G1.6a Fagus woodland on non-acid soils

Summary

This habitat comprises all those *Fagus sylvatica* woodlands on more base-rich and neutral soils, occurring from the Atlantic and Continental zones into the Alpine region of central Europe, the Carpathians, and the Balkans. In an often majestic canopy, or as a second tier, there are more associate trees here than on base-poor soils and, yielding often the best beech timber, this habitat can show a rich heritage of human interventions in the structure and composition of the tree component. The understorey is typically sparse and the field layer varies from mesophytic to calcicolous depending on the soil base staus and nutrient content, but there is often a striking contingent of spring geophytes. Significant pressures come from forestry, urbanization and infrastructure development, regionally also invasive species and grazing. Conservation depends on sensible sylviculture.

Synthesis

The habitat showed a moderate qualitative decrease over almost one-third of its area and a slight decrease in quality over larger areas (>70%, criterion C/D1) with continuing pressures and threats being present, an therefore qualifies as Near Threatened. Because of large EOO and AOO, and with only a slight quantitative decrease all other criteria are assessed Least Concern as well. The assessment of historic trends was not possible due to data deficiencies.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Near Threatened	C/D1	Near Threatened	C/D1

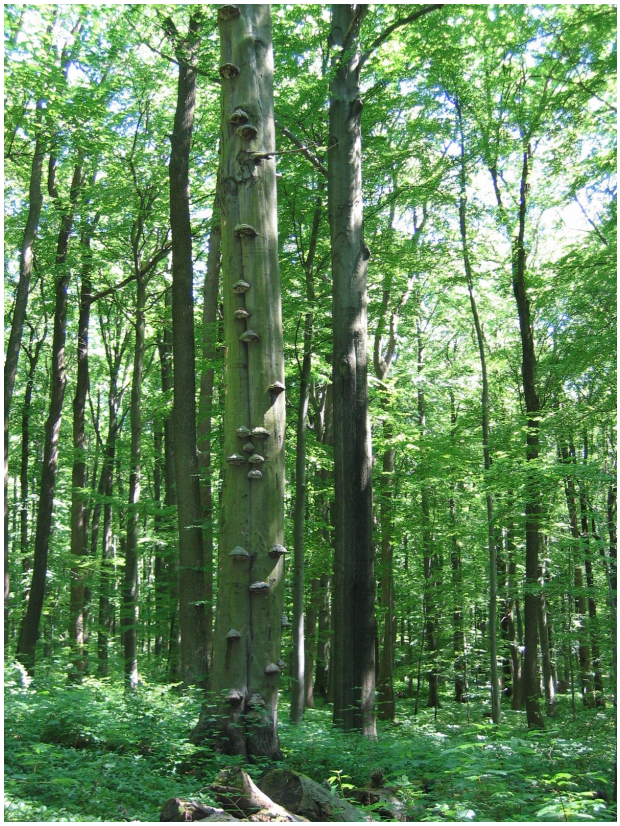
Sub-habitat types that may require further examination

While at least some good examples of non-acid mountain beech forests still persist, the situation in lowland neutral to base-rich beech forests is much more fragmented. Several of its subtypes (e.g. Annex I types) have been affected by a slight to moderate decline over large areas of their natural distribution. Besides the lowland subtypes especially the humid subtypes are more endangered due to drainage and changes in the hydrological system or have been lost due to infrastructure and urbanization.

Habitat Type

Code and name

G1.6a Fagus woodland on non-acid soils



G1.6a *Fagus* woodland on non-acid soils in the National Park Hainich, Germany (Photo: Axel Ssymank).

G1.6a Coppice form of beech forest with *Anemone nemorosa* and *Orchis mascula* in the herb layer Dal van de Hohn, Belgium (Photo: John Janssen).

Habitat description

Within the climatic zone where *Fagus sylvatica* (including in south-eastern Europe ssp. *orientalis* and ssp. *moesiaca*) can out-compete other broadleaved trees, this habitat comprises all those beech woodlands on more base-rich and neutral soils including both nutrient-poor rendzinas and more fertile brown earths. They extend from the Atlantic zone, in Great Britain, northern France and the Pyrenees, through the Continental zone into the Alpine region of central Europe, the Carpathians, and the Balkans. Beech is the supreme dominant in the canopy, which, on more productive soils, is often very high, the majestic trees creating a cathedral like effect. However, there are more associates here than on base-poor soils even though they are sometimes in a subordinate canopy tier, with *Quercus petraea*, *Q. robur*, *Fraxinus excelsior*, *Acer pseudoplatanus*, *A. platanoides* and *Ulmus glabra*. *Carpinus betulus* and *Tilia cordata* are more common in the warmer lowlands while more strongly thermophilous types in periodically dry situations have *Sorbus aria*, *S. torminalis*, *Aesculus hippocastanum* and *Acer campestre*. To the Atlantic west, *Taxus baccata* is characteristic, though groves, where it becomes locally dominant, are included in G3.9a *Taxus* woodland. Towards higher altitudes, there can be some *Abies alba* and *Picea abies* but co-dominant canopies fall within the G3.1b and G3.1c mountain *Abies* woodland. The shrub layer is typically sparse and the most common species throughout are *Crataegus monogyna*, *C. laevigata*, *Corylus avellana*, *Viburnum opulus*, *V. lantana*, *Cornus sanguinea*, *Prunus spinosa*, *Ligustrum vulgare*, *Rosa arvensis* and *R. canina* agg., of which many are more typical of thermophilous oak woodland. *Ilex aquifolium* increases towards the Atlantic, *Daphne laureola* and *Buxus sempervirens* in the south-west while *Hedera helix* is the commonest liana overall with *Lonicera alpigena* and *L. nigra* in the Alps, Dinarides and Carpathians. The herb layer is here often species-rich with a predominance overall of shade-tolerant mesophytes, many of them shared with mixed broadleaved forests of the nemoral zone (G1Aa *Carpinus* & *Quercus* mesic deciduous woodland): *Galium odoratum*, *Milium effusum*, *Mycelis muralis*, *Lamiastrum galeobdolon*, *Pulmonaria obscura*, *Scrophularia nodosa*, *Viola reichenbachiana*, *Poa nemoralis*, *Athyrium filix-femina* and *Dryopteris filix-mas*. On more base-rich soils, *Mercurialis perennis*, *Hordelymus europaeus*, *Brachypodium sylvaticum*, *Bromus benekenii*, *Euphorbia amygdaloides*, *Asarum europaeum*, *Lathyrus vernus*, *Sanicula*

europaea, *Actaea spicata*, *Paris quadrifolia*, *Melica uniflora* are frequent. Typical spring geophytes include *Anemone nemorosa*, *A. ranunculoides*, *Allium ursinum*, *Corydalis cava*, *C. solida* and *Ranunculus ficaria* with *Hyacinthoides non-scripta* in the Atlantic zone. In the more continental parts of central Europe, *Carex digitata*, *C. umbrosa*, *Galium sylvaticum, Melica nutans, Campanula trachelium*, *Neottia nidus-avis* and *Vicia sepium* are typical, while in montane stands, *Polygonatum verticillatum*, *Senecio ovatus*, *Prenanthes purpurea* and *Stellaria nemorum* are differential. At the upper altitudinal limit, *Ranunculus platanifolius*, *Cicerbita alpina*, *Petasites albus*, *Athyrium distentifolium*, *Geranium sylvaticum*, *Senecio nemorensis* and in the Alps and neighbouring mountains, *Adenostyles alliariae*, *Veratrum album*, *Saxifraga rotundifolia*, *Viola biflora*, *Luzula luzulina*, *Astrantia major* and *Polystichum lonchitis*. Thermophilous beech forests of this type, found in higher zonation belts in southern Europe or in locally warmer situations elsewhere, are especially species-rich and may have extensive thermophilous shrub layer, though the particular flora varies much according to the region and the altitude. Characteristic species include *Cephalanthera damasonium*, *C. rubra*, *Carex montana*, *C. flacca*, *C. alba*, *Campanula persicifolia*, *C. rapunculoides*, *Vincetoxicum hirundinaria*, *Tanacetum corymbosum*, *Polygonatum odoratum*, *Sesleria albicans*, *Anthericum ramosum*, *Primula veris*, *Brachypodium pinnatum* and *Epipactis atrorubens.* Regionally *Dentaria* species like *Dentaria eneaphyllos* (Karpathians to E-German mountains), *Dentaria heptaphyllus* (in beech forest on screes in the Swiss and French Jurassic mountain ranges) or *Dentaria bulbifera* can de abundant in the herb layer. In the northern Alps *Aposeris foetica* is a frequent species in the herb layer. In humid conditions species like *Circaea lutetiana* and *Stachys sylvatica*, or locally, also *Crepis paludosa* can be frequent. Characteristic species in the moss layer include *Atrichum undulatum*, *Ctenidium molluscum*, R*hytidiadelphus loreus* and *Eurhynchium striatum* and many more expecially in the drier thermophilous beech forests and in humid conditions and mountain beech forests. In addition to the above distinctions, the more species-rich beech forests have often been differentiated into geographical groups (see geographical classification in Bohn et al. 2004), some of which are recognised in the Annex 1 habitats.

