Supplementary Information to the State Party Report on the State of Conservation of the Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe

Submitted by Belgium on behalf of the States Parties:
Germany, Italy, Romania, Spain, and Ukraine
Reference Number: 1133ter
In response to World Heritage Committee Decision: 44 COM 7B.99

[November 2021]

1. Table of content

2. Contextualization

The World Heritage Centre requested additional details on the operations in the buffer zones that were met with serious concern from the following States Parties:

- Germany
- Italy
- Romania
- Spain
- Ukraine

This request was communicated through the World Heritage Committee Draft Decision: 44 COM 7B.99 and ought to be submitted by the 1st of December 2021. Detailed information on the forestry operations currently permissible in the buffer zones of the property, as well as a full list of potentially affected component parts and buffer zones should be submitted. Furthermore, a subsequent technical workshop with IUCN and the World Heritage Centre and in conjunction with the other States Parties to consider the means by which concerns over these activities could be resolved, will take place.

3. Previous info shared with WHC/IUCN

In March 2021 the following info was sent to the World Heritage Centre in response to World Heritage Committee Decisions 42 COM 7B.71 and 43 COM 7B.13 and the letter CLT/WHC/EUR/19/12594 dated 22 April 2020[1]

Table 1: Overview on regulations of logging in buffer zone for those clusters, where shelter wood cuttings or clear cuts are not fully forbidden (AsA: Allowed on specific areas, AsP: Allowed with special permission, GA: Generally allowed).

Country	Cluster/Component	Clear cuts < 0,3 ha	Clear cuts > 0,3 ha	Shelterwood cuttings < 0,3 ha	Shelterwood cuttings > 0,3 ha
DE	Grumsin	AsA		AsA	
ES	Hayedos de Ayllón - La Mancha	AsP	AsP	AsP	AsP
ES	Hayedos de Ayllón - Madrid			AsP	AsP
ES	Hayedos de Navarra	GA	AsA	GA	GA
ES	Hayedos d. Picos d. Europa		AsP		
IT	Abruzzo, Lazio & Molise NP				
IT	Monte Raschio	AsP	AsP	AsP	
IT	Sasso Fratino			GA	
RO	Cheile Nerei-Beușnița			GA	
RO	Cozia			GA	
RO	Domogled - Valea Cernei			GA	
RO	Groșii Țibleșului	GA	GA	GA	
RO	Izvoarele Nerei			GA	
RO	Strâmbu Băiuț	GA	GA	GA	
UA	Uzhanski NNPk	AsA	AsA	AsA	AsA

[1] Supplementary Information to the State Party Report on the State of Conservation of the Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe submitted by Belgium on behalf of the States Parties. Albania, Austria, Belgium, Bulgaria, Croatia, Germany, Italy, Romania, Slovakia, Slovenia, Spain, Ukraine; Reference Number: 1133ter; in response to World Heritage Committee Decisions 42 COM 7B.71 and 43 COM 7B.13 and the letter CLT/WHC/EUR/19/12594 dated 22 April 2020

4. Definitions used in this document

In the Guidance document on buffer zone management and buffer zone zonation, which was submitted to IUCN in April 2021 a Glossary on Forest management terms used by the Unesco WHS "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe" was included (cfr annex 4).
According to these definitions:

- **Clear cut < 0.3 ha is considered as a 'group felling'** [2]
- **Clear cuts and shelterwood cutting were defined as forest interventions with a minimal area of 0.5 hectare instead of 0.3 ha**
- **Shelterwood is used for Uniform shelterwood systems which means that the seed cut and removal cut are applied to the entire stand area**
- **Group shelterwood system is a less intensive forest intervention where cuttings are limited to plots of max. 0.5 ha**

The forest terminology used in this document is in line with the definitions used in the Guidance document for buffer zone management of the WHS "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe", version April 2021.

5. Additional details on forestry operations

5.1 Germany – Grumsin

5.1.1 Management in the property

No intervention in the property is allowed.

5.1.2 Management in the buffer zone

The situation in the buffer zone (total of 274 ha) of the component part 'Grumsin' is described as follows:

Only in the north-western part of the buffer zone forestry use is prohibited, because it is part of the core zone 'Grumsin' of the Schorfheide-Chorin biosphere reserve. This area of 65 ha did not become part of the world heritage property, because it consists mostly of artificial former pine plantations (developing now towards natural forest types).

A further 49 ha within the buffer zone at the northern boundary of the property is owned by the supporting association of the biosphere reserve (Kulturlandschaft Uckermark e.V.) and has been without intervention since 1990, although forestry use would be allowed according to the biosphere reserve decree (the area belongs to the buffer zone of the biosphere reserve).

Summarising, out of the 274 ha buffer zone, 114 ha has been without any intervention since 1990 (65 ha due to the biosphere reserve decree, plus an additional 49 ha provided by voluntary commitments).

[2] Clearcutting system: In the context of this document, we define a minimum surface of 0.5 ha. Intervention areas smaller than that are covered as 'group fellings' or 'femel cutting'.

Clearcutting

The remaining parts of the buffer zone southwest, south and east of the property are privately owned forests in the buffer zone of the biosphere reserve. Here, forestry use is allowed with the following restrictions according to the biosphere reserve decree (= NatSGSchorfhV):

- Clearcuts larger than 0.3 ha are prohibited (§6 (1) no. 10 NatSGSchorfhV);
- afforestation with non-native tree species is prohibited (§6 (1) no. 11 NatSGSchorfhV);
- 'forestry use has to be performed according to the management plans' of the biosphere reserve (§5 (1) no. 13 NatSGSchorfhV).

Shelterwood cutting

Shelterwood cutting is not prohibited according to the BR decree itself.
But "forestry management is to be performed in accordance with the conservation management plan" ("Die Forsteinrichtung hat sich nach den Pflege- und Entwicklungsplänen zu richten", §5 Abs. 1 Nr. 13).
According to the current FFH habitat management plan for this FFH site from 2015, only selective cutting (single trees and groupwise cutting) (dauerwaldartige Nutzung mit einzelstamm- und gruppenweise Nutzung) is allowed, referring to the "Best Practice Handbook - Nature Conservation in Lowland Beech Forests used for Timber" (Winter et al. 2015).
Thus, shelterwood cutting is currently not allowed.

In the Natura 2000 habitat management plan for the site (which serves also as management plan of the biosphere reserve), selective cutting is prescribed, and the plan refers to the conservation-sound beech forest management system agreed with the state forestry administration, which is published in German and English (Winter et al. 2020: Best Practice Handbook – Nature Conservation in Beech Forests Used for Timber. Nature conservation objectives and management recommendations for mature beech forests in north-eastern Germany. Publisher: Ministry of Agriculture, Environment and Climate Protection of the Federal State of Brandenburg).

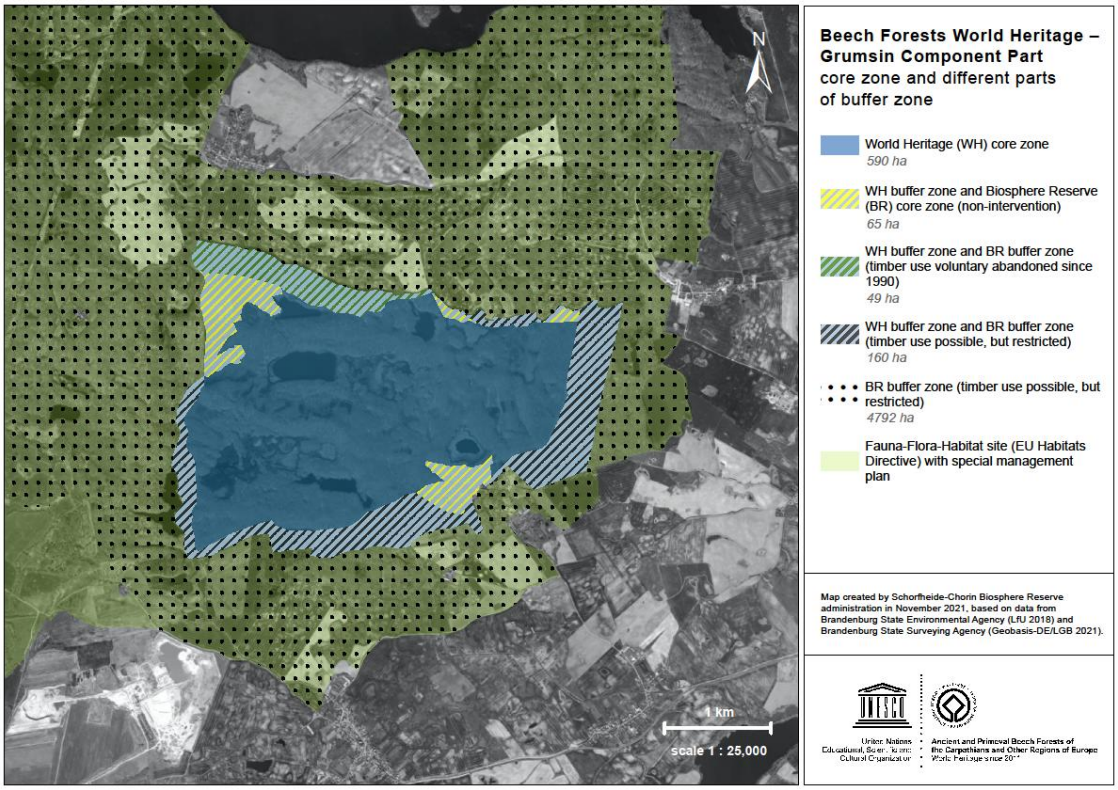
The biosphere reserve administration seeks to secure the implementation of these targets through negotiations with the private forest owners, and aims to agree extensive forestry use or complete non-intervention by nature conservation contracts (Vertragsnaturschutz). For an area of 430 ha of beech forests west of the property, directly adjacent to its buffer zone, in 2021 complete non-intervention was agreed for at least the next 20 years by a contract with the forest owner. Other parts of the buffer zone and surrounding forests are owned by a large number of small-scale forest owners and are mostly used on a low level for fire wood only.

Wherever possible, the state of Brandenburg purchases forest areas in the buffer zone.

Summary

Referring to the IUCN demands it has to be stated, that in the world heritage buffer zone (274 ha) timber use is **only prohibited in a section area of 65 ha. In the remaining parts of the buffer zone timber use is permitted**; **but clearcuts >0.3 ha and afforestation with non-native species are prohibited**. **Shelterwood cutting is not allowed**. The timber use must not contradict the Natura 2000 management plan and has to be performed according to a conservation-sound forest management system for mature beech forests agreed with the state forest administration in 2015 (Winter et al. 2020).

Wherever possible, the biosphere reserve administration seeks to secure a very extensive, conservation-sound forestry (selective cutting) and, if possible, non-intervention management by nature conservation contracts with private forest owners and by land purchase.



Map1: Grumsin, core zone and different parts buffer zone

5.2 Spain

In Spain, six components of the transnational serial World Heritage property have been constituted, grouped two by two in three clusters: Cluster Hayedos de Ayllón, Cluster Hayedos de Picos de Europa and Cluster Hayedos de Navarra.

Historical evolution of timber extraction and forest management

After the early days, when forest exploitation was not based on conservation rules, only small patches of territory were left out of human intensive transformation, usually due to inaccessibility or historical management issues. These patches have generally been the precursors of the areas considered as forest reserves, planned for their natural evolution. Some of them are nowadays the six W.H. properties. Since the beginning of the 20th century, modern silvicultural management has been carried out to maintain healthy and productive forests, based on the knowledge of the time. For more than a century the main silvicultural operations in the area surrounding the properties were based on an Uniform Shelterwood System. Thinning was applied on young stands and regeneration cuttings were concentrated at the end of the rotation (around 100 to 120 years) and applied to big forest stands (called "blocks", of around 200 hectares). That system was conducted through a Management Plan for each of the forests in the area with the idea of preserving the forest and its timber productivity as a main goal. But in the course of history, a large part of the territory had lost its forest cover (especially in the interior part of the Iberian Peninsula, for us the area around the cluster Hayedos de Ayllón). To achieve the restoration of the original vegetation cover, large reforestation works were undertaken, especially from the middle of the 20th century. These works were mainly undertaken with species of the genus Pinus, more rustic to be able to develop in degraded lands. Also, in those years reforestations with exotic species were carried out to achieve good yields of wood production.

5.2.1 Management in the property

No intervention in any property of any cluster is allowed.

5.2.2 Management in the buffer zone

Hayedos de Ayllón

In the area, extensive repopulations of Scots pine (*Pinus* sylvestris) were planted in the year 1950 on shrub areas that had originally been covered with oak (*Quercus* pyrenaica) or beech forests. More than 50 years after the installation of these artificial stands at the beginning of the 21st century the Regional Forest Administrations began to carry out thinning works. Currently in the surroundings of the Tejera Negra and Montejo de la Sierra properties, the main objective is to recover the original beech and oak coverage. These thinning works are in theory inscribed in a general scheme of a shelterwood system that would entail the regeneration cutting of the pine forests around the age of 100 to 120 years, but probably when reaching that age, it will not be necessary to carry out the final cut anymore because a sufficient beech and/or oak cover will have been formed to cover all the ground under the pine canopy.

Clearcutting

No clear cuts are carried out in the buffer zone.

Shelterwood cutting

In the buffer zone, **shelterwood treatments** are not carried out.

Only in some specific enclaves and under special permission, tendering actions have been programmed to reinforce old stumps with sanitary problems to gradually transform the original coppice forest to high forest (forest composed by trees born from seeds). The total surface of these actions does not exceed 20 ha.

Hayedos de Navarra

Forest Management Plans for the different forests in the area were approved around 1904 by the competent authorities and certain parts of the large Irati forest massif began to be exploited, mainly removing timber by floating it through the rivers and after that constructing forest roads. Since then, the shelterwood system was always the main way to obtain timber and regenerate the forest.

