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Criteria and indicators

for forest management evaluation in Romania

National Standard for Forest Management

PEFC Romania

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Introduction

The following set of criteria and indicators for sustainable forest management (SFM) is intended to assess it at property level (individual properties or groups of properties).

The catalogue of criteria and indicators for forest management evaluation has been developed in three stages:

a) Analysis of legal regulations on forest management in Romania.

Numerous legal regulations (laws, government decisions, ministerial orders, etc.) covering the ecological and social aspects of forestry have a direct or indirect influence on forest management. This legal framework characterizes the standard of forest management in Romania.

In particular, the following legal regulations were taken into account:

- The Forest Code - Law 331/2024 (in its current amended version) and subsequent legal regulations
- The Hunting Act 407/2006 (in its current amended version)
- Nature protection regulations, including the Protected Areas OUG no. 57/2007 și Law no. 49/2011 (in its current amended version)
- Water Act 1996 (in its current amended version)
- Legislation on plant protection products and substances
- Technical rules in forestry

b) Analysis of catalogues of criteria and indicators for sustainable forest management existing at global or regional level and development of criteria and indicators for SFM in Romania.

The catalogue of criteria and indicators was developed on the basis of the 6 "Pan-European criteria and indicators", respectively taking into account the "General Pan-European Directives, at operational level, for sustainable forest management", adopted and approved, at the Third Ministerial Conference on the Protection of Forests in Europe, in June 1998 in Lisbon / Portugal. The following catalogues of criteria and indicators for SFM have served as a reference for the analysis and elaboration of Romanian criteria and indicators (as appropriate the respective abbreviations):

- PEFC International Sustainability Benchmark Standards
- Austrian PEFC national standards, scheme submitted for reapproval in 2024
- German PEFC national standards, scheme reapproved in 2022
- French PEFC national standards, scheme submitted for reapproval in 2023
- Slovakian national PEFC standards, reapproved in 2022
- PEFC regional standards for the Balkan region approved in 2022

c) Analysis of existing official sources related to forests

In Romania, the main source of forest data is the forest management plan, which is mandatory for forest properties larger than 10 hectares and valid for a period of 10 years. Additionally, there are information sources such as management and monitoring systems, studies and research conducted by scientific institutions in the field, and various official statistical data regarding forests from the National Institute of Statistics (NIS) and the National Forest Inventory. Therefore, the monitoring, management, investigation systems, and statistical data are from the following sources:

- Forest management plan
- National Forest Inventory (NFI) in Romania
- Forest pest monitoring and control statistics
- Management plans of protected natural areas
- Map of areas with risk
- Official statistics of NIS
- Property documents

Content of the standard

No.	Criterion	Subcriterion	Number Indicators
1.	Forest resources	• Forest distribution • Production fund • Stand and forest structure	4 2 2
2.	Health and vitality	• Health surveillance • Combating forestry • Biological and chemical combat	6 2 4
3.	Productive functions	• Possibility and harvesting of wood • Non-wood products • Valuable forest services • Landscaped forests • Techniques, management	1 3 1 1 4
4.	Biological diversity	• Structural diversity • Threatened species • Forest regeneration	8 4 2
5.	Protective functions	• Water protection • Soil protection • Infrastructure protection • Other protective functions	3 2 1 1
6.	Socio-economic functions	• Property • Rural development • Working conditions • Education and research • Recreational services • Cultural values • Public relations	2 2 3 3 2 1 2
∑	**6**	**25**	**66**

Criterion 1: Maintenance or appropriate enhancement of forest resources and their contribution to the global carbon cycle

1.1	Distribution of forests covered by certification in terms of assigned use and functions
Subcriterion	***The forest management plan aims to ensure the sustainable use of forest resources, in accordance with the main functions (production and protection) and defined objectives. It will aim to maintain and increase the forest-covered area through appropriate measures for forest management and regeneration of tree stands.***
Description	The forest is defined by the Forest Code - Law 331/2024, updated. The management plan estimates the production fund at stand and management unit level.
Comment	This sub-criterion refers only to the quantitative descriptors of forest areas. Other aspects of the economic, cultural and social value of forests are covered by criteria 3, 4 and 6.

Indicator 1.1.a
Data on the total area of the forest fund included in the certification, by categories of use

Content	*Measurement unit*	*Source*
Forest fund area	Ha	Forest management plan
Area of forests and terrain for afforestation	Ha	
Area of terrain with other purposes	Ha	
Forested area of terrain that had other uses	Ha	

Indicator 1.1.b
Distribution of forests included in the certification in relation to type of ownership (area and weight)

Content	*Measurement unit*	*Source*
Forests in public property of the state	ha, %	Forest management plan Property titles
Forests in public property of UAT	ha, %	
Forests owned by associations	ha, %	
Forests owned by religious units	ha, %	
Forests owned by individuals	ha, %	
Forests owned by legal entities	ha, %	

Indicator 1.1.c
Distribution of forests included in certification in relation to assigned protection and production functions

Content	*Measurement unit*	*Source*
Area of forests in functional group I Forests with special protection functions, of which	Ha	Forest management plan
Subgroup 1.1. - Forests with water protection functions, predominantly hydrological functions	Ha	

Subgroup 1.2. - Forests with terrain and soil protection functions, predominantly pedological functions	Ha	
Subgroup 1.3. - Forests with protective functions against natural or anthropogenic climatic factors, predominantly climatic functions	Ha	
Subgroup 1.4. - Forests with protective functions, predominantly social	Ha	
Subgroup 1.5. - Forests of scientific interest, for the conservation of the gene pool and forest ecosystem, as well as other ecosystems with natural elements of exceptional value.	Ha	
Subgroup 1.6. - Forests with special functions for biodiversity conservation and protection	Ha	
Area of forests in functional group II Forests with production and protection functions	Ha	

Indicator 1.1.d **Distribution of forests included in the certification in relation to functional types**		
Content	***Measurement unit***	***Source***
Type I — forests with special protective functions, where logging is prohibited	Ha	Forest management plan Field verifier: compliance with the application of treatments according to the types of assigned functional categories
Type II – Forests with special protective functions in which special conservation works are permitted	Ha	
Type III – Forests with special protective functions for which the timber production process is regulated – principal products, typically allowing treatments that promote natural regeneration.	Ha	
Type IV – Forests with special protective functions for which the timber production process is regulated – principal products, treatments promoting natural regeneration are usually allowed	Ha	
Type V – Forests with production and protection functions for the production of high-quality wood	Ha	
Type VI – Forests with production and protection functions where the full range of treatments provided for in the technical norms can be applied	Ha	

1.2	Production fund
Subcriterion	***The production fund must be maintained or increased, both qualitatively and quantitatively.***
Description	The total volume of trees in the forest area, regardless of the functional zoning of the tree stands, indicates the extent to which the forest contributes to increasing of carbon stock in forest vegetation.
Comment	The production fond is estimated during planning activities, using biometric functions accredited by the current technical norms. The total and per-hectare average growth reflect the modification of the production fond and must be correlated with the volume of harvests. The change in the total average growth must be analyzed in relation to the distribution of areas according to the current nature of the forest type, especially with the proportion of derived, partially derived, and underproductive tree stands.

Indicator 1.2.a
The size of the production and protection fund at forest management plan level

Content	***Measurement unit***	***Source***
Total production and protection fund	thousand m3	Current and previous forest management plan
Medium production and protection fund per hectare	m3/ha	
Percentage change of the average size of the production and protection fund, compared to the previous management plan	%	

Indicator 1.2.b
Data on the ratio between forest growth and harvest, at forest management plan level

Content	***Measurement unit***	***Source***
Current growth index	m3/year/ha	Forest management plan
Total harvest index	m3/year/ha	
Principal products harvest index	m3/year/ha	
Secondary products harvest index	m3/year/ha	
Annual possibility of principal products	m3/year	
Guiding provisions for harvesting secondary products	m3/year	
Ratio of total harvest index to current growth index	%	

1.3	Stand and forest structure
Subcriterion	***The distribution by age classes of the forest reflects how the management measures provided in previous management plans have contributed to normalizing the age class structure.***
Description	The distribution of areas by age classes and in relation to the current forest type reflects the extent to which the forest structure approaches a balanced distribution by age classes, ensuring continuity of harvests and long-term functions. The reduction in the proportion of derived, partially derived, and underproductive tree stands indicates appropriate management measures being practiced.
Comment	The harvest-to-growth ratio is subunitary and approaches 1 only if the forest has reached its normal structure, characterized by a balanced, nearly equal distribution across age classes.

Indicator 1.3.a
Forest area by age classes, at forest management plan level

Content	***Measurement unit***	***Source***
I (1-20)	Ha	Forest management plan
II (21-40)	Ha	
III (41-60)	Ha	
IV (61-80)	Ha	
V (81-100)	Ha	
VI (101-120) and above	Ha	

Indicator 1.3.b
Distribution of areas included in the certification in relation to the current character of the forest type

Content	***Measurement unit***	***Source***
Fundamental natural of superior productivity	Ha	Forest management plan
Fundamental natural of middle productivity	Ha	
Fundamental natural of inferior productivity		
Fundamental natural of underproductive productivity		
Partially derived	Ha	
Total derived productivity (Sup.+Mid.+Inf.)	Ha	
Artificial superior and middle productivity	Ha	
Artificial inferior productivity	Ha	
Undefined young	Ha	
Total forest	Ha	

Criterion 2: Maintenance of forest ecosystem health and vitality

2.1	Health surveillance
Subcriterion	***Surveillance of health and vitality status of forest ecosystems***
Description	Forest management must ensure the health and vitality of forests. Abiotic, biotic or anthropogenic factors affecting the health, productivity and stability of the forest shall be monitored at all times. The occurrence, evolution and harmful influences on forests are tracked for the following factors: A. Abiotic factors: - Wind and snow (felling, breakage); - Snow and negative temperatures (early/late icing, frost, snow avalanches, freezing rain, hail); - Landslides (rocks / mud avalanche, etc.); - Floods (heavy rains, stagnation of water); - Fires (forest fires, lightning strikes); B. Biotic factors: - Microfauna (insects, mites, gastropods, etc.); - Phytopathogenic agents (viruses, mycoplasmas, bacteria, fungi, parasitic higher plants, etc.); - Animals of hunting interest and macrofauna species (rodents, birds, herbivorous, mammals, etc.); - Pets; C. Anthropogenic factors: - Forest management (e.g. harvesting damage); - Pollution, waste, garbage.

Indicator 2.1.a
Detection, prevention and control of harmful factors

Content	***Measurement unit***	***Source***
Existence of forest protection documentation:		Technical and economic documentation of forest protection works from O.S. (Model: Ord. 454/2003 -PP norms)
a. Biotic and abiotic pest statistics	Yes / No	
b. Forest pest forecast	Yes / No	
c. Evidence of harvesting damage	Yes / No	Plot takeback documentation

Indicator 2.1.b
Evolution of area affected by damage factors in nurseries included in the certification scope

Content	***Measurement unit***	***Source***
Area (cumulative) affected in the last year: - Abiotic factors - Biotic factors - Anthropogenic factors	m2	Technical and economic documentation of forest protection works from O.S. (Model: Ord. 454/2003 -PP norms)
Changes from the average of the last 5 years:	%	Field check

- Abiotic factors - Biotic factors - Anthropogenic factors		

Indicator 2.1.c **Evolution of the area affected by abiotic and biotic harmful factors in stands and plantations included in the certification scope**		
Content	***Measurement unit***	***Source***
Area (cumulative) affected in the last calendar year: - Abiotic factors - Biotic factors	Ha	Technical and economic documentation of forest protection works from O.S. (Model: Ord. 454/2003 -PP norms)
Changes from the average of the last 5 years: - Abiotic factors - Biotic factors	%	

Indicator 2.1.d **Status of harvesting damages in tree stands covered by the certification scope**		
Content	***Measurement unit***	***Source***
Volume (cumulative) of trees damaged by harvesting activities in the last calendar year	m3	Operating controls Register of contraventions Evidence of harvesting damage

Indicator 2.1.e **Evolution of abnormal drying volume in the area covered by the certification scope**		
Content	***Measurement unit***	***Source***
Cumulative volume of accidental cuts due to **abnormal drying** in the last calendar year	m3	Forest protection documentation, SILV, annual reports, VPA.

Indicator 2.1.f **Evolution of forest fires in the area included in the certification**		
Content	***Measurement unit***	***Source***
Area of tree stands affected by forest fires in the last calendar year	ha / m3	Forest protection documentation, SILV, annual reports, VPA.

2.2	Integrated forest pest control
Subcriterion	***Silvicultural control of abiotic, biotic and anthropogenic factors***
Description	Preventive and combat measures against forest damage phenomena should primarily rely on silvicultural means. For this purpose, the forest management plan shall include all measures to ensure the proper development of tree stands, a prompt response to environmental stressors, and a return to a suitable vegetative state after the cessation of damaging factors: i) Using species/ecotypes in a suitable structural diversity for local site conditions, productive and resistant to local environmental factors, including aggressive abiotic and biotic factors; ii) Implementing revitalization measures (maintenance work on regenerations or nursery crops, cultural operations, sanitation cuttings) with a mixed-prophylactic and developmental character; iii) Provision of measures to restore the health and vitality of tree stands, in the case of dried or severely debilitated tree stands, even by rebuilding/ replacing severely degraded stands.

Indicator 2.2.a
Planning of integrated measures

Content	***Measurement unit***	***Source***
Integrated measures (silvicultural and protective) have been planned for the prevention and combat of pests, or the restoration of tree stands after their action.	Yes/No	Forest Management Plan Forest Protection Documentation

Indicator 2.2.b
Evidence of integrated measures for the protection and restoration of stands in the area included in certification scope

Content	***Measurement unit***	***Source***
Area on which were carried out tending operations on natural seedlings, during the last year of production	Ha	Record of management plan application
Area covered with clearings/thinning works in the last year of production	Ha	
The ratio between the covered area and the management plan provisions	%	
The area covered with cleaning works in the last year of production	Ha	
The ratio between the covered area and the management plan provisions	%	
The area covered with hygiene works in the last year of production	Ha	
Restoration or substitution carried out in the last year of production	Ha	

2.3	Biological and chemical control
Subcriterion	***Biological and chemical control of harmful factors***
Description	Actions for preventing and combating harmful phenomena for the forest that cannot be prevented or controlled solely through silvicultural means are included in a complex integrated system of forest protection measures. The use of chemicals is limited by national and international regulations (WHO lists 1A and 1B as well as the List of active substances authorized for use in plant protection products in Romania). Pesticides (herbicides, insecticides, fungicides, rodenticides, molluscicides, etc.) are used only on a limited scale, and when possible, they are replaced by silvicultural measures or biological methods. The use of pesticides that are prohibited by international conventions is not allowed. All chemicals must meet standards, thresholds, and conditions (hygienic, toxicological, and ecological) regarding nature protection.

Indicator 2.3.a
Use of allowed substances (pesticides, repellents, etc.)

Content	***Measurement unit***	***Source***
Pesticides were used:	Yes/No	Forest protection documentation from O.S.
From WHO 1 lists	Yes/No	WHO lists 1A and 1B
Stockholm Convention	Yes/No	Pesticides banned by international agreements are defined in the Stockholm Convention on Persistent Organic Pollutants of 2001 and subsequent amendments
Outside the National List of Approved Substances	Yes/No	List of active substances authorised for use in plant protection products in Romania.
Have the standards, thresholds and conditions according to the National List of Approved Substances been complied with?	Yes/No	
In the case of use of an unauthorised substance from the previous lists or use above permitted thresholds, is there an expert opinion showing that it was the only possible option to effectively control a hazardous agent?	Yes/No	Qualified expertise on the need to use a pesticide outside the lists listed

Indicator 2.3.b **Pesticide treatments (excluding herbicides) applied to the area covered by the certification scope**		
Content	***Measurement unit***	***Source***
Area treated in the last year: in nurseries in tree stands	Ha	Forest protection documentation from O.S. Model: Ordinance 454/2003 (PP norms) ***List of plant protection products approved in Romania*** -NATIONAL PHYTOSANITARY AUTHORITY Manufacturers' recommendations (package leaflets)
Volume of pesticides used in the last year: in nurseries in tree stands	l/kg	

Indicator 2.3.c **Evolution of herbicide treatments applied in the area included in the certification scope**		
Content	***Measurement unit***	***Source***
Area treated in the last year: in nurseries in tree stands	Ha	Forest protection documentation from O.S. Model: Ordinance 454/2003 (PP norms) ***List of plant protection products approved in Romania*** -NATIONAL PHYTOSANITARY AUTHORITY
Volume of herbicides used in the last year: in nurseries in tree stands	l/kg	

Indicator 2.3.d **Evolution of fertilizer treatments applied in the area included in the certification scope**		
Content	***Measurement unit***	***Source***
Area treated in the last year in nurseries in tree stands	Ha	Forest protection documentation from O.S. Model: Ordinance 454/2003 (PP norms)
Volume of fertilisers used in the last year in nurseries in tree stands	l/kg	

Criterion 3: Maintaining and encouraging the productive functions of forests (wood and non-wood products)

3.1	Possibility and harvesting wood from certified surfaces
Subcriterion	***The volume of timber harvested may not exceed a level that can be sustained quantitatively and qualitatively in the long term.***

Indicator 3.1.a **The ratio between the volume harvested and the possibility during the period of application of the management plan for the certified area.**		
Content	***Measurement unit***	***Source***
Decennial possibility foreseen in harvesting plan (for principal products)	m3	Management plan, Forestry records
Indicative decennial provisions laid down in the harvesting plan for secondary products	m3	
Volume of principal/ accidental products I harvested during the application period of the management plan	m3	
Volume of secondary/ accidental products II harvested during the application period of the management plan	m3	
Total volume harvested in the last calendar year	m3	
The proportion between the annual provisions and the average annual volume harvested since the entry into force of the management plan: - for principal and accidental products I	%	

3.2	Non-wood products
Subcriterion	***The quantity of non-wood products harvested must not exceed a level that can be sustained in the long term.***
Description	Non-wood products are, among others: – Berries, mushrooms, branches used for decorative purposes, resin, litter. – Game, including hunting enclosures – Christmas trees, water, quarries, etc. The level of harvesting of non-wood products does not exceed a level that can be sustained in the long term (sustainability). Gravel and stone must be extracted in a manner that maintains negative environmental effects at a low level. Hunting is conducted in a manner that does not threaten the ecological, economic, and socio-economic aspects of sustainable forest management.

Indicator 3.2.a **Hunting activity and total amount of direct benefits**		
Content	***Measurement unit***	***Source***
Total number of hunting funds overlapping with area included in certification scope	Number	List of hunting funds in the certified area and record of benefits
Hunting funds have an approved management plan	Yes/No	
The owner(s) of the area included in the certification have an agreement with the administrator of the hunting fund regarding the payment of the legal obligations	Yes/No	
The owner/manager has a copy of the hunting fund management contract and the location map of the area held within the hunting fund	Yes/No	
The annual value of direct benefits resulting from hunting activity within the certified area on self-administered hunting funds.	RON	

Indicator 3.2.b **Total value and dynamics of other non-wood products obtained from the area included in the certification scope**		
Content	***Measurement unit***	***Source***
There is own activity for the exploitation of non-wood forest products.	Yes / No	Assignment contact SILV statistical reporting
There are contracts for the assignment of the harvesting of non-timber products	Yes / No	
There are all legal documents regarding the use of non-wood products (environmental permit, phytosanitary notice, etc.)	Yes / No / Not applicable	
Total amount of benefits derived according to categories of non-wood products in the last year of production (if applicable)	RON	

Indicator 3.2.c **Percentage ratio between the revenues from the utilization of non-wood products and total revenues**		
Content	***Measurement unit***	***Source***
The ratio of revenue from the sale of non-wood forest products to total revenue for the last production year.	%	SILV statistical reporting

3.3	Marketable services of the forest from the areas included in the certification scope
Subcriterion	***Marketable services must be maintained or extended.***
Description	Marketable services are utilized only to an extent that does not jeopardize the sustainable management of forests from an ecological, economic, or social standpoint.
Comment	Marketable services can include: contractual nature protection, consultancy, forest education, eco-tourism, infrastructure, etc.

Tell-tale 3.3.a
Type of redeemable services

Content	*Measurement unit*	*Source*
Type of services	number	
The total value of benefits derived from the exploitation of services in the last year.	RON	SILV statistical reporting

3.4	Managed forests
Subcriterion	***The forest management plan will include a detailed study of the forest site and vegetation, management objectives, plot descriptions, decennial plans, implementation records, and maps. After the forest management plan comes into force, monitoring of its implementation will be conducted, and the monitoring results will be taken into account when developing new management plans.***
Description	The forest management plan must aim to maintain or increase the forest area and enhance the economic, ecological, cultural, and social value of forest resources, including soil and water. Management objectives and planning must be based on a study of the forest site and vegetation. Periodic evaluations of forest resources and their management practices should be conducted, and their results should be utilized in subsequent forest management planning.
Comment	There are management guides, such as the 'Pan-European operational guide to sustainable forest management', which can be used on a voluntary basis.

Indicator 3.4.a
Forest management plans for the area included in the certification scope

Content	*Measurement unit*	*Source*
The forest management plans corresponding to the area included in the certification scope are made and approved according to the legal requirements	Yes/No	Forest management plan
Forest management plans present a description of management goals	Yes/No	
There is a cartographic basis to identify tree stands included in the certification scope	Yes/No	
There is evidence regarding monitoring and compliance with the provisions of forest management plans during their period of application	Yes/No	

3.5	Management methods
Subcriterion	***Treatments, tending and management of the stands are applied in a manner that does not reduce the productive potential of the tree stand over time.***
Description	Adequate infrastructure, such as forest roads, collecting paths or bridges/culverts, is planned, built and maintained to ensure efficient transport of goods and services, minimizing negative environmental impact. In terms of management objectives, measures are being taken to balance the pressure of wildlife and domestic animal populations on forest regeneration, growth and development, as well as biodiversity.

Indicator 3.5.a
Treatments applied in the certified surface

Content	***Measurement unit***	***Source***
Share of proposed areas with regeneration cuts according to decennial planning: Clearcuts Successive cuts Progressive cuts Shelterwood cuts Seed-tree cuts Conservation cuts Coppice	%	Forest management plan
Share of areas covered by regeneration cuts in the last year of production, by types of treatments: Clearcuts Successive cuts Progressive cuts Shelterwood cuts Seed-tree cuts Conservation cuts Coppice	%	Forest management plan

Indicator 3.5.b
Surface and proportion of tending and management work applied in the certified area (see also indicator 2.2.b)

Content	***Measurement unit***	***Source***
The area covered in the last production year with the following forestry operations: Clearings/weeding Cleanings Thinnings	Ha	Forest management plan
The proportion compared to the annual provisions of the management plan for: Clearings/weeding Cleanings Thinnings	%	Forest management plan

Indicator 3.5.c **Impact of harvesting technologies used in the application of treatments and tending operations**		
Content	***Measurement unit***	***Source***
The situation of improperly skidding trails identified through controls in the last production year	Length	Records of operational checks and take-backs Register of contraventions Field checks
Damage to regeneration identified by controls in the last year of production	Yes / No	

Indicator 3.5.d **The infrastructure will be designed and built in such a way as to minimize the impact on the ecosystem**		
Content	***Measurement unit***	***Source***
The existence of measures, as part of the infrastructure design and construction process aimed at minimizing the impact on the ecosystem	Yes/ No	

Criterion 4: Maintain, conserve and adequately enhance biological diversity in forest ecosystems

4.1	Structural diversity
Subcriterion	***Structural diversity of stands and forests included for certification purposes***
Description	- Forest management planning will aim to maintain, conserve, and enhance ecosystem-level, species-level, and genetic biodiversity, and where possible, landscape-level diversity. Genetically modified trees will not be used. -Where feasible, forest management activities will promote diversity in horizontal and vertical structures, such as uneven-aged stands and mixed-species forests. These management activities will also aim to maintain and restore landscape diversity. -Traditional management systems that have created valuable ecosystems, such as coppice forests will be maintained, when economically feasible. -Trees serving as habitat, standing or fallen, trees with cavities, mature coppice stands, and trees from rare species will be retained in necessary quantities and distributions to ensure biological diversity. This consideration will include their potential impact on forest and ecosystem health and stability, as well as on occupational safety.

Indicator 4.1.a
Composition of stands in the certified area

Content	***Measurement unit***	***Source***
Area occupied by mixed tree stands according to planning	Ha	forest management plan, equivalent documents
Proportion of mixed tree stands	%	
Area occupied by pure tree stands according to planning	Ha	
Proportion of pure tree stands	%	
The regeneration compositions recommended by management plans are respected	Yes /No	Record keeping of annual checks on regeneration

Indicator 4.1.b
The degree of naturalness of stands in the certified area

Content	***Measurement unit***	***Source***
Area of virgin tree stands identified according to legal requirements	Ha	Forest management plans, Catalogue of virgin and quasi-virgin forests, equivalent documents
Share of virgin tree stands	%	
Area of quasi-virgin tree stands identified according to legal requirements	Ha	
Share of quasi-virgin tree stands	%	
Surface of another tree stands (installed naturally or artificially)	Ha	
Share of another tree stands (installed naturally or artificially)	%	
The protection status legally assigned to "virgin and quasi-virgin" stands is respected	Yes/No	On-the-spot checks
Comment: Also evaluate indicator 1.3.b — current forest type		

Indicator 4.1.c **Allochthone species* (introduced species, non-native species, exotic species)**		
Content	***Measurement unit***	***Source***
Area of stands that include allochthonous species according to management plan provisions	Ha	forest management plan, equivalent documents
The proportion occupied by tree stands including allochthonous species in the total certified area.	%	
There are measures to limit the expansion of alien species into natural regeneration of species corresponding to the fundamental natural type of forest	Yes/No	Annual control of regenerations / Seed care work estimates

Note: Allochthonous species - species introduced/spread, accidentally or intentionally, from another geographical region, as a direct or indirect result of human activity, naturally absent from a certain region, with a known historical development in a natural range other than the area of interest, which may be in competition, dominate, or have a negative impact on native species, potentially even replace them – OUG no. 57 / 20.06.2007.

Indicator 4.1.d **Habitat wood**		
Content	***Measurement unit***	***Source***
There is a procedure for identifying, highlighting and preserving habitat wood	Yes/No	Own records
Number of standing habitat trees identified and maintained	No/ha	

Indicator 4.1.e **Crown closure and layers of stands included in the certification scope**		
Content	***Measurement unit***	***Source***
The proportion of tree stands by consistency category: – 0,1-0,3; – 0,4-0,6; – 0,7-1,0	%	forest management plan, equivalent documents
Share of even-aged and relatively even-aged stands	%	
Share of relatively uneven-aged stands	%	
Share of uneven-aged stands	%	

Indicator 4.1.f **Fragmentation of tree stands (through public roads, forest roads, access ways) and corridors (forest curtains)**		
Content	***Measurement unit***	***Source***
Length of permanent transport installations in the certified area	Km	forest management plan, equivalent documents
The length of forest curtains	Km	
Density of public and forest roads	m/ha	

Indicator 4.1.g **Rare species of trees and shrubs**		
Content	***Measurement unit***	***Source***
There is a record of rare species of trees and shrubs present in the tree stand	Yes/No	forest management plan, field
Have trees and shrubs of rare species been identified in the field?	Yes/No	

Indicator 4.1.h **Use of genetically modified trees**		
Content	***Measurement unit***	***Source***
Are there genetically modified trees in forests included in the certification scope?	Yes/No	
Proportion of stands where genetically modified trees have been identified	%	

4.2	**Threatened species**
Subcriterion	***Threatened species and types of biotopes***
Description	- The forest management planning, inventory, and mapping of forest resources shall identify, protect, and/or conserve ecologically important forest areas containing significant concentrations of: a) Protected, rare, sensitive, or representative forest ecosystems; b) Areas containing endemic species and habitats of threatened species, as defined in official reference lists; c) In situ threatened or protected genetic resources; d) Large-scale landscape areas significant at global, regional, and national levels, with natural distribution and abundance of species occurring naturally. - Protected or threatened plant and animal species shall not be exploited for commercial purposes. Where necessary, measures shall be taken to protect and, where relevant, increase their populations. - In correlation with management objectives, measures shall be taken to balance the pressure of domestic and wild animal populations on forest regeneration and growth, as well on biodiversity.
Comment	Protected, rare, sensitive or representative forest ecosystems refer to riparian areas and wetlands, areas containing endemic species and habitats of threatened species, coastal and shoreline areas, plain, hill and mountain areas, wetlands, arid areas, and ecotone zones, river courses with floodplains and natural lakes

Indicator 4.2.a **Forests with significant concentrations of representative ecosystems, Natura 2000 sites, endemic species, threatened species (wild animals and plants)**		
Content	***Measurement unit***	***Source***
Areas of stands with special protection functions, included in the functional subgroups 1.5 and 1.6, Forests of scientific interest and protection of the gene pool and forest eco-fund	Ha	forest management plan, equivalent documents, other sources
Area of stands included in Natura 2000 sites	Ha	
Area of representative ecosystems (e.g. riparian areas and wetlands, areas containing endemic species and habitats of threatened species as well as genetic resources in endangered or protected sites)	Ha	

Indicator 4.2.b **Maps / plans of areas with high concentrations of representative ecosystems, endemic species, threatened species (animals and plants), Natura 2000 sites**		
Content	***Measurement unit***	***Source***
Maps for stands with special protection functions, included in functional subgroup 1.5 Forests of scientific interest and protection of forest gene pool and eco-fund	Yes/No / NA	forest management plan, equivalent documents, other sources
Maps/ plans of areas with high concentrations of representative ecosystems	Yes/No / NA	
Maps/ plans of areas with Natura 2000 sites	Yes/No / NA	

Indicator 4.2.c **Number and list of threatened species (wild animals and plants)**		
Content	***Measurement unit***	***Source***
Number of threatened species (wild animals and plants) identified in the certified area	Number	forest management plans, equivalent documents, Red List

Indicator 4.2.d **Measures to protect ecologically important forest areas listed above**		
Content	***Measurement unit***	***Source***
There are approved management plans for protected areas that include tree stands for certification purposes	Yes/ No/ NA	forest management plans, equivalent documents, management plans Natura 2000 sites
Special protection measures are in place for identified representative ecosystems	Yes/ No/ NA	
Special protection measures are in place for areas with endemic species	Yes/ No/ NA	

There are special protection measures for areas with threatened species (wild animals and plants)	Yes/ No/ NA	
The provisions of the management plans of protected areas and representative ecosystems are known and implemented	Yes/ No/ NA	

4.3	Forest regeneration
Subcriterion	***Forest regeneration***
Description	- Forest management will ensure successful natural regeneration or, where not possible, through planting, which is suitable to ensure the quantity and quality of forest resources. - For afforestation and reforestation works, preference will be given, where possible, to origins of native species and local provenances that are well adapted to site conditions. Only those allochthonous species, provenances, or varieties whose impacts on the ecosystem and genetic integrity of native species and local provenances have been assessed, and if negative impacts can be avoided or minimized, will be used. - Afforestation and reforestation works that contribute to improving and restoring ecological connectivity will be promoted.

Indicator 4.3.a **Regeneration of stands included for certification purposes**		
Content	***Measurement unit***	***Source***
Surface of stands naturally regenerated (seed, shoots, root-shoots)	Ha	forest management plan, equivalent documents, other sources
Share of naturally regenerated stands (seed, shoots, root-shoots)	%	
Surface of artificially regenerated stands (saplings, root-suckers)	Ha	
Share of artificially regenerated stands (saplings, root-suckers)	%	
Comment: also evaluate indicator 4.1.c		

Indicator 4.3.b **Source of afforestation material**		
Content	***Measurement unit***	***Source***
Documents of origin for afforestation material	Yes/No	Forest management plan Certificates issued by the producer of forest afforestation material

Criterion 5: Maintenance or appropriate improvement of protective functions in forest management (especially soil and water)

5.1	Water protection
Subcriterion	***Maintaining and improving the water protection function***
Description	– Forest planning must maintain and enhance the protective functions of water bodies and water resources, and forest management should contribute to protecting the population and socio-economic objectives from floods and flash floods. – Forest areas designated for water protection must be accurately delimited and recorded on maps, and forest management plans or equivalent documents must consider these areas. – Special attention should be given to the technologies used in forest management and regeneration to prevent negative impacts on water resources.
Comment	The forests covered by this criterion are those in functional subgroup 1.1.

Indicator 5.1.a **Area occupied by forests designated for water protection**		
Content	***Measurement unit***	***Source***
Surface	Ha	Forest management plan and/or equivalent documents Field check
Proportion of total area	%	
Dynamics of areas occupied by forests designated for water protection	% of the initial area	
The measures proposed by the management plans in forests with a water protection role are respected	Yes/ No	

Indicator 5.1.b **Special structural and non-structural measures and works to ensure water protection**		
Content	***Measurement unit***	***Source***
Riverbeds improved with torrent correction works	Yes/ No	Accounting records Inventory of works for arranging torrential riverbeds
The consolidated length of the riverbeds improved in the last 5 years	Miles	

Indicator 5.1.c **Forest wastes**		
Content	***Measurement unit***	***Source***
Measures are taken to avoid accidental spills of chemicals	Yes/ No	Field check
Arrangements shall be made for proper storage and collection of waste	Yes/ No	

5.2	Soil protection
Subcriterion	***Maintaining and improving the protection function of soils and terrain***
Description	– Forest management planning shall maintain and enhance the protective functions of forests towards society, such as soil erosion control and protection against harmful factors such as avalanches. – Forest areas designated for terrain and soil protection shall be recorded and delimited on maps, and forest management plans or equivalent documents shall take these areas into account. – Special attention shall be given to the technologies used on sensitive, erosion-prone soils, as well as where operations may lead to excessive sediment input into watercourses. Practices such as deep plowing and the use of improper machinery should be avoided in these areas. Special measures should be taken to minimize the pressure of wild animals.
Comment	The forests covered by this criterion are those in functional subgroup 1.2.

Indicator 5.2.a
Area occupied by forests intended for soil and terrain protection

Content	***Measurement unit***	***Source***
Surface	Ha	Forest management plan
Proportion of total area	%	
Dynamics of forest areas for soil and terrain protection	% of initial area	
Are the silvicultural measures proposed by the management plans being implemented in soil protection zones?	Yes/ No	Field checks / Records of operational checks
Are the harvesting rules being respected in the forests designated for soil protection?	Yes / No	

Indicator 5.2.b
Special structural and non-structural measures and works to ensure soil and terrain protection

Content	***Measurement unit***	***Source***
Works to consolidate unstable terrains and soils vulnerable to surface and in-depth erosion.	Yes/ No Ha	Accounting records, Landscaping projects, Other sources
Works to restore lateral support of sliding terrains in functional categories	Yes/ No m	
Water drainage works in sliding and marshy terrains	Yes/ No m	
Special works to combat and reduce the effect of snow avalanches	Yes/ No Ha	

5.3	Infrastructure protection
Subcriterion	***Protection of infrastructure***
Description	– Forest management planning shall maintain and improve the protective functions of forests towards society, such as infrastructure protection. – Forest areas intended for infrastructure protection shall be recorded and delimited on maps, and forest management plans or equivalent documents shall take these areas into account.
Comment	The forests included in this criterion are those in functional subgroup 1.4., functional categories 1.4e, 1.4f, 1.4h

Indicator 5.3.a **Area of forests intended for infrastructure protection**		
Content	***Measurement unit***	***Source***
Surface	Ha	Forest management plan
Proportion of total area	%	
Dynamics of forest areas for infrastructure protection	% of initial area	
Are the silvicultural measures proposed by the forest management plans in forests designated for infrastructure protection respected?	Yes /No	Field checks

5.4	Other protective functions
Subcriterion	***Other protection functions***
Description	– Forest management planning shall maintain and improve the protective functions of forests towards society. – Areas of protective forests shall be recorded and delimited on maps, and forest management plans or equivalent documents shall take these areas into account.
Comment	The forests covered by this criterion are those in functional subgroup 1.3.

Indicator 5.4.a **Area occupied by forests with other protective functions**		
Content	***Measurement unit***	***Source***
Surface	Ha	Forest management plan
Proportion of total area	%	
Dynamics of forest areas with other protective functions	% of initial area	
Are the silvicultural measures proposed by the management plans respected according to the assigned protection functions?	Yes /No	Field checks

Criterion 6: Maintenance of other socio-economic and cultural functions and conditions.

6.1	Property
Subcriterion	***Ownership, right of ownership and management***
Description	Ownership rights and other rights of possession over forest lands must be well defined, documented, and established for the relevant forested areas. Similarly, legal, traditional, and customary rights related to forest lands must be clarified, recognized, and respected.

Indicator 6.1.a **Legal documents certifying ownership**		
Content	***Measurement unit***	***Source***
There are legal documents certifying ownership for the entire area included in the certification process	Yes /No	- property title / legal documents of ownership - management plan maps
The areas included in the certification process can be delimited on the management plan map	Yes /No	

Indicator 6.1.b **Legal documents attesting the quality of administrator for the certified area**		
Content	***Measurement unit***	***Source***
There are service/administration contracts for the entire area included in the certification process	Yes /No	service/administration contracts
Payment of fees related to forest service/administration contracts is up to date	Yes /No	
The provisions of service/administration contracts make it possible to settle legal disputes between the owner and any third party	Yes /No	

6.2	Rural development
Subcriterion	***The forest's contribution to rural development***
Description	– Forest management planning should aim to uphold the multiple functions that forests provide to society, taking into account the role of forests in rural development. In particular, it should consider creating new employment opportunities related to the social and economic functions of forests. – Supporting rural development can be achieved through the training and employment of local populations, preferably for local processing of timber and non-timber forest products, etc. – Forest management should support the long-term well-being and vitality of communities within or adjacent to forest areas.

Indicator 6.2.a **Workforce involved in forest management**		
Content	***Measurement unit***	***Source***
Number of employees at the level of the administrator of the certification areas	Number	Human Resources Office at administrator level
Share of employees residing in communities located in the certified forest area or adjacent to it	%	

Indicator 6.2.b **Workforce involved in the execution of forestry works**		
Content	***Measurement unit***	***Source***
Number of companies contracted for the execution of forestry and harvesting works in the certified area	Number	administrator/ proprietor
Estimated number of permanently employed workers involved in the execution of forestry works in the last year for the certified area	Number	

6.3	**Working conditions**
Subcriterion	***Working conditions, health and safety at work***
Description	– The organization, planning, and execution of work shall be carried out in a manner that enables the identification of risks of work accidents and health hazards to workers, so that all acceptable measures are taken to protect workers from these risks. Workers shall be informed about the risks associated with their work and the preventive measures to be taken. These provisions apply to both employees and contractors performing forestry or logging services. – Working conditions shall be safe, with norms and safety instructions provided to all individuals involved in forestry activities and operations.

Indicator 6.3.a **Working conditions**		
Content	***Measurement unit***	***Source***
There are legal forms of employment for each employee at the level of the certified area manager	Yes/No	Human Resources Office at administrator level
There is a record with the findings of inspections carried out by specialized inspectors regarding the assurance of working conditions and the implementation of required measures.	Yes/No	

Indicator 6.3.b **Occupational safety rules**		
Content	***Measurement unit***	***Source***
There is evidence of periodic occupational safety training for each employee at the level of the certified area manager	Yes/No	responsible for occupational safety at administrator level Field checks
There is a evidence of the findings of the verifications carried out by the inspectors on the field regarding the implementation of occupational safety rules	Yes/No	
Contractors of forestry and logging services working within the certified area are contractually bound to adhere to the requirements for occupational safety standards.	Yes/No	
Workers engaged in forestry activities wear protective equipment according to legal requirements.	Yes/No	

Indicator 6.3.c **Accidents at work**		
Content	***Measurement unit***	***Source***
There is a register with records of accidents at work registered at the level of the certified area manager	Yes/No	responsible for occupational safety at administrator level
Recorded work accidents are analysed in terms of severity and causes, leading to additional prevention measures.	Yes/No	

6.4	**Education and research**
Subcriterion	***Forestry education and research***
Description	– Forest managers, contractors, employees, and forest owners shall have sufficient information and be encouraged to update their knowledge through continuous training in sustainable forest management as a precondition for implementing the management and planning practices outlined in this standard. – Forest management must be based, among other things, on the results of scientific research. Forest managers must contribute to research activities and data collection necessary for sustainable forest management or support, if deemed appropriate, relevant research activities conducted by other organizations.

Indicator 6.4.a **Dissemination of forest management certification principles**		
Content	***Measurement unit***	***Source***
The forest owner knows and accepts the principles of certification	Yes/No	Minutes of working meetings
The principles of certification, criteria and indicators of the national standard were presented to the technical staff responsible for forest management	Yes/No	
The principles of certification as well as relevant criteria and indicators were presented to forest contractors	Yes/No	

Indicator 6.4.b **Continuous training**		
Content	***Measurement unit***	***Source***
Training / specialization courses or meetings attended by technical staff responsible for forest management and/ or forest owners in the last five years	Total number of courses Total number of employees	list of participants, diploma/attestations of participation, webpages etc

Indicator 6.4.c **Scientific research**		
Content	***Measurement unit***	***Source***
Students or pupils who have carried out practical activities in forests managed by the certified area manager	Number	- practice contracts
Independent research projects carried out within the radius managed by the certified area manager	Number	- collaboration protocols
Research projects carried out in partnership with the certified area manager	Number	- research contracts

6.5	**Recreational services**
Subcriterion	***Recreational services***
Description	– Public access for recreational purposes must be provided in forests appropriately, considering, however, the respect for property rights and third-party rights, the effects on forest resources and ecosystems, as well as compatibility with other forest functions. – Forest management activities must take into account all socio-economic functions, especially the recreational one, promoting the aesthetic values of the forest. This must be done in a manner that does not lead to serious negative effects on the forest and soil.

Indicator 6.5.a **Assigned recreational functions**		
Content	***Measurement unit***	***Source***
Area of forests with recreational functions assigned according to management plans (functional category 1.4.a, b, c, d, i)	Ha	forest management plans
Share of forests with recreational functions assigned according to management plans out of total certified area	%	
The length of tourist trails within the certified area.	Miles	
Number of information panels / places arranged for recreation.	Number	

Indicator 6.5.b **Unrestricted public access**		
Content	***Measurement unit***	***Source***
Share of forest areas with restricted public access out of total certified area	***%***	- forest management plans/
Share of areas where public access by motorised vehicles is restricted	***%***	forest management plans

6.6	**Cultural values**
Subcriterion	***Historical, spiritual and cultural values of forests***
Description	Areas with specific historical, cultural, or spiritual values recognized, and forest areas essential for meeting the basic needs of local communities (e.g., health and subsistence), must be protected or managed in a manner that considers the importance of the respective area.

Indicator 6.6.a **Forests with recognized historical, spiritual and cultural values**		
Content	***Measurement unit***	***Source***
The area of forests around historical/cultural monuments classified in functional category 1.4.g assigned according to the management plans	Ha	- forest management plans -identification documentation
Forest area with specific historical, cultural and spiritual values additionally identified to management plans (if applicable)	Ha	

6.7	Public relations
Subcriterion	***Public participation and information***
Description	– Forest operations must make the best use of local experiences and knowledge of forest management, such as those of local communities, landowners, NGOs, and the local population. – Forest management must involve effective communication and consultation with the local population and other stakeholders interested in sustainable forest management and must provide appropriate mechanisms for resolving complaints and disputes related to forest management between forestry workers and the local population.

Indicator 6.7.a
Public information

Content	***Measurement unit***	***Source***
A public summary of the management bases used for the certified area is available	Yes/No	- public summary displayed on the notice board and/or webpage
A public consultation of interested stakeholders regarding the impact of forest management has been organized in the past year.	Yes/No	-minutes of the meeting, attendance sheet

Indicator 6.7.b
Public participation

Content	***Measurement unit***	***Source***
There is a publicly available register of complaints at the level of the certified area manager	Yes/No	Register of complaints
There is a record of how registered complaints are dealt with	Yes/No	Settlement documents

Terms and definitions

All definitions present in PEFC-RO ST 8000:2024 apply together with the following:

Term	Definition
Functional zoning	The operation through which each management unit is assigned one or more protective functions. In relation to the optimal structures that the tree stand must achieve to fulfil the assigned protective functions, functional zoning establishes the treatment to be adopted at the exploitable age for forests for which the possibility of principal products is established.
Wood products	Principal products resulting from regeneration cuts in forests; secondary products resulting from maintenance and management cuts of tree stands; incidental products resulting from the action of biotic factors (insect attacks) and abiotic factors (windfall/ruptures) or from legally approved forest clearances; hygiene products resulting from the natural elimination process.
Stand	Homogeneous part of forest, both in terms of tree phytocoenosis and station conditions, requiring the same silvicultural operations.
Consistency	The degree of spacing between trees within the stand. Consistency is expressed by the following indices: a) density index; b) denseness index; c) crown closure index; d) canopy cover index.
Wood mass	The total number of standing and/or fallen trees, whether whole or in parts, including those in various stages of transformation and movement within the process of forest exploitation.
Forest district	The forestry unit established for the purpose of managing or providing services for the national forest fund, having the minimum area of establishment as follows: a) in the plain region - 3,000 ha forest fund; b) in the hill region - 5,000 ha forest fund; c) in the mountain region - 7,000 ha forest fund. When establishing and operating the forest district, are taken in account only the forest areas owned by the owner or the owners/ association of owners who have requested the establishment of the forest district.
Plot	The area of forest land from which selected trees are harvested through silvicultural treatments, conservation work, or the extraction of incidental, extraordinary, and hygiene products. The plot is an integral part of the logging site.
Possibility	The volume of timber to be harvested as principal products from a management unit, based on the forest management plan, during its implementation period. Annual Allowable Cut - The volume of timber that can be harvested annually as the principal product from a management unit, equal to the ratio of the allowable cut to the number of years of validity of the forest management plan.
Management unit	Generic term used for production and protection subunits, regardless of whether they are subject to the production regulation process or not.
Accidental Products I	The volume of wood derived from trees in a stand severely affected by biotic and/or abiotic factors, or from trees in a stand with an age greater than half the age of technical exploitable maturity, partially affected by biotic and/or abiotic factors. These products are assimilated with the principal products.
Accidental Products II	The volume of wood derived from trees in a stand with an age equal to or less than half the age of technical exploitable maturity, partially affected by biotic and/or abiotic factors. These products are assimilated with the secondary products.

Forestry regime	The set of technical and legal norms regarding the administration and utilization of forests and forest lands, aimed at ensuring sustainable management.
Forest(Codru) regime	Regime in which stands are usually exploited in old age and are regenerated by germination route (from seed, including plantations)
Coppice regime	Regime involves harvesting trees at young ages and regenerating them vegetatively (from shoots, root-suckers).
Functional type	All functional categories that require the same type of management.
Production facility	Basic territorial unit within which forests form an independent object of organization and control, for which a distinct forest management plan is developed.