Indicators of quality:

• Natural composition of canopy with dominant beech trees

• Structural diversity/complexity with (semi)natural age structure or completeness of layers

• Typical flora and fauna composition of the region

• Presence of old trees and a variety of dead wood (lying or standing) and the associated flora, fauna and fungi

• Presence of natural disturbance such as treefall openings with natural regeneration

• Long historical continuity (ancient woodland) with high species diversity

• Survival of larger stands of forest without anthropogenic fragmentation and isolation (to support fauna which needs large undisturbed forests)

• Absence of non-native species in all layers (flora & fauna)

• No signs of eutrophication or pollution

• No man-induced very high population levels of ungulates

Characterstic species:

Flora (Vascular plants):

Tree canopy: dominant: *Fagus sylvatica ssp. sylvatica*, *Fagus sylvatica* ssp. *moesiaca*, *Fagus sylvatica* spp. *orientalis*; additional tree species: *Abies alba*, *Picea abies*, *Acer pseudoplatanus*, *Fraxinus excelsior, Sorbus aucuparia*, *Carpinus betulus*, *Quercus petraea*, *Quercus robur.*

Understorey/Field layer: *Galium odoratum*, *Oxalis acetosella*, *Mycelis muralis*, *Athyrium filix-femina*, *Hedera helix*, *Lamiastrum galeobdolon*, *Poa nemoralis*, *Mercurialis perennis*, *Anemone nemorosa*, *Euphorbia amygdaloides*, *Fragaria vesca* and *Milium effusum.*

Classification

This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the following typologies.

EUNIS:

G1.6 *Fagus* woodland

EuroVegChecklist:

Scillo lilio-hyacinthi-Fagion Br.-Bl. 1967

Galio rotundifolii-Fagion Gamisans 1975

Seslerio-Fagion sylvaticae Passarge 1968

Geranio nodosi-Fagion Gentile ex Feoli et Lagonegro 1982

Geranio striati-Fagion Gentile 1970

Fagion moesiacae Blecic et Lakušic 1970

Symphyto cordati-Fagion (Vida 1963) Täuber 1982

Endymio non-scripti-Fagion Dierschke (1989) 1998

Fagion sylvaticae Luquet 1926

Lonicero alpigenae-Fagion (Borhidi ex Soó 1964) Dierschke 1997

Aremonio-Fagion Török et al. ex Marincek et al. 1993

Fagion orientalis Soó 1964.

Annex I:

9130 Asperulo-Fagetum beech forests

9140 Medio-European subalpine beech woods with Acer and Rumex arifolius

9150 Medio-European limestone beech forests of the Cephalanthero-Fagion

91K0 Illyrian Fagus sylvatica forests (Aremonio-Fagion)

91S0 Western Pontic beech forests

91V0 Dacian Beech forests (Symphyto-Fagion)

91X0 Dobrogean beech forests

9210 Appennine beech forests with Taxus and Ilex

9220 Appennine beech forests with Abies alba and beech forests with Abies nebrodensis

9270 Hellenic beech forests with Abies borisii-regis

9280 Quercus frainetto woods

Emerald:

G1.6 Fagus woodland

MAES-2:

Woodland and forest

IUCN:

1.4 Temperate Forest;

EFT:

6.1 Lowland beech forest of southern Scandinavia and north central Europe

6.2 Atlantic and subatlantic lowland beech forest

6.3 Subatlantic to Atlanto-Mediterranean submountainous beech forest

6.4 Central European submountainous beech forest

6.5 Carpathian submountainous beech forest

6.6 Illyrian submountainous beech forest

6.7 Moesian submountainous beech forest

7.1 South-western European mountainous beech forest

7.2 Central European mountainous beech forest

7.3 Apennine-Corsican mountainous beech forest

7.4 Illyrian mountainous beech forest

7.5 Carpathian mountainous beech forest

7.6 Moesian mountainous beech forest

7.7 Crimean beech forest

7.8 Oriental beech and hornbeam-oriental beech forest

VME:

F5.2 Species-rich eutrophic and eu-mesotrophic beech and mixed beech forests

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?

Yes

Regions

Atlantic

Continental

Justification

Fagus sylvatica dominated beech forest both on acid and on non-acid soils have their worldwide centre of distribution in central Europe and some of the most outstanding examples have been chosen as part of the World Heritage site "Primeval Beech Forests of the Carpathians ID-Nr. 1133".

Geographic occurrence and trends

EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Austria	Present	4500 Km^2	Decreasing	Decreasing

EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Belgium	Present	79 Km^2	Stable	Unknown
Bulgaria	Present	5500 Km^2	Decreasing	Decreasing
Croatia	Present	6123 Km^2	Decreasing	Decreasing
Czech Republic	Present	1236 Km^2	Decreasing	Decreasing
Denmark	Present	467 Km^2	Unknown	Decreasing
France	Corsica: Present France mainland: Present	9420 Km^2	Increasing	Decreasing
Germany	Present	7600 Km^2	Increasing	Decreasing
Greece	Greece (mainland and other islands): Present	2766 Km^2	Unknown	Increasing
Hungary	Present	1160 Km^2	Decreasing	Decreasing
Ireland	Present	4 Km^2	Increasing	Stable
Italy	Italy mainland: Present Sicily: Present	9116 Km^2	Decreasing	Decreasing
Luxembourg	Present	Unknown Km^2	Unknown	Unknown
Netherlands	Present	9.5 Km^2	Increasing	Decreasing
Poland	Present	245 Km^2	Decreasing	Decreasing
Romania	Present	18836 Km^2	Decreasing	Decreasing
Slovakia	Present	6000 Km^2	Decreasing	Unknown
Slovenia	Present	3268 Km^2	Stable	Stable
Spain	Spain mainland: Present	557 Km^2	Decreasing	Stable
Sweden	Present	Unknown Km^2	Unknown	Unknown
UK	United Kingdom: Present	360 Km^2	Unknown	Decreasing

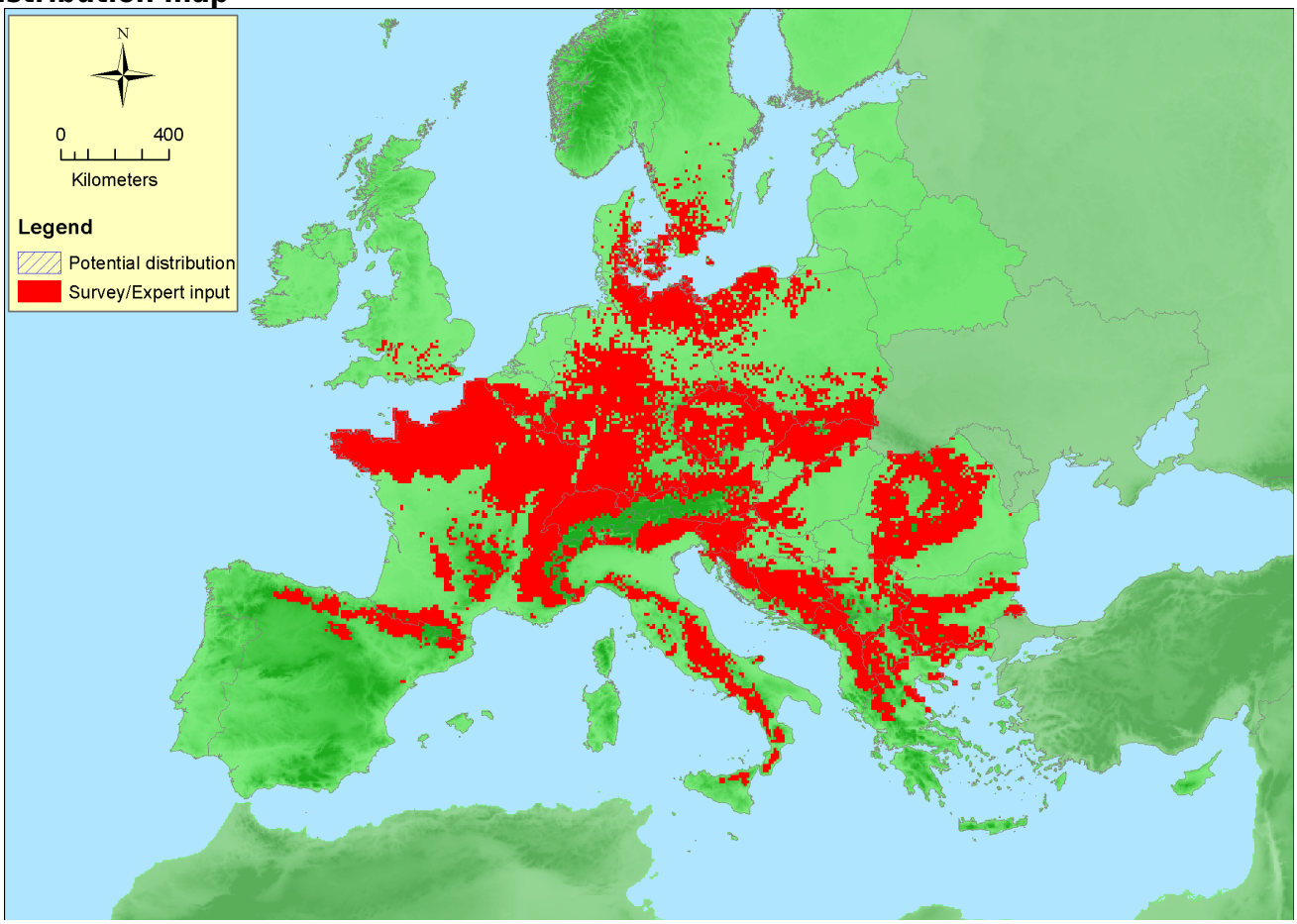
EU 28 +	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Albania	Present	400 Km^2	Decreasing	Decreasing
Andorra	Uncertain	Km^2	-	-
Bosnia and Herzegovina	Present	6600 Km^2	Increasing	Decreasing
Former Yugoslavian Republic of Macedonia (FYROM)	Present	962 Km^2	Stable	Decreasing
Kosovo	Present	390 Km^2	Decreasing	Decreasing
Monaco	Uncertain	Km^2	-	-
Montenegro	Present	280 Km^2	Stable	Unknown
Norway	Norway Mainland: Present	27 Km^2	Increasing	Unknown
Serbia	Present	Unknown Km^2	Unknown	Unknown

EU 28 +	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Switzerland	Present	1850 Km^2	Stable	Decreasing

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	4283450 Km^2	15972	>77000 Km^2	minimum, smaller data gaps
EU 28+	4283450 Km^2	17390	>88000 Km^2	minimum, smaller data gaps

Distribution map



Map is rather complete. Data sources: Art17, EVA, Bohn.

How much of the current distribution of the habitat type lies within the EU 28?

Probably more than 80 %; outside the EU28 beech forests mainly occur in Switzerland and in Balkan countries (Illyrian-Dinaric beech forests), as well as eastern pre-Carpathian, Carpathian and Moldavian beech forests (see map 12, unit F5.2 of Bohn et al. 2003).

Trends in quantity

The Average recent trend over the past 50 years is -10% (decrease for EU28), for EU28+ ca. -9% (but with less reliability because of bigger data gaps). Differences within Europe are substantial with usually slightly positive trends in middle Europe (e.g. France, Germany, Netherlands), however, some countries like Romania had a substantial decrease. The average current trend is still slightly decreasing,

due to developments in Bulgaria, Romania and Spain, but the majority of countries in central and northern Europe have stable or slightly increasing trends. Future trends are difficult to assess, probably largely stable with some exceptions in the case of acidification (succession to acid beech forests) or in relatively dry situations losses due to global climate warming. Historic trend data are to a large extent missing, an average European value is therefore not given; where data are present they confirm a mixed situation with relatively large historical losses of up to 70 % in part of the area, and in situations where forest cover was already low in the 18th century even a positive historic trend.

- Average current trend in quantity (extent)
  EU 28: Decreasing
  EU 28+: Decreasing
- Does the habitat type have a small natural range following regression?
  No
  Justification
  The EOO is > 50000 km².
- Does the habitat have a small natural range by reason of its intrinsically restricted area?
  No
  Justification
  The occurrence of the habitat type is neither restricted to small spots nor does it have a small total area.

Trends in quality

The calculated extent of degradation from territorial data is 29% (EU28; 27% for EU28+) with a severity of degradation of 39% (EU28 & EU28+), i.a. moderate. These trends have been calculated from >80% of the non-acid beech forest area. However a slight decline of quality (severity of 30%) is present over large areas (>70% extent) with a reduction in old trees (> 120 years) in the past 50 years (Vilén et al. 2012) ongoing losses in primary and ancient forests especially in SE-Europe (Knapp & Fichtner 2012, Griffiths et al. 2012) and EU red-listed saproxylic beetles linked to beech forests (Nieto & Alexander 2010, Lachat et al. 2012). With regard to the highest standard of the indicators of quality completely untouched (pristine) or old-growth ancient forests with sufficient dead and dying trees are only present on less than 1 % of the remaining European area. Current trends in quality are on average still decreasing, with a number of countries where it is stable or slightly increasing.

- Average current trend in quality
  EU 28: Decreasing
  EU 28+: Decreasing

Pressures and threats

Both in EU28 and EU28+ the most significant threats are forestry use (especially removal of dead and dying trees, planting of non-native or conifer trees, felling or logging, partially also removal of undergrowth), loss of area, fragmentation and impacts due to urbanization and infrastructure. Climate change pressures (both changes of abiotic conditions and biotic effects) are still low but tend to be more important or regionally important in future (drought risks, storm events etc.), a similar situation is true for air pollution impacts. Especially in the Mediterranean countries, grazing can be a major pressure and threat, in other regions high game densities can be an additional threat. In some countries, deforestation without replanting, and/or invasive species are an important issue.

List of pressures and threats

Sylviculture, forestry

Forest and Plantation management & use
Forest replanting (non native trees)

Removal of forest undergrowth
Removal of dead and dying trees
Forestry activities not referred to above

Transportation and service corridors

Roads, paths and railroads

Urbanisation, residential and commercial development

Urbanised areas, human habitation

Natural System modifications

Other ecosystem modifications
Reduction or loss of specific habitat features

Natural biotic and abiotic processes (without catastrophes)

Interspecific floral relations
Damage by herbivores (including game species)

Conservation and management

The majority of beech forests in the EU are under regular forestry management which reduces the development phases to about a third of the natural tree life with deficits in deadwood and all microhabitats associated with old trees. Apart from guaranteeing a regrowth (natural or by planting) of the beech forest after harvesting (no losses in area), a certain minimum of wilderness core zones combined with some allowance for dead or dying trees within used forests is a good way of combining nature conservation needs with forestry use. Forest fragmentation by urbanization and infrastructure needs adapted spatial planning, in regions with already a low forest cover, additional forest planting to reduce fragmentation in future. As full regeneration is very difficult ancient woodland and the small remnants of pristine woodland are of highest conservation interest, but establishing protected areas on small areas is not sufficient alone. Regionally management of invasive species might be necessary, or in the case of high pressure of grazing, areas with exclusion of grazing should be established, or game populations reduced and managed.

List of conservation and management needs

Measures related to forests and wooded habitats

Restoring/Improving forest habitats
Adapt forest management

Measures related to spatial planning

Establish protected areas/sites
Establishing wilderness areas/allowing succession
Legal protection of habitats and species

Measures related to hunting, taking and fishing and species management

Regulation/Management of hunting and taking

Conservation status

Annex I:

9130: ALP U1, ATL U1, BOR U2, CON U1, MED FV, PAN FV

9140: ALP U1, CON XX, MED FV

9150: ALP U1, ATL U1, BLS U1, CON U1, MED U2, PAN FV

91K0: ALP U1, CON FV, PAN U1

91S0: BLS U1, CON U1

91V0: ALP FV, CON FV

91X0: STE U1

9210: ALP FV, CON U1, MED FV

9220: ALP FV, CON FV, MED FV

9270: ALP U1, CON XX, MED FV

9280: MED FV

When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

Both naturally and through intervention full recovery of the habitat usually needs time-spans over 200 years. While the tree species can be planted, already the characteristic species of the herb layer include many myrmecochorous species (seeds dispersed very slowly over small distances by ants). The full set of characteristic species includes many saproxylic invertebrates and fungi which need a historic habitat continuity, all of these need old and dead trees in a late development stage of forests, some of them even after 2-3 tree generations unable to recolonise new forest stands. Furthermore in situations where forests are isolated (especially in European densely populated lowlands) or where characteristic species are (on the verge of) extinction or extinct a full restoration is impossible even with active intervention. Therefore, pristine remnants and any ancient woodland need highest conservation priorities and connectivity needs to be developed especially in fragmented sites.

Effort required

200+ years
Naturally and through intervention

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-10 %	unknown %	unknown %	unknown %
EU 28+	-9.2 %	unknown %	unknown %	unknown %

During the past 40-60 years, there was an average decrease of -10.4% (EUR28) and -9.2% (EUR28+), respectively, with a large variation within Europe. Information on historical losses is very limited and therefore not useful for assessments. Major historical losses occurred to a large part already before 1750 and therefore, an application of criterion A3 would not be sufficiently reflecting the situation.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50000 Km^2	Yes	Yes	No	>50	Yes	Yes	No	No
EU 28+	>50000 Km^2	Yes	Yes	No	>50	Yes	Yes	No	No

Both EOO and AOO are very large and do not meet the criteria B1 or B2. The habitat exists at numerous locations.

Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	>70 %	39% %	unknown %	unknown %	unknown %	unknown %
EU 28+	>70 %	39% %	unknown %	unknown %	unknown %	unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%
EU 28+	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%

The overall extent and severity of degradation was based on weighted average, calculated from ca. 90% of the total area, where all necessary data were present in territorial data sheets. The calculated extent affected seems to take into account mainly moderate severity and has been applied differently by territorial experts. This information was therefore supplemented by expert assessment based on published evidence. A slight decline of quality (severity of 30%) is present over large areas (>70% extent) with a reduction in old trees (> 120 years) in the past 50 years (Vilén et al. 2012) ongoing losses in primary and ancient forests especially in SE-Europe (Knapp & Fichtner 2012, Griffiths et al. 2012) and EU red-listed saproxylic beetles linked to beech forests (Nieto & Alexander 2010, Lachat et al. 2012). This reduction in quality over a large percentage of the area leads to the conclusion Near Threatened (NT). Information on long historical or future trends is incomplete and could not be used for criteria CD2, CD3. Reduction in quality usually affected both abiotic and biotic changes and therefore, criteria C and D were not split.

Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	unknown
EU 28+	unknown

There is no quantitative analysis available that estimates the probability of collapse of this habitat type (Different climate change scenarios exist, but results are varying and usually only predict shifts in the distribution in some parts of the whole range. Predictions on changes of the whole habitat type with its species composition are not existing).

Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	LC	DD	DD	DD	LC	LC	LC	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	LC	LC	LC	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Near Threatened	C/D1	Near Threatened	C/D1

Confidence in the assessment
Medium (evenly split between quantitative data/literature and uncertain data sources and assured expert knowledge)

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