Due to various international and later local conflicts, logging did not begin until the 1960s in La Cuestion forest. At that time, it was decided that a stand of this impressive beech-fir forest should be retained as a Reserve to preserve it as an undisturbed forest. That is the origin of Lizardoia property which was legally protected as Strict Reserve in 1986. Also since 1998 through the regulations of the management plans, some forest stands reaching 5% of the total area were preserved out of logging to set up a network of "areas left aside for natural evolution". Aztaparreta property is located in such a remote and inaccessible area where it was never possible to extract timber. It was also protected as Strict Reserve in 1986.

Silvicultural management was re-formulated in the last revisions of the Management Plans (they are revised and improved approximately every 10 years) to produce not only harvesting of timber resources but also a good habitat for wildlife. This way, as a result of the sustainable management and a good conservation status of these forests, the whole area was designated as a Natura 2000 site, complying with all the necessary conservation requirements marked by the Habitats Directive.

Clearcutting

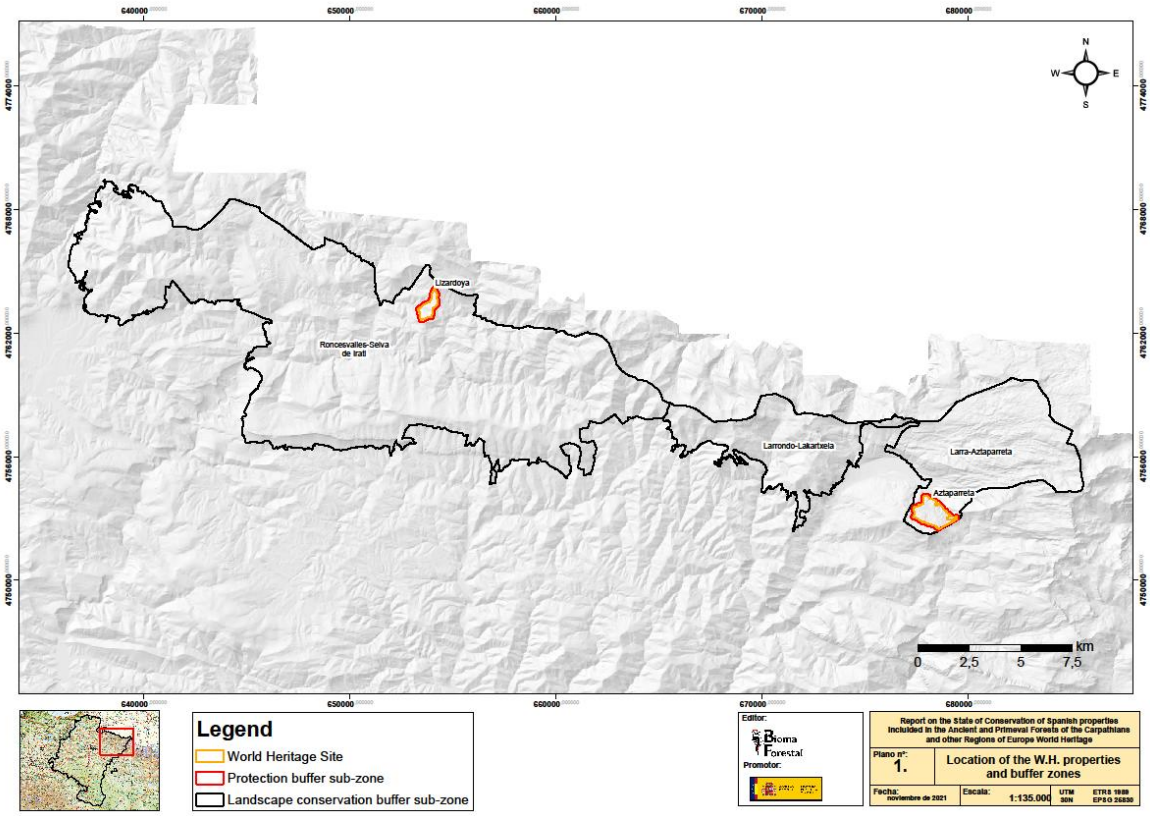
Besides the dominant beech forest cover, there are some patches of native Pi*nus sylvestris* and small stands of non-native species as *Larix kaempferi* and *Pseudotsuga menziesi*. **As an exception, they are exploited through a clear cut system, only in accordance with the approved management plans for Natura 2000 and the approved forest management plans**. **These actions are implemented as restoration towards natural habitats of non-native forest stands or maintenance of light-demanding species as *Pinus sylvestris*. The joint surface of these actions is never larger than 1% of the landscape conservation sub-zone. Special permission is mandatory.**

Shelterwood cutting

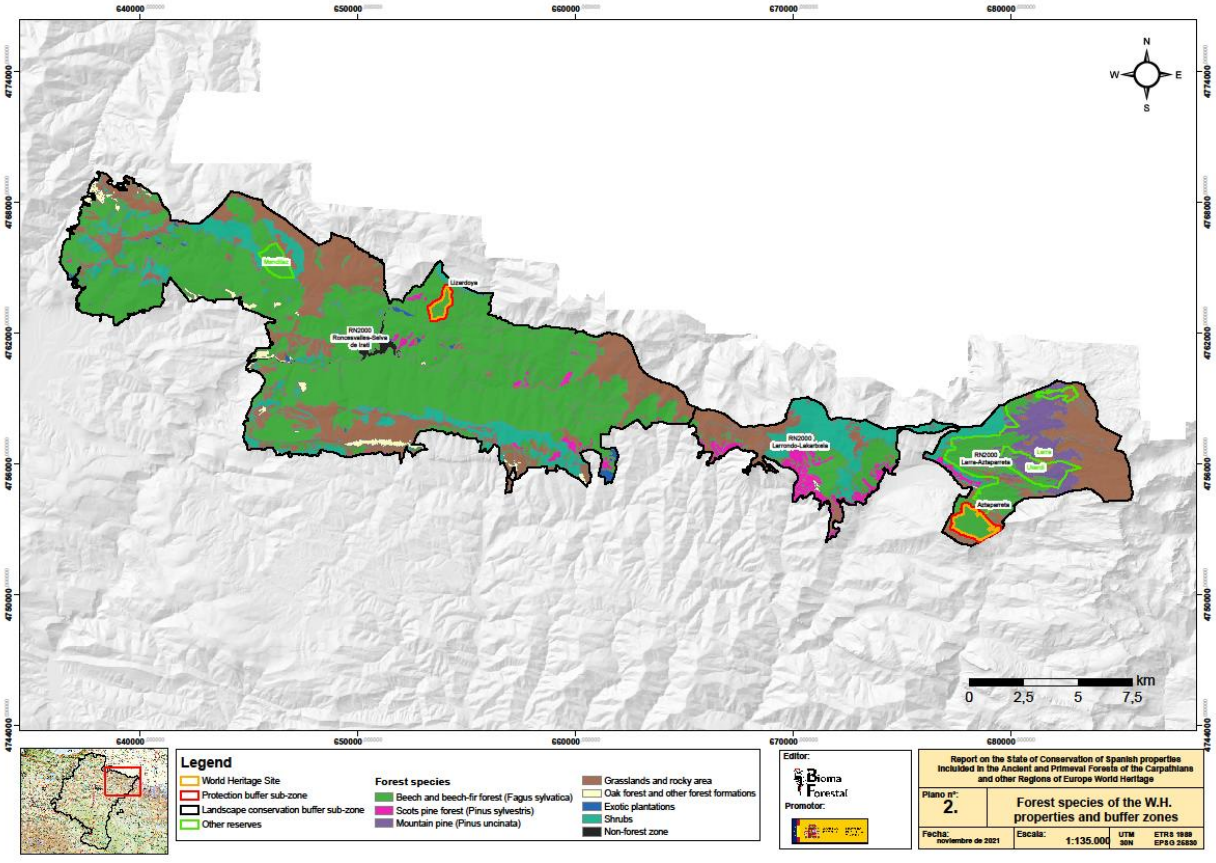
A shelterwood system is conducted in the buffer zone of Hayedos de Navarra. It has been applied historically because of the excellent results in enabling good regeneration in these southern beech forests. Recently an adaptation of the method was applied, leading to a less intensive application of the Uniform Shelterwood System reducing the average size of the intervention, with the important implementation of deadwood and tree-habitats retention, essential to favour species that depend on older and dead trees.

So nowadays, more than 120 years after the implementation of modern silviculture, we can observe the results of this kind of management directly on the forest: an extensive natural woodland that provides habitat for important forest species, some of them extinct in other parts of Europe. The big size designed for the buffer area plays a fundamental role in preserving the landscape and maintaining connectivity in these forests.

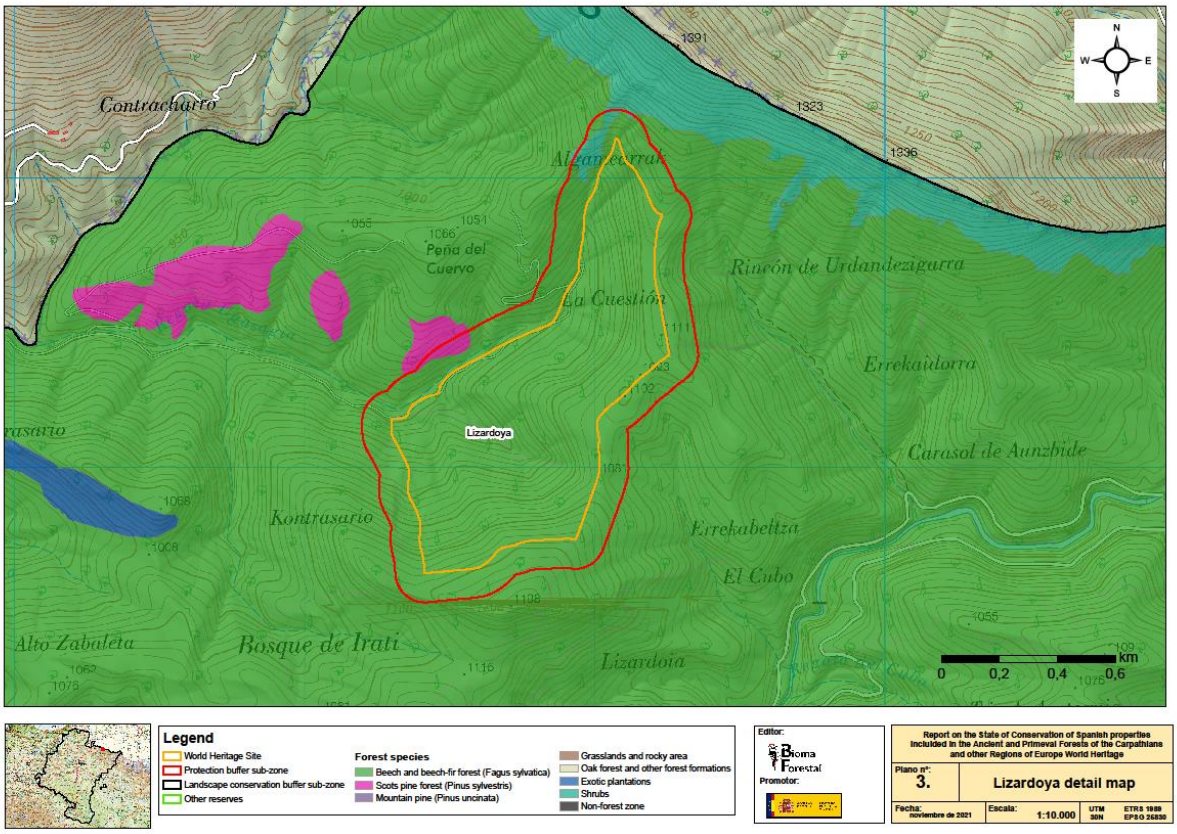
The maps below show the situation in the Hayedos de Navarra indicating the property and the vegetation types.



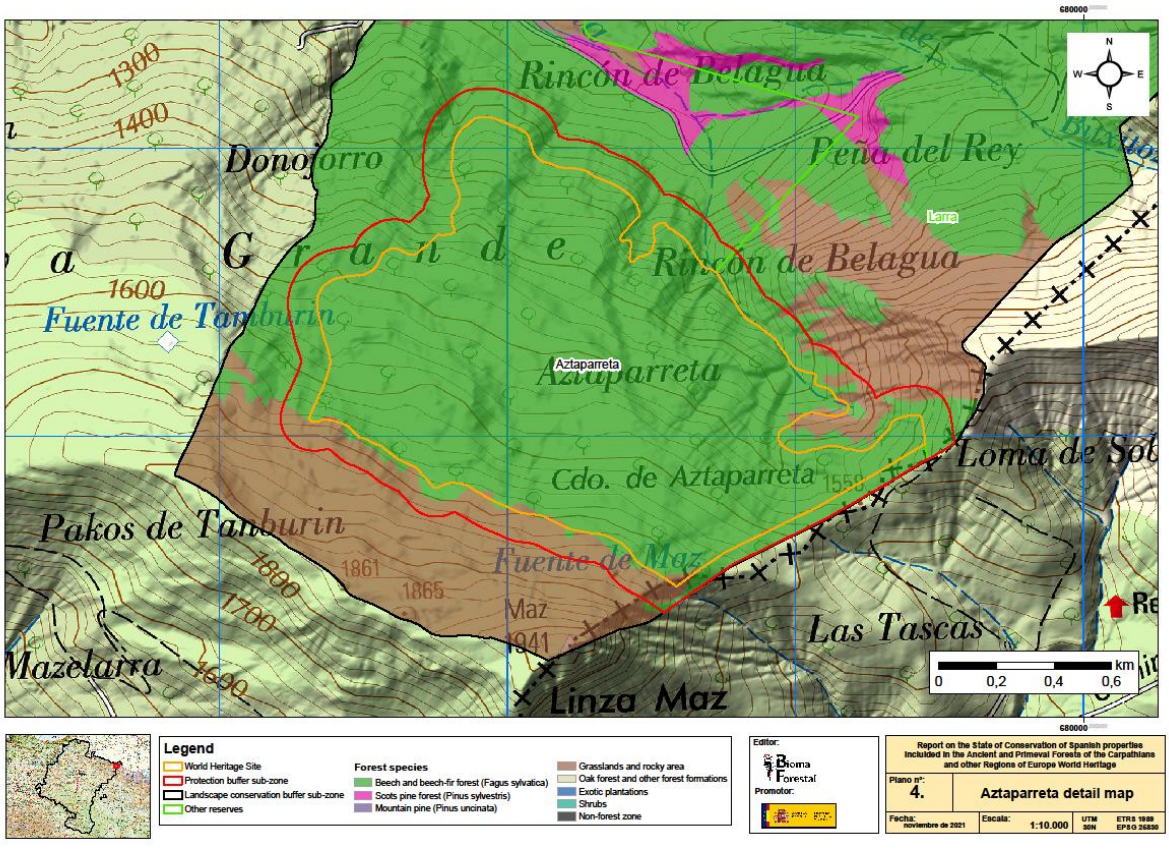
Map 2: Location WH Navarra



Map 3: Forest vegetation WH Navarra



Map 4: Lizardoia detail maps



Map 5: Aztaparetta detail map

Hayedos de Picos de Europa

In 1918 the Covadonga National Park was declared in the Cantabrian Range, including the Canal de Asotín property. Until the 1980's logging was allowed in the whole area of the National Park but with a weak regime of exploitation and some remote areas were too far away for a major human impact.
Since then **the only allowed timber exploitation is the extraction of limited firewood for the inhabitants of the small villages located within the bounderies of the National Park**. To date this firewood extraction is carried out through **low intensity thinnings** which has hardly any impact on the global structure of the beech forest.
In 1995 the Covadonga National Park was extended and it was renamed to Picos de Europa National Park, covering a larger area, including Cuesta Fría property. Regarding the human impact on the components, **due to their inaccessibility they have probably never been logged, just visited by shepherds and their cattle, taking some firewood for their subsistence**.

Clearcutting and shelterwood cutting

Within the buffer zone no clear cuts nor shelterwood cuttings take place.

Summary

Forest management in the different buffer zones around the Spanish properties is always conducted to achieve the provision of ecosystem services (including in some cases the timber supply in a sustainable way) while ensuring the conservation of the beech ecosystem, and especially in order to protect the Outstanding Universal Values (OUV) of the properties.
There are different approaches in each of the clusters, depending on biogeographic and political issues. The traditional management in these forests is very important for local stakeholders, especially in Irati forest around Lizardoia property. **The buffer zone of Hayedos de Navarra shelterwood cutting takes place as described**.

It is important to highlight that all these buffer zones are legally protected, on different categories: National Park, Natural Park, Natura 2000 site or Biosphere Reserve. That means that every little part of these buffer zones is protected under legal regulations that must be complied with and that ensure the maintenance of essential ecosystem functions and the conservation of the territorial connection. These regulations are monitored and enforced by the territory managers.

5.3 Italy

The component parts for which further details are requested are National Park Abruzzo, Sasso Fratino and Monte Raschio.

5.3.1 Management in the property

No intervention in the property is allowed.

5.3.2 Management in the buffer zone

National Park Abruzzo

Clear cutting and shelterwood cutting

All the core areas and buffer zones of the five WHS beech forests are situated in strict non-intervention areas.

Monte Raschio

Clearcutting

Clear cuts in Italy are generally forbidden by the regional laws. There could be exceptions, such as for artificial conifer stands, or for other very particular situations. As a consequence clear cuts are not practised in WHS buffer zones.
The information provided in March 2021 (table 1 of this document) was probably caused by a misunderstanding.

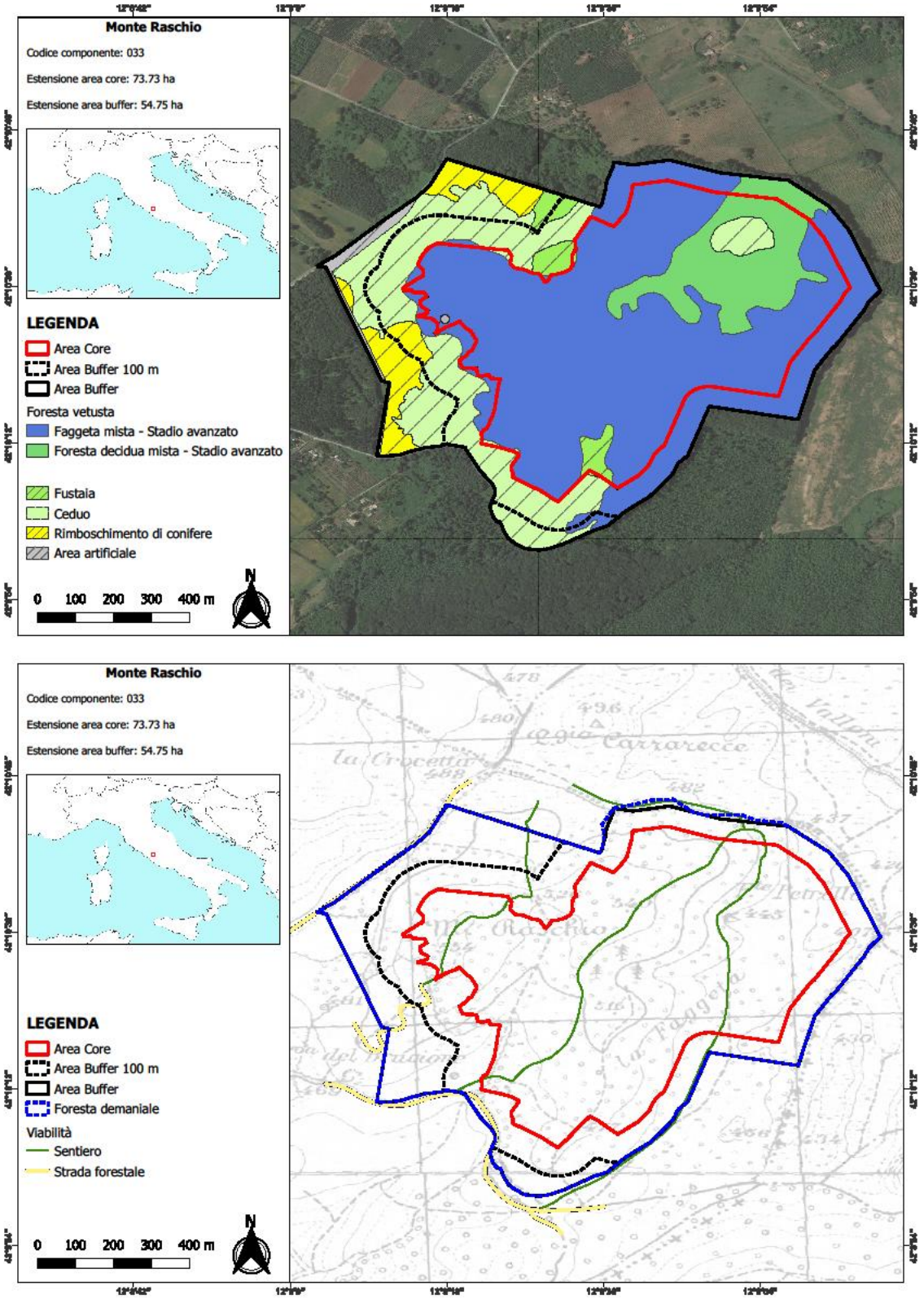
Shelterwood cutting

The shelterwood cuts mentioned in table 1 of this document need to be corrected as tending operations. Both in Protective and in Landscape Conservation Buffer zone, there are

- some *Pinus domestica* and *Pinus radiata* artificial populations, that sometimes touch the core area. The presence of conifers is very dangerous and increases the risk of forest fire, that could really threaten the outstanding universal values (OUV) of the Monte Raschio WHS site. For this conifer area of about 10 ha, it is necessary to foresee tendering cuts (the last one happened 15 years ago) to prevent this risk.
- old coppices (beech mixed with other species). In this case we can talk about “Uneven-aged silvicultural system”: it would be possible to foresee small cuts to improve the structure of these stands, with the aim to obtain an uneven-aged stand forest.

Every intervention needs **the permission of Ente Parco Naturale Regionale di Bracciano and will be in line with the Guidance Document on Buffer Zone Management**.

A map indicating the location of these two kinds of stands is added below: “Rimboschimento di conifere” is artificial conifers stand and “Ceduo” is old beech coppice.



Map 6: Monte Raschio

Sasso Fratino

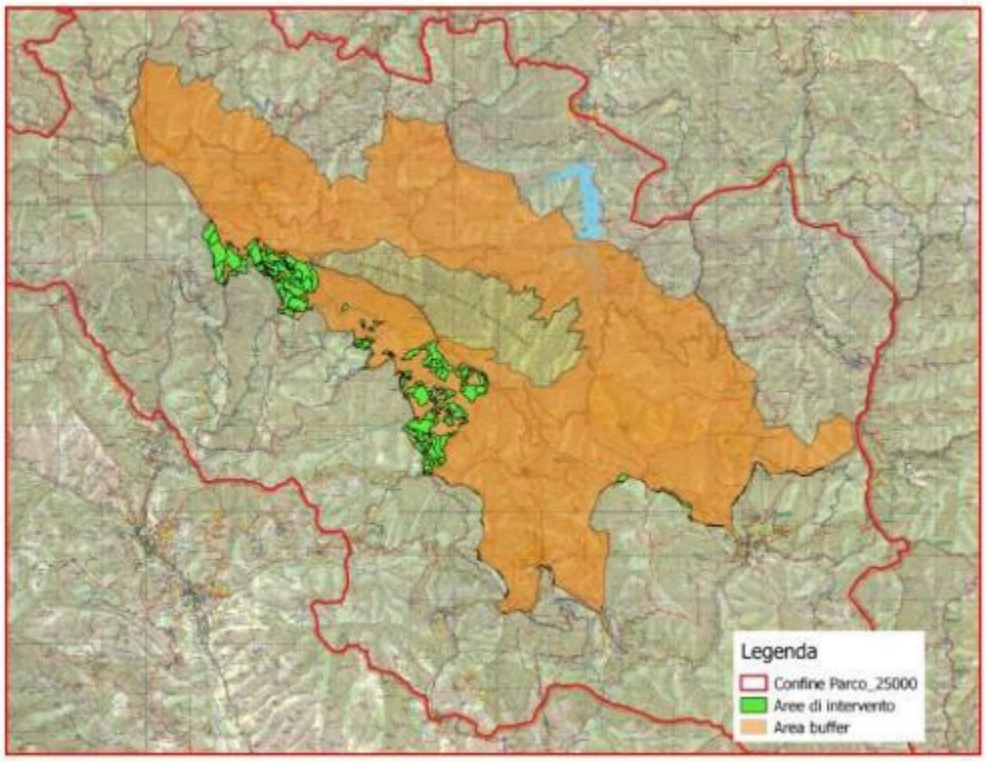
More than half of the buffer zone is in the State property (Biogenetic State Reserve), in this part forestry intervention is not possible.

The remaining part of the buffer zone is property of the Emilia Romagna and Toscana regions. The park is currently working on an agreement with the public body "Union of the Municipalities", manager of this regional property, with the aim to stop interventions in this area. **The new Forests Management Plan of the Toscana region already foresees non-intervention inside the buffer areas.**

A) Tuscan region

The last interventions in the buffer zone have been carried out in 2017 around property of the Tuscan region (cfr green areas on the map below). These interventions were foreseen by the existing Management Plan of that complex, carried out by the Union of Municipalities of the Casentino for the period 2008 - 2017.

The effective application of the plan was approximately 360 ha, 5% of the buffer area (6940 ha). This type of interventions refers to cuts aimed at supporting the ongoing structural development, such as the thinning of forests of different types (e.g. tendering and phytosanitary cuts in conifers stands, tendering cuts to improve the value of old beech-coppices stands, ...).



Map 7: SASSO FRATINO- Tuscan region

B) Emilia-Romagna and the State Property

For the remaining part of the buffer area (Emilia-Romagna and the State Property), there are no significant interventions except for punctual phytosanitary operations (sanitary cuttings) and salvation cutting after meteorologic events.

The letter written by Parco Nazionale Foreste Casentinesi, about the management of buffer zones can be found in annex (Cfr annex 2 below).

5.4 Romania

An overview of the management regime of the buffer zones and the management operations in the Ancient and Primeval Beech Forest of the Carpathians and other Regions of Europe, was given in the report of Romania, joint world heritage centre/IUCN reactive monitoring mission, 13/11-18/11/2019

5.1.1 Management in the property

No intervention in the property is allowed, all components have a non-intervention regime.

5.1.2 Management in the buffer zone

Romania's UNESCO site components have a total buffer zone area of 64,449.7 ha (the largest of the series).

A general explanation is given below, more specific information per cluster is provided afterwards.

Clear cutting

Romania reiterates that clear cuttings are banned.

Shelterwood cutting (and other forest interventions)

In 2020 and 2021, in accordance with the provisions of the national park management plans (where appropriate) and the harmonised forest management plans, both approved through a Ministerial Order, the forest interventions were carried out in a sustainable way on a total area of 1544 ha (2.4% of the buffer zone) and a total volume of 71,781 m3 (an average of 23 m3/ha*year in the plots with interventions or 0.55 m3/ha*year in the entire buffer zone)

The distance between the components and the forest interventions area was more than 50 m, thus the negative impacts from the opening of the canopy to the property are not present. The average distance is 5.1 km in 2020 and 3.1 km in 2021.

For transparency, a detailed list of forest works in the buffer zones in 2020 and 2021, can be found in annex 3, attached to this file and an overview is presented below.

Table 2: Overview of the forest operations per cluster in 2020 and 2021.

Crt. No.	Component Name	Buffer zone				
		Total area (ha)	Intervention area in 2020 (ha)	Harvested volume in 2020 (m3)	Intervention area in 2021 (ha)	Harvested volume in 2021 (m3)
1	Izvoarele Nerei	**2494.8**	9.0	2494.8	47.8	3816
2	Cheile Nerei-Beușnița	**5959.9**	66.9	2950	91.3	3752
3	Domogled-Valea Cernei cluster	**51461.3**	730.5	30352	354.3	19356
4	Cozia	**2408.8**	5.3	8	42.5	2022
5	Codrul secular Sinca	**445.8**	0	0	18.0	3738
6	Codrul secular Slătioara	**429.4**	0	**0**	0	0
7	Groșii Țibleșului	**463.6**	8.0	1747	10.3	310
8	Strâmbu-Băiuț	**713.1**	71.6	707	88.6	1587
	Total Romania	**64449.7**	891.2	37200	652.8	34581

Based on the National Forest Inventory (NFI) in Romania the average standing volume for beech is 416 m³/hectareThe average annual increment is 8.9 m³ per hectare (source http://roifn.ro/site/rezultate-ifn-2/)

An general overview of all the forest works in 2020 and 2021 in the buffer zone is presented below.

Table 3: Overview of the forest operations per type of operation in 2020 and 2021.

Crt. No.	Forest intervention type	Intervention area in 2020 (ha)	Harvested volume in 2020 (m3)	Intervention area in 2021 (ha)	Harvested volume in 2021 (m3)
1	Tending	65.1	0	101.1	0
2	Thinning	113.2	3606	106.6	2014
3	Phyto-sanitary cuttings	84.4	422	24.7	107
4	Salvation cuttings	105.3	1533	18.5	1005
5	Conservation cuttings	311.7	7298	195.8	8632
6	Group selection cuttings 1	37.2	3015	49.8	5131
7	Group selection cuttings 2	159.2	18178	71.2	7304
8	Final group selection cuttings	7.1	1401	48.9	8986
9	Shelter-wood cutting	8.0	1747	36.2	1402
	Total Romania	891.2	37200	652.8	34581

The definitions used in the table are in line with the definition of the guidance document as stated under chapter 4 definitions. The terms which are not defined in the guidance document are explained below.

Conservation cutting – the set of interventions, generally selective cutting or small group cuttings, applied in some stands of advanced age (> 120 years old), in order to maintain or improve their phytosanitary status, to ensure the permanence of the forest and to continuously improve the fulfillment of the protection functions. According to Romanian forestry technical instructions through this intervention is allowed to extract no more than 10% of the plot volume in 10 years.

Cheile Nerei-Beușnița

This area is part of the core zone of the eponymous National Park and covers a Natura 2000 area. In the buffer zone, forest exploitation is certified under FSC and managed according to a 10-year "forest management plan", harmonised with an "integrated management plan" adopted in 2016 for the whole park. The principle of zonation of the National Park has been explained in the report of Romania, joint world heritage centre/IUCN reactive monitoring mission. Strictly protected and protected zones have a no-intervention regime. In the restricted buffer zone (dark green zone) only conservation cutting is allowed.

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are not allowed.

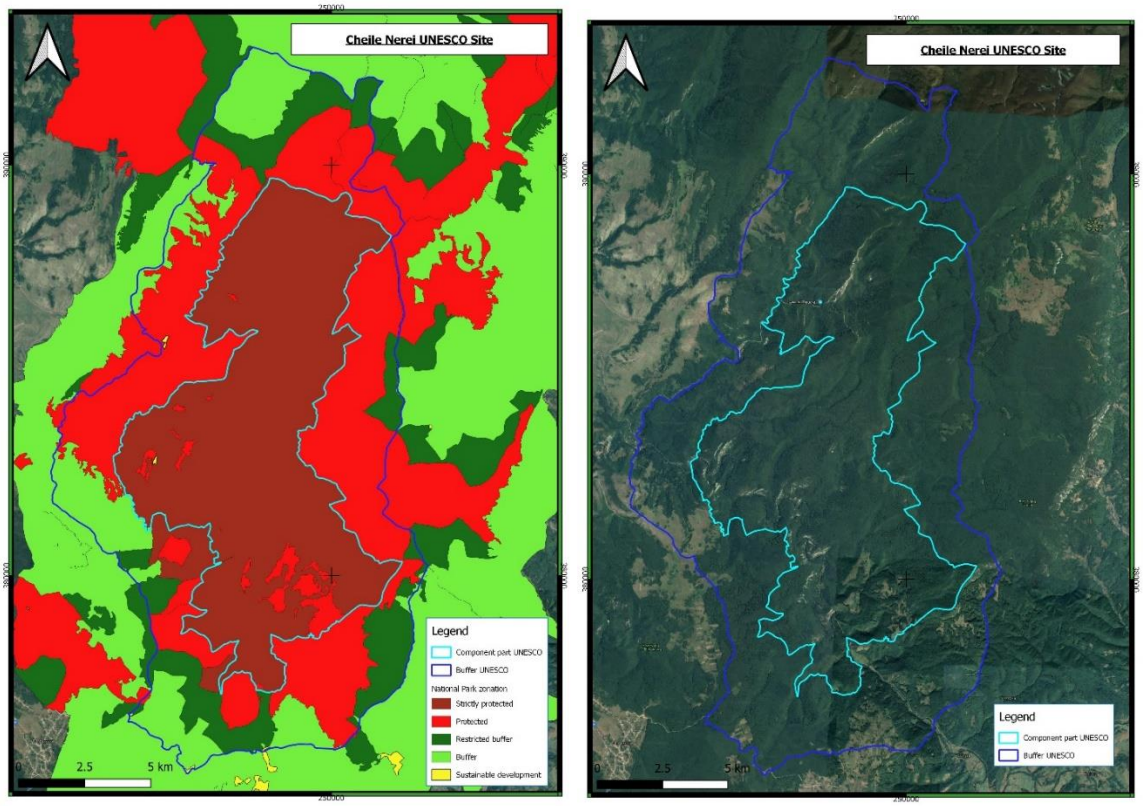
The tables below indicate the forest management interventions in 2020 and 2021 in the buffer zone and the distance from the intervention to the border of the component.

Table 4: Forest interventions in UNESCO buffer zone Cheile Nerei-Beușnița *in 2020*

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Conservation cuttings	10.5	385	2020	12.0	2.0
Conservation cuttings	25.0	765	2020	9.8	1.3
Thinning	15.3	490	2020	13.0	1.2
Thinning	4.1	70	2020	15.1	1.4
Group Selection cutting 1	12.0	1250	2020	12.0	1.4
	66.9	**2960**		**11.5**	

Table 5: Forest interventions in UNESCO buffer zone Cheile Nerei-Beușnița in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Group Selection cutting 1	7,4	693	2021	23,4	1,3
Conservation cuttings	41,1	1402	2021	11,6	0,7
Thinning	30,8	587	2021	9,6	0,7
Group Selection cutting 1	12,0	1070	2021	8,0	1,8
	91,3	**3752**		**10,9**	



Map 8: Zonation plan Cheile Nerei

Codrul Secular Șinca

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are not allowed.

In 2020 no interventions took place.

Forest interventions in the UNESCO natural site buffer zone in 2021 are shown in table 6.

Table 6: Forest interventions in UNESCO buffer zone Codrul Seculare Sinca in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Final Group Selection cutting	18,0	3738	2021	97,4	0,1
	18,0	**3738**		**97,4**	

Cozia

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are not allowed.

Forest interventions in the UNESCO natural site buffer zone in 2020 and 2021 are shown below.

Table 7: Forest interventions in UNESCO buffer zone Cozia in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Salvation harvest	4,6	6	2020	0,0	0,3
Salvation harvest	0,7	2	2020	0,1	0,3
	5,3	**8**		**0,1**	

Table 8: Forest interventions in UNESCO buffer zone Cozia in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Conservation cutting	32,5	1695	2021	12,2	0,9
Thinning	10,0	327	2021	8,2	1,6
	42,5	**2022**		**11,3**	

Domogled - Valea Cernei

This area comprises three separate clusters, all located within the core zone of the national park **Domogled Valea Cernei.** According to the zonation plan the forest is managed in the restricted buffer zone (dark green) and buffer zone (green). The strictly protected and protected zones have a no-intervention regime. Logging was undertaken in these specific zones in accordance with the national legislation 7 and the relevant forest management plans.

- In sectors of the buffer zone adjacent to the protection zones, in stands that reached the rotation age (100-120 years), the harvesting of trees, during the period of validity of the forest management plan (10 years), is limited to a maximum volume of 10% of the standing volume. In addition, logging is generally not implemented within 20 m from the component borders to preserve its integrity respectively:
- In the rest of the buffer zones where forestry interventions are allowed, **logging is carried out in accordance with the general exploitation rules applicable throughout the country, with some restrictions: only treatments with long regeneration periods can be applied, the clear-cuts being prohibited.**
- **In the report of the reactive monitoring mission it was clearly stated that forest exploitation is allowed and implemented within the buffer zones** of all Romanian listed components in accordance with national legislation and on the basis of 10-year forest management plans, as well as the integrated national management plans of the National Parks where they are located.

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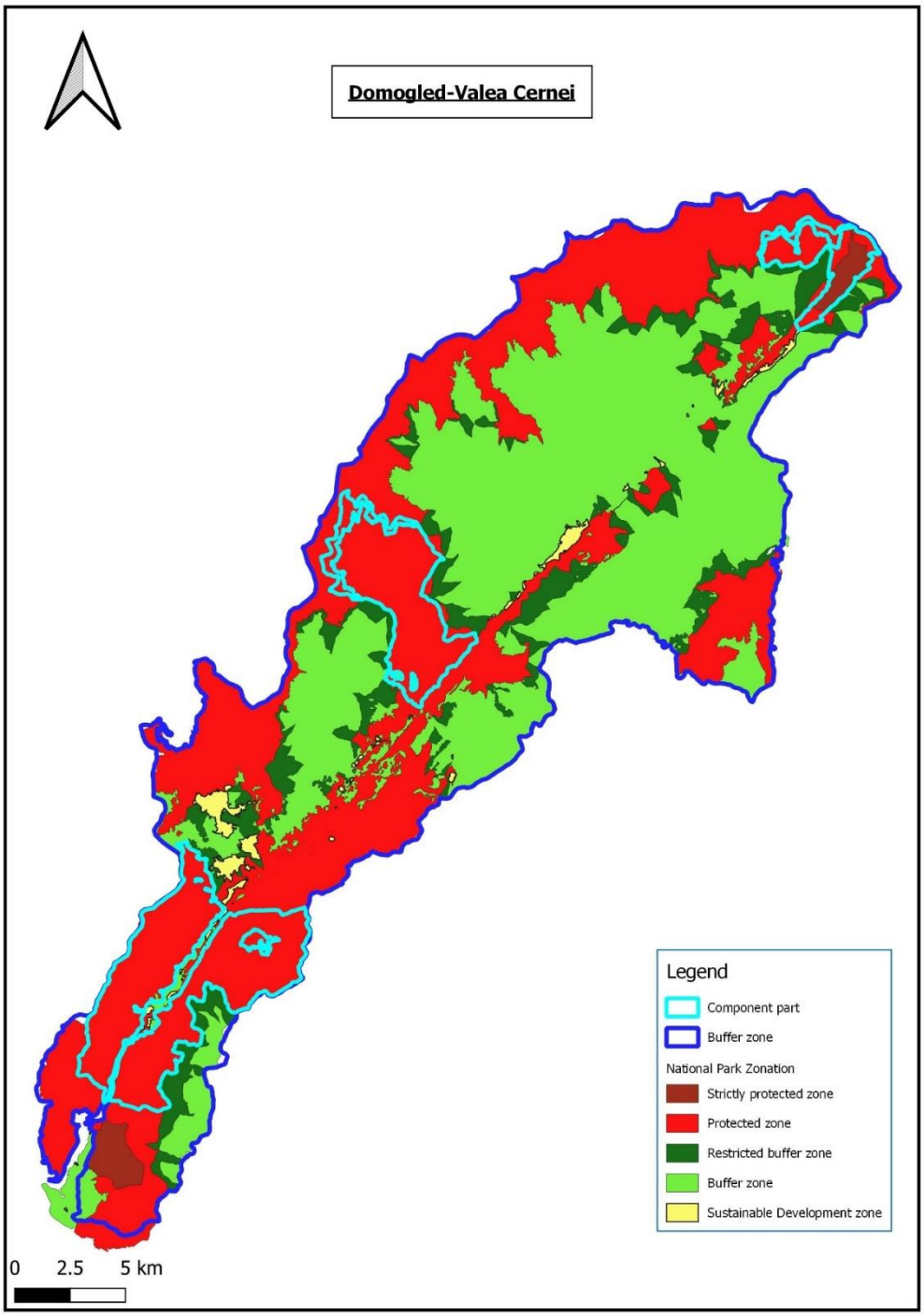

Map 9: Zonation plan Domogled - Valea Cernei National Park

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are not allowed.

Table 9: Forest interventions in UNESCO buffer zone Domogled-Valea Cernei in 2020

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Group Selection cutting 1	1,2	152	2020	30,0	5,9
Thinning	1,2	41	2020	10,0	5,9
Thinning	0,9	48	2020	12,8	5,6
Salvation harvest	22,2	51	2020	0,4	5,6
Salvation harvest	4,0	24	2020	1,1	3,8
Salvation harvest	2,0	11	2020	1,4	4,0
Salvation harvest	2,2	51	2020	4,5	4,4
Salvation harvest	0,1	2	2020	0,1	7,6
Salvation harvest	0,4	71	2020	1,4	7,6
Group Selection cutting 2	17,0	2425	2020	50,1	9,4
Group Selection cutting 2	17,5	3341	2020	51,7	9,6
Group Selection cutting 2	12,1	2093	2020	54,7	5,1
Conservation works	3,2	16	2020	10,7	4,1
Final Group Selection cutting	7,1	1401	2020	24,5	9,1
Thinning	17,0	351	2020	9,1	2,5
Thinning	2,5	100	2020	2,7	1,9
Group Selection cutting 2	11,0	1071	2020	12,9	0,1
Group Selection cutting 2	5,3	538	2020	17,3	0,6
Conservation works	15,7	924	2020	11,1	0,0
Tending	8,5	0	2020	0,0	0,1
Group Selection cutting 2	10,0	1610	2020	25,8	1,0
Group Selection cutting 1	5,0	488	2020	2,2	1,3
Tending	8,7	0	2020	0,0	2,6
Conservation works	10,5	413	2020	21,2	1,9
Tending	6,0	0	2020	0,0	1,7
Tending	17,2	0	2020	0,0	0,8
Thinning	9,5	470	2020	31,3	1,0
Conservation works	5,3	224	2020	13,6	0,9
Tending	6,4	0	2020	0,0	1,7
Tending	11,2	0	2020	0,0	2,3
Group Selection cutting 2	12,0	1152	2020	13,2	2,4
Group Selection cutting 2	22,3	810	2020	9,8	2,6
Group Selection cutting 2	8,1	1363	2020	38,4	0,5
Group Selection cutting 2	2,7	463	2020	35,6	0,6
Group Selection cutting 2	16,8	630	2020	8,0	0,7

Group Selection cutting 2	7,0	306	2020	3,6	1,4
Thinning	6,2	276	2020	27,0	9,4
Group Selection cutting 1	3,7	607	2020	28,2	9,4
Group Selection cutting 1	1,1	69	2020	13,0	8,0
Thinning	1,1	43	2020	21,2	7,1
Group Selection cutting 2	1,5	173	2020	46,6	9,2
Phyto-Sanitary cuts	33,7	262	2020	1,7	5,8
Conservation works	17,3	334	2020	6,4	0,3
Phyto-Sanitary cuts	11,2	55	2020	1,4	8,9
Phyto-Sanitary cuts	9,1	27	2020	1,8	8,9
Phyto-Sanitary cuts	2,6	10	2020	1,1	8,9
Phyto-Sanitary cuts	5,3	22	2020	1,2	9,4
Phyto-Sanitary cuts	0,8	3	2020	1,7	9,4
Phyto-Sanitary cuts	21,7	43	2020	0,5	6,4
Group Selection cutting 1	5,8	209	2020	5,3	7,1
Conservation works	5,4	195	2020	9,9	7,1
Thinning	1,0	22	2020	5,8	8,1
Thinning	4,0	66	2020	2,1	7,9
Thinning	3,9	229	2020	29,9	6,9
Thinning	2,1	101	2020	24,5	7,9
Salvation harvest	10,5	248	2020	11,0	7,6
Salvation harvest	0,1	51	2020	0,8	7,9
Conservation works	2,9	20	2020	6,5	7,7
Conservation works	4,0	19	2020	0,7	7,6
Conservation works	2,8	40	2020	2,6	9,2
Conservation works	9,8	58	2020	1,6	8,2
Conservation works	9,3	30	2020	1,1	8,1
Conservation works	2,1	38	2020	7,8	9,3
Conservation works	3,3	27	2020	2,8	8,3
Conservation works	7,0	241	2020	10,4	8,5
Conservation works	8,7	46	2020	3,3	9,0
Conservation works	3,5	18	2020	1,6	9,5
Conservation works	6,0	32	2020	1,3	9,8
Conservation works	8,4	18	2020	1,4	10,3
Salvation harvest	5,0	230	2020	1,9	5,2
Conservation works	2,2	32	2020	1,8	7,0
Group Selection cutting 1	8,4	240	2020	7,8	8,2
Conservation works	4,0	37	2020	2,2	8,3
Conservation works	50,1	1672	2020	8,2	10,3
Conservation works	1,0	2	2020	0,1	10,0
Conservation works	3,2	16	2020	1,5	8,1

Thinning	11,8	270	2020	2,2	10,3
Conservation works	4,5	20	2020	1,1	7,3
Conservation works	3,1	7	2020	0,9	10,0
Conservation works	16,1	45	2020	0,8	9,0
Conservation works	1,4	7	2020	2,8	9,2
Conservation works	16,1	44	2020	0,9	9,0
Conservation works	8,1	20	2020	0,8	4,7
Thinning	17,6	590	2020	6,9	9,6
Salvation harvest	0,1	7	2020	0,1	7,1
Conservation works	16,7	67	2020	0,9	7,5
Conservation works	6,5	20	2020	0,6	6,8
Conservation works	4,5	20	2020	1,6	6,4
Conservation works	4,5	20	2020	0,8	5,1
Group Selection cutting 2	9,9	1208	2020	35,1	5,8
Salvation harvest	4,0	511	2020	24,5	10,3
Group Selection cutting 2	6,0	995	2020	23,4	6,2
	730,5	**30352**		**8,8**	

Table 10: Forest interventions in UNESCO buffer zone Domogled-Valea Cernei in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Group Selection cutting 1	10,2	430	2021	11,4	4,3
Final Group Selection cutting	8,0	1181	2021	17,8	3,4
Tending	6,0	0	2021	0,0	3,8
Final Group Selection cutting	10,0	1879	2021	96,4	3,5
Group Selection cutting 2	4,1	428	2021	7,6	0,6
Group Selection cutting 1	13,0	1713	2021	7,6	1,3
Final Group Selection cutting	12,0	2000	2021	23,6	1,4
Group Selection cutting 2	10,0	2023	2021	14,9	2,2
Conservation works	9,0	447	2021	3,8	2,3
Conservation works	4,4	162	2021	10,0	2,5
Conservation works	5,0	103	2021	1,5	2,0
Conservation works	9,5	374	2021	16,9	2,3
Thinning	22,8	323	2021	11,8	0,3
Thinning	21,7	192	2021	9,2	0,1
Conservation works	5,5	211	2021	1,8	0,1
Tending	20,0	0	2021	0,0	0,2
Conservation works	5,0	691	2021	17,7	1,5
Group Selection cutting 2	2,5	150	2021	7,9	0,6

Group Selection cutting 2	7,0	749	2021	9,0	2,6
Group Selection cutting 2	2,9	456	2021	12,9	0,5
Final Group Selection cutting	0,9	188	2021	85,1	0,3
Group Selection cutting 2	9,7	1615	2021	51,0	0,2
Tending	24,8	0	2021	0,0	0,2
Group Selection cutting 2	6,0	163	2021	4,6	0,9
Group Selection cutting 2	10,0	368	2021	4,7	0,6
Group Selection cutting 2	7,0	491	2021	16,7	1,3
Group Selection cutting 2	7,0	429	2021	5,1	1,4
Thinning	6,7	161	2021	12,1	9,8
Thinning	9,0	236	2021	14,1	8,4
Thinning	3,6	113	2021	16,9	8,4
Thinning	2,0	75	2021	20,5	7,8
Group Selection cutting 1	1,6	239	2021	15,6	7,4
Conservation works	1,8	25	2021	3,3	5,3
Conservation works	0,4	24	2021	3,1	5,3
Group Selection cutting 2	5,0	432	2021	25,8	0,1
Group Selection cutting 1	2,6	319	2021	6,2	0,5
Group Selection cutting 1	3,0	667	2021	8,7	0,7
Conservation works	1,5	46	2021	3,8	5,1
Salvation harvest	3,0	15	2021	1,6	5,9
Phyto-Sanitary cuts	9,1	40	2021	1,0	9,0
Phyto-Sanitary cuts	5,3	20	2021	1,1	9,0
Phyto-Sanitary cuts	0,8	7	2021	4,0	9,0
Phyto-Sanitary cuts	9,5	40	2021	2,1	9,0
Conservation works	4,3	20	2021	0,5	7,8
Conservation works	2,9	20	2021	1,6	9,8
Conservation works	10,0	20	2021	0,8	10,0
Conservation works	3,2	16	2021	5,6	9,8
Conservation works	7,0	35	2021	0,8	8,2
Conservation works	8,1	20	2021	0,8	4,7
	354,3	**19356**		**10,0**	

Grosii Țibleșului

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are allowed by actual forest management plan, but will be phased out. Interventions are made only in plots where this kind of works begun in the past, before the nomination and is not possible to change.

Table 10: Forest interventions in UNESCO buffer zone Grosii Țibleșului in 2020

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Final Shelterwood cutting	8,0	1747	2020	49,7	0,7
	8,0	**1747**		**49,7**	

Table 11: Forest interventions in UNESCO buffer zone Grosii Țibleșului in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Tending	3,7	0	2021	0,0	0,1
Conservation works	6,6	310	2021	8,9	0,2
	10,3	**310**		**8,6**	

Izvoarele Nerei

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are not allowed.

Table 11: Forest interventions in UNESCO buffer zone Izvoarele Nerei in 2020

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Conservation works	9,0	1426	2020	19,4	0,1
	9,0	**1426**		**19,4**	

Table 12: Forest interventions in UNESCO buffer zone Izvoarele Nerei in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Salvation harvest	15,5	990	2021	18,0	0,8
Conservation works	15,7	317	2021	5,6	0,1
Conservation works	16,6	2509	2021	13,3	0,3
	47,8	**3816**		**12,7**	

Strâmbu Băiuț

Clear cutting

Clear cutting is not allowed.

Shelterwood cutting

Uniform shelterwood cuttings are allowed by actual forest management plan, but will be phased out. Interventions are made only in plots where this kind of works begun in the past, before the nomination and is not possible to change.

Table 13: Forest interventions in UNESCO buffer zone Strâmbu Băiuț in 2020

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Thinning	15,0	439	2020	10,9	0,3
Salvation harvest	49,5	268	2020	1,3	0,6
Tending	7,1	0	2020	0,0	0,3
	71,6	**707**		**2,8**	

Table 14: Forest interventions in UNESCO buffer zone Strâmbu Băiuț in 2021

intervention type	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)
Shelterwood cutting 2	36,2	1402	2021	13,2	0,6
Conservation works	5,7	185	2021	7,4	0,8
Tending	24,1	0	2021	0,0	0,3
Tending	22,6	0	2021	0,0	0,5
	88,6	**1587**		**11,7**	

Maps

Cfr: Overview of the management regime of the buffer zones and the management operations in the Ancient and Primeval Beech Forest of the Carpathians and other Regions of Europe, report of Romania, joint world heritage centre/IUCN reactive monitoring mission, 13/11-18/11/2019

5.2 Ukraine

In total, Ukraine has 15 component parts of the UNESCO World Natural Heritage Site "Ancient and Primeval Beech forests of the Carpathians and other regions of Europe", which are protected within the Carpathian Biosphere Reserve, Gorgany and Roztochya Nature Reserves, National Nature Parks – Uzhanskyi, “Synevyr”, “Zacharovanyi Krai” and "Podilski Tovtry".
Thus, the Heritage Site in Ukraine is protected within three types of protected areas: Nature reserves, biosphere reserves and National Nature parks (= National Park).

5.4.1 Management in the property

No intervention in the property is allowed.

5.2.1 Management in the buffer zone

Nature reserves according to IUCN classification belong to category Ia, where any economic activity is prohibited at the legislative level (Law of Ukraine "On Nature Reserve Fund of Ukraine").
Therefore, any logging in the buffer zones of the WHS component parts here is impossible.

Biosphere reserves and National Nature Parks, in contrast to Nature Reserves, have a functional zoning and are divided into three main zones. For biosphere reserves these are: protected (core) zone, buffer zone and zone of anthropogenic landscapes, and for parks – protected (core), regulated recreation and economic zones.
The regime of protected (core) zones of these two types of protected areas is similar to a nature reserve.
In other functional zones, some limited use of natural resources is provided by current laws and regulations, in particular by the Law of Ukraine "On Nature Reserve Fund of Ukraine" and the Sanitary Rules in the Forests of Ukraine.

In addition, the buffer zones of the Ukrainian component parts of the Heritage Site, with some exceptions, are protected within those functional zones where the continuous sanitary felling is not allowed by law. Here we mean the buffer zones of biosphere reserves and zones of regulated recreation of national nature parks.

However, in recent years there have been important changes in Ukrainian nature protection legislation, which were primarily aimed at conservation of primeval and old-growth (ancient) forests (Forest Code of Ukraine), as well as improvement of the conditions for conservation of natural complexes in protected areas (Laws of Ukraine "On Nature Reserve Fund of Ukraine", "On environmental impact assessment" and Sanitary rules in the forests of Ukraine).
As a result of these innovations, **any industrial logging (felling)** (in Ukrainian terminology logging (felling) of the main use), including continuous felling (clear cutting), within all types of protected areas was **prohibited.**
Previously, they were practised in the economic functional zones of national nature parks.

Significantly **limited continuous-sanitary loggings** used to take place on the territories of biosphere reserves and national nature parks. Presently, they can be carried out **only within the economic zones** of national nature parks and zones of anthropogenic landscapes of biosphere reserves **only in case of accidents and natural disasters** (Law of Ukraine "On Nature Reserve Fund of Ukraine", Sanitary Rules in Forests of Ukraine).

At the same time, in order to carry out continuous sanitary felling in protected areas, in accordance with the Law of Ukraine "On Environmental Impact Assessment", **it is necessary to conduct an environmental impact assessment**, **which makes it practically impossible to carry out such felling**.
The fact is that environmental impact assessment is not for free and means a very complicated bureaucratic procedure.
Due to this, **since the adoption of the corresponding law in 2017**, the administrations of Ukrainian protected areas, in particular those where component parts of the Heritage Site are protected, **have not carried out any sanitary felling at all in the buffer zones of the components**.

The Uzhanskyi protected area is exclusively a national nature park. The component part Stuzhytsia-Uzhok itself is located within the park's core zone, where any economic activity is prohibited, and the Buffer Zone of the Heritage Site is located within the zone of regulated recreation.

Map10: map of Stuzhytsia-Uzhok component part.

Summary

Considering the above, as well as the fact that all Ukrainian component parts and their buffer zones are located within the protected areas, there are currently no threats of carrying out any continuous felling (clear cutting or shelterwood cutting). The only legal instrument in the context of forest use in protected areas is selective-sanitary logging. They can also be implemented in the buffer zones of the component parts of the Heritage Site. Usually these loggings are carried out in limited areas and are not major interventions.

Below are excerpts from the current environmental legislation of Ukraine, which relate to the changes mentioned above. (Cfr annex 1)

6. Summary

The table below shows an overview of the actual management practices based on the definitions and information provided. This table is an update of table 2 in this document.

Table 15: Overview permissible operations in the buffer zones of the components parts. AsA: Allowed on specific areas, AsP: Allowed with special permission, GA: Generally allowed, AsAsC: Allowed on specific areas and special conditions –light demanding and non-native species.

State Party	Cluster/Component	Group fellings < 0,5 ha	Clear cuts > 0,5 ha	Group Shelterwood cuttings < 0,5 ha	Shelterwood cuttings > 0,5 ha	Comment
DE	Grumsin	AsA	No	No	No	Group felling is limited to 0.3 ha
ES	Hayedos de Ayllón – Castilla La Mancha	No	No	No	No	Thinning in pine stands that will be transformed to beech
ES	Hayedos de Ayllón - Madrid	No	No	No	No	Thinning in pine stands that will be transformed to beech
ES	Hayedos de Navarra	AsAsC *	AsAsC *	AsP	AsP	Shelterwood in beech forests, 100 m from the border of component; Clear cuts in pine to transform to beech stand
ES	Hayedos de Picos de Europa	No	No	No	No	Firewood by local community through thinning
IT	Abruzzo, Lazio & Molise NP	No	No	No	No	
IT	Monte Raschio	No	No	No	No	Thinning in pine stands that will be transformed to beech
IT	Sasso Fratino	No	No	AsP	AsP	Sanitary and salvation cutting possible
RO	Cheile Nerei-Beușnița	No	No	GA	No	
RO	Cozia	No	No	GA	No	
RO	Domogled - Valea Cernei	No	No	GA	No	
RO	Groșii Țibleșului	No	No	GA	GA	Allowed but will be phased out in new managing plan
RO	Izvoarele Nerei	No	No	GA	No	
RO	Strâmbu Băiuț	No	No	GA	GA	Allowed but will be phased out in new managing plan
UA	Uzhanski NNPk	No	No	No	No	

7. Annexes

Annex 1 Legislation in Ukraine

Law of Ukraine

About amendments to some laws of Ukraine concerning prohibition of continuous fellings (clear-cutting) on mountain slopes in fir-beech forests of the Carpathian region

(Vidomosti Verkhovnoi Rady (VVR), 2019, № 51, p.383)

The Verkhovna Rada (Supreme Council) of Ukraine resolves:

I. To make changes to the following laws of Ukraine:

1. In the Law of Ukraine "On the nature-reserve fund of Ukraine":

1) the fifth paragraph of the first part of Article 21 about the economic zones of national nature parks after the words "within its boundaries" to supplement with the words "fellings of the main use are prohibited and".

2) part one of Article 26 on reserves after the word "prohibited" to supplement with the words "fellings of the main use".

Law of Ukraine

On amendments to some legislative acts of Ukraine on the protection of primeval forests in accordance with the Framework Convention on the Protection and Sustainable Development of the Carpathians

(Vidomosti Verkhovnoi Rady (VVR), 2017, № 37, p.379)

The Verkhovna Rada (Supreme Council) of Ukraine **resolves:**

I. To make changes to the following laws of Ukraine:

1. In the Forest Code of Ukraine (Vidomosti Verkhovnoi Rady, 2006, № 21, p. 170)

1) supplement with the Article 39^{-1} with the following content:

"Article 39^{-1}. Protection and conservation of primeval forests, quasi-primeval forests, natural forests

Primeval forests, quasi-primeval forests and natural forests are the national natural heritage of Ukraine.

In order to protect and conserve primeval forests, quasi-primeval forests and natural forests, all types of logging are prohibited there, including sanitary felling, felling of forest formation and sanitation (except for maintaining of linear objects and cutting of individual trees during firefighting), construction of buildings, laying roads, linear and other objects of transport and communication, cattle

grazing, industrial harvesting of non-timber forest products, passage of vehicles (except for public roads and forest protection services).

2) Article 70 shall be supplemented with part ten of the following content:

"In primeval forests, quasi-primeval forests, natural forests, is prohibited timber harvesting, all types of felling (logging), including the formation and sanitation of forests, and the removal of clutter".

Cabinet of Ministers of Ukraine

Decree

dated December 9, 2020, № 1224, Kyiv

On amendments to some decrees of the Cabinet of Ministers of Ukraine

1. In the Sanitary Rules in the Forests of Ukraine, approved by the Decree of the Cabinet of Ministers of Ukraine of July 27, 1995, № 555 (ZP of Ukraine, 1995, № 10, p. 253; Official Newsletter of Ukraine, 2016, № 87, p. 2839):

1) in paragraph 5:

the fifteenth paragraph shall be worded as follows:

"In the protected (core) zones of biosphere reserves, national nature and regional landscape parks, on the territory of nature reserves, monuments of nature, primeval forest nature monuments, including in conservation zones with the width of at least twice of the height of the primeval forest stand, which are established around primeval forest nature monuments, in primeval forests, quasi-primeval forests, natural forests and protected arrays, is prohibited to conduct sanitary fellings of all kinds, felling of hollow, dry, faut trees and elimination removal of clutter.";

2) paragraph 27 shall be worded as follows:

Within the economic zones of national nature parks and regional landscape parks and zones of anthropogenic landscapes of biosphere reserves, continuous sanitary felling is carried out only in the event of accidents and natural disasters.

All continuous sanitary fellings on the area over 1 hectare; all continuous sanitary fellings on the territories and objects of the nature reserve fund are carried out in accordance with the Law of Ukraine "On Environmental Impact Assessment.".

Law of Ukraine
On environmental impact assessment

Article 3. Scope of environmental impact assessment

1. The environmental impact assessment is mandatory in the decision-making process on the planned activities specified in parts two and three of this article. Such planned activities are subject to environmental impact assessment before a decision is made to carry out the planned activities.

2. The first category of types of planned activities and objects, that may have a significant impact on the environment and are subject to an environmental impact assessment includes:

21) all continuous and gradual fellings of the main use (clear-cutting) and continuous sanitary fellings on the area over 1 hectare; all continuous sanitary fellings on the territories and objects of the nature reserve fund.

Annex 2 Information from Italia

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Parco Nazionale Foreste Casentinesi Monte Falterona e Campigna

Subject: **Management of the buffer zone of the component Sasso Fratino (ID 034) - UNESCO site n. 1133ter "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe"**

The undersigned dott. Carlo Pedrazzoli, responsible for the management of the Italian component Sasso Fratino (ID 034) of the UNESCO site n. 1133ter "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe", declares that since the date of inscription to the World Heritage List (July 2017) the buffer zone of the component has been managed as follows:

The only interventions carried out were located in the area of property of the Tuscan region. These interventions were foreseen by the existing Management Plan of that Complex, carried out by the Union of Municipalities of the Casentino for the period 2008 - 2017, so even for a short period after the nomination of the UNESCO site. The effective application of the Plan was approximately 360 ha, or 5% of the buffer area (6940 ha). The type of interventions refers to cuts aimed at supporting the ongoing evolutionary processes, such as thinning of forests of different types.

For the remaining portion of the buffer area (Emilia-Romagna and the State Property), there are no significant interventions except for punctual phytosanitary operations and the recovery of crashed plants following particular meteoric events.

23/10/2019

Dr. Carlo Pedrazzoli

Annex 3: Forest interventions in UNESCO natural site buffer zone in 2020 and 2021

Forest interventions in UNESCO natural site buffer zone in year 2020

no.	component name	forest district	production unit	forest plot	area (ha)	standing volume (m3)	intervention tipe	interventi on area (ha)	harvested volume (m3)	interventi on year	proportion of harvested volume	distance to component (km)	ownership	remarks
1	Cheile Nerei-Beușnița	Sasca Montană	II	81A	10,5	3219	Conservation works	10,5	385	2020	12,0	2,0	State	
2	Cheile Nerei-Beușnița	Sasca Montană	II	82A	25,0	7801	Conservation works	25,0	765	2020	9,8	1,3	State	
3	Cheile Nerei-Beușnița	Sasca Montană	IV	24B	15,3	3767	Thinning	15,3	490	2020	13,0	1,2	State	
4	Cheile Nerei-Beușnița	Sasca Montană	IV	28C	4,1	463	Thinning	4,1	70	2020	15,1	1,4	State	
5	Cheile Nerei-Beușnița	Sasca Montană	IV	43A	30,3	10442	Group Selection cutting 1	12,0	1250	2020	12,0	1,4	State	
total Cheile Nerei - Beușnița buffer zone - year 2020					**85,2**	**25692**		**66,9**	**2960**		**11,5**			
6	Cozia	CALIMANESTI	IV LOTRISOR	32A	40,5	13715	Salvation harvest	4,6	6	2020	0,0	0,3	State	
7	Cozia	CALIMANESTI	IV LOTRISOR	32C	4,6	1601	Salvation harvest	0,7	2	2020	0,1	0,3	State	
total Cozia - Lotrișor buffer zone - year 2020					**45,1**	**15316**		**5,3**	**8**		**0,1**			
8	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Carpinei (X)	88A	1,2	507	Group Selection cutting 1	1,2	152	2020	30,0	5,9	Private	
9	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Carpinei (X)	88B	1,2	412	Thinning	1,2	41	2020	10,0	5,9	Private	
10	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Carpinei (X)	89A	0,9	376	Thinning	0,9	48	2020	12,8	5,6	Private	
11	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Carpinei (X)	89B	23,1	12498	Salvation harvest	22,2	51	2020	0,4	5,6	Private	
12	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Obârșia Cloșani (VIII)	240A	4,0	2212	Salvation harvest	4,0	24	2020	1,1	3,8	Private	
13	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Obârșia Cloșani (VIII)	240B	2,0	800	Salvation harvest	2,0	11	2020	1,4	4,0	Private	
14	Domogled-Valea Cernei cluster	BAIA DE ARAMA	I Obârșia Cloșani (VIII)	278A	2,2	1143	Salvation harvest	2,2	51	2020	4,5	4,4	Private	
15	Domogled-Valea Cernei cluster	BAIA DE ARAMA	IX	12B	9,4	3055	Salvation harvest	0,1	2	2020	0,1	7,6	State	
16	Domogled-Valea Cernei cluster	BAIA DE ARAMA	IX	12G	15,8	5049	Salvation harvest	0,4	71	2020	1,4	7,6	State	
17	Domogled-Valea Cernei cluster	BAIA DE ARAMA	IX	49H	17,0	4843	Group Selection cutting 2	17,0	2425	2020	50,1	9,4	State	
18	Domogled-Valea Cernei cluster	BAIA DE ARAMA	IX	55C	17,5	6468	Group Selection cutting 2	17,5	3341	2020	51,7	9,6	State	
19	Domogled-Valea Cernei cluster	BAIA DE ARAMA	VIII	154A	12,1	3824	Group Selection cutting 2	12,1	2093	2020	54,7	5,1	State	
20	Domogled-Valea Cernei cluster	BAIA DE ARAMA	VIII	289A	3,2	150	Conservation works	3,2	16	2020	10,7	4,1	Private	
21	Domogled-Valea Cernei cluster	BAIA DE ARAMA	X	2A	19,3	5722	Final Group Selection cutting	7,1	1401	2020	24,5	9,1	State	76% regeneration
22	Domogled-Valea Cernei cluster	BĂILE HERCULANE	IV	102B	28,2	3861	Thinning	17,0	351	2020	9,1	2,5	State	
23	Domogled-Valea Cernei cluster	BĂILE HERCULANE	IV	104A	25,8	3667	Thinning	2,5	100	2020	2,7	1,9	State	
24	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	84	26,3	8284	Group Selection cutting 2	11,0	1071	2020	12,9	0,1	State	
25	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	103B	9,3	3110	Group Selection cutting 2	5,3	538	2020	17,3	0,6	State	
26	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	107A	25,6	8355	Conservation works	15,7	924	2020	11,1	0,0	State	
27	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	156A	14,2	866	Tending	8,5	0	2020	0,0	0,1	State	
28	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	157B	20,4	6248	Group Selection cutting 2	10,0	1610	2020	25,8	1,0	State	
29	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	160B	46,9	22591	Group Selection cutting 1	5,0	488	2020	2,2	1,3	State	
30	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	17C	14,5	57	Tending	8,7	0	2020	0,0	2,6	State	
31	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	22A	10,5	1951	Conservation works	10,5	413	2020	21,2	1,9	State	
32	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	27B	12,0	829	Tending	6,0	0	2020	0,0	1,7	State	
33	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	36A,B	28,6	2223	Tending	17,2	0	2020	0,0	0,8	State	
34	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	5B	9,5	1503	Thinning	9,5	470	2020	31,3	1,0	State	
35	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	83A	5,3	1652	Conservation works	5,3	224	2020	13,6	0,9	State	
36	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	87C	10,7	623	Tending	6,4	0	2020	0,0	1,7	State	
37	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	92C	16,0	1102	Tending	11,2	0	2020	0,0	2,3	State	
38	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	103B	24,8	8744	Group Selection cutting 2	12,0	1152	2020	13,2	2,4	State	
39	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	104B	22,3	8303	Group Selection cutting 2	22,3	810	2020	9,8	2,6	State	
40	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	29B	10,9	3547	Group Selection cutting 2	8,1	1363	2020	38,4	0,5	State	
41	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	45B	3,1	1299	Group Selection cutting 2	2,7	463	2020	35,6	0,6	State	
42	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	92A	26,8	7858	Group Selection cutting 2	16,8	630	2020	8,0	0,7	State	
43	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	99A	23,7	8476	Group Selection cutting 2	7,0	306	2020	3,6	1,4	State	
44	Domogled-Valea Cernei cluster	BRĂNCUȘI	I CORLAN	32C	6,2	1024	Thinning	6,2	276	2020	27,0	9,4	Private	
45	Domogled-Valea Cernei cluster	BRĂNCUȘI	I CORLAN	33D	3,7	2150	Group Selection cutting 1	3,7	607	2020	28,2	9,4	Private	
46	Domogled-Valea Cernei cluster	BRĂNCUȘI	I CORLAN	41B	1,1	530	Group Selection cutting 1	1,1	69	2020	13,0	8,0	Private	
47	Domogled-Valea Cernei cluster	BRĂNCUȘI	I CORLAN	48C	1,1	203	Thinning	1,1	43	2020	21,2	7,1	Private	
48	Domogled-Valea Cernei cluster	BRĂNCUȘI	I CORLAN	33A	2,3	371	Group Selection cutting 2	1,5	173	2020	46,6	9,2	Private	
49	Domogled-Valea Cernei cluster	BRĂNCUȘI	I PADES	90A	33,7	15097	Phyto-Sanitary cuts	33,7	262	2020	1,7	5,8	Private	
50	Domogled-Valea Cernei cluster	BRĂNCUȘI	XI CERNISOARA	96D	17,3	5230	Conservation works	17,3	334	2020	6,4	0,3	Private	
51	Domogled-Valea Cernei cluster	CLĂBUCET	I AP MOTRI PADES	18 A	11,2	4021	Phyto-Sanitary cuts	11,2	55	2020	1,4	8,9	Private	
52	Domogled-Valea Cernei cluster	CLĂBUCET	I AP MOTRI PADES	18 B	9,1	1538	Phyto-Sanitary cuts	9,1	27	2020	1,8	8,9	Private	
53	Domogled-Valea Cernei cluster	CLĂBUCET	I AP MOTRI PADES	18 C	2,6	923	Phyto-Sanitary cuts	2,6	10	2020	1,1	8,9	Private	
54	Domogled-Valea Cernei cluster	CLĂBUCET	I AP MOTRI PADES	19 A	5,3	1845	Phyto-Sanitary cuts	5,3	22	2020	1,2	9,4	Private	
55	Domogled-Valea Cernei cluster	CLĂBUCET	I AP MOTRI PADES	19 C	0,8	174	Phyto-Sanitary cuts	0,8	3	2020	1,7	9,4	Private	
56	Domogled-Valea Cernei cluster	CLĂBUCET	I BORDINC	116 A	21,7	8137	Phyto-Sanitary cuts	21,7	43	2020	0,5	6,4	Private	
57	Domogled-Valea Cernei cluster	JIUL	IX Balmesul	15A	10,8	3909	Group Selection cutting 1	5,8	209	2020	5,3	7,1	Private	
58	Domogled-Valea Cernei cluster	JIUL	IX Balmesul	15C	5,4	1976	Conservation works	5,4	195	2020	9,9	7,1	Private	
59	Domogled-Valea Cernei cluster	JIUL	IX Balmesul	17 I	1,2	378	Thinning	1,0	22	2020	5,8	8,1	Private	
60	Domogled-Valea Cernei cluster	JIUL	IX Balmesul	18B	15,0	3090	Thinning	4,0	66	2020	2,1	7,9	Private	
61	Domogled-Valea Cernei cluster	PADEȘ	I Closani	41A	3,9	765	Thinning	3,9	229	2020	29,9	6,9	Private	
62	Domogled-Valea Cernei cluster	PADEȘ	I Closani	41D	2,1	413	Thinning	2,1	101	2020	24,5	7,9	Private	
63	Domogled-Valea Cernei cluster	PADEȘ	I Closani	42B	15,0	2247	Salvation harvest	10,5	248	2020	11,0	7,6	Private	
64	Domogled-Valea Cernei cluster	PADEȘ	I Closani	44B	28,9	6300	Salvation harvest	0,1	51	2020	0,8	7,9	Private	
65	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	122	2,9	309	Conservation works	2,9	20	2020	6,5	7,7	Private	
66	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	127	7,1	2656	Conservation works	4,0	19	2020	0,7	7,6	Private	
67	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	165	5,3	1526	Conservation works	2,8	40	2020	2,6	9,2	Private	
68	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	167	9,8	3584	Conservation works	9,8	58	2020	1,6	8,2	Private	
69	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	169	9,3	2669	Conservation works	9,3	30	2020	1,1	8,1	Private	
70	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	170	2,1	489	Conservation works	2,1	38	2020	7,8	9,3	Private	
71	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	171	3,3	974	Conservation works	3,3	27	2020	2,8	8,3	Private	
72	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	172	7,0	2317	Conservation works	7,0	241	2020	10,4	8,5	Private	
73	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	173	9,3	1410	Conservation works	8,7	46	2020	3,3	9,0	Private	
74	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	174	3,5	1117	Conservation works	3,5	18	2020	1,6	9,5	Private	
75	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	175	7,1	2435	Conservation works	6,0	32	2020	1,3	9,8	Private	
76	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	182	8,4	1287	Conservation works	8,4	18	2020	1,4	10,3	State	
77	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	106A	35,3	12143	Salvation harvest	5,0	230	2020	1,9	5,2	State	
78	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	121 A	6,7	1802	Conservation works	2,2	32	2020	1,8	7,0	Private	
79	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	129A	8,4	3077	Group Selection cutting 1	8,4	240	2020	7,8	8,2	State	
80	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	168A	6,0	1664	Conservation works	4,0	37	2020	2,2	8,3	Private	
81	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	181A	50,1	20291	Conservation works	50,1	1672	2020	8,2	10,3	State	
82	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	183A	12,9	2480	Conservation works	1,0	2	2020	0,1	10,0	Private	
83	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	17	3,2	1040	Conservation works	3,2	16	2020	1,5	8,1	Private	
84	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	27	54,3	12048	Thinning	11,8	270	2020	2,2	10,3	State	
85	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	50	4,5	1790	Conservation works	4,5	20	2020	1,1	7,3	Private	
86	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	13B	3,1	794	Conservation works	3,1	7	2020	0,9	10,0	Private	
87	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	16B	16,1	5328	Conservation works	16,1	45	2020	0,8	9,0	Private	
88	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	16D	1,4	251	Conservation works	1,4	7	2020	2,8	9,2	Private	
89	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	18A	16,1	5126	Conservation works	16,1	44	2020	0,9	9,0	Private	
90	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	222B	8,1	2569	Conservation works	8,1	20	2020	0,8	4,7	Private	
91	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	30A	35,2	8518	Thinning	17,6	590	2020	6,9	9,6	State	
92	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	46A	36,4	8947	Salvation harvest	0,1	7	2020	0,1	7,1	State	
93	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	50A	19,9	7880	Conservation works	16,7	67	2020	0,9	7,5	Private	
94	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	52C	12,4	3391	Conservation works	6,5	20	2020	0,6	6,8	Private	
95	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	56B	5,0	1255	Conservation works	4,5	20	2020	1,6	6,4	Private	
96	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	57B	10,4	2378	Conservation works	4,5	20	2020	0,8	5,1	Private	
97	Domogled-Valea Cernei cluster	PADEȘ	III Mehedintu de Sub Munte	83	9,9	3440	Group Selection cutting 2	9,9	1208	2020	35,1	5,8	Private	
98	Domogled-Valea Cernei cluster	PADEȘ	III Mehedintu de Sub Munte	181A	4,0	2088	Salvation harvest	4,0	511	2020	24,5	10,3	Private	
99	Domogled-Valea Cernei cluster	PADEȘ	III Mehedintu de Sub Munte	85A	11,9	4251	Group Selection cutting 2	6,0	995	2020	23,4	6,2	Private	
total Domogled - Valea Cernei buffer zone - year 2020					**1.189,2**	**345853**		**730,5**	**30352**		**8,8**			
100	Grosii Țibleșului	Grosii Țibleșului	VI	99A	16,3	3516	Final Shelterwood cutting	8,0	1747	2020	49,7	0,7	State	
total Grosii Țibleșului buffer zone - year 2020					**16,3**	**3516**		**8,0**	**1747**		**49,7**			
101	Izvoarele Nerei	NERA	II	41A	25,0	7336	Conservation works	9,0	1426	2020	19,4	0,1	State	
total Izvoarele Nerei buffer zone - year 2020					**25,0**	**7336**		**9,0**	**1426**		**19,4**			
107	Strâmbu Băiuț	Strambu Băiuț	III	33A	16,7	4027	Thinning	15,0	439	2020	10,9	0,3	State	
108	Strâmbu Băiuț	Strambu Băiuț	IV	52	49,5	20777	Salvation harvest	49,5	268	2020	1,3	0,6	State	
109	Strâmbu Băiuț	Strambu Băiuț	IV	53B	7,1	35	Tending	7,1	0	2020	0,0	0,3	State	
total Strâmbu Băiuț buffer zone - year 2020					**73,3**	**24839**		**71,6**	**707**		**2,8**			
total year 2020					**1.434,1**	**422552**		**891,2**	**37200**		**8,8**			

Forest interventions in UNESCO natural site buffer zone in year 2021

no.	component name	forest district	production unit	forest plot	area (ha)	standing volume (m3)	intervention tipe	intervention area (ha)	harvested volume (m3)	intervention year	proportion of harvested volume	distance to component (km)	ownership	remarks
1	Cheile Nerei-Beușnița	Sasca Montană	I	41A	7,4	2964	Group Selection cutting 1	7,4	693	2021	23,4	1,3	State	
2	Cheile Nerei-Beușnița	Sasca Montană	IV	56	41,1	12086	Conservation works	41,1	1402	2021	11,6	0,7	State	
3	Cheile Nerei-Beușnița	Sasca Montană	IV	24A	30,8	6101	Thinning	30,8	587	2021	9,6	0,7	State	
4	Cheile Nerei-Beușnița	Sasca Montană	IV	42A	35,6	13326	Group Selection cutting 1	12,0	1070	2021	8,0	1,8	State	
total Cheile Nerei - Beușnița buffer zone - year 2021					**114,9**	**34477**		**91,3**	**3752**		**10,9**			
5	Codrul Secular Șinca	R.P.L. O.S. Pădurile Șincii R.A.	I Șinca	69C	19,2	3839	Final Group Selection cutting	18,0	3738	2021	97,4	0,1	Commune	75% regeneration
total Codrul Secular Șinca buffer zone - year 2021					**19,2**	**3839**		**18,0**	**3738**		**97,4**			
6	Cozia	CALIMANESTI	IV LOTRIȘOR	8	32,5	13845	Conservation works	32,5	1695	2021	12,2	0,9	State	
7	Cozia	CALIMANESTI	IV LOTRIȘOR	50C%	32,7	3987	Thinning	10,0	327	2021	8,2	1,6	State	
total Cozia - Lotrișor buffer zone- year 2021					**65,2**	**17832**		**42,5**	**2022**		**11,3**			
8	Domogled-Valea Cernei cluster	BĂILE HERCULANE	IV	51B	10,2	3762	Group Selection cutting 1	10,2	430	2021	11,4	4,3	State	
9	Domogled-Valea Cernei cluster	BĂILE HERCULANE	IV	83B	42,1	6652	Final Group Selection cutting	8,0	1181	2021	17,8	3,4	State	75% regeneration
10	Domogled-Valea Cernei cluster	BĂILE HERCULANE	IV	84A	18,2	91	Tending	6,0	0	2021	0,0	3,8	State	
11	Domogled-Valea Cernei cluster	BĂILE HERCULANE	IV	91A%	10,0	1950	Final Group Selection cutting	10,0	1879	2021	96,4	3,5	State	78% regeneration
12	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	156C	15,4	5628	Group Selection cutting 2	4,1	428	2021	7,6	0,6	State	
13	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	160B	46,9	22591	Group Selection cutting 1	13,0	1713	2021	7,6	1,3	State	
14	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	162A	34,1	8491	Final Group Selection cutting	12,0	2000	2021	23,6	1,4	State	70% regeneration
15	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	163A	43,9	13571	Group Selection cutting 2	10,0	2023	2021	14,9	2,2	State	
16	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	165G	34,0	11720	Conservation works	9,0	447	2021	3,8	2,3	State	
17	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	20A	4,4	1622	Conservation works	4,4	162	2021	10,0	2,5	State	
18	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	22B	19,0	6650	Conservation works	5,0	103	2021	1,5	2,0	State	
19	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	26B	9,5	2216	Conservation works	9,5	374	2021	16,9	2,3	State	
20	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	32A	23,8	2737	Thinning	22,8	323	2021	11,8	0,3	State	
21	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	35A	21,7	2086	Thinning	21,7	192	2021	9,2	0,1	State	
22	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	43B	26,3	11612	Conservation works	5,5	211	2021	1,8	0,1	State	
23	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	46A	70,7	875	Tending	20,0	0	2021	0,0	0,2	State	
24	Domogled-Valea Cernei cluster	BĂILE HERCULANE	V	97A	35,2	3906	Conservation works	5,0	691	2021	17,7	1,5	State	
25	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	5S	6,9	1899	Group Selection cutting 2	2,5	150	2021	7,9	0,6	State	
26	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	104B	22,3	8303	Group Selection cutting 2	7,0	749	2021	9,0	2,6	State	
27	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	29B	10,9	3547	Group Selection cutting 2	2,9	456	2021	12,9	0,5	State	
28	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	43A	0,9	221	Final Group Selection cutting	0,9	188	2021	85,1	0,3	State	93% regeneration
29	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	48A	9,7	3169	Group Selection cutting 2	9,7	1615	2021	51,0	0,2	State	
30	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	49A	25,9	382	Tending	24,8	0	2021	0,0	0,2	State	
31	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	73A	20,7	3537	Group Selection cutting 2	6,0	163	2021	4,6	0,9	State	
32	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	92A	26,8	7858	Group Selection cutting 2	10,0	368	2021	4,7	0,6	State	
33	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	95B	10,4	2942	Group Selection cutting 2	7,0	491	2021	16,7	1,3	State	
34	Domogled-Valea Cernei cluster	BĂILE HERCULANE	VI	99A	23,7	8476	Group Selection cutting 2	7,0	429	2021	5,1	1,4	State	
35	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Corlan	31A	6,7	1327	Thinning	6,7	161	2021	12,1	9,8	Private	
36	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Corlan	40A	9,0	1674	Thinning	9,0	236	2021	14,1	8,4	Private	
37	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Corlan	40B	3,6	670	Thinning	3,6	113	2021	16,9	8,4	Private	
38	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Corlan	41D	2,0	366	Thinning	2,0	75	2021	20,5	7,8	Private	
39	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Corlan	44A	3,3	1531	Group Selection cutting 1	1,6	239	2021	15,6	7,4	Private	
40	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Proprietari Privați Padeș	118F	1,8	767	Conservation works	1,8	25	2021	3,3	5,3	Private	
41	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Proprietari Privați Padeș	118F	1,8	767	Conservation works	0,4	24	2021	3,1	5,3	Private	
42	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Proprietari Privați Padeș	164A	8,0	1672	Group Selection cutting 2	5,0	432	2021	25,8	0,1	Private	
43	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Proprietari Privați Padeș	166A	13,2	5175	Group Selection cutting 1	2,6	319	2021	6,2	0,5	Private	
44	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Proprietari Privați Padeș	167A	16,6	7669	Group Selection cutting 1	3,0	667	2021	8,7	0,7	Private	
45	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP I Proprietari Privați Padeș	95C	2,9	1215	Conservation works	1,5	46	2021	3,8	5,1	Private	
46	Domogled-Valea Cernei cluster	BRÂNCUȘI	UP X Ivanu - without FMP	119	3,0	950	Salvation harvest	3,0	15	2021	1,6	5,9	Private	
47	Domogled-Valea Cernei cluster	CLĂBUCET	I AP Motru Mare	18B	9,1	4021	Phyto-Sanitary cuts	9,1	40	2021	1,0	9,0	Private	
48	Domogled-Valea Cernei cluster	CLĂBUCET	I AP Motru Mare	19A	5,3	1845	Phyto-Sanitary cuts	5,3	20	2021	1,1	9,0	Private	
49	Domogled-Valea Cernei cluster	CLĂBUCET	I AP Motru Mare	19C	0,8	174	Phyto-Sanitary cuts	0,8	7	2021	4,0	9,0	Private	
50	Domogled-Valea Cernei cluster	CLĂBUCET	I AP Motru Mare	19F	9,5	1868	Phyto-Sanitary cuts	9,5	40	2021	2,1	9,0	Private	
51	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	167	12,0	4365	Conservation works	4,3	20	2021	0,5	7,8	Private	
52	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	182A	2,9	1287	Conservation works	2,9	20	2021	1,6	9,8	Private	
53	Domogled-Valea Cernei cluster	PADEȘ	I Motru Sec	183A	10,0	2480	Conservation works	10,0	20	2021	0,8	10,0	Private	
54	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	13B	3,2	288	Conservation works	3,2	16	2021	5,6	9,8	Private	
55	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	17A	7,0	4298	Conservation works	7,0	35	2021	0,8	8,2	Private	
56	Domogled-Valea Cernei cluster	PADEȘ	II Motru Mare	222A	8,1	2569	Conservation works	8,1	20	2021	0,8	4,7	Private	
total Domogled - Valea Cernei buffer zone - year 2021					**763,2**	**193472**		**354,3**	**19356**		**10,0**			
57	Grosii Țibleșului	Grosii Țibleșului	VI	118A	5,3	122	Tending	3,7	0	2021	0,0	0,1	State	
58	Grosii Țibleșului	Grosii Țibleșului	VI	118D	6,6	3465	Conservation works	6,6	310	2021	8,9	0,2	State	
total Grosii Țibleșului buffer zone - year 2021					**11,9**	**3587**		**10,3**	**310**		**8,6**			
59	Izvoarele Nerei	NERA	II	21	15,5	5504	Salvation harvest	15,5	990	2021	18,0	0,8	State	
60	Izvoarele Nerei	NERA	II	23A	15,7	5706	Conservation works	15,7	317	2021	5,6	0,1	State	
61	Izvoarele Nerei	NERA	III	4C	34,3	18825	Conservation works	16,6	2509	2021	13,3	0,3	State	
total Izvoarele Nerei buffer zone - year 2021					**65,5**	**30035**		**47,8**	**3816**		**12,7**			
62	Strâmbu Băiuț	Strambu Băiuț	III	67	36,2	10607	Shelterwood cutting 2	36,2	1402	2021	13,2	0,6	State	
63	Strâmbu Băiuț	Strambu Băiuț	III	51D	5,7	2511	Conservation works	5,7	185	2021	7,4	0,8	State	
64	Strâmbu Băiuț	Strambu Băiuț	IV	44A	24,1	241	Tending	24,1	0	2021	0,0	0,3	State	
65	Strâmbu Băiuț	Strambu Băiuț	IV	54A	22,6	204	Tending	22,6	0	2021	0,0	0,5	State	
total Strâmbu Băiuț buffer zone - year 2021					**88,6**	**13563**		**88,6**	**1587**		**11,7**			
total year 2021					**1.128,5**	**296805**		**652,8**	**34581**		**11,7**			

Annex 4: Glossary of forest management terms

Glossary of Forest management terms used by the Unesco WHS "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe"

- This Glossary of Forest management terms is a list of definitions in order to create a common language and joint understanding for the management of the property and the buffer zone of the WHS "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe".
- In an attempt to reach this common understanding, several terms are defined using easy to understand and metric parameters, based on international and regional forestry manuals. We are aware that these definitions may diverge from legally binding definitions in the respective States Parties. In no way do the below applied definitions and restrictions replace or abolish official definitions and restrictions included in existing national or regional legislation.
- The definitions will be used in the context of the WHS Beech "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe."

A) Silvicultural system[3]

A silvicultural system	A planned series of treatments for tending, harvesting, and re-establishing a stand. The silvicultural system is applied in the forest stand or forest management unit. The forest stand is a homogeneous unit within the forest that has a certain structure and tree species composition and is managed in the same way, areas can differ from very small (< 1 ha) to very large (up to 50 ha)

Most of the management treatments being used can be assigned to following management options:

1. Even-aged silvicultural system:	A planned sequence of treatments designed to create or maintain a stand with predominantly one age class. The range of tree ages for an even aged forest is generally assumed to be 20 % or less of the rotation age.
2. Uneven-aged silvicultural system:	A planned sequence of treatments designed to create or maintain a stand with three or more age classes. These silvicultural systems include cutting methods designed to obtain regeneration (regeneration cutting methods), and a variety of cultural practices for modifying tree density and otherwise contributing to the development of an immature stand (intermediate cutting methods) but is especially the result of single tree or group selection systems. In the single tree selection (plentering) (natural) regeneration is not an aim but has to be considered because of harvesting a single mature tree.
3. Non-intervention Forest	is characterized by the lack in formal management, e.g. in the preference of natural development of forests for nature conservation purposes. As the lack of formal management measures is a consequence of a management vision it

[3] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5413732.pdf

	should be viewed as a management regime. In some forests a non-intervention regime is the only management measure applied. Areas in the forest with explicit and deliberate choice of non-intervention can be larger (10-1000 ha, often defined as 'forest reserve') or smaller areas (0.5-10 ha), embedded in a matrix of managed forests (often called 'set-aside islands').

A 1) Even-Aged Management

Even-aged management involves application of regeneration and intermediate cutting methods to create and maintain an even-aged stand. The even-aged regeneration cutting methods are clearcutting, seed-tree cutting, and shelterwood cutting. The even-aged silvicultural system also includes thinning, improvement cutting, release, and other intermediate cutting methods.

Clearcutting system	The harvesting in one operation of (almost) all trees with the expectation that a new, even-aged stand will be established. In the context of this document, we define a minimum surface of 0.5 ha. Intervention areas smaller than that are covered as 'group fellings' or 'femel cutting'. (The size limit of the intervention area is related to the circular area with a diameter between 2 and 3 times the tree height of mature trees*). There are many variants of clearcutting (a common variant is strip clearcutting): nevertheless, independent of form the same rule on the intervention area can be applied. In modern clear-cut areas, some trees may be spared from felling (tree retention, e.g. habitat trees). The remaining canopy cover after clearcutting is below 30 % of the initial cover. * in some countries, lower surface minima are applied; local legal restrictions off course always apply.
Shelterwood cuttings system	The shelterwood regeneration method involves a series of entries designed to improve the vigour and seed production potential of residual trees, and to provide suitable conditions for seedling establishment. To be considered the shelterwood method, the prescription must include an explicit regeneration objective. Generally, the shelterwood cutting method is used to create an even-aged or two-aged stand, the regeneration period is about 20 to 30 years. Theoretically a shelterwood cutting could involve from two to four steps. A four-step shelterwood includes a preparatory cut, a seed cut, first removal and final removal cut. A two-step shelterwood includes a seed cut and a removal or final cut. We distinguish a uniform shelterwood and a group shelterwood. Uniform shelterwood means that the seed cut and removal cut are applied to the entire stand area. In a group shelterwood system, cuttings are limited to smaller plots. In the context of this WHS we refer to a group shelterwood system whenever the plots or groups are smaller than 0.5 ha. Regulations for group shelterwood

	systems are mentioned together with femel cutting.

A 2) Uneven-Aged Management

Uneven-aged management uses regeneration and intermediate cutting methods to create and maintain an uneven-aged stand. The uneven-aged regeneration methods are individual tree and group selection cutting. Regeneration period is continuous.

Individual Tree Selection or plenter cutting.	This silvicultural system involves removing selected trees from specific size or age classes over an entire stand area. Removing single trees creates small openings so this method favours the regeneration of species that can tolerate shade. Individual tree selection is used to create or maintain an uneven-aged stand, reflecting a predefined (semi-)natural age or size distribution. It involves periodic selective harvests (final harvest and thinnings combined), and no rotation period and continuous regeneration.
Group Selection or femel cutting	This silvicultural method involves final felling of small groups of trees[4]. The resulting openings permit more sunlight to reach the forest floor than with individual tree selection, and some regeneration of shade intolerant species is possible. Planned repeated application of group final fellings result in small groups or clumps dispersed through a stand, with each group containing trees of similar age and size classes. We refer to group selection whenever the intervention area is smaller than 0.5 ha.

Non-native tree species	is a tree species living outside its historical or actual native distributional range, but which has arrived there by human activity, directly or indirectly, and either deliberately or accidentally.

[4] One to two tree heights are the rule (Leibundgut, 1981; Runkle, Brokaw). This results in a canopy gap of max. 0.1 to 0.5 ha)

B) Silviculture terminology

Tending operations in young stands	In even-aged stands, between the period when a tree stand is established and the first commercial harvesting operation, there are a number of tasks that are carried out to allow access to the stand and improve survival rate, tree form, and wood quality of young trees. In Europe we normally distinguish tending and thinning: Tending (pre-commercial thinning): operations to improve the tree shape and spacing and tree species composition, but with no financial revenue, only investment in increased survival of trees (suppression of competing vegetation) and tree shape and quality. Thinning: selective removal of trees, if the felled trees can be sold we refer to commercial thinning
Cuttings due to extreme events or Salvation harvests:	Salvation harvest is the harvest of trees that were affected by a disturbance event, leading to considerable amounts of dying trees. Trees are removed to recuperate some financial revenue, or for accessibility, or to prevent further spread of pests and diseases (= sanitary cutting).
Phytosanitary cuts (pest control)	Sanitary cutting[5] - extraction of dead, damaged, broken and fallen trees etc. to improve the phytosanitary condition of the forest stand. It is applied in the situation where the stand is affected by biotic factors (pest attacks) and the extraction of the affected trees is not part of the regular management but is necessary in order to prevent further spread of a biotic disturbance agent (e.g. insect or fungal infection) to the remaining forest stand or adjacent unaffected forest stands = a specific situation of 'salvation harvest'.
Artificial regeneration	Active planting of trees, grown in nurseries. Often applied if the natural regeneration is not sufficient or does not include specific target tree species.
Natural regeneration	Regeneration from seed or vegetative parts originating from trees in situ
Assisted natural regeneration	Natural regeneration of forest/other wooded land with deliberate human intervention aimed at enhancing the ability of desired species to regenerate. Works to help natural regeneration establishment and growth (age of the trees: 0 - 5 years, approximately): Examples: Scarification of the soil to create good germination conditions for seeds.

[5] Information Romania

C) Additional measures of integrative management (cfr. Kraus & Krumm, 2013).

Functional network of old-growth elements	This contains conservation and development of old-growth patches (set-aside and extended rotation patches), habitat trees (individual trees or clusters) and large dead wood.
Set-aside patches	Areas that are deliberately delineated to conserve or develop to old-growth stages through non-intervention = biologische Altholzinseln (îlots de sénescence)
Extended rotation patches/ senescence patches	Areas that remain managed but are deliberately delineated to develop old stands by significantly extending the rotation period or excluding final harvest (only selective thinning). (wirtschaftliche Altholzinseln (îlots de viellissement).
Corridors	Connecting areas between the component parts of the functional network of old-growth elements and other biodiversity hotspots, containing a high concentration of old-growth features.
Habitat tree[6]	Tree containing Tree Related Microhabitats (TReM's - Larrieu et al): they are preferably (or wherever possible) large and old trees (mature or overmature).
Tree related Microhabitat	A distinct, well delineated structure occurring on living or standing dead trees, that constitutes a particular and essential substrate or life site for species or species communities during at least a part of their life cycle to develop, feed, shelter, or breed. TreMs are specific aboveground tree morphological singularities that are not to be found on every tree. TreMs encompass both tree-originating modifications caused by biotic and abiotic impacts, such as intrusions, lesions, and breakages, which expose sap and heartwood and initialize outgrowth structures and wood decay (saproxylic TreM), as well as elements of external origin that are physically linked to the tree (epixylic TreM).

[6] Tree related microhabitats in temperate and Mediterranean European forests: A hierarchical typology for inventory standardization