and have iconic monumental trees valued for their age and size (Nomination dossier, 2016).

Factors negatively affecting provision of this benefit:
- Overexploitation: Impact level - Low
- Habitat change: Impact level - Low

► Outdoor recreation and tourism

Tourism within the components is restricted in most areas due to their strict protection regime. However, there are hiking trails and guided walks are offered in several components.

► Cultural identity and sense of belonging

Beech forests in many areas have been valued as part of cultural identity of local communities.

► Importance for research

All States Parties have undertaken academic research and have been involved in a number of projects relating to forest ecosystems, biodiversity
and specific aspects of old growth ecology. Much of the understanding of ecological change since the last ice age comes from research undertaken in certain components (Nomination dossier, 2016).

▶ Carbon sequestration

The large standing biomass and high productivity ensures ongoing carbon sequestration. This includes in some of the associated wetlands such as montane peat bogs (Nomination dossier, 2016).

Factors negatively affecting provision of this benefit:
- Habitat change: Impact level - Low, Trend - Continuing

▶ Tourism-related income, Provision of jobs

The benefits from tourism related income are assumed, but are not fully documented. In many components visitors require a permit or a guide to access the property.

Summary of benefits

As the property is strictly protected and the management strategy is one of non-intervention, there are few benefits from provisioning services, but cultural, spiritual and recreational values are significant. Scientific research has been extensive in many of the components and research on old growth ecosystems and associated habitats has increased scientific understanding in many fields of research.

Projects

Compilation of active conservation projects

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<th>Organization/individuals</th>
<th>Project duration</th>
<th>Brief description of Active Projects</th>
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### Brief description of Active Projects

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<tr>
<td>4</td>
<td>Agentschap voor Natuur en Bos</td>
<td>From: 2013 To: 2018</td>
<td>LIFE12 NAT/BE/000166 The project aims to connect areas of the Sonian Forest with high ecological value by constructing wildlife crossings (such as underpasses, viaducts and culverts) and erecting fences to impede the access of wild animals to roads and rail lines. It also aims to protect forest biodiversity through nature-friendly and adapted forest management (e.g. the restoration of forest edges along the Brussels ring and the creation of open areas) and by redirecting recreation activities to less sensitive areas.</td>
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### Compilation of potential site needs

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<th>Brief description of potential site needs</th>
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A key indicator for monitoring that has been agreed (Nomination dossier, 2016) is the volume of deadwood per hectare. The effectiveness of management of ensuring integrity and the quality of ecological processes would benefit from also monitoring deadwood dependent species including plants, insects, particularly beetles, and fungi. Some components or areas have standing deadwood biomass of less than 40 m³/ha where the removal of fallen deadwood was permitted – there should be a goal to monitor the natural increase in deadwood volumes.
REFERENCES

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