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Delegations will find attached document SWD(2023) 62 final.

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COMMISSION STAFF WORKING DOCUMENT

Commission Guidelines for Defining, Mapping, Monitoring and Strictly Protecting EU Primary and Old-Growth Forests

COMMISSION GUIDELINES FOR DEFINING, MAPPING, MONITORING AND STRICTLY PROTECTING EU PRIMARY AND OLD-GROWTH FORESTS

TABLE OF CONTENTS

Disclaimer

This document has been prepared through active dialogue with Member State experts and key stakeholders in order to ensure that it is user-friendly and fit for purpose, and that it builds on a collaborative approach. The list of Member States' authorities and organisations or stakeholders and civil society that participated in the process of developing the document is included in Annex III. The European Commission wishes to thank them all.

Particular thanks go to the representatives from Belgium (Research Institute for Nature and Forests, Flanders), Italy (Ministry for Agriculture, Food Sovereignty and Forests and Ministry for Environment and Energy Security) and Poland (Directorate General of the State Forests), who co-led the process of drafting these guidelines.

This document can complement regulatory frameworks on a national, regional or local level on forestry or biodiversity conservation. The guidelines are voluntary and not prescriptive, and do not constitute a binding condition in relation, for example, to state aid or EU funding. They aim to provide useful information and advice to help competent authorities to better identify, map and protect the remaining primary and old-growth forests in the EU. They have been drafted to allow for flexibility in the implementation of the indicators for identifying old-growth forests, which may vary depending on the local context. They should be updated as necessary in the future in light of the results of their implementation, new experience and best practice.

The responsibility for this content lies with the Commission services. The text might not necessarily reflect the views of all the listed individual authorities and organisations, because it includes compromise drafting for elements on which views in the group significantly diverged.

1. CONTEXT

Primary and old-growth forests are some of the EU's richest ecosystems. They store significant carbon stocks, and are of paramount importance for biodiversity and the provision of multiple ecosystem services. They provide a habitat for many of the EU's endangered and endemic species, and are also prime examples of our natural heritage. In the EU today, these forest areas are rare, often small, and fragmented.

In May 2020, the European Commission published the *EU Biodiversity Strategy for 2030*.[1] This defined the objective of defining, mapping, monitoring and strictly protecting all the EU's remaining primary and old-growth forests. The Commission thus began developing guidelines on these elements within the framework and with the support of its Working Group on Forests and Nature. The initial steps in this process included collecting information on the status and trends of primary and old-growth forests in EU Member States through a dedicated questionnaire. Work on primary and old-growth forests in Europe has accelerated since then, and the publication of the *New EU Forest Strategy for 2030*[2] in July 2021 has again confirmed the course previously set by the Commission, which was recalled by the Council in November 2021[3].

The Commission had also "prepared, through the Joint Research Centre (JRC), a study on primary and old-growth forests that included an overview of existing definitions, a compilation of all available mapping resources on primary and old-growth forests in the EU, information on the value of primary and old-growth forests, and knowledge gaps. This study was published in April 2021[4]. Further work has since been shared, such as a study from June 2021 carried out by the European Forest Institute (EFI), which reviewed scientific evidence to inform policy implementation[5].

All these methodological discussions were held with a view to better defining the characteristics of primary and old-growth forests. The aim was to identify mapping criteria that will support actions to place these forests under strict protection, as stated in the EU Biodiversity and New EU Forest strategies for 2030.

[1] EU Biodiversity Strategy for 2030: bringing nature back into our lives, COM(2020) 380 final.
[2] New EU Forest Strategy for 2030, COM(2021) 572 final.
[3] **Council Conclusions on the New EU Forest Strategy for 2030**, 13537/21
[4] Barredo , J.I., Brailescu, C., Teller, A., Sabatini, F.M., Mauri, A. and Janouskova, K., *Mapping and assessment of primary and old-growth forests in Europe*, Publications Office of the European Union, Luxembourg, 2021, https://dx.doi.org/10.2760/797591.
[5] O'Brien, L., Schuck, A., Fraccaroli, C., Pötzelsberger, E., Winkel, G. and Lindner, M., *Protecting old-growth forests in Europe - a review of scientific evidence to inform policy implementation,* European Forest Institute, 2021, https://doi.org/10.36333/rs1.

2. DEFINITIONS

2.1. Approach

Annex I contains an overview of the main international definitions for primary and old-growth forests. Input was also gathered from discussions in the Working Group, recent studies on old-growth forest in Europe, definitions in the EU Member States and the situations in forest areas exhibiting very high levels of naturalness. Using these sources, the Working Group has developed definitions for 'primary forest' and 'old-growth forest' at EU level. These definitions take into consideration the major distinction between natural forests, which have been almost devoid of human activity (i.e. primary forests), and forests which may have been directly affected by human activity in the past (thus including some secondary forests), but which have nevertheless developed structural, functional and compositional features similar to stands in the late-seral development phases of undisturbed forests (i.e. old-growth forests). A primary forest therefore generally consists of a mosaic of different forest developmental stages, including 'old-growth'[6].

The latest studies, which are not necessarily based on the definitions proposed in this document, estimate the area of primary and old-growth forests to be less than 3% of EU forest land[7]. It is important to note that areas of primary and old-growth forests alone will not suffice to reach the 10% quota of strict protection called for by the EU Biodiversity Strategy, and that the aim of the definitions is independent from the strict protection target. The objective of these guidelines is instead to provide reliable and scientifically sound definitions, which will make it possible to focus the strict protection requirements for certain types of forest with a high ecological value.

To align itself with the ongoing global process under the Food and Agriculture Organisation (FAO), the Commission proposes to use the FAO's latest definition of primary forests to report primary forest areas, enable the use of comparable definitions and reduce reporting burden (see Section 2.2). Regarding old-growth forests, a new definition is proposed that builds on the work by Erik Buchwald[8] (see Section 2.3). Since many 'old-growth' characteristics are exhibited at the stand level, this definition will be applicable to old-growth forest stands.

[6] Oliver, C. D., and Larson, B. C., *Forest stand dynamics (updated edition)*, John Wiley & Sons Inc., New York, 1996, p. 149, Fig. 5.2.
[7] Barredo , J.I., Brailescu, C., Teller, A., Sabatini, F.M., Mauri, A. and Janouskova, K., *Mapping and assessment of primary and old-growth forests in Europe*, Publications Office of the European Union, Luxembourg, 2021, https://dx.doi.org/10.2760/797591.
[8] Buchwald, E., *A hierarchical terminology for more or less natural forests in relation to sustainable management and biodiversity conservation. Proceedings of the Third Expert Meeting on Harmonizing Forest-related Definitions, 11-19 January 2005*, FAO, Rome, 2005.

2.2. Definition of a primary forest[9]

Primary forest: ’Naturally regenerated forest of native tree species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.’[10]

Explanatory notes[11]:

1. This definition includes both pristine and managed forests that meet the definition.

2. This definition includes forests where indigenous peoples engage in traditional forest stewardship activities that meet the definition.

3. This definition includes forests with visible signs of abiotic damage (e.g. storms, snow, droughts and fires) and biotic damage (e.g. from insects, pests and diseases).

4. This definition excludes forests where hunting, poaching, trapping or gathering have caused the loss of significant native species or disturbance to ecological processes.

5. Primary forests have a number of key characteristics:

- they show natural forest dynamics[12], such as natural tree species composition, occurrence of dead wood, natural age structure and natural regeneration processes;
- the area is large enough to maintain its natural ecological processes;
- there has been no known significant human intervention, or the last significant human intervention was sufficiently long ago to have allowed the natural species composition and processes to re-establish themselves.

[9] As further explained in Section 3.1, the definition and the explanatory notes for primary forests in this document will be aligned with the *Operational guidance for improved primary forest reporting for the Global Forest Resources Assessment* developed by the FAO, once it has been published.
[10] The definition, which includes the explanatory notes, is the same as in the FAO Forest Resource Assessment 2020’s *Terms and Definitions*.
[11] Idem
[12] These include the persistence of processes that set up and characterise the habitat (e.g. periodic floods for riparian forests and rockfalls for ravine forests).

2.3. Definition of an old-growth forest

Old-growth forest: 'A forest stand or area consisting of native tree species that have developed, predominantly through natural processes, structures and dynamics normally associated with late-seral developmental phases in primary or undisturbed forests of the same type. Signs of former human activities may be visible, but they are gradually disappearing or too limited to significantly disturb natural processes.'

Explanatory notes:

1. This definition includes forest stands that originate not only from natural regeneration, but also from planted or sown native tree species (provided that they meet the rest of the definition).

2. This definition includes forest stands where indigenous peoples engage in traditional forest stewardship activities that otherwise meet the definition.

3. This definition includes forest stands with visible signs of abiotic damages (e.g. storms, snow, droughts and fires) and biotic damage (e.g. from insects and diseases) that meet the definition (see the third additional note in Section 2.4).

4. Forests with visible signs of past human activity are not excluded from the definition of old-growth forests, unless the magnitude of the impact of the activity is such as to prevent the forest stand from counting as old-growth (see Section 3.2).

5. Old-growth forest stands do not include stands for which there is evidence that they are under active productive management. This includes low-intensity silvicultural regimes and coppicing.

6. Some key characteristics of old-growth forest stands are:

- they contain structural features and dynamics such as natural regeneration, gap dynamics, large and diverse dead wood, structural complexity, and the presence of old trees, or trees reaching senescent stage and tree-related microhabitats.

- they have acquired these structural features and dynamics through several decades of natural development without significant human intervention.

2.4. Additional notes and clarifications

- Some EU Member States or forest types may not have surviving examples of primary forests or old-growth forests. Restoration of such forest types to achieve old-growth qualities should therefore be encouraged as a priority.

- An extensive part of primary forests might also consist of old-growth forest stands. However, primary forests may also contain younger stands in the regeneration phase (e.g. after natural disturbances).

- Old-growth forest stands may also temporarily lose some of their defining features when subject to natural disturbances such as pests, windstorms or other stand-replacing disturbances. In such cases, even if some of the indicators are temporarily absent, the strict protection objective should remain unchanged (see Section 6).

- An old-growth character is a feature of the state and structure of a forest. It should not be confused with forest ancientness, which indicates a temporal continuity without a change in land use[13]. Areas showing old-growth characteristics and ancientness may often overlap. However, an ancient forest (i.e. a continuously wooded forest land) which has been actively managed over the centuries generally lacks old-growth characteristics. Conversely, areas which have been forested more recently can develop structures associated with old-growth forests when given enough time.

[13] Forest ancientness is not covered by the definition of old-growth forests. It is nevertheless an important indicator of the ecological value of forests, because many forest-related species depend on a forest's temporal continuity.

3. INDICATORS

3.1. Approach

In addition to the agreed definitions, there is also a need for operational criteria for primary and old-growth forests to guide their delineation, using indicators in the field.

To ensure consistency in the reporting of primary forests, reduce reporting burden, and allow for international comparisons beyond the EU, the Commission plans to follow the methodology which the FAO is currently developing for reporting on areas of primary forests. It should be noted that while the FAO's methodology targets the reporting of areas, this document aims to facilitate mapping the location of primary forests to allow for their strict protection.

Regarding old-growth forests, the Commission has developed in cooperation with the Member States a list of indicators that can be adapted to the different forest types and naturalness levels existing in the EU. Given this variety, thresholds for each indicator should not be developed at EU level at this stage.

While Member States will use their own methodology to conduct the identification of old-growth forests, these methodologies should build on the list of indicators in Section 3.2, and be consistent with the common definition.

In addition, Member State methodologies should be:

- science-based;
- developed transparently and shared publicly;
- ensure cross-border harmonisation and consistency with the common definition;
- make it possible to objectively verify fit and appropriate implementation by all relevant forest stakeholders.

3.2. Indicators for old-growth forests

All the main indicators and at least two complementary indicators need to be met.

Main indicators

1. Native species

Old-growth forests are composed of native species. However, the presence of a small number of non-native trees should not disqualify a forest from being designated as old-growth, if they do not significantly disturb ecological processes.

2. Deadwood

Old-growth forests are characterised by a high proportion and diversity of standing and lying deadwood. The amount and type of deadwood can vary greatly between old-growth forests (depending on the forest type, the local environmental conditions, and the area's recent disturbance history).

3. Old or large trees

Old-growth forests are often characterised by a high volume of standing trees relative to earlier development stages for the given forest type and local growing conditions, and by the presence of old or large trees, some of which may reach the maximum age known for the species under the local site conditions.

Complementary indicators

4. Stand origin

Most old-growth forest stands originate from natural regeneration, but some sown or planted forests can meet the definition, if given enough time to develop the characteristics of old growth forests.

5. Structural complexity

Old-growth forests are generally characterised by structural complexity. This can include a multi-layer canopy structure, horizontal structural diversity, and soil microrelief structures such as mounds caused by uprooting.

6. Habitat trees

Old-growth forests are often characterised by the high density and high diversity of tree-related microhabitats. These are defined as 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' [14].

7. Indicator species

[14] Larrieu L. et al. 2022, 'Key factors determining the presence of Tree-related Microhabitats: A synthesis of potential factors at site, stand and tree scales, with perspectives for further research', *Forest Ecology and* Management, 515 (2022) 120235, *doi.org/10.1016/j.foreco.2022.120235*.

Old-growth forests often host species of late-seral developmental phases that are specific to a certain forest type. These can include species on the red-list of the International Union for Conservation of Nature (IUCN).

4. MAPPING

The mapping of primary and old-growth forests should take place once the methodology for their identification and mapping has been developed at the national level. This methodology should be based on the definitions, criteria and indicators in this document. Remote-sensing data could be used in the first stage for pre-screening potential areas, in combination with in-situ data and modelling techniques. The mapping will need to be coordinated at national level to ensure consistency and comparability. At a minimum, Member States who have already identified their primary and/or old-growth forests should cross-check with the criteria and indicators in this document, and, if necessary, refine their mapping.

One of the issues identified by the Working Group is that existing data and the mapping/assessment of primary and old-growth forests are not always kept in one repository at national level. There is often a gap between the data available to the public and the data available for private forests. Member States that have not organised this data in a coordinated manner should therefore start to look into developing a mapping process. This approach should make it possible to properly consolidate and integrate all data available (from forest owners, universities, communities, authorities, etc.). Private certification schemes could also contribute by compiling national GIS maps of High Conservation Value areas, their attributes and monitoring results. These findings should then be made available to the relevant authority.

It is of the utmost importance that GIS mapping of primary and old-growth forests is developed at national level by the competent authorities, and made available to the public in a transparent manner. This would be especially relevant for procedures used to authorise specific activities and projects. It would also apply to:

- procedures for environmental impact assessment or strategic environmental assessment, state aid or private payments for ecosystem services;
- compensatory payments under Rural Development Programmes;
- Common Agricultural Policy (CAP) Strategic Plans;
- forest monitoring and inventory.

Such data may also be relevant for those working in research, tourism, education or other areas. It should be made available in the most appropriate format, and also to the general public in an easily accessible format. The GIS data compiled by the JRC in its April 2021 study[15] could support the work of Member States. Available data in repositories may be further used at national level when deemed necessary.

The GIS data on primary and old-growth forests areas should, once legally protected, be reported to the European Environment Agency's Common Database on Designated Areas. This is a dataset of nationally designated protected areas.

[15] Barredo , J.I., Brailescu, C., Teller, A., Sabatini, F.M., Mauri, A. and Janouskova, K., *Mapping and assessment of primary and old-growth forests in Europe*, Publications Office of the European Union, Luxembourg, 2021, https://dx.doi.org/10.2760/797591.

5. MONITORING[16]

Structural and regular monitoring of primary and old-growth forests is relevant to measuring and assessing the impact of:

- governance;
- management measures;
- human, and natural (biotic and abiotic) disturbances, including the impact of climate change.

Monitoring is also crucial for guiding the conservation of these forest areas, and for informing about the implementation of current and future strategies, policies and legislation. Moreover, participatory approaches for monitoring programmes can increase local employment opportunities and ecological knowledge, and help develop skills in forest protection.

The following elements should be considered when developing monitoring programmes:

1. focus on the most important forest attributes of primary and old-growth forests, including those outlined in Sections 2 and 3 of this document;

2. coordinate or integrate with National Forest Inventories (NFIs), the reporting requirements of the Habitats Directive and other environment monitoring and assessment programmes, such as the Forest Information System for Europe (FISE).

3. the possible use of remote-sensing tools for certain indicators about habitat conditions and conservation status. For example, habitat loss, defoliation, forest disturbances, forest damage, fragmentation and canopy composition.

4. elements relevant to the climate adaptation agenda, with a view to observing how primary and old-growth forests react to new climatic conditions compared to other forests.

[16] This section includes general recommendations pending the development of the legislative initiative on forest monitoring and strategic plans announced by the European Commission for Q2 2023.

6. STRICT PROTECTION

Identified areas of primary and old-growth forests should be placed under strict protection, as stated in the EU Biodiversity and Forest Strategies for 2030. Primary and old-growth forests that met the definitions of this document *after* 20 May 2020 (when the EU Biodiversity Strategy[17] was published), but have since lost their defining characteristics due to human activity, should also be strictly protected so they can redevelop. In line with the precautionary principle, Member States should without delay strictly protect those forest areas for which there is a strong probability, on the basis of the currently available information, that they meet definitions and criteria set out in this document.

Guidance on management principles for strictly protected areas have been developed at EU level. The Commission's Expert Group on the Birds and Habitats Directives (NADEG) has produced a technical note on guidance for strict protection[18], which underlines that many strictly protected areas will be non-intervention areas. In these cases, only limited and well-controlled activities that do not interfere with natural processes or enhance them will be allowed. Subject to a case-by-case assessment, permissible activities may include:

- scientific research;
- natural disaster prevention (e.g. wildfires);
- control of invasive alien species; non-intrusive activities and installations;
- non-intrusive and strictly controlled recreational activities, when such activities are compatible with the conservation objectives of the areas. In practice, this means that productive forest management regimes are to be excluded from primary and old-growth forests.

Management activities authorised in areas of primary and old-growth forests should only include those that are essential for supporting or enhancing natural processes and those that are necessary for restoring and/or conserving the habitats and species for whose protection the area has been designated. For example, population control of wild ungulates in areas where natural predation is insufficient would be considered -compatible with strict protection. The small-scale subsistence use of resources by indigenous people are also considered compatible, provided they do not interfere with the conservation objectives of the area. Data for activities which are or are not compatible with strict protection should become available once these forests have been integrated into strictly protected areas. The corresponding management plans or equivalent management tools should also have been developed.

Strict protection of primary and old-growth forests should be accompanied by legal protection of the area. It should also be complemented by suitable management approaches in the surrounding buffer zones with the double objective of ensuring that:

[17] The Strategy presented the goal of strictly protecting all the EU's remaining primary and old-growth forests.
[18] Commission Staff Working Document - Criteria and guidance for protected areas designations, SWD(2022) 23 final.

(1) human activities and developments in the areas surrounding primary and old-growth forests do not affect the natural processes of these forests;

(2) natural processes within primary and old-growth forests do not have a negative spill-over effect on the management objectives of the surrounding areas.

The size of the buffer zone will depend on the size and characteristics of the forest areas subject to protection. Buffer zones for primary and old-growth forests might also be protected under other protection regimes (e.g. Natura 2000 sites), if existing management plans sufficiently ensure conservation. Permitted activities should also not compromise the conservation objectives for the main strictly protected area.

7. FINANCING

It is clear that implementing a new definition, nation-wide mapping, monitoring programme and site-specific management plans will require resources at all levels. The development of a national platform/national dialogue space on primary and old-growth forests may also be envisaged. Consideration should therefore be given to a number of points on how to foster compensatory measures.

The Commission encourages Member States to use the opportunities for EU co-financing under the various programmes available, particularly the Rural Development Programme [19] and the CAP Strategic Plans[20], Cohesion Policy[21], the Recovery and Resilience Facility[22], the Technical Support Instrument[23], the EU programme for the environment and climate action[24], and Horizon Europe[25]. Member States are also encouraged to make use of nationally funded instruments under State aid[26], such as payments for ecosystem services[27].

8. INDICATIVE TIMETABLE FOR IMPLEMENTATION

Step	Latest date
Member States to submit their pledges to the Commission on protected areas (under NADEG), including on strict protection. In line with the precautionary principle, Member States should without delay strictly protect those forest areas for which there is a strong probability, on the basis of the currently available information, that they meet definitions and criteria set out in this document.	Beginning 2023
Develop an identification and mapping methodology.	End 2023

[19] https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/rural-development_en

[20] https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans_en

[21] https://ec.europa.eu/regional_policy/en/policy/what/glossary/c/cohesion-policy

[22] https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en

[23] Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument

[24] https://ec.europa.eu/easme/en/life

[25] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/cluster-6-food-bioeconomy-natural-resources-agriculture-and-environment_en

[26] Guidelines for State aid in the agricultural and forestry sectors and in rural areas (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2022.485.01.0001.01.ENG&toc=OJ%3AC%3A2022%3A485%3ATOC)

[27] The Commission will publish a guidance on payments for ecosystem services in Q2 2023 that may be useful in the context of financing strict protection. Additionally, future carbon removal certificates under the proposed *Regulation establishing a Union certification framework for carbon removals* can also fund *additional* carbon removal stemming from the protection of old-growth forests.

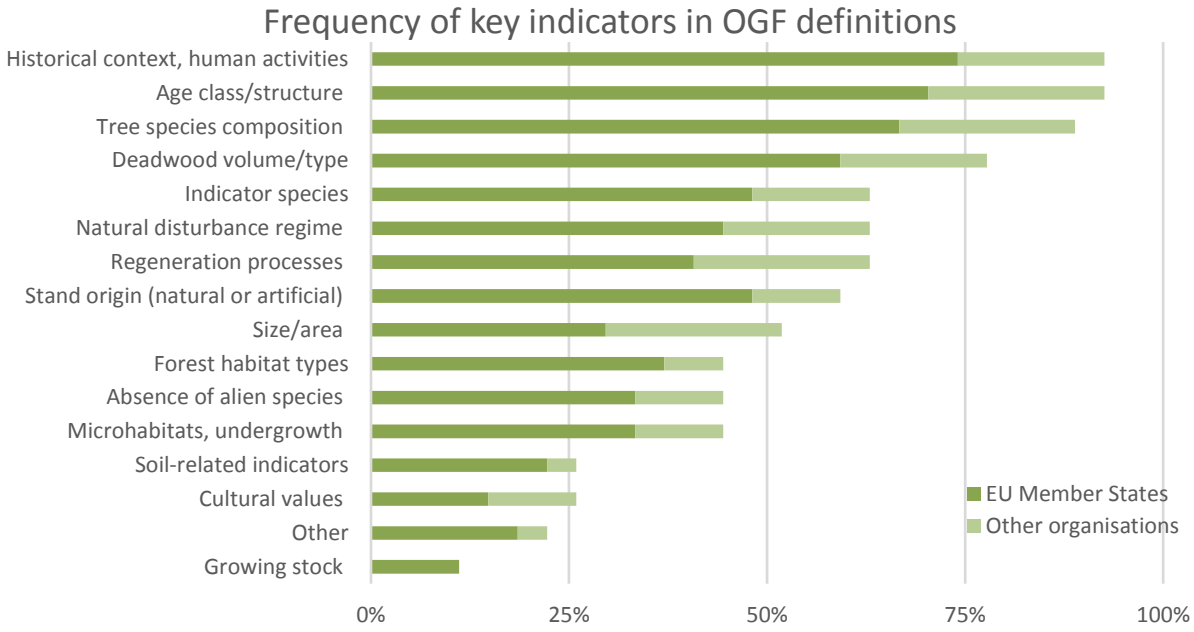
Finalise the mapping of public primary and old-growth forests.	Mid 2025
Finalise the mapping of private primary and old-growth forests.	End 2025
Strictly protect identified and mapped primary and old-growth forests.	End 2029

Annex I. List of existing international definitions for "primary forests", "old-growth forests" and other related terms.

Organisation (reference)	Term and definition
FAO - Forest Resource Assessment (FAO, 2018)	Primary forests: 'Naturally regenerated forest of native tree species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed. Some key characteristics of primary forests are 1) They show natural forest dynamics, such as natural tree species composition, occurrence of dead wood, natural age structure and natural regeneration processes; 2) The area is large enough to maintain its natural ecological processes; and 3) There has been no known significant human intervention, or the last significant human intervention was long enough ago to have allowed the natural species composition and processes to have become re-established.'
Forest Europe (2015)	Forest undisturbed by man: 'Forest (or other wooded land) which shows natural forest dynamics, such as natural tree composition, occurrence of deadwood, natural age structure and natural regeneration processes, the area of which is large enough to maintain its natural characteristics and where there has been no known significant human intervention, or where the last significant human intervention was long enough ago to have allowed the natural species composition and processes to have become re-established.'
Carpathian Convention (2014)	Virgin forests: 'natural forests which have not been influenced directly by human activities in their development and natural forest means forests composed of tree species indigenous to the area with most of the principal characteristics and key elements of native ecosystems, such as complexity, structure and diversity.'
UNESCO Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe (Kirchmeir and Kovarovics, 2020)	Primeval or virgin forests: 'Natural forests which have not been influenced directly by human activities in their development. 'Natural forest' means forests composed of tree species indigenous to the area, with most of the principal characteristics and key elements of native ecosystems, such as complexity, structure and diversity.' Ancient (beech) forests: (considered synonymous with 'old-growth (beech) forest') are 'forest stands which have been directly influenced by human activities in the past, but the last significant impact is dated back several decades (or even centuries). Throughout the period of missing impact (mainly absence of logging), natural processes have taken place and structures similar to untouched virgin forests have developed. For beech forests, this includes trees that are significantly older than the usual period of logging rotation (100–120 years) and deadwood amounts of over 20 m^3 are already in place.'

European Commission (EC, 2015)	Primary forests: Same as in the FAO's Forest Resource Assessment (see above). Old-growth forest: 'Old growth forest stands are stands in primary or secondary forests that have developed the structures and species normally associated with old primary forest of that type.'
Convention on Biological Diversity (CBD)	'Primary forest' is a forest that has never been logged and has developed following natural disturbances and under natural processes, regardless of its age. It is referred to 'direct human disturbance' as the intentional clearing of forest by any means (including fire) to manage or alter them for human use. Also included as primary, are forests that are used inconsequentially by indigenous and local communities living traditional lifestyles relevant for the conservation and sustainable use of biological diversity. In much of Europe, primary forest has a different connotation and refers to an area of forest land which has probably been continuously wooded at least throughout historical times (e.g., the last thousand years). It has not been completely cleared or converted to another land use for any period of time. However, traditional human disturbances such as patch felling for shifting cultivation, coppicing, burning and also, more recently, selective/partial logging may have occurred, as well as natural disturbances. The present cover is normally relatively close to the natural composition and has arisen (predominantly) through natural regeneration, but planted stands can also be found. However, the suggested definition above would include other forests, such as secondary forests.' 'Old growth forest' stands are stands in primary or secondary forests that have developed the structures and species normally associated with old primary forest of that type have sufficiently accumulated to act as a forest ecosystem distinct from any younger age class. A Secondary forest is a forest that has been logged and has recovered naturally or artificially. Not all secondary forests provide the same value to sustaining biological diversity, or goods and services, as did primary forest in the same location. In Europe, secondary forest is forest land where there has been a period of complete clearance by humans with or without a period of conversion to another land use. Forest cover has regenerated naturally or artificially through planting.'

Annex II. Overview on the 'Frequency of key indicators in old-growth forest definitions' based on the replies of 21 Member States [28] and 6 other organisations [29]



[28] Belgium, Bulgaria, Czechia, Denmark, Estonia, Ireland, Spain, France, Croatia, Italy, Latvia, Lithuania, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden.
[29] CEPI, COPA-CEPF, EUSTAFOR, WWF, FSC (observer) and EOS (observer).

Annex III. List of organisations participating in the meetings of the Working Group *Forest and Nature*

Member State Experts	
Austria	Federal Ministry for Agriculture, Forestry, Regions and Water Management
	Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology
Belgium	Service Public de Wallonie (SPW)
	Forêt.Nature
	Research Institute for Nature and Forest (INBO)
	Sonian Forest Foundation
Bulgaria	Executive Forest Agency
	Ministry for Agriculture
	Ministry for Environment and Water
Croatia	Ministry for Agriculture
	Ministry for Economy and Sustainable Development
Cyprus	Ministry for Agriculture, Rural Development and Environment – Department of Forests
Czechia	Ministry for Agriculture
	Ministry for Economy and Sustainable Development
Denmark	Ministry for Environment
	Danish Environmental Protection Agency - Landscape and Forest
Estonia	Ministry for Environment, Forest & Nature Conservation Departments
Finland	Ministry for Agriculture and Forestry
	Finnish Environment Institute
	Ministry for Environment
	Natural Resources Institute of Finland
France	Ministry for Agriculture
	Ministry for Environment
	Ministry for European Affairs
Germany	Federal Ministry for Environment, Nature Conservation, Nuclear Safety and Consumer Protection
	Federal Ministry for Food and Agriculture
	Federal Agency for Nature Conservation
Greece	Ministry for Environment and Energy, Directorate General for Forests and Forest Environment
Hungary	Ministry for Agriculture - Department for Forest Management
Ireland	The National Parks and Wildlife Service - Department for Housing, Local Government and Heritage
	The Forest Service - Department of Agriculture, Food and the Marine
Italy	Institute for Environment Protection and Research
	Ministry for Agriculture, Food Sovereignty and Forests
	Ministry for Environment and Energy Security
	UNIFI - Università degli Studi di Firenze

Latvia	Ministry for Agriculture
	Ministry for Environmental Protection and Regional Development
Lithuania	Ministry for Environment
Luxembourg	Ministry for Environment, Climate and Sustainable Development
Malta	Ministry for Agriculture, Fisheries and Animal Rights
	Ministry for Environment, Energy and Enterprise
	Ambjent Malta
	Parks Malta
Netherlands	Ministry for Agriculture, Nature and Food Quality
Poland	Ministry for Climate and Environment
	Directorate General for the State Forests
Portugal	Institute for Conservation of Nature and Forests
	Ministry for Environment and Climate Action
Romania	Ministry for Environment, Waters and Forests – General Directorate of Forests and Strategies in Forestry
Slovakia	National Forest Centre
	Ministry for Environment
Slovenia	Ministry for Natural Resources and Spatial Planning
Spain	Ministry for Ecological Transition and Demographic Challenge - Directorate General of Biodiversity, Forests and Desertification
Sweden	Swedish Forest Agency
	Swedish Environmental Protection Agency

Forest Stakeholders, Civil Society Organisations and others
CEPF- Confederation of European Forest Owners
CEPI - Confederation of European Paper Industries
COPA/COGECA - Farmers and Forest-Cooperatives Organisations
EFNA- European Forestry Nursery Association
ELO- European Landowners' Organization
EOS- European Organisation of the Sawmill Industry
EUSTAFOR - European State Forest Association
FSC- Forest Stewardship Council International
PEFC- Programme for the Endorsement of Forest Certification

USSE - Unión de Selvicultores del Sur de Europa
BirdLife Europe and Central Asia
EEB - European Environmental Bureau
EuroNatur
Fern
Protect the Forest
Wild Europe Foundation
WWF European Policy Office
EFI- European Forest Institute
EURAF - European Agroforestry Federation
FACE - European Federation for Hunting and Conservation
Pro Silva
Saami Council