

Sustainable Forest Management Systems Application of the Pan-European Criteria for Sustainable Forest Management



PEFC
Portuguese
Standard

PEFC Portugal

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Preamble

Forest global importance is now an indisputable fact. It is urgent to take actions that make it possible to satisfy the growing demand for forest goods and services and, at the same time, manage to counterbalance the growing demographic pressure and currently undeniable problems, such as deforestation and the reduction of natural resources, the greenhouse effect, water and soil quality lost, and desertification. Forest also have other benefits, such as job creation, landscape, leisure, tourism and other ecosystem services that are increasingly recognized and valued.

Forest management certification is an essential tool for forestry that should be considered as a relevant action measure, although being a voluntary process. Demonstrating and monitoring a forestry activity that is coherent and balanced with the economic, social and environmental needs and values, with legal requirements and a forest policy defined for the certified area, implies complying with and establishing a set of requirements and procedures integrated in a properly structured management system.

Certification is the process which validates that an organisation complies with PEFC requirements. Decisions should be impartial, independent and accountable in order to be credible. This means that both benchmarking, certification and accreditation should be completely independent in order to eliminate the risk of conflicts of interest and ensure the highest level of responsibility.

This standard is based on the pan-European criteria and its guidelines for sustainable forest management at operational-level, adopted in the process of Ministerial Conferences for the Protection of Forests in Europe, currently *Forest Europe*, and the best practices defined by existing international initiatives. The requirements for the sustainable forest management system are described, allowing the owner/manager/member to demonstrate to stakeholders that a sustainable forest management system is implemented.

This version is the result of a review and continual improvement process, as required by the certification system, considering that 5 years have passed since the last approval of the Portuguese standard for Sustainable Forest Management (2014-07-04), and considering the period of postponement applied due to the COVID pandemic. This revision incorporated not only the new requirements of the PEFC Council reference documents but also all the information gained by experience, by applying legislation and regulations and the best available knowledge. It also adapted its structure accordingly with Annex SL. The scope was extended to new services and products, such as Trees Outside Forests (TOF) and Ecosystem Services, and also includes the new sampling process in group and regional certifications.

After approval, this version cancels and replaces Standard NP 4406:2014. Its implementation will take place in accordance with the defined transition process for this purpose and reproduced in the certification cycle contained in the technical documentation issued by PEFC Portugal.

This standard was prepared by the Technical Commission for Standardization CT 145 «*Sustainable Forest Management*», whose coordination is ensured by the Sectoral Standardization Body, Institute for the Conservation of Nature and Forests (ONS/ICNF). It was developed through an open, transparent, participatory and consensus-based process by a broad group of stakeholders.

Introduction

0.1 General – Programme for the Endorsement of Forest Certification (PEFC)

PEFC was founded by small-scale forest owners as a result of an intergovernmental process (Ministerial Conference for the Protection of Forests in Europe, Montreal Initiative and ATO/ITTO Initiative) and forest management certification is PEFC's core activity. Ensuring small-scale landowners' access to forest management certification has always been PEFC's main motivation.

The PEFC Council recognizes national forest certification systems. Although these systems are developed locally, they shall be internationally recognized. Before their approval all forest certification systems are audit by an independent third party that verifies compliance with the PEFC standards and ensure consistency with international requirements.

Each standard goes through a detailed and rigorous development process and is reviewed within a maximum period of five years and if necessary revised. In the development or revision of a standard, stakeholders are invited to participate, assuring the representation of the different actors in the territory is guaranteed. It is an open, transparent and consensus-driven process in order not to be dominated by a single interest.

The PEFC label or claim on products assure that the raw material comes from forests with sustainable forest management, from Trees Outside Forests, recycled material and controlled sources.

0.2 National approach – PEFC: think global, act local – References adaptation to local conditions

Local adaptation of global references is carried out by national forest certification systems. These forest certification systems define the rules, procedures and management criteria for forest certification to be carried out at the defined application level.

PEFC assures through national systems that each country's sustainable forest management requirements are fitted to the forest ecosystems, the legal and administrative framework, the sociocultural context and other relevant factors of the country.

All stakeholders are represented in the process and participate in the definition of sustainable forest management in the context of the country and the best way to carry out its implementation. In this phase all relevant topics at the local level that were not included in the PEFC Sustainability standards are included. This is fundamental to the success of the PEFC, as it makes forest managers responsible for complying with the standards, as they participated in its development.

In many countries, forests are characterized by a significant number of small forest holdings. People who own or manage these small forest holdings have limited capabilities and resources which represent significant barriers to forest management certification. The periodicity of management activities and revenues, the low intensity, small scale and low frequency of operations, limited access to information, technical support and knowledge, individually and in groups, among other issues, limits access and participation of small forest holdings and landowners in forest management certification.

Regional and group certification is an alternative approach to individual certification.

This allows that a group of forest owners and managers to certify themselves and share the financial obligations arising from certification, as well as the common responsibility for forest management, under a single certificate. This approach aims to improve disclosure information and forest management cooperation between individual forest owners and managers.



1 Scope and realm of application

This standard specifies the requirements of a **sustainable forest management system**, which allows an **organisation** responsible for a **certified area**:

- a) define a **sustainable forest management** policy and objectives;
- b) implement, maintain and improve a **sustainable forest management** system that fulfils legal requirements, pan-European criteria for **sustainable forest management**, other stakeholder's relevant requirements applicable to the system activity with potential social, economic and environmental impact;
- c) achieve the **sustainable forest management** system planned results, improving its performance;
- d) demonstrate to third parties the **sustainable forest management** system compliance, by obtaining PEFC **sustainable forest management** accredited certification.

This standard is applicable to the **certified area** managed by an **organisation** at individual level, an owners' group or at regional level.

The management system requirements applicable to any level of certification include Sections 4 to 10 and Annex A. The applicability of Annexes B and C will depend on the scope of certification referred by them.

Annex A (normative) identifies the applicable indicators for the evaluation of the organisation's performance according to the criteria defined in Section 8.

Annex B (normative) defines the applicable and additional requirements for group management or regional management entities.

Annex C (normative) defines the applicable additional requirements to **Trees Outside Forests (TOF)**.

Annex D (informative) identifies the main sources of information, important for the elaboration and maintenance of a forest management system.

All requirements with reference to "**forest**" are also applicable to **TOF**, unless otherwise identified.

2 Normative references

The documents referenced below are, in whole or in part, indispensable for the application of this standard. For dated references, only the edition cited is applied. For undated references, the latest edition of the referenced document (including any amendments) is applied.

PEFC ST 1002:2018	<i>Group Forest Management - Requirements</i>
PEFC ST 1003:2018	<i>Sustainable Forest Management - Requirements</i>
PEFC ST 2002:2020	<i>Chain of Custody of Forest and Tree Based Products - Requirements</i>
PEFC ST 2003:2020	<i>Requirements for Certification Bodies operating Certification against the PEFC International Chain of Custody Standard</i>

3 Acronyms, terms and definitions

3.1 Terms and definitions

For the purposes of this standard, the following terms and definitions are applied.

3.1.1 corrective action

Action to eliminate the cause of a nonconformity (3.1.36) and to prevent its recurrence (According to: Annex SL)

3.1.2 production increment

The increment of wood and non-wood production per area unit observed in a given period of time.

3.1.3 participant

A *forest owner/manager* (3.1.45) covered by the *group forest management certificate* (3.1.15), or regional who has the ability to implement the requirements of the *sustainable forest management* (3.1.29) standard in a certified area (3.1.6).

NOTE: The term “ability to implement the requirements of the *sustainable forest management* standard” (3.1.29) requires the entity to have a long-term legal right, tenure right or traditional or customary tenure rights to manage the forest (3.1.27).

3.1.4 PEFC claim

Organisation (3.1.37) information on materials/products, declared in the sales and delivery documentation.

NOTE 1: The above definition applies within PEFC ST 2002:2020 Standard scope.

NOTE 2: The “100% PEFC certified” or other system-specific claim, shall be specified to demonstrate to PEFC chain-of-custody customers that products are originated from a certified area.

NOTE 3: The specific claims of the standards system recognized by PEFC, the abbreviations of such claims approved by the PEFC Council, the claim “100% PEFC certified” and their translation into languages other than English are published on the PEFC website www.pefc.org.

3.1.5 afforestation

Establishment of forest through planting or seeding (FAO 2018 – adapted translation).

3.1.6 certified area

Area within the scope of the certificate, belonging to one or more entities, continuously or not, and covered by a *sustainable forest management system* (3.1.29) certified in accordance with this standard. Includes *forest areas* (3.1.24) and *Trees Outside Forests* (3.1.8).

3.1.7 ecologically important forest areas

Forest areas:

- a) containing *threatened* (3.1.25) (including vulnerable or rare) or representative natural values (*species and habitats*); or
- b) containing significant concentrations of endemic species and habitats of threatened species, as defined in Natura 2000 lists and classification; or
- c) containing *in situ* endangered or protected genetic resources; or
- d) contributing to global, regional and national landscapes, with natural abundance and distribution of common species.

3.1.8 trees outside forests (TOF)

Trees in areas not classified as *forest* (3.1.27) or *forest area* (3.1.24)

a) *TOF* in urban area

- i) isolated trees or in linear structures (alleys, shelter curtains, riparian galleries, green corridors); or
- ii) trees in gardens, parks and other green infrastructures.

b) *TOF* in agricultural area

- i) trees in linear structures (alleys, shelter curtains, riparian galleries) < 20m wide and 25m long; or
- ii) woodlands with less than 0.5ha and tree cover higher than 5% only with tree layer; or
- iii) woodlands with less than 0.5ha and tree cover higher than 10% with tree and shrub layer; or
- iv) scatter trees (tree cover less than < 10%).

3.1.9 set-aside area

Areas dedicated to environmental, ecological, cultural and social functions, with management intensity suitable to the potential recovery goals of those functions. These areas may not be static and after recovery is completed, can be managed according to new objectives.

3.1.10 audit

Systematic, independent and documented process for obtaining audit evidences and to assess them objectively in order to determine the extent to which audit criteria are fulfilled.

NOTE 1: “Audit evidence” and “audit criteria” are defined in ISO 19011.

NOTE 2: Internal audits are made by the *organisation* (3.1.39) or on its behalf by an external entity.

NOTE 3: The absence of responsibility for the activity being audited or the absence of influences and conflicts of interest can demonstrate independence.

3.1.11 biodiversity

The variety of life forms and their related processes, including all the living organisms, their genetic differences and the communities and ecosystems where they occur.

3.1.12 forest management certification

Certification assigned to a management organisation or to a single holder/manager to whom was issued a *forest management certificate* (3.1.14).

3.1.13 group forest management certification

Certification of the *group organisation* (3.1.38) under one *group forest management certificate*.

3.1.14 forest management certificate

A document confirming that the management organisation or the single holder complies with the requirements of a *sustainable forest management* (3.1.29) standard and other applicable requirements of the forest management certification system.

3.1.15 group forest management certificate

A document confirming that the *group organisation* (3.1.38) complies with the requirements of a *sustainable forest management* (3.1.29) standard and other applicable requirements of the *forest management certification* (3.1.12) system.

3.1.16 local communities

Neighbouring or within the *certified area* (3.1.6) communities affected by management activities.

3.1.17 biodiversity conservation

Definition and implementation of physical, ecological, sociological or economic interventions with the objective of maintain or recover *biodiversity* (3.1.11) and value and use of natural resources in a sustainable way.

3.1.18 forest conversion

Land use change, by direct human action, of forest areas to other types of land use.

3.1.19 criterion

Important theme through which forest management *performance* (3.1.20) is evaluated. Criteria's role is to characterize or define the essential elements, or set of conditions or processes, through which can be assessed *sustainable forest management* (3.1.29).

3.1.20 forest management performance

Sustainable forest management measurable results related the indicators control. (Source: NP EN ISO 14001 – adapted translation).

3.1.21 genetic diversity

Genetic variation within each species, between both geographically separated populations and individuals within a given population.

3.1.22 document confirming participation in group forest management certification

A document issued to a *participant* (3.1.3) that refers to the *group forest management certificate* (3.1.15) and that confirms the *participant* (3.1.3) as being covered by the scope of the *group forest management certification* (3.1.13).

NOTE: This document may be for instance a sub-certificate or a confirmation of participation.

3.1.23 group entity

A legal entity that represents the participants, with overall responsibility for ensuring the conformity of forest management in the *certified area* (3.1.6) to the *sustainable forest management* (3.1.29) standard and other applicable requirements of the *forest management certification* (3.1.12) system. For this purpose the group entity is using a group management system.

NOTE: The structure of the group entity should follow the operations, number of participants and other basic conditions for the *group organisation* (3.1.38). It may be represented by one person.

3.1.24 forest area

Land occupied with forest (3.1.28), scrub and pasture or other spontaneous plant formations.

3.1.25 threatened species and habitats

Species and habitats whose conservation status is not favourable, so they have an uncertain probability of survival. The identification of endangered species shall consider, without being restricted, to the three IUCN

threatened categories – Critically Endangered, CR (when available data indicate that species is facing an extremely high risk of extinction in the wild); Endangered, EN (considered that a species considered to be facing a very high risk of extinction in the wild); and Vulnerable, VU (when a species considered to be facing a high risk of extinction in the wild), to the Red Book of Vertebrates of Portugal and to the Red List of Vascular Flora of Mainland Portugal. The identification of these species and habitats shall also consider the Natura 2000 information and monitoring.

3.1.26 protected species and habitats

Species and natural habitats covered by existing legal conservation instruments (Habitat Directive, Birds Directive, Bern, Bonn and CITES Conventions), whose identification should consider, among others, Natura 2000 Plan and the Report for National Implementation of the Habitat Directive.

3.1.27 forest

Land spanning more than 0.5ha, with canopy cover of more than 10% (defined as the ratio between the area of the crowns' horizontal projection and the total area of the plot), where there is the presence of forest trees that due to its characteristics or management system, it has reached, or will reach, arboreal size (higher than 5 m), regardless of the stage at the time of observation. It includes young natural stands and all plantations established with forestry objectives that have not yet reached a crown density of 10% or a tree height of 5 m. It also includes areas integrated in the forest area that are temporarily deforested as a result of human intervention or natural causes, but for which the reconstitution of forest cover is expected (egg areas recently subjected to final cutting or covered by fire). It also includes clearings and forest infrastructure. Excludes predominantly agricultural land and forest areas with urban land use.

3.1.28 degraded forest

Forest (3.1.27) whose characteristics may compromise in the long term the potential for carbon storage, wood, *biodiversity* (3.1.11) and other goods and services (definition based on FAO 2003).

3.1.29 sustainable forest management

Forests management and use in a manner and at a rate which maintains their *biodiversity* (3.1.11), productivity, regenerative capacity, vitality and their potential to perform, now and in the future, the ecological, economic and social functions relevant to local, regional and global levels, not causing damage to other ecosystems.

3.1.30 indicator

Quantitative, qualitative or descriptive measure or parameter that, when periodically controlled or measured, shows the trend of change in a *criterion* (3.1.19).

3.1.31 documented information

Information verified and maintained by an *organisation* (3.1.37) and the way it is maintained.

3.1.32 sites of cultural value

Estates constituting evidence of civilization or culture with historical, paleontological, archaeological, architectural, ethnographic, scientific, industrial or technical interest, reflecting memory values, antiquity, authenticity, originality, rarity, uniqueness or exemplary.

Examples of places of cultural value are archaeological areas and monuments, cultural landscapes, areas with historical significance or where traditional ceremonies are held, unique trees, landscapes of special beauty, etc.

3.1.33 standing and fallen dead wood

Standing and fallen dead wood (material only above ground): recent fallen or naturally fallen or already in advanced decomposition trees or trunks. They may include stumps and trees with broken trunks. They shall be bigger than 2m in length or height and have a diameter at breast height higher than 10cm.

3.1.34 continuous improvement

Forest management system process of continuous improvement, in order to achieve improvements in overall *forest management performance* (3.1.20), in accordance with the forest management unit forest policy. (Source: NP EN ISO 14001 – adapted translation).

3.1.35 monitoring

Determining the status of a system, a process or an activity.

NOTE: To determine the status there may be a need to verify, supervise or evaluate.

3.1.36 non conformity

Non-fulfilment of a specified requirement.

3.1.37 organisation

Person or group of people that has its own functions with responsibilities, authorities and relationships to achieve the objectives of forest management certification.

NOTE 1: The organisation applies for PEFC certification and is responsible for compliance with the PEFC requirements for *sustainable forest management* (3.1.37) and may be responsible for different areas.

NOTE 2: A manager or owner can also have the role of an organisation.

NOTE 3: The concept of organisation includes, although is not limited to, individual entrepreneurs, companies in any commercial form, other companies, authority, partnership, social solidarity institutions and other institutions, in part or in combination thereof, whether or not they have legal personality, whether public or private.

3.1.38 group organisation

A group of participants represented by the *group entity* (3.1.23) with the objective of implementing the *sustainable forest management* (3.1.29) standard and its certification. The term “group organisation” is equivalent to “regional organisation” if the group is defined by regional boundaries or other terms chosen by the *forest management certification* (3.1.12.) scheme and complying with the content of this definition.

3.1.39 landscape

It designates a part of the territory, as perceived by populations, whose feature results from the action and interaction of natural or human factors. (Source: Europe Landscape Convention).

3.1.40 stakeholder

A person, group, community, or an *organisation* (3.1.37) with an interest in subjects within the scope of the standard.

3.1.41 affected stakeholder

A *stakeholder* (3.1.40) who may experience a direct change in living and/or working conditions caused by the *organisation's* (3.1.37) activities as a result of the standard implementation, or who may be a user of the standard and therefore is subject to its requirements.

NOTE: Affected stakeholders include neighbouring communities, workers, etc. Being affected is not the same as having an interest in the subject of the standard (egg NGOs, scientific community, civil society).

3.1.42 forest plantation

Stand of planted trees or resulting from seeding, with the objective of wood or non-wood products, which may include one or more of the following characteristics: reduced number of species, intensive silviculture, regular spacing or even-aged stands.

3.1.43 forest owner/manager

Person, group of persons or legal entity that has legal right or mandate, or execute traditional or customary tenure rights, to manage *forest* (3.1.27) in a clearly defined *certified area* (3.1.6), and has the capacity to implement the requirements of the *sustainable forest management* (3.1.29) standard in this area.

NOTE: The owner may or may not be the forest manager.

3.1.44 biological protection

Crop enemy's population's reduction through action of natural antagonistic, autochthonous or introduced organisms, acting as parasites, parasitoids and predators [Amaro. P (2003)].

3.1.45 reforestation

Reinstalling a *forest* (3.1.27) through planting, seeding or natural regeneration (Source: FAO 2018 – adapted translation).

3.1.46 ecosystem services

Benefits derived from ecosystems that include supply of food, water, wood and fiber; services that regulate climate, floods, disease, waste and water quality; cultural services that provide recreational, aesthetic and spiritual benefits; and support services such as soil formation, photosynthesis and nutrient cycling (Millennium Ecosystem Assessment, 2005).

3.2 Acronyms

The following acronyms are apply in this standard:

MAI	Mean Annual Increment
CDB	Conventionon Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DBH	Diameter at breast height
DGT	General Directorate of the Territory
SFM	Sustainable Forest Management
ICNF	Institute for the Conservation of Nature and Forests
R&D	Research and Development
NFI	National Forest Inventory
NUTS	Nomenclature of Territorial Units for statistics
CB	Certification Body
ILO	International Labour Organisation
WHO	World Health Organisation
NGO	Non-governmental organisation

PDCA	Deming Cycle (<i>Plan-Do-Check-Act</i>)
MP/FMP	Management Plan / Forest Management Plan MPDFAF Municipal Plan for Defence of the Forest Against Fires
RFMP	Regional Forest Management Program
NAR	National Agricultural Reserve
NER	National Ecological Reserve GIS Geographic Information System
FMS	Forest Management System TOF Trees Outside Forests
UICN	International Union for Conservation of Nature

4 Context organisation

4.1 Understanding organisation and its context

The **organisation** shall determine internal and external issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its forest management system.

4.2 Understanding the needs and expectations of stakeholders

4.2.1 The organisation shall determine:

- a) the **affected stakeholders** that are relevant to the **sustainable forest management**;
- b) the relevant needs and expectations of these **stakeholders**.

4.2.2 Legal compliance requirements

4.2.2.1 The **organisation** shall identify and have access to applicable legislation within the framework of the **sustainable forest management** system and determine how these legal obligations apply to the **organisation**.

NOTE: Annex D of this standard identifies the sources of information on which the organisation can be guided.

4.2.2.2 The **organisation** shall comply with local, national and international legislation applicable to forest management, including that to forest management practices; protection of environment and nature; protected and endangered species; ownership, tenure and use rights by **local communities** or other **affected stakeholders**; labour, health and safety, anti-corruption issues and the payment of applicable legal obligations.

4.2.2.3 Measures shall be implemented to ensure **forest** protection against unauthorized and illegal activities, such as: logging, land use and other activities.

4.2.2.4 If conflicts between laws, regulations, treaties and international agreements are identified, the **organisation** shall demonstrate the application of measures to resolve them.

4.2.3 Legal and customary rights of forest areas

4.2.3.1 Forest area property rights, land tenure and legal and customary rights shall be clearly defined, documented and respected.

4.2.3.2 Forestry practices and operations shall respect human rights as defined by the Universal Declaration of Human Rights.

4.2.4 Fundamental ILO Conventions

Forestry practices and operations shall comply with fundamental ILO conventions.

4.2.5 Health, safety and working conditions

4.2.5.1 Forestry operations shall be planned, organized and performed in a manner that enables health and occupational risks' identification and assessment (work accidents and occupational diseases), as well as the application of preventive and protective measures appropriate to the work.

4.2.5.2 Workers shall be trained and informed about the risks related to their work and the applicable preventive measures. Work schedule, resting periods and other working conditions shall comply with national laws or collective bargaining agreement.

NOTE: For workers working in the **certified area**, shall be information, at least, about:

- occupational safety and health services organisation;
- professional risk assessment;
- work accident insurance;
- training and information records
- aptitude worksheets;
- safety procedures at work;
- records of forest work accidents (number and severity).

4.2.5.3 The salary of permanent and temporary forest workers, as well as the service providers and other operators working in **certified areas**, shall meet at least the minimum legal standards or, when applicable, collective bargaining agreements.

4.2.5.4 The **organisation** shall be committed to equal opportunity, non-discrimination and the absence of harassment in the workplace. Gender equality shall be promoted.

4.3 Determining the scope of the sustainable forest management system

4.3.1 The **organisation** shall determine the boundaries and applicability of the management system to establish its scope.

In determining this scope, the **organisation** shall consider:

- a) the external and internal matters referred to in Section 4.1;
- b) the requirements referred to in Section 4.2;
- c) the applicable level: individual, group, regional.

The scope should be available as **documented information** identifying woody and non-woody products.

4.3.2 The forest management shall comprise planning, implementation, **monitoring** and evaluation (cycle PDCA), and shall include an appropriate assessment of the social, environmental and economic impacts of forest management practices. This information shall form the basis for a cycle of **continuous improvement**.

4.3.3 The **organisation** shall have a long-term commitment.

4.4 Sustainable forest management system

4.4.1 The **organisation** shall establish, implement, maintain and continuously improve a **sustainable forest management** system, including the necessary processes and their interactions, in accordance with the requirements of this standard, appropriate to the applicable level: individual, group, regional.

The management system shall:

- a) meet the performance requirements of this standard to ensure that all are met in a long-term perspective
- b) be clear and auditable
- c) be suitable for agents with activities in the defined **certified area**, which have an impact on compliance with the requirements; and
- d) ensure records maintenance that provide evidence of compliance with the standard.

4.4.2 The **organisation** shall have documentation which describes the products selling process, including its control and registration. Each sale of a certified product shall be supported by an invoice or equivalent accounting document, which specifies:

- 1) buyer's identification;
- 2) supplier's identification;
- 3) products' identification according to the PEFC categories;
- 4) products' quantity (egg volume, weight);
- 5) sale's date or period;
- 6) product's origin (estate identification);
- 7) the PEFC claim recognized by the applicable certification system; and
- 8) organisation's PEFC recognized certificate code.

4.4.3 The **organisation** shall ensure that only products from the **certified area** are sold with a "100% PEFC certified" claim or with a system specific **PEFC claim**.

4.4.4 The **organisation** shall ensure that the products' origin claims of **certified area** are made only by holders of a recognized PEFC certificate

4.4.5 Only for invoicing and if the certificate holder intends to authorize the invoice to be issued in another person or entity name, this shall be documented, legally authorized and approved by the certificate holder.

5 Leadership

5.1 Leadership and commitment

Top management (or the **organisation**, if delegated) shall demonstrate leadership and commitment to the sustainable forest management system by:

- a) ensuring that the policy and **sustainable forest management** objectives establishment and their compatibility with the **organisation's** strategic orientation;
- b) ensuring **sustainable forest management** system's requirements integration in the **organisation's** business processes;
- c) ensuring the necessary resources for the **sustainable forest management** system are available;
- d) communicating the importance of effective **sustainable forest management** and its compliance with the **sustainable forest management** system requirements;
- e) ensuring that the **sustainable forest management** system achieves the intended results;
- f) guiding and support people to contribute to the effectiveness of the **sustainable forest management** system;
- g) promoting **continuous improvement**;
- h) demonstrating their leadership support other relevant management functions, applicable to the extent of their respective areas of responsibility.

5.2 Policies

5.2.1 Top management shall establish a **sustainable forest management** policy that:

- a) is suitable for the **organisation's** purpose;
- b) provide a framework for defining **sustainable forest management** objectives;
- c) includes a commitment to meet applicable requirements, and
- d) include a commitment to **sustainable forest management** system **continuous improvement**.

5.2.2 **Sustainable forest management** policy shall be:

- a) made available as **documented information**;
- b) communicated within the **organisation**; and
- c) made available as appropriate to stakeholders.

5.3 Organisational roles, responsibilities and authorities

5.3.1 Top management shall ensure that for roles that are relevant within the **organisation** responsibilities and authorities are assigned and communicated.

Top management shall assign responsibility and authority to:

- a) ensure that the **sustainable forest management** system complies with the requirements of this standard, and
- b) report to top management the **performance** of the **sustainable forest management** system..

5.3.2 **Sustainable forest management** responsibilities within the **organisation** shall be clearly defined and assigned

6 Planning

6.1 Actions to address risks and opportunities

6.1.1 When planning a **sustainable forest management** system, the **organisation** shall consider the issues referred to in 4.1, 4.2 and Section 8 and determine the risks and opportunities that shall be addressed to:

- a) provide guarantees that the **sustainable forest management** system can achieve the intended results;
- b) prevent or reduce unwanted effects;
- c) excluded areas;
- d) achieve **continuous improvement**.

6.1.2 The **organisation** shall plan:

- a) actions to address these risks and opportunities, and
- b) how to:
 - i. integrate and implement actions in the processes of the **sustainable forest management** system
 - ii. evaluate the effectiveness of these actions.

6.1.3 The **organisation** shall consider risks and opportunities concerning compliance with the requirements for **sustainable forest management**. Size and scale of the operations of the **organisation** shall be considered.

6.1.4 Inventory and mapping of forest resources, **biodiversity** and habitat (including protected or threatened and endemic species) shall be established and maintained, adequate to local and national conditions and in correspondence with the requirements described in this international benchmark standard.

6.2 Sustainable forest management goals and planning to achieve them

6.2.1 The **organisation** shall establish **sustainable forest management** objectives at relevant functions and levels.

Sustainable forest management objectives should:

- a) be consistent with the **sustainable forest management** policy;
- b) be measurable (if possible);
- c) take into account applicable requirements;
- d) be monitored;
- e) be communicated, and
- f) be updated as appropriate.

6.2.2 The **organisation** shall maintain **documented information** on **sustainable forest management** objectives

6.2.3 When planning how to achieve its **sustainable forest management** objectives, the **organisation** shall determine:

- a) what will be done;
- b) what resources will be needed;
- c) who will be responsible;
- d) when it will be completed;
- e) how the results will be evaluated.

6.3 Sustainable forest management plan

6.3.1 The sustainable forest management plan shall:

- a) elaborated and periodically updated or continually adjusted;
- b) appropriate to the size and use of the **certified area**;
- c) comply with legislation, as well as other planning instruments, in particular the planning legal regime, management and intervention programs and plans for the forestry sector;
- d) adequately cover forest resources;
- e) take into account the different uses or functions of the **certified area**;
- f) describe applicable silviculture systems;
- g) include at least a description of the current **certified area**, long-term objectives, and the average annual allowable cut, plan, including its justification;
- h) define the annual allowed use of non-woody forest products, if there is commercial use by forest management at a level that could compromise their long-term sustainability;
- i) define measures to minimize the risk of degradation and damage to forest ecosystems; and
- j) consider the results of scientific research, **monitoring** and emergency and disaster situations, with an impact on the **certified area**.

6.3.2 A summary of the management plan shall be publicly available and include at least a description of the current area under management and information on the long-term objectives, respecting the confidentiality of the information. Information on business activity and personal data, as well as other information confidential by legislation or for the protection of places of cultural value or sensitive natural resources, may be excluded.

7 Support

7.1 Resources

The **organisation** shall determine and provide the resources needed for the establishment, implementation, maintenance and **continual improvement** of the **sustainable forest management** system, which include human, technological, financial resources, infrastructure and knowledge.

7.2 Competence

Forest managers/owners, contractors, employees and participants shall be provided with sufficient information and kept up-to-date through continuous training regarding sustainable forest management, as a

precondition for all management planning and practices described in this standard.

7.3 Awareness

Persons working under the **organisation's** control shall be aware of:

- a) **sustainable forest management** policy;
- b) its contribution to the effectiveness of the **sustainable forest management** system, including the benefits of **performance** improvement; and
- c) the implications of **non-compliances** with the requirements of the **sustainable forest management** system

7.4 Communication

7.4.1 An effective communication and consultation with **local communities** and other stakeholders regarding sustainable forest management shall be provided.

7.4.2 The **organisation** internal and external communication needs relevant to the **sustainable forest management** system shall be determined, including:

- a) what to communicate;
- b) when to communicate;
- c) to whom to communicate;
- d) how to communicate.

7.4.3 The **organisation** shall provide to the CB and PEFC updated information on the certified area per year. This information should describe the nature of the certified heritage, including at least:

- a) total area and **High Ecological Value** forest areas;
- b) stands distribution by species; and
- c) exploited woody and non-woody forest products.

7.4.4 The **organisation** shall provide a public summary of the forest management plan as defined in 6.3.1.

Information on the **performance** of the **sustainable forest management** system regarding the indicators, and their evolution over time, when available, shall be publicly available, as indicated in Table 1 of Annex A.

7.4.5 Appropriate mechanisms are in place for resolving complaints and disputes relating to forest management operations, land use rights and work conditions.

7.5 Documented Information

7.5.1 General

The organisation's management system shall include **documented information** required by this standard and determined by the **organisation** as being necessary for the effectiveness of the **sustainable forest management** system.

NOTE: The **documented information** extent for a **sustainable forest management** system may differ from one organisation to another due to:

- a) the size of the **organisation** and the type of activities, processes, products and services;
- b) the complexity of the processes and their interactions;
- c) the competence of the people.

7.5.2 Designing and update

7.5.2.1 Whenever designing and updating **documented information**, the **organisation** shall ensure adequate:

- a) identification and description (a title, date, author, or reference number);
- b) format (language, software version, graphic appearance) and support (paper, electronic);
- c) review and approval in terms of relevance and adequacy.

7.5.2.2 **Documented information** shall be relevant, that is, up-to-date and appropriate to the organisation's activities.

7.5.3 Documented information control

7.5.3.1 The **documented information** required by the **sustainable forest management** system and by this standard shall be controlled in order to ensure

- a) its availability and relevance for use wherever and whenever it is necessary;
- b) their adequate protection (loss of confidentiality or integrity, misuse).

7.5.3.2 For **documented information** control, the **organisation** shall handle the following activities, as applicable:

- a) distribution, access, recovery and use;
- b) storage and conservation, including preservation of legibility;
- c) change control (version control);
- d) retention and elimination.

7.5.3.3 **Documented information** of external origin determined necessary by the **organisation** for the planning and operation of the **sustainable forest management** system shall be identified, as appropriate, and controlled.

7.5.3.4 There shall be a **documented information** control, ensuring that outdated documents are removed and archived

8 Operation

The **organisation** shall plan, implement and control the processes necessary to satisfy the requirements and to implement the actions determined in 6.1 and 6.2, while:

- a) establish criteria for the processes;
- b) implement process's control in accordance with the criteria;

- c) keep **documented information** to the necessary extent, to have confidence that the processes were carried out as planned;
- d) control planned changes and review the consequences of undesired changes, taking whenever necessary actions to mitigate any adverse effects;
- e) guarantee the control of subcontracted processes.

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

8.1.1 Management shall aim to maintain or increase forests and their **ecosystem services** and maintain or enhance the economic, ecological, cultural and social values of forest resources.

Plantations Guidelines:

Where it is not possible to verify this requirement at the individual stand level, it should be considered on a larger scale within the **certified area**, where stands are complemented with buffer zones and **set-aside areas** with environmental, ecological, cultural and social functions.

With the aim of improving **landscape** and **biodiversity** values, water and soil protection, the size and distribution of buffer zones and **set-aside areas** intended for conservation should be identified at the **forest plantation** planning stage, based on social, environmental and ecological assessments, as well as reassessed in the **(re)afforestation** stages.

8.1.2 The quantity and quality of the forest resources and the capacity of the **forest** to store and sequester carbon shall be safeguarded in the medium and long term by balancing harvesting and growth rates, using appropriate silviculture measures and preferring techniques that minimise adverse impacts on forest resources.

8.1.3 Climate positive practices in management operations, such as greenhouse gas emission reductions and efficient use of resources shall be encouraged.

8.1.4 Forest conversion shall not occur unless in justified circumstances where the conversion, simultaneously:

- a) is in compliance with national and regional policy and legislation applicable for land use and forest management;
- b) entails a small proportion no greater than 5 % of forest type within the **certified area**;
- c) does not have negative impacts on **ecologically important forest areas**, culturally and socially significant areas, or other protected areas;
- d) does not destroy areas of significantly high carbon stock;
- e) makes a contribution to long-term conservation, economic, and social benefits.

Plantations Guidelines:

The “no **forest conversion** shall take place” requirement means that forest plantations resulting from a conversion after December 31, 2010 without “justified circumstances” do not meet the requirement and are not eligible for certification.

8.1.5 Afforestation of ecologically important **non-forest ecosystems** can only occur if, simultaneously:

- a) is in compliance with national and regional policy and legislation applicable for land use and forest management;
- b) is established based on a decision-making basis where **affected stakeholders** have opportunities to contribute to the decision-making on conversion through transparent and participatory consultation processes;
- c) does not have negative impacts on threatened natural values (including vulnerable, rare or endangered species and habitats), culturally and socially significant areas;
- d) entails a small proportion of the ecologically important **non-forest ecosystem** managed by an **organisation**;
- e) does not destroy areas of significantly high carbon stock;
- f) makes a contribution to long-term conservation, economic, and social benefits.

8.1.6 If conversion of severely **degraded forests** to **forest plantations** is being considered, it must add economic, ecological, social and/or cultural value. Precondition of adding such value are circumstances where the conversion:

- a) is in compliance with national and regional policy and legislation applicable for land use and forest management;
- b) is established based on a decision-making basis where **affected stakeholders** have opportunities to contribute to the decision-making on conversion through transparent and participatory consultation processes;
- c) has a positive impact on long-term **forest** carbon sequestration capacity;
- d) does not have negative impacts on **ecologically important forest areas**, culturally and socially significant areas, or other protected areas;
- e) safeguard the **forests** protecting functions and other **ecosystem services**;
- f) safeguard the **forests** socio-economic function;
- g) has a land history providing evidence that the degradation is not the consequence of deliberate poor forest management practices; and
- h) demonstrates that the area is neither recovered nor in the process of recovery.

8.2 Criterion 2: Maintenance of forest ecosystem health and vitality

8.2.1 Health and vitality of forest ecosystems shall be maintained or enhanced. Degraded forest ecosystems shall be rehabilitated wherever and as far as economically feasible, by making best use of natural structures and processes and using preventive biological measures.

Plantations Guidelines:

Where it is not possible to verify this requirement at the individual stand level, it should be considered on a larger scale within the **certified area**, where stands are complemented with buffer zones and **set-aside areas** with environmental, ecological, cultural and social functions.

With the aim of improving **landscape** and **biodiversity** values, water and soil protection, the size and distribution of buffer zones and **set-aside areas** intended for conservation should be identified at the **forest plantation** planning stage, based on social, environmental and ecological assessments, as well as reassessed in the **(re)afforestation** stages.

8.2.2 Species and structural **genetic diversity** shall be encouraged or maintained to enhance the stability, vitality and resilience of the **forests** to adverse environmental factors and strengthen natural regulation mechanisms.

Plantations Guidelines:

Where it is not possible to verify this requirement at the individual stand level, it should be considered on a larger scale within the **certified area**, where stands are complemented with buffer zones and **set-aside areas** with environmental, ecological, cultural and social functions.

With the aim of improving **landscape** and **biodiversity** values, water and soil protection, the size and distribution of buffer zones and **set-aside areas** intended for conservation should be identified at the **forest plantation** planning stage, based on social, environmental and ecological assessments, as well as reassessed in the **(re)afforestation** stages.

8.2.3 The use of fire shall be limited to regions where fire is an essential tool in forest management for regeneration, wildfire protection and habitat management. In these cases adequate management and control measures shall be taken.

8.2.4 In **(re)afforestation** forest management best practices shall be used through the use of species and provenances suited to local conditions, and shall be adopted management, harvesting and transport methods that minimize damage to trees or soil.

8.2.5 Waste disposal on forest land shall be strictly avoided. Non-organic waste and litter shall be collected, stored in designated areas and removed in an environmentally-responsible manner.

8.2.6 The spillage of oil or fuel during forest management operations shall be prevented. Emergency procedures for the minimisation of risk of environmental harm arising from the accidental spillage shall be in place.

8.2.7 Pest management shall be done using **integrated pest management** in order to minimise the use of pesticides.

8.2.8 The use of pesticides is documented.

8.2.9 The use of WHO Class 1A and 1B pesticides is prohibited. Other highly toxic pesticides shall be prohibited, except where no other viable alternative is available.

8.2.10 Pesticides, such as chlorinated hydrocarbons whose derivatives remain biologically active and accumulate in the food chain beyond their intended use, and any pesticides banned by international agreement, shall be prohibited.

NOTE: "Pesticides banned by international agreements" are defined in the Stockholm Convention on Persistent Organic Pollutants.

8.2.11 The use of pesticides shall follow the instructions given by the pesticide producer and be implemented with proper equipment by trained personnel.

8.2.12 If fertilisers are used, they shall be applied in a controlled manner and with due consideration for the environment. Fertilizer use shall not be an alternative to appropriate soil nutrient management.

8.3 Criterion 3: Maintenance and encouragement of productive functions of forests (wood and non-wood)

8.3.1 The capability of **forests** to produce a range of wood and non-wood forest products and services on a sustainable basis shall be maintained.

8.3.2 Sound economic performance shall be pursued, taking into account possibilities for new markets and economic activities in connection with all relevant goods and services of **forests**.

8.3.3 Management, harvesting and regeneration operations shall be carried out at a time, and in a way, that does not reduce the productive capacity of the site, for example by avoiding damage to soil and retained stands and trees.

8.3.4 Harvesting levels of both wood and non-wood forest products shall not exceed a rate that can be sustained in the long term, and optimum use shall be made of the harvested products.

8.3.5 Adequate infrastructure such as roads, skid tracks or bridges shall be planned, established and maintained to ensure efficient delivery of goods and services while minimising negative impacts on the environment.

8.4 Criterion 4: Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems

8.4.1 Management planning shall aim to maintain, conserve or enhance **biodiversity** on **landscape**, ecosystem, species and genetic levels.

Plantations Guidelines:

Where it is not possible to verify this requirement at the individual stand level, it should be considered on a larger scale within the **certified area**, where stands are complemented with buffer zones and **set-aside areas** with environmental, ecological, cultural and social functions.

With the aim of improving **landscape** and **biodiversity** values, water and soil protection, the size and distribution of buffer zones and **set-aside areas** intended for conservation should be identified at the **forest plantation** planning stage, based on social, environmental and ecological assessments, as well as reassessed in the **(re)afforestation** stages.

8.4.2 Inventory, mapping and planning of forest resources shall identify, protect, conserve or **set aside ecologically important forest areas**.

NOTE: Forest management activities that do not damage the important ecological values of these biotopes are allowed.

Plantations Guidelines:

This requirement should be addressed primarily in the implementation phase and be applied in buffer zones and **set-aside areas** dedicated to environmental, ecological, cultural and social functions.

8.4.3 Protected, threatened and endangered plant and animal species shall not be exploited for commercial purposes. Where necessary, measures shall be taken for their protection and, where relevant, to increase their population.

NOTE: This requirement do not prevent trade in species complying with CITES requirements.

8.4.4 Successful regeneration shall be ensured through natural regeneration or planting that is adequate to ensure the quantity and quality of the forest resources.

8.4.5 For reforestation and afforestation origins of native species that are well-adapted to site conditions shall be preferred. Other species, provenances or varieties should only be introduced if:

- the impacts on the ecosystem and on the genetic integrity of native species and local provenances have been scientifically evaluated, and
- the negative impacts can be avoided or minimised.

NOTE: CBD Guiding Principles are recognised as guidance for avoidance of invasive species.

Plantations Guidelines:

The “introduction of species, provenances or varieties” impact assessment shall be understood as plantations’ important additions and shall be an important part of the planning and management phases of the production cycle.

8.4.6 Afforestation, reforestation and other tree planting activities that contribute to the improvement and restoration of ecological connectivity shall be promoted.

8.4.7 Genetically-modified trees shall not be used.

NOTE: The restriction on the usage of genetically-modified trees has been adopted by the PEFC General Assembly based on the Precautionary Principle.

8.4.8 Diversity of both horizontal and vertical structures and the diversity of species such as mixed stands shall be promoted, where appropriate. The practices shall also aim to maintain or restore landscape diversity.

Plantations Guidelines:

This requirement may not normally be applied to forest plantations but in buffer and set-aside zones that complement forest plantations.

8.4.9 Traditional management practices that create valuable ecosystems on appropriate sites shall be supported, where appropriate.

Plantations Guidelines:

This requirement may not normally be applied to forest plantations but in buffer and set-aside zones that complement forest plantations.

8.4.10 Managing and harvesting operations shall be conducted in a way that does not cause lasting damage to ecosystems. Wherever possible, practical measures shall be taken to maintain or improve **biodiversity**.

8.4.11 Infrastructure shall be planned and constructed in a way that:

- minimises damage to ecosystems, especially to rare, sensitive or representative ecosystems and genetic reserves; and
- takes threatened or other key species into consideration, in particular their migration patterns (if applicable).

8.4.12 With due regard to management objectives, measures shall be taken to control the pressure of animal populations on **forest** regeneration and growth as well as on **biodiversity**.

8.4.13 Standing and fallen dead wood, hollow trees, old groves and rare tree species shall be left in quantities and distribution necessary to safeguard **biodiversity**, taking into account the potential effect on the health and stability of forests and on surrounding ecosystems. Fire risk and people and property safety shall also be taken into account.

Plantations Guidelines:

This requirement may not normally be applied to forest plantations but in buffer and set-aside zones that complement forest plantations.

8.5 Criterion 5: Maintenance or appropriate enhancement of protective functions in forest management (notably soil and water)

8.5.1 Protective functions of forests for society, such as their potential role in erosion control, flood prevention, water purification, climate regulation, carbon sequestration and other regulating or supporting **ecosystem services** shall be maintained or enhanced.

8.5.2 Areas that fulfil specific and recognised protective functions for society shall be mapped. Forest management plans and operations shall ensure the maintenance or enhancement of these functions.

8.5.3 Special care shall be given to forestry operations on sensitive soils and erosion-prone areas as well as in areas where operations might lead to excessive erosion of soil into watercourses. Techniques applied and the machinery used shall be suitable for such areas. Special measures shall be taken to minimise the pressure of animal populations on these areas.

8.5.4 Special care shall be given to forestry operations in forest areas with water protection functions to avoid adverse effects on the quality and quantity of water resources. Inappropriate use of chemicals or other harmful substances or inappropriate silviculture practices influencing water quality in a harmful way shall be avoided. Downstream water balance and water quality shall not be significantly affected by the operations.

8.5.5 Construction of roads, bridges and other infrastructure shall be carried out in a manner that minimises bare soil exposure, avoids the introduction of soil into watercourses and preserves the natural level and function of water courses and river beds. Proper road drainage facilities shall be installed and maintained.

8.6 Criterion 6: Maintenance or appropriate enhancement of socio-economic functions and conditions

8.6.1 Forest management planning shall aim to respect all socio-economic functions of forests.

Plantations Guidelines:

Where it is not possible to verify this requirement at the individual stand level, it should be considered on a larger scale within the **certified area**, where stands are complemented with buffer zones and **set-aside areas** with environmental, ecological, cultural and social functions.

With the aim of improving **landscape** and **biodiversity** values, water and soil protection, the size and distribution of buffer zones and **set-aside areas** intended for conservation should be identified at the **forest plantation** planning stage, based on social, environmental and ecological assessments, as well as reassessed in the **(re)afforestation** stages.

8.6.2 Adequate public access to forests for the purpose of recreation shall be provided, taking into account respect for ownership rights, safety and the rights of others, the effects on forest resources and ecosystems, as well as compatibility with other functions of the **forest**.

8.6.3 Sites with recognised specific historical, cultural or spiritual significance and areas fundamental to the needs of **local communities** (eg. health, subsistence) shall be protected or managed in a way that takes due regard of the significance of the site.

8.6.4 Forest management shall promote the long-term health and well-being of communities within or adjacent to the forest management area, supported by engagement with **local communities**.

8.6.5 Forest management shall make the best use of forest-related experience and traditional knowledge, innovations and practices such as those of forest owners, NGOs, **local communities**. Equitable sharing of the benefits arising from the utilization of such knowledge shall be encouraged.

8.6.6 Forest management shall give due regard to the role of forestry in local economies. Special consideration shall be given to new opportunities for training and employment of local people.

8.6.7 Forest management shall contribute to research activities and data collection needed for **sustainable forest management** or support relevant research activities carried out by other organisations, as appropriate.

9 Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation

9.1.1 The organisation shall determine:

- a) what needs to be monitored and measured;
- b) the **monitoring**, measurement, analysis and evaluation methods to ensure valid results;
- c) when **monitoring** and measurement should be carried out;
- d) when the analysis and evaluation of **monitoring** and measurement results should be carried out. Annex

A Table 1 lists the performance indicators associated with **sustainable forest management** criteria (Section 8) which shall be monitored by the **organisation**, as they are applicable to it. The **organisation** shall determine how and the frequency for obtaining information on its evolution. Criteria that are not supported by indicators in Table 1 shall be monitored by other means of verification (see Table 2, Annex D). The **organisation** shall determine for each **indicator** the appropriate measurement scale that ensure the achievement of the intended requirement's fulfilment. For example: plant health is an example of an **indicator** that can be measured at a regional level but the information can be used at the stand level, while stand volume needs to be measured at stand level.

If an **indicator** is not applicable, this shall be justified by the **organisation**. The **organisation** may propose an alternative **indicator**, as long as it justifies that the intended results will be achieved.

9.1.2 The **organisation** shall hold as evidence of the results the adequate **documented information**. The **organisation** shall assess the **performance** and effectiveness of the **sustainable forest management** system.

9.1.3 Forest resources **monitoring** and their management assessment should be done periodically. These results shall be fed back into the planning process, including environmental, social and economic impacts.

9.1.4 Health and vitality of forests shall be periodically monitored, especially key biotic and abiotic factors that potentially affect forest ecosystems' health and vitality, such as pests, diseases, overgrazing and overstocking, fire and damage caused by climatic factors, air pollutants or by forest management operations.

9.1.5 Where it is the responsibility of the **forest owner/manager** and included in **forest management certificate**, the economic activities' regarding non-wood forest products, including hunting and fishing, shall be monitored and controlled.

9.1.6 Working conditions shall be regularly monitored and adapted as necessary.

9.2 Internal audit

9.2.1 Objectives

The **organisation** shall perform internal audits at planned intervals to provide information on whether the FMS:

- a) complies with:
 - i. the organisation's own requirements for its forest management system;
 - ii. this standard's requirements;
- b) is effectively implemented and maintained.

9.2.2 Organisation

The organisation shall:

- a) plan, establish, implement and maintain an audit programme(s) including the frequency, methods, responsibilities, planning requirements and reporting, which shall take into consideration the importance of the processes concerned and the results of previous audits;
- b) define the audit **criteria** and scope for each **audit**;
- c) select the auditors and perform audits to ensure objectivity and the impartiality of the **audit** process. Whoever performs the internal **audit** shall not evaluate their own work and shall have forestry and standard competences;
- d) ensure that the audits results are reported to the relevant management responsible according to the functions/units audited and to any other appropriate individuals; and
- e) retain **documented information** as evidence of the implementation of the **audit** programme and the audit results.

9.3 Management review

9.3.1 Top management shall carry out an annual review of the organisation's **sustainable forest management** system, to ensure its continued relevance, adequacy and effectiveness. The top management review should take into account:

- a) the status of actions from previous management reviews;
- b) changes in external and internal issues that are relevant to the **management system**;
- c) information on the **organisation's** performance, including trends in:
 - i. **nonconformities** and corrective actions;

- ii. **monitoring** and measurement results; and
 - iii. audit results;
- d) opportunities for continual improvement.

9.3.2 Outputs of the management review shall include decisions related to **continual improvement** opportunities and any changes needed to the **forest management system**.

9.3.3 **Documented information** shall be retained by the **organisation** as evidence of the results of management reviews.

10 Improvement

10.1 Nonconformity and corrective action

10.1.1 When a nonconformity occurs, the **organisation** shall:

- a) react to the nonconformity and, as applicable:
 - i. take action to control and correct it; and
 - ii. deal with the consequences;
- b) evaluate the need for action to eliminate the causes of the **nonconformity**, in order that it does not recur or occur elsewhere, by:
 - i. reviewing the **nonconformity**;
 - ii. determining the causes of the **nonconformity**;
 - iii. determining if similar nonconformities exist, or could potentially occur;
- c) implement any action needed;
- d) review the effectiveness of any corrective action taken; and
- e) if necessary make changes to the **forest management system**.

10.1.2 Corrective actions shall be appropriate to the effects of the nonconformities encountered.

10.1.3 The **organisation** shall retain **documented information** as evidence of:

- a) the nature of the nonconformities and any subsequent actions taken;
- b) the results of any corrective action.

10.2 Continual improvement

The **organisation** shall continually improve the suitability, adequacy and effectiveness of the **sustainable forest management system**.

Annex A

(normative)

Assessment indicators for organisation's performance

Table 1 – Assessment indicators for organisation's performance

NOTE: Area indicators are in ha.

Requirements	Indicators	Public availability
8.1.1	<ul style="list-style-type: none"> – Land use type distribution area; – Functions distribution area (production, protection and conservation); – Forest area by main species; – High Ecological Value forest areas; – Afforestation, maintenance, harvesting and regeneration areas. 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓
8.1.2	<ul style="list-style-type: none"> – Main forest species stand volume; – Stand volume for harvesting; – Harvested volume. 	<ul style="list-style-type: none"> – – –
8.1.3	<ul style="list-style-type: none"> – Management practices that minimize the effects on climate. 	<ul style="list-style-type: none"> –
8.1.4	<ul style="list-style-type: none"> – Forest areas subject to conversion. 	<ul style="list-style-type: none"> ✓
8.1.5	<ul style="list-style-type: none"> – Non-forest areas subject to conversion. 	<ul style="list-style-type: none"> ✓
8.1.6	<ul style="list-style-type: none"> – Degraded forests areas subject to conversion to plantations. 	<ul style="list-style-type: none"> ✓
8.2.1	<ul style="list-style-type: none"> – Forest area damage by biotic and abiotic agents and their management recommendations; – Degraded forest ecosystems areas and areas subject to restoration; – Use of natural-based solutions, namely biological protection measures. 	<ul style="list-style-type: none"> ✓ – –
8.2.2	<ul style="list-style-type: none"> – Pure and mixed, regular and irregular stands' proportion; – Stands' distribution by species and by diameter or age class; – Natural regeneration, plantation or seeding areas proportion. 	<ul style="list-style-type: none"> – – –

(continue)

Table 1 – Assessment indicators for organisation's performance (continuation)

NOTE: Area indicators are in ha.

Requirements	Indicators	Public availability
8.2.3	– Prescribed burning areas.	✓
8.2.7	– Forest area damage by biotic and abiotic agents and their management recommendations; – Health monitoring results summary of the identified areas; – Amount of pesticides used.	✓ ✓ –
8.2.8 a 8.2.10	– Amount of pesticides used.	–
8.2.12	– Areas fertilized, dosages, composition and time of year.	–
8.3.1 e 8.3.4	– Outputs control and registration of woody and non-woody productions marketed by type of woody and non-woody production (expressed in physical market units: m ³ /ha, ton/ha, arroba/ha, number of heads/ha, among others) in the certified area; – Evolution of production increment vs harvested quantity; – Harvesting rate; – Periodic variation of products per physical unit.	– – – –
8.3.2	– Scope's products and services economic results (expenses and income); – Market identification.	– –
8.4.1 e 8.4.2	– Species and habitats list including protected or threatened and endemic species; – Measures to maintain, conserve or enhance biodiversity at the landscape , ecosystem, species and genetic levels.	✓ ✓
8.4.3	– Exploitation and commercialization prevention measures; – Protection measures and population increase if relevant.	–
8.4.4	– Natural regeneration, plantation or seeding areas proportion; – Measures to ensure recovery of vegetation cover (quantity and quality).	✓

(continue)

Table 1 – Assessment indicators for organisation's performance (conclusion)**NOTE:** Area indicators are in ha.

Requirements	Indicators	Public availability
8.4.5	– Other species identification, provenances or introduced varieties.	–
8.4.6	– Ecological connectivity state assessment; – Ecological connectivity's conservation/restoration measures.	✓ ✓
8.5.2 e 8.5.4	– Functions distribution area (production, protection and conservation).	✓
8.6.3	– Identification of sites with recognized historical, archaeological, cultural, spiritual value.	✓

Annex B

(normative)

Group or regional management organisations' requirements

This annex defines the additional applicable requirements of group management organisations or regional management organisation, as indicated in Section 1 – Scope and realm of application. So the sections of this annex complement the requirements of sections 4 to 10.

Section 2 - Normative references and Section 3 - Acronyms, terms and definitions are full applied.

B.1 Scope and realm of application

Apply Section 1 of this standard.

B.2 Normative references

Apply Section 2 of this standard.

B.3 Acronyms, terms and definitions

Apply Section 3 of this standard.

B.4 Context of the group organisation

B.4.1 Understanding the group organisation and its context

Group organisation's external and internal relevant issues shall be determined. A general framework for the **group organisation** shall be determined:

a) regional groups: group of **forest owners/managers** defined by regional borders

Sustainable forest management regional units' boundaries correspond to the NUTS administrative division. These initiatives shall at least correspond to NUTS III, and may be aggregated into larger-scale territorial units.

The aggregation should take into account the specificities that influence the management system (egg soil and climate conditions, forest composition, PROF, etc.).

b) other groups or;

The limit of the group certified area is set by the declared group members' forest areas.

c) at national level there are no other circumstances than those contemplated in a) and b).

B.4.2 Understanding the needs and expectations of affected stakeholders

B.4.2.1 The **group organisation** shall identify:

a) the affected stakeholders that are relevant for the group management system and

b) the relevant expectations of these affected stakeholders

B.4.2.2

Apply Subsection 4.2.2 of this standard.

B.4.2.3

Apply Subsection 4.2.3 of this standard.

B.4.2.4

Apply Subsection 4.2.4 of this standard

B.4.2.5

Apply Subsection 4.2.5 of this standard

B.4.3 Determining the scope of the group management system

B.4.3.1 Based on the definitions in Section 3, the **group organisation** should consider for its system' scope:

- a) the **group organisation** and it's elements (**group entity** and **participant(s)**);
- b) the **certified area**;
- c) the **group forest management certificate**; and
- d) the document confirming participation in group certification.

B.4.3.1.1 For the establishment of the group management system scope the boundaries and applicability of the group management system shall be identified (products, species, inclusions and requirements exclusions).

B.4.3.1.2 The scope shall be made available as **documented information**.

B.4.3.1.3 Shall be defined which requirements of this standard may be fulfilled on group level.

B.4.3.2

Apply Subsection 4.3.2 of this standard.

B.4.3.3

Apply Subsection 4.3.3 of this standard.

B.4.4 Group management system**B.4.4.1**

Apply Subsection 4.4.1 of this standard.

B.4.4.2

Apply Subsection 4.4.2 of this standard.

B.4.4.3

Apply Subsection 4.4.3 of this standard.

B.4.4.4

Apply Subsection 4.4.4 of this standard.

B.4.4.5

Apply Subsection 4.4.5 of this standard.

B.4.4.6 If the **group entity** acts as a trader of forest based material not covered by group forest management certificate the **group entity** shall put in place a certified PEFC chain of custody system.

B.5 Leadership

B.5.1 Leadership and commitment

Top management (or the **group entity**, if delegated) shall commit to:

- a) apply Subsection 5.1 of this standard;
- b) include the group certification requirements in the group management system;
- c) improve the group's management system on an ongoing basis;
- d) continuously support the improvement of the sustainable management of the member's forests.

B.5.1.1 Top management's commitment (or the **group entity**, if delegated) may be part of the group's management policy, and upon request shall be publicly available as **documented information**.

B.5.1.2 Participants shall commit to:

- a) comply with the management system rules;
- b) implement this standard's requirements in the operations that take place in its area.

B.5.2 Policy

Apply Subsection 5.2 of this standard.

B.5.3 Organisational roles, responsibilities and authorities

B.5.3.1

Apply Subsection 5.3.1 of this standard.

B.5.3.2

Apply Subsection 5.3.2 of this standard.

B.5.3.2.1 Functions and responsibilities of the group entity

The following functions and responsibilities of the group entity shall be specified:

- a) to implement and maintain an effective management system covering all group participants;

-
- b) to represent the group organisation in the certification process, including in communications and relationships with the certification body, submission of an application for certification, and contractual relationship with the certification body;
 - c) to establish written procedures for the group organisation management;
 - d) to establish written procedures for the acceptance of new group organisation participants. These acceptance procedures shall cover at least the verification of the applicant's information about contact details, clear identification of their forest property (or other type of properties where are **TOF**) and its/their size(s);
 - e) to establish written procedures for the suspension and exclusion of participants who neither correct nor close nonconformities. Group participants excluded from any certification group based on nonconformities cannot be accepted within 12 months after exclusion;
 - f) to keep documented information of:
 - i. the **group entity** and participants' conformity with the requirements of this standard, and other **forest management certification** system applicable requirements,
 - ii. all participants, including their contact details, identification of their forest property and its/ their size(s)
 - iii. the **certified area**;
 - iv. the implementation of an internal **monitoring** programme, its review and any preventive and/or corrective actions taken;
 - g) to connect with all participants based on a binding written agreement which shall include the **participants'** commitment to comply with this standard. The **group entity** shall have a written contract or other written agreement with all participants covering the right of the group entity to implement and enforce any corrective or preventive measures, and to initiate the exclusion of any **participant** in the event of nonconformity with this standard;
- NOTE:** The requirements for "**participant'** commitment" and "written contract or other written agreement with all participants" may also be satisfied by the commitment of and written agreement of an organisation or pre-existing group which can demonstrate the legal mandate to represent the participants and where its commitment and the terms and conditions of the contract are enforceable.
- h) to provide all participants a document confirming participation in the group **forest management certification**;
 - i) to provide all participants information and guidance required for the effective implementation and maintenance of the **sustainable forest management** standard and other applicable requirements of the **forest management certification** system;
 - j) to address group members nonconformities reported which were identified under other PEFC certifications than the particular group certification and to ensure implementation with all group members;
 - k) to operate an internal **monitoring** programme that provides the evaluation of the participants' conformity with the certification requirements;
 - l) to operate an annual internal **audit** programme covering both group members and **group entity**;
 - m) to operate a group **forest management certification** management review and acting on the results of the review;
 - n) whether in connection with formal audits or reviews or otherwise related or with implications for the **management system** in responding effectively to all requests from the certification body, accreditation body, PEFC, the **management system** shall;

- i. provide full co-operation and assistance;
- ii. respond effectively to all requests for relevant data, documentation or other information; and
- iii. allow access to the group organisation forest area and other facilities.

B.5.3.2.2 Function and responsibilities of participants

The following functions and responsibilities of the participants shall be specified:

- a) to provide the **group entity** with a binding written agreement, including a commitment on conformity with this standard and other applicable requirements of the **forest management certification** system; group participants excluded from any certification group cannot apply for group membership within 12 months after exclusion;

NOTE: The requirements for “**participant**’ commitment” and “written contract or other written agreement with all participants” may also be satisfied by the commitment of and written agreement of an organisation or pre-existing group which can demonstrate the legal mandate to represent the participants and where its commitment and the terms and conditions of the contract are enforceable.

- b) to provide the **group entity** information about previous group participation;
- c) to comply with this standard and other applicable requirements of the certification system as well as with the requirements of the management system;
- d) to provide full co-operation and assistance in responding effectively to all requests from the group entity, or certification body for relevant data, documentation or other information; allowing access to the forest and other facilities, whether in connection with formal audits or reviews or otherwise related or with implications for the management system;
- e) whether in connection with formal audits or reviews or otherwise related or with implications for the **management system** in responding effectively to all requests from the certification body, accreditation body, PEFC, the **participant** shall;
 - i. provide full co-operation and assistance;
 - ii. respond effectively to all requests for relevant data, documentation or other information; and
 - iii. allow access to the group organisation forest area and other facilities.
- f) to inform the **group entity** about nonconformities identified under other PEFC certifications than the particular group certification
- g) to implement relevant corrective and preventive actions established by the **group entity**.

B.6 Planning

B.6.1 Actions to address risks and opportunities

Apply Subsection 6.1 of this standard.

B.6.2 Sustainable forest management goals and planning to achieve them

B.6.2.1

Apply Subsection 6.2.1 of this standard.

B.6.2.2

Apply Subsection 6.2.2 of this standard.

B.6.2.3

Apply Subsection 6.2.3 of this standard.

B.6.2.4 If a **group organisation** plans any changes in the group management system, these changes shall be included in a group management plan.

B.6.3 Sustainable forest management plan

Apply Subsection 6.3 of this standard.

B.6.3.1

Apply Subsection 6.3.1 of this standard.

B.6.3.2 If a **group organisation** decides to fulfil this standard requirements at group level, these requirements shall be considered in a group management plan.

B.7 Support

B.7.1 Resources

Apply Subsection 7.1 of this standard.

B.7.2 Competence

Apply Subsection 7.2 of this standard.

B.7.2.1 The necessary competence of people working in the group management system shall define.

B.7.3 Awareness

The communication processes shall be in place to raise the participant's awareness concerning:

- a) the group management policy;
- b) the requirements of this standard;
- c) their contribution to the group management system effectiveness and the **sustainable forest management**, including the benefits of improved group **performance**;
- d) the implications of **nonconformities** with the group management system requirements.

B.7.4 Communication

B.7.4.1

Apply Subsection 7.4.1 of this standard.

B.7.4.2 The internal and external communications relevant to the group management system shall be determined. It includes:

- a) on what to communicate;
- b) when to communicate;

- c) with whom to communicate;
- d) how to communicate;
- e) who communicates.

B.7.4.3

Apply Subsection 7.4.3 of this standard.

B.7.4.4

Apply Subsection 7.4.4 of this standard.

B.7.4.5 The appropriate mechanisms shall be in place for resolving complaints and disputes relating to group management, to sustainable forest management operations, land use rights and working conditions.

B.7.4.6 The **group organisation** shall provide updated information on the **certified area** per calendar year to the CB and PEFC, as described in 7.4.3 of this standard.

In the group and regional forest management certificates, this information shall be provided at participant's level (including their information) and shall also identify the areas of the participants less than 5ha.

B.7.5 Documented information

B.7.5.1 General

Apply Subsection 7.5.1 of this standard.

B.7.5.2 Designing and update

Apply Subsection 7.5.2 of this standard.

B.7.5.3 Documented information control

Apply Subsection 7.5.3 of this standard.

B.8 Operation

The **group organisation** shall plan, implement and control processes needed:

- a) to meet the requirements of this Annex and Section 8; and
- b) to implement the actions determined in Section B.6.

This planning, implementing and controlling shall be done by:

- a) defining the necessary processes and establishing their criteria;
- b) implementing processes' control in accordance with the criteria;
- c) keeping **documented information** to have evidence that the processes have been carried out as planned.

B.9 Performance evaluation

B.9.1 Monitoring, measurement, analysis and evaluation

B.9.1.1

Apply Subsection 9.1.1 of this standard.

B.9.1.2

Apply Subsection 9.1.2 of this standard.

B.9.1.3

Apply Subsection 9.1.3 of this standard.

B.9.1.4

Apply Subsection 9.1.4 of this standard.

B.9.1.5

Apply Subsection 9.1.5 of this standard.

B.9.1.6

Apply Subsection 9.1.6 of this standard.

B.9.1.7 The **group organisation** shall have an ongoing internal **monitoring** programme which ensures group organisation conformity with this standard. All participants shall be subject to internal **monitoring** programs.

B.9.1.8 The group entity shall evaluate the group management performance and the effectiveness of the group management system concerning the implementation of the sustainable forest management requirements.

B.9.2 Internal audit

B.9.2.1 Objectives

Shall be established an annual internal **audit** programme which provide information on whether the group management system:

a) conforms to:

- 1) the **group organisation's** own requirements for its group management system; and
- 2) the requirements of this annex

b) ensures this standard implementation at participant level;

c) is effectively implemented and maintained.

The internal **audit** programme shall cover the **group entity** and all group participants. The **group entity** shall be annually audited. The participants may be selected on a sample basis.

B.9.2.2 Organisation

Apply Subsection 9.2.2 of this standard, according to the dimension and complexity of the certificate scope.

B.9.2.3 Selection of participants in the internal audit programme

B.9.2.3.1 General

B.9.2.3.1.1 The selection requirements of participants in the internal **audit** programme shall include the procedures for:

- a) sample size determination (B.9.2.3.2);
- b) sample categories determination (B.9.2.3.3);
- c) sample categories distribution (B.9.2.3.3);
- d) participants selection (B.9.2.3.4).

B.9.2.3.1.2 Areas included in groups formally constituted and represented by it, with management delegation and power to do it, will be considered as a single **participant**, for the purposes of sampling and compliance verification.

B.9.2.3.2 Determination of the sample size

B.9.2.3.2.1 The sample size shall be applied to the group organisation participants.

B.9.2.3.2.2 The minimum sample size should be the square root of the number of participants: ($y=\sqrt{x}$), rounded to the upper whole number.

B.9.2.3.2.3 The sample size may be adapted taking into account:

- a) risk assessment results (B.9.2.3.3);
- b) internal audits or previous certification audits results;
- c) confidence of the internal **monitoring** programme (considered B.9.2.3.2.3 b) e B.9.2.3.3);
- d) use of technologies which allow gathering information concerning specified requirements;

NOTE: Such technologies may be eg. the use of satellite data or drones which allow requirements compliance with the sustainability standard or support the risk based sampling

- e) other means of gathering information about activities on the in situ.

NOTE: One way could be a survey with participants who provide some information about their activities in situ which allow requirements compliance.

B.9.2.3.3 Determination of sample categories and risk assessment

B.9.2.3.3.1 The **certified area** sample categories shall be established based on the risk assessment results. The indicators used in the risk assessment shall reflect the standard geographical scope. The group management entity shall determine the indicators applicable to its risk assessment context. The following non exhaustive list of indicators may be used for the risk assessment:

- a) ownership type (e.g. state, communal or private forest);

- b) management units size (size classes);
- c) edaphoclimatic region (e.g.: sandy soils plains; mountain areas; sloping slopes of granitic soils; skeletal schist soils);
- d) operations, that have taken place, are in progress and are planned by the members group participants;
- e) different products within the scope and other possible existing in the **certified area**;
- f) deforestation and **forest conversion**;
- g) location in protected areas;
- h) recreation and other socio-economic **forest** functions;
- i) dependence of and interaction with **local communities**;
- j) available resources for administration, operations, training and research;
- k) forest composition and silviculture systems;
- l) group participants antiquity;
- m) existence of excluded areas;
- n) other indicators considered as risky.

B.9.2.3.3.2 Conditions which constitute for each **indicator** low, medium and high level risk shall be defined.

The organisation shall determine sample size deviations. In high-risk cases, the sample size should be increased and in low-risk cases it can be reduced.

B.9.2.3.4 Selection of the participants

B.9.2.3.4.1 At least 25% of the sample should be selected randomly.

B.9.2.3.4.2 A risk-based procedure for selecting participants shall be established. It shall be ensured the participants sample distribution is made among the different strata in accordance with the risk assessment.

NOTE: The participants sample shall include auditing certified areas in the three risk levels.

B.9.3 Management review

B.9.3.1 Top management (or the **group entity**, if delegated) shall carry out the management review as defined in Subsection 9.3, including also:

- a) changes in external and internal issues that are relevant to the group management system;
- b) the conformity status with this standard, including the internal monitoring programme reviewing results, the internal audit and the certification body's evaluations and surveillance
- c) information on the group performance.

B.9.3.2 The outputs of the management review shall include decisions related to **continual improvement** opportunities and any need for changes to the group management system.

B.9.3.3 The **group organisation** shall maintain documented information as evidence of the management reviews results.

B.10 Improvement

B.10.1 Nonconformity and corrective action

B.10.1.1 In addition to the necessary actions as defined in Section 10 of this standard the **group organisation** shall make changes to the group management system.

B.10.1.2

Apply Subsection 10.1.2 of this standard.

B.10.1.3

Apply Subsection 10.1.3 of this standard.

B.10.1.4 The participant excluded from a group forest management certification shall be internally audited by the **group entity** before it is allowed to re-enter the group forest management certification. The internal **audit** shall not take place sooner than 12 months after the exclusion.

B.10.2 Continual improvement

The **group organisation** shall continually improve the suitability, adequacy and effectiveness of the group **sustainable forest management** system.

Annex C (normative)

Additional requirements applicable to Trees Outside Forests (TOF)

This annex defines the additional applicable requirements to certificates which include in the scope **Trees Out of the Forests (TOF)**. As indicated in Section 1 – Scope and realm of application, the sections of this annex complement the requirements of Sections 4 to 10. All requirements relating to the **forest** are also applicable to TOF.

Section 2 - Normative references and Section 3 - Acronyms, terms and definitions are fully applied.

There is diversity associated with **TOF** systems. Some are natural or semi-natural ecosystems with ecological complexity and **ecosystem services** equivalent to natural forests. On the other end are individual trees in fields, or linear tree formations.

C.1 Scope and realm of application

Apply Section 1 of this standard.

C.2 Normative references

Apply Section 2 of this standard.

C.3 Acronyms, terms and definitions

Apply Section 3 of this standard.

C.4 Organisation context

C.4.1 Understanding organisation and its context

Apply Section 4.1 of this standard.

C.4.2 Understanding the needs and expectations of affected stakeholders

C.4.2.1

Apply Section 4.2.1 of this standard.

C.4.2.2

C.4.2.2.1 Apply Section 4.2.1 of this standard.

C.4.2.2.2 In addition to the disposed in Section 4.2.2.2 of this standard, the **organisation** shall comply with the legislation applicable to the **TOF** management, agricultural and agroforestry practices.

C.4.2.2.3

Apply Section 4.2.2.3 of this standard.

C.4.2.2.4

Apply Section 4.2.2.4 of this standard.

C.4.2.3

Apply Section 4.2.3 of this standard.

C.4.2.4

Apply Section 4.2.4 of this standard.

C.4.2.5

Apply Section 4.2.5 of this standard.

C.4.3 Determining the management system scope

Apply Section 4.3 of this standard.

C.4.4 Management system

Apply Section 4.4 of this standard.

C.5 Leadership

Apply Section 5 of this standard.

C.6 Planning

C.6.1 Actions to address risks and opportunities

Apply Section 6.1 of this standard.

C.6.2 Management goals and planning to achieve them

Apply Section 6.2 of this standard.

C.6.3 Management plan

The management plan shall:

- a) include the information described in Subsection 6.3 of this standard
- b) include the forestry and arboriculture guidelines and recommended models in the legislation or other regulations applicable at the local scale (**TOF**).

C.6.3.1

Apply Section 6.3.1 of this Standard.

C.6.3.2 TOF management measures shall consider appropriate practices to its function identified at the management plan, as described in 6.3 of this standard.

C. 6.3.3 TOF systems agricultural components management shall regards good agricultural practices and the available guidelines.

C.7 Support

C.7.1 Resources

Apply Section 7.1 of this standard.

C.7.2 Competence

Forest managers/owners, contractors, employees and participants shall be provided with sufficient information and kept up-to-date through continuous training regarding forestry and arboriculture in rural and urban areas, as a precondition for all management planning and practices described in this standard.

C.7.3 Awareness

Apply Section 7.3 of this standard.

C.7.4 Communication

C.7.4.1

Apply Section 7.4.1 of this standard.

C.7.4.2

Apply Section 7.4.2 of this standard.

C.7.4.3 The **organisation** shall provide to the CB and PEFC updated information on the **TOF certified area** per year as described in Section 7.4.3 of this standard.

C.7.4.4

Apply Section 7.4.4 of this standard.

C.7.4.5 Appropriate mechanisms are in place for resolving complaints and disputes relating to forest management operations in **TOF** areas, land use rights and work conditions.

C.7.5 Documented Information

Apply Section 7.5 of this standard.

C.8 Operation

C.8.1 Criterion 1: Maintenance or appropriate enhancement of forest resources and their contribution to the global carbon cycle

C.8.1.1 **TOF** areas management objectives should maintain or increase the coverage rate, tree value or diversity at the **landscape** and their **ecosystem services** in order to improve the economic, ecological, cultural and social values of the resources and that are aligned with current land uses.

NOTE: For **TOF** areas, when it is not possible to fulfil this requirement at the individual level, it can be considered at the landscape level.

C.8.1.2 The quantity and quality of **TOF** resources and its capacity to store and sequester carbon shall be safeguarded in the medium and long term by balancing harvesting and growth rates, using appropriate measures and preferring techniques that minimise adverse impacts on ecosystem resources.

NOTE: For **TOF** areas, when it is not possible to fulfil this requirement at the individual level, it can be considered at the landscape level.

C.8.1.3

Apply Section 8.1.3 of this standard.

C.8.1.4 Forest conversion to TOF shall not occur unless in justified circumstances where the conversion, simultaneously

- a) is in compliance with national and regional policy and legislation applicable for land use and forest management;
- b) entails a small proportion no greater than 5 % of forest type within the **certified area**;
- c) does not have negative impacts on **ecologically important forest areas**, culturally and socially significant areas, or other protected areas;
- d) does not destroy areas of significantly high carbon stock;
- e) makes a contribution to long-term conservation, economic, and social benefits.

NOTE: **TOF** areas resulting from a conversion after December 31, 2010 are not eligible for certification except in the circumstances described above.

C.8.1.5 Conversion of ecologically important non-forest ecosystems to **TOF** shall only take place in justified circumstances, simultaneously:

- a) is in compliance with national and regional policy and legislation applicable for land use and forest management;
- b) is established based on a decision-making basis where **affected stakeholders** have opportunities to contribute to the decision-making on conversion through transparent and participatory consultation processes;
- c) does not have negative impacts on threatened natural values (including vulnerable, rare or endangered species and habitats), culturally and socially significant areas;
- d) entails a small proportion of the ecologically important non-forest ecosystem managed by an organisation;
- e) does not destroy areas of significantly high carbon stock;
- f) makes a contribution to long-term conservation, economic, and social benefits.

C.8.2 Criterion 2: Maintenance of ecosystem health and vitality

C.8.2.1 Health and vitality of **TOF** areas shall be maintained or enhanced and degraded areas shall be rehabilitated as far as feasible, by making best use of landscape characteristics, the natural structures and processes (egg close-to-nature forestry) and using preventive biological measures.

C.8.2.2 Species and structural **genetic diversity** shall be encouraged or maintained to enhance the stability, vitality and resilience of the **TOF areas**.

C.8.2.3

Apply Section 8.2.3 of this standard.

C.8.2.4 TOF management best practices shall be used through the use of species and provenances suited to local conditions, and shall be adopted management, harvesting and transport methods that minimize damage to trees or soil.

C.8.2.5

Apply Section 8.2.5 of this standard.

C.8.2.6

Apply Section 8.2.6 of this standard.

C.8.2.7

Apply Section 8.2.7 of this standard.

C.8.2.8

Apply Section 8.2.8 of this standard.

C.8.2.9

Apply Section 8.2.9 of this standard.

C.8.2.10

Apply Section 8.2.10 of this standard.

C.8.2.11

Apply Section 8.2.11 of this standard.

C.8.2.12

Apply Section 8.2.12 of this standard.

C.8.3 Criterion 3: Maintenance and encouragement of productive functions of forests (wood and non-wood)

C.8.3.1 The capability of **TOF** areas to produce a range of wood and non-wood forest products and services on a sustainable basis shall be maintained.

C.8.3.2 Sound economic performance shall be pursued, taking into account possibilities for new markets and economic activities in connection with all relevant goods and services of **TOF** areas.

C.8.3.3

Apply Section 8.3.3 of this standard.

C.8.3.4

Apply Section 8.3.4 of this standard.

C.8.3.5

Apply Section 8.3.5 of this standard.

C.8.4 Criterion 4: Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems

C.8.4.1 Management planning shall aim to maintain, conserve or enhance **biodiversity** on **landscape**, ecosystem, species and genetic levels.

NOTE: For **TOF** areas, when it is not possible to fulfil this requirement at the individual level, it can be considered at the landscape or group level.

C.8.4.2 Inventory, mapping and planning of forest resources shall identify, protect, conserve or **set aside ecologically important forest areas**.

NOTE: Only TOF management activities that do not damage the important ecological values of these biotopes are authorized.

C.8.4.3

Apply Section 8.4.3 of this standard.

C.8.4.4

Apply Section 8.4.4 of this standard.

C.8.4.5

Apply Section 8.4.5 of this standard.

C.8.4.6

Apply Section 8.4.6 of this standard.

C.8.4.7

Apply Section 8.4.7 of this standard.

C.8.4.8 Diversity of both horizontal and vertical structures and the diversity of species such as mixed stands shall be promoted, where appropriate. The practices shall also aim to maintain or restore **landscape** diversity.

C.8.4.9

Apply Section 8.4.9 of this standard.

C.8.4.10

Apply Section 8.4.10 of this standard.

C.8.4.11

Apply Section 8.4.11 of this standard.

C.8.4.12

Apply Section 8.4.12 of this standard.

C.8.4.13

Apply Section 8.4.13 of this standard.

C.8.5 Criterion 5: Maintenance or appropriate enhancement of protective functions in forest management (notably soil and water)

C.8.5.1 Trees protective functions in agriculture and **landscape** shall be maintained or enhanced.

C.8.5.2 Areas that fulfil specific and recognised protective functions for society shall be mapped. Management plans and operations shall ensure the maintenance or enhancement of these functions.

C.8.5.3

Apply Section 8.5.3 of this standard.

C.8.5.4

Apply Section 8.5.4 of this standard.

C.8.5.5

Apply Section 8.5.5 of this standard.

C.8.6 Criterion 6: Maintenance or appropriate enhancement of socio-economic functions and conditions

C.8.6.1

Apply Section 8.6.1 of this standard.

C.8.6.2 Adequate public access to **TOF** areas for the purpose of recreation shall be provided, taking into account respect for ownership rights, safety and the rights of others, the effects on forest resources and ecosystems, as well as compatibility with other functions of the **forest**.

C.8.6.3

Apply Section 8.6.3 of this standard.

C.8.6.4

Apply Section 8.6.4 of this standard.

C.8.6.5 Management shall make the best use of traditional knowledge and recognized **TOF** and agroforestry practices. Equitable sharing of the benefits arising from the utilization of such knowledge shall be encouraged.

C.8.6.6

Apply Section 8.6.6 of this standard.

C.8.6.7

Apply Section 8.6.7 of this standard.

C.9 Performance evaluation

Apply Section 9 of this standard.

C.10 Improvement

Apply Section 10 of this standard.

Annex D Information sources

(informative)

Guiding section of information sources (documents and legislation), cartography, management tools and bibliography.

D.1 Information and cartography

- National Forest Inventory
- Species distribution atlas (Birds, Mammals, Bats and Reptiles and Amphibians)
- Municipal Plan;
- Regional Forest Management Program (RFMP);
- Landscape Planning and Management Programs
- Integrated Landscape Management Areas;
- Municipal Execution Plans;
- Municipal Plan for the Defense of the Forest Fire;
- Natura 2000 Network Sector Plan;
- Watershed Plans and the Water Framework Directive;
- Coastal Planning Plans;
- Reservoir Management Plans;
- Management Plans for Protected Areas;
- Forest Health Operational Program;
- National Ecological Reserve;
- National Agricultural Reserve;
- Bibliographic, cartographic, documentary sources and heritage information systems (national, regional, municipal or thematic, Cultural Information Systems – Archaeological Heritage and Classified Heritage and in the process of being classified);
- National or regional statistics (INE, Manuel dos Santos Foundation, Public and European Administration Bodies, Eurostat);
- Lists:
 - ✓ National Classified Areas System;
 - ✓ IUCN Red List;
 - ✓ Protected species and habitats (Habitats Directive, Birds, CITES, Bern, Bonn);
 - ✓ Bryophyte Red List;
 - ✓ Amphibian Red List;
 - ✓ Vascular Flora Red List;
 - ✓ Vertebrate Red List.

D.2 Management tools

- Management Plan / Forest Management Plan;
- Action Plans (egg pests and diseases, protected species, forest fire fighters, etc.);
- Regional/local operational plans (mobile and fixed surveillance teams, first intervention and combat teams, etc.);
- Annual work volume and value;
- Alternative methods for **biological protection**;
- Calculation methods (egg biomass, carbon, etc.);
- Assessment methods (eg **ecosystem services**, **biodiversity**, etc.);
- Inventory:
 - ✓ Forest;
 - ✓ Species and habitats;
- GIS, cartography and maps:
 - ✓ Public utility Easements and restrictions;
 - ✓ Soils and slope mapping;
 - ✓ Land use;
 - ✓ Aerial photography/orthophotomap;
 - ✓ Probability and susceptibility mapping, infrastructure inventory: road and divisional network, water points, etc.);
 - ✓ Archeology Geoportal;
 - ✓ Atlas of Classified Heritage and on its way to get Classification;
 - ✓ Fires, Hazards and Fire Risk.

D.3 Implementation tools

D.3.1 Forest Inventory

Although the fundamental objective of inventories carried out in the **certified area** is to provide information for planning, which means wood and non-wood production forecast, orientation and control the production the forest inventory can be used to designate various schemes of data collection.

Combined with forest inventories, inventories of other environmental values present, such as flora and fauna, also known as floristic or faunal surveys may be carry out. In the former case, focused on species diversity (flora composition; presence of rare, endemic or threatened species; etc.), while in the latter, based on species signs (footprints, faeces, burrows, bird sounds, etc.).

The information obtained from the inventories is the basis to determine the stocks of the different productions, the actual and potential growth rates, crop evolution, as well as the respective sustainability thresholds.

Inventories planning and enforcement should be carried out in a careful and detailed way, in order to be possible to collect representative and adequate data for the different estimates for the management unit orientation and control. The forest inventories data collection system design should consider and describe the:

- Stratification - patches delimitation according to different productions/species/age classes (can be done using remote detection);
- Sampling intensity –sampling plots number per unit area, depending on the heterogeneity within each stratum (historical and available information should be used whenever possible and appropriate);
- Duration – useful time depending on the production/species cycle (time of production), weather conditions, available resources and periodicity;
- Accuracy – sampling error associated with estimates for each woody production. The error may be greater for non-woody productions, because is scarcer the knowledge about the crop, with greater difficulty in data collection and whose productions are quantified with less rigorous methods.

Thus, the forest inventory design should ensure that the data are:

- Representatives of productions/species covered by the certification scope (stratification; sampling intensity; precision);
- Collected at intervals appropriate to the cycles of each production/species;
- Accurate in order to obtain estimates with an adequate confidence interval.

From this document perspective and for each management unit, the forest inventory should obtain:

- Stand volume for the different stands species covered by the certification scope (in m³/ha);
- An estimate error associated with each volume estimated (confidence interval of the values obtained);
- Wood production Mean Annual Increment (MAI) (in m³/ha/year or ton/ha/year);
- Non-wood products existing quantity of (in the units commonly used for each crop: arroba, kilos, tons, etc.);
- An estimate error associated with each quantity estimate (confidence interval of the values obtained);
- Non-wood productions estimate growth rate.

The information from the wood productions MAI and the estimated non-wood growth should be checked whenever there is a harvesting (harvesting, thinning, fruit picking, mushroom picking, cork strips, etc.) and be used to improve future growth estimates. This final note applies both to estimates obtained from forest inventories and from tables, productivity simulators or other indirect methods of estimating production volumes or quantities.

D.3.2 GIS

D.3.2.1 Framework

GIS are indispensable tools for the **forest owner/manager**. In certified forest areas subject to audits, good geographic information management regarding forest management can also be of great importance to the auditor.

The set of geographic information related to forest management provides a set of clear, objective and transparent elements that can facilitate the work of those who manage and those who audit.

In order to safeguard and standardize the geographic information to be provided under this document, it is necessary to set criteria that should be applied by all stakeholders. It is about establishing the guiding principles for the production of geographic information under the standard and assisting the **forest owner/manager** and the auditor in the tasks of production, management and analysis of geographic information related to **sustainable forest management**.

D.3.2.2 Admissible Formats

Files in vector format

Shapefile / dBase / GeoPackage / Geodatabase

Layers

Compressed files: .ZIP, .RAR, 7Zip

D.3.2.3 Reference/Coordinate System

Coordinate system: ETRS89

Datum PT/M06 ETRS89

Official coordinate system, Artigo 3º-A do Decreto de Lei n.º 141/2014, de 19 de setembro

Elipsóide de referência: GRS 80

Projection: Reference Geodetic System 1980 (GRS80). *Datum* geodésico ETRS89 Common designations: ETRS_1989_Portugal_TM6 /PT-TM06-ETRS89 /ETRS89_Portugal_TM06

D.3.2.4 Geographic Information layers

Table with information layers to be produced within the scope of the standard:

Designation/Geometry type/File name/Applicable requirements /...

1. Land Use Cartography
 - 1.1. **Certified area** limit layer
 - 1.2. Main species Layer
 - 1.3. Non Forest Area Layer
 - 1.4. Area Conversion Layer (includes **forest conversion**, conversion of non-forest ecosystems and **degraded forests** conversion)
 - 1.5. Cultural and Social Significant Points Layer
2. Function Cartography
 - 2.1. Production Layer
 - 2.2. Protection Layer (includes soil, water, culturally and socially significant protection areas, infrastructure)
 - 2.3. Conservation Layer (includes High Ecological Value and National System of Classified Areas)
 - 2.4. Layer Other Functions (discriminate in the legend which, for example, areas of highly significant carbon storage, recreational, aesthetic values and cultural services)
3. Natural Hazards Cartography (Biotic and Abiotic)
 - 3.1. Infrastructure Layer (includes paths, divisional network, gas pipelines, power distribution lines, water points, shipyards, others)
 - 3.2. Sensitive Areas Layer (fire hazard, forest areas exposed to pests and diseases, erosion, flood, degraded forest ecosystems, herbivory pressure)
4. Management Constraints Cartography

- 4.1. Waterlines Layer (includes permanent and temporary, riparian galleries and other aquifer systems)
- 4.2. Natura 2000 Network Habitats layer
- 4.3. NER layer
- 4.4. NAR layer
- 4.5. Ecological Corridors Layer
- 4.6. Soils Layer
- 5. Operational Cartography
 - 5.1. Installation Layer ((Re)forestation Projects)
 - 5.2. Exploration / Maintenance / Regeneration Layer
 - 5.3. Prescribed burning layer

D.3.2.5 Geographic Information Layers and Relation to Requirements

Table D.1 – Geographic Information Requirements

Cartography	Requirements to answer
1. Land use and occupation cartography	
1.1. Layer certified area limit	All requirements.
1.2. Main species Layer	8.1.1.; 8.2.2.; 8.4.8.
1.3. Non Forest Area Layer	8.1.1.
1.4. Area Conversion Layer	8.1.1.; 8.1.4.; 8.1.6.
1.5. Cultural and Social Significant Points Layer	8.1.4. c); 8.1.5. c)/d); 8.1.6. d); 8.6.2.; 8.6.3.
2. Function Cartography	
2.1. Production Layer	8.1.1.
2.2. Protection Layer (includes soil, water, culturally and socially significant protection areas, infrastructure)	8.1.1.;8.1.4.c);8.1.5.c)/d); 8.1.6.d)/e);8.5.1.; 8.5.2; 8.5.4.

(continue)

Table D.1 – Geographic Information Requirements (continue)

Cartography	Requirements to answer
2.3. Conservation Layer (includes High Ecological Value and National System of Classified Areas)	8.1.1.;8.1.4.c);8.1.5.c)/d); 8.1.6. d); 8.4.2.; 8.4.13.; 8.5.1.; 8.5.3.; 8.5.4.
2.4. Layer Other Functions (discriminate in the legend which, for example, areas of highly significant carbon storage, recreational, aesthetic values and cultural services)	8.1.4. d); 8.1.5. e); 8.5.1.; 8.6.2.; 8.6.3.
3. Natural Hazards Cartography (Biotic and Abiotic)	
3.1. Infrastructure Layer (includes paths, divisional network, gas pipelines, power distribution lines, water points, shipyards, others)	8.2.3.; 8.3.5.; 8.4.11.; 8.5.5.
3.2. Sensitive Areas Layer (fire hazard, forest areas exposed to pests and diseases, erosion, flood, degraded forest ecosystems, herbivory pressure)	8.2.1.; 8.2.3.; 8.2.6.; 8.4.12.; 8.5.1.; 8.5.3.; 8.5.4.
4. Management Constraints Cartography	
4.1. Waterlines Layer (includes permanent and temporary, riparian galleries and other aquifer systems)	8.5.1.; 8.5.3.; 8.5.4.
4.2. Natura 2000 Network Habitats layer	8.1.4. a)/ c); 8.1.5. a)/ c); 8.1.6. a) / c)
4.3. NER Layer	8.1.4. a)/ c); 8.1.5. a)/ c); 8.1.6. a) / d)
4.4. NAR Layer	8.1.4. a)/ c); 8.1.5. a)/ c); 8.1.6. a) / d) / f)
4.5. Ecological Corridors Layer	8.4.6
4.6. Soils Layer	8.5.1.; 8.5.3.

(continue)

Table D.1 – Geographic Information Requirements (conclusion)

Cartography	Requirements to answer
5. Operational Cartography	
5.1. Installation Layer ((Re)forestation Projects)	8.2.2.; 8.3.3.; 8.4.4.; 8.4.6.; 8.4.8.;
5.2. Exploration / Maintenance / Regeneration Layer	8.2.2.; 8.3.3.; 8.4.4.; 8.4.6.; 8.4.8.;
5.3. Prescribed burning layer	8.2.3.;

D.3.2.6 Standards for Cartography Production

DGT - <https://www.dgterritorio.gov.pt/cartografia/cartografia-topografica/normas-especificacoes-tecnicas>

ICNF

- <https://www.icnf.pt/florestas/defesadaflorestacontraincendios/sapadoresflorestais/sfnormas?m=draft> (Sapadores Florestais)
- <http://www2.icnf.pt/portal/florestas/gf/pgf/resource/doc/manual/normas-tecn-PGF-AFN.pdf> (Plano de Gestão Florestal)
- <https://www.icnf.pt/api/file/doc/d6a7ab8782f71698> (Plano Municipal de Defesa da Floresta Contra Incêndios)

REN – <https://pcgt.dgterritorio.gov.pt/node/17837> (Norma Técnica para a Produção e Reprodução das Cartas de Delimitação da REN)

D.4 Verification Means

Table D.2 – Verification Means

Requirements	Information, verification means and information sources
8.1.1	<ul style="list-style-type: none"> — Inventory/survey; — GIS/cartography/maps; — FMP; — Stand structure; — Ecosystem services.
8.1.2	<ul style="list-style-type: none"> — Inventory/survey; — FMP; — Operational plan and field visits; — Woody biomass; — Carbon stored or sequestered estimate in the certified area in forest resources (eg soils, roots, leaves, etc.).
8.1.3	<ul style="list-style-type: none"> — Estimated carbon footprint (fuel consumption, fertilizers, etc.) in forestry operations.
8.1.4 a8.1.6	<ul style="list-style-type: none"> — Inventory/survey; — GIS/cartography/maps; — FMP — Public Consultation.
8.2.1	<ul style="list-style-type: none"> — Crowns proportion with defoliation signs; — Identification of the cause of defoliation (biotic or abiotic factors), whenever possible; — Pest and disease management measures applied in the certified affected area.
8.2.2	<ul style="list-style-type: none"> — List of certified plants and seeds and forest breeding material selected in the certified area; — Inventory/survey; — GIS/cartography/maps; — FMP.
8.2.4	<ul style="list-style-type: none"> — List of certified plants and seeds and forest breeding material selected in the certified area; — Techniques used.
8.2.5	<ul style="list-style-type: none"> — Waste disposable record.
8.2.6	<ul style="list-style-type: none"> — Spillage identification.

(continue)

Table D.2 – Verification Means (continue)

Requirements	Information, verification means and information sources
8.2.11	<ul style="list-style-type: none"> — Product applicators and application plant protection qualification records.
8.2.12	<ul style="list-style-type: none"> — Analysis of fertilization plans; — Assessment of environmental impacts; — Existence of practices that promote the incorporation of organic matter into the soil; — Incorporation of residues versus amount of biomass removed from the soil.
8.3.1	<ul style="list-style-type: none"> — MP/FMP; — RFMP; — NFI; — Inventory of woody and non-woody production; — Production Tables; — Production information for non-woody products.
8.3.2	<ul style="list-style-type: none"> — MP/FMP; — Provisional budget evidencing expected income and expenses for at least the validity of certificate period in the certified area; — Ecosystem goods and services remuneration.
8.3.3	<ul style="list-style-type: none"> — Harvesting plans; — Monitoring records; — Field visits; — Techniques and machinery used in the indicated operations; — Execution of the operational plan; — Evaluation of operational practices.
8.3.4	<ul style="list-style-type: none"> — Woody and non-wood production inventory; — Harvesting rates calculation; — Harvesting records; — Sales records and purposes for which the products are intended.

(continue)

Table D.2 – Verification Means (continue)

Requirements	Information, verification means and information sources
8.3.5	<ul style="list-style-type: none"> — MP/FMP; — Infrastructure planning; — Assessment of the existence of existing and necessary infrastructure; — Measures to mitigate possible impacts; — Impact assessment; — Updated mapping of infrastructures; — Operational plans; — Monitoring records; — Field visits.
8.4.1 e8.4.2	<ul style="list-style-type: none"> — Biodiversity and habitats cartography including protected or threatened and endemic species; — Populations conservation status.
8.4.4	<ul style="list-style-type: none"> — Measures to ensure the vegetation cover recovery (quantity and quality).
8.4.5	<p>List of certified plants and seeds and forest breeding material selected in the certified area; In the case of other species, provenances or varieties introduction:</p> <ul style="list-style-type: none"> * Scientific assessment of impacts on the ecosystem, on the genetic integrity of indigenous species and local provenances * Measures to avoid or minimize negative impacts.
8.4.7	<ul style="list-style-type: none"> — Plant origin proof; — List of certified plants and seeds and forest breeding material selected in the certified area
8.4.8	<ul style="list-style-type: none"> — Implemented practices; — Stand structure.

(continue)

Table D.2 – Verification Means (continue)

Requirements	Information, verification means and information sources
8.4.9	<ul style="list-style-type: none"> Registo das práticas tradicionais de gestão, caso existam.
8.4.10	<ul style="list-style-type: none"> Registo das medidas de manutenção ou melhoria da biodiversidade; Registo das operações e técnicas utilizadas na gestão e exploração.
8.4.11	<ul style="list-style-type: none"> Medidas mitigadoras de possíveis impactos; Avaliação de impacto da construção das infraestruturas.
8.4.12	<ul style="list-style-type: none"> Identificação da pressão das populações animais, a sua origem, área afetada e severidade dos danos; Lista das medidas a adotar.
8.4.13	<ul style="list-style-type: none"> Identificação de árvores de espécies raras, longevas e cavernosas; Existência de madeira morta.
8.5.1	<ul style="list-style-type: none"> Extensão de áreas críticas para a proteção do solo; Extensão das áreas geridas com o objetivo principal de proteção do solo; Classificação e extensão de linhas de água (permanentes e temporárias) e outros sistemas aquíferos (charcos, lagos, albufeiras, fontes, etc.); Caracterização e extensão das áreas geridas com o objetivo principal de proteção do solo (galerias ripícolas, margens de charcos, lagos, albufeiras, fontes, etc.); Classificação e extensão da rede viária e divisional. <p>1. Identificação das medidas de salvaguarda dos serviços do ecossistema</p> <p>1.1 proteção e manutenção dos recursos hídricos;</p> <p>1.2 proteção do solo;</p> <p>1. Identificação do estado de conservação do solo;</p> <ul style="list-style-type: none"> Identificação do estado de conservação das linhas de água e galerias ripícolas quando existem.
8.5.2	<ul style="list-style-type: none"> Cartografia de áreas críticas para a proteção do solo; Cartografia das áreas geridas com o objetivo principal de proteção do solo; Cartografia das linhas de água e outros sistemas aquíferos (charcos, lagos, fontes, etc.); Cartografia das áreas geridas com o objetivo principal de proteção da água; Cartografia da rede viária e divisional, pontes e outras infraestruturas; Medidas e intervenções necessárias para assegurar ou melhorar as funções de proteção; Procedimentos e instruções para o adequado planeamento e execução das operações florestais.

(continue)

Table D.2 – Verification Means (continue)

Requirements	Information, verification means and information sources
8.5.3	<ul style="list-style-type: none"> — Measures and interventions necessary to ensure or improve protection functions; — Procedures and instructions for the proper planning, execution of forestry operations and conducting other activities (grazing, hunting, recreational, etc.); — Cartography of sensitive soils or areas with erosion risk; — Cartography of watercourses and riparian galleries or other aquifer systems; — Techniques and machinery list used in forestry operations; — Identification animal populations pressure, their origin, affected area and severity of damage.
8.5.4	<ul style="list-style-type: none"> — Measures and interventions necessary to ensure or improve protection functions; — Procedures and instructions for the proper planning, execution of forestry operations and conducting other activities (grazing, hunting, recreational, etc.); Procedures and instructions for the proper planning and conduct of other activities (herding, hunting, recreational, etc.); — Operations list to be carried out in areas with the function of protecting water resources; — Chemicals list and other substances used in management operations; — Cartography of watercourses and riparian galleries or other aquifer systems — Monitoring of water quantity and quality, for significant environmental impacts
8.5.5	<ul style="list-style-type: none"> — Measures and interventions necessary to ensure or improve protection functions; — Procedures and instructions for the proper planning and execution of forestry operations; — Procedures and instructions for the proper planning and conduct of other activities (herding, hunting, recreational, etc.); — State of conservation of the road and divisional network; — Monitoring impacts on infrastructure construction.
8.6.1	<ul style="list-style-type: none"> — Identification record (cartography, rural land registry, rustic land register (registry, parcels), lease agreements, user agreements, etc.); — Distribution by type of land use and forest areas functionalities (production, protection and conservation); — Characterized stakeholders lists (egg, affected); — Areas by socioeconomic functions.
8.6.2	<ul style="list-style-type: none"> — Records of protocols, letters or other evidence, namely those related to awareness-raising, cultural, sports or leisure activities; — Characterized stakeholders lists (egg, affected); — Areas for recreational purposes.
8.6.3	<ul style="list-style-type: none"> — Cartographic identification of places with recognized historical, archaeological, cultural, spiritual value; — Identification of safeguard and conservation measures for places with recognized historical, archaeological, cultural and spiritual value.

(continue)

Table D.2 – Verification Means (conclusion)

Requirements	Information, verification means and information sources
8.6.4	<ul style="list-style-type: none"> — Records of protocols, letters or other evidence, namely those related to awareness-raising, cultural, sports or leisure activities; — Characterized stakeholders lists; — Identification of ecosystem services that promote health and well-being; — Consultation with local communities; — Measures to promote health and well-being.
8.6.5	<ul style="list-style-type: none"> — Records of protocols, letters or other evidence, namely those related to awareness-raising, cultural, sports or leisure activities; — List and consultation of characterized stakeholders; — Results of collaboration with R&D entities; — Identification of the use of traditional experience and knowledge, innovations and transmitted practices.
8.6.6	<ul style="list-style-type: none"> — Local employment Volume and qualification (taking into account the certificate scope); — Identification of measures to promote local economy; — Identification of criteria for local contracting; — Local investments; — Training/awareness opportunities for the local population; — Workers with specialized forestry training or with acquired professional training (egg training or training actions) working in the certified area; — Records of workers' social and work obligations in the certified area; — Monitoring record of operations, duration, personnel involved and their qualifications working in the certified area; — Registration of professional training actions or awareness-raising actions (theoretical/practical training) or other mechanisms for proving competences for staff working in the certified area.
8.6.7	<ul style="list-style-type: none"> — Records of protocols, letters or other evidence, namely those related to awareness-raising, cultural, sports or leisure activities; — Results of collaboration with R&D entities.

D.5 Support information

D.5.1 General

- Fundação Manuel dos Santos: <https://www.pordata.pt/FFMS>
- INE: <https://www.ine.pt>
- Eurostat: <https://ec.europa.eu/eurostat>
- Diário da República: <https://dre.pt>
- Eurolex: <https://eur-lex.europa.eu>

D.5.2 Social and cultural

- Agência Europeia para a Saúde e Segurança no Trabalho: <https://osha.europa.eu/pt>
- Ministério da Solidariedade, Emprego e da Segurança Social: www.portugal.gov.pt
- Segurança Social: www.seg-social.pt
- Autoridade para as Condições do Trabalho: www.act.gov.pt
- Comissão para a Igualdade no Trabalho e no Emprego: www.cite.gov.pt/
- OIT Lisboa: <http://www.ilo.org/public/portugue/region/eurpro/lisbon/index.htm>
- Direção-Geral da Políticade Justiça: <http://www.dgpj.mj.pt/sections/relacoes-internacionais/anexosorgint2/convencoes-ratificadas/>
- Direção Geral do património Cultural: <http://www.patrimoniocultural.gov.pt/pt/>
- Geoportal de Arqueologia - <https://patrimoniogpc.maps.arcgis.com/apps/webappviewer/index.html?id=5cb4735d7d7743a39a16d7269a753a4a>
- Atlas do PatrimónioClassificado e Em Vias de Classificação – <http://www.patrimoniocultural.gov.pt/pt/patrimonio/patrimonio-imovel/pesquisa-dopatrimonio/classificado-ou-em-vias-de-classificacao/georeferenciada/>
- Portal do Arqueólogo: <https://arqueologia.patrimoniocultural.pt/>

D.5.3 Economic

- Ministério da Economia e Transição Digital: www.portugal.gov.pt/en/
- Ministério das Finanças: www.portugal.gov.pt/en/
- Direção Geral do Território: <https://www.dgterritorio.gov.pt/>
- Custos de Operações de Arborização, Rearborização e Beneficiação de Povoamentos Florestais (CAOF): <https://www.icnf.pt/florestas/arborizacoes/caofcustosdeoperacoesdearborizacao>

D.5.4 Environmental

- Ministério da Agricultura: www.portugal.gov.pt/en/
- Agência Portuguesa do Ambiente: www.apambiente.pt
- Instituto da Conservação da Natureza e das Florestas: <http://www.icnf.pt/portal/icnf>

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- PMDFCI, ICNF: https://fogos.icnf.pt/infoPMDFCI/PMDFCI_PUBLICOlist.asp
 - Flora Digital de Portugal: <http://jb.utad.pt/flora>
 - Flora-On: <http://www.flora-on.pt/>
 - Naturdata: <http://naturdata.com/>
 - BioDiversity4all: <http://www.biodiversity4all.org/>
 - HABEAS: https://www.natureza-portugal.org/o_que_fazemos/habeas/
 - ICNF (2013) Relatório Nacional de Aplicação do art. 17º da Diretiva Habitats (2007-2012) – distribuição de 324 espécies (191 da flora e 133 da fauna) e 99 habitats naturais e seminaturais protegidos pela Diretiva Habitats. Disponível em <http://www.icnf.pt/portal/naturaclas/rn2000/dir-ave-habit/rel-nac-art-12-diretiva-aves-2008-2012>
 - ICNF (2014) Relatório Nacional de Aplicação do art. 12º da Diretiva Aves (2008-2012) – distribuição de 196 espécies (Portugal Continental) protegidas pela Diretiva Habitats. Disponível em <http://www.icnf.pt/portal/naturaclas/rn2000/dir-ave-habit/rel-nac/rel-nac-07-12>
 - Direção-Geral de Alimentação e Veterinária: <http://www.dgv.min-agricultura.pt/portal/page/portal/DGV>
 - Proteção civil: <http://www.prociv.pt/pt-pt/Paginas/default.aspx>
 - Infraestrutura de Dados Espaciais (IDE) da Conservação da Natureza e das Florestas: <https://geocatalogo.icnf.pt/>
 - Lista Vermelha da Flora Vascular: <https://listavermelha-flora.pt/>
 - Fogos: <https://fogos.icnf.pt/localizador/mostragooglemapsheatmaps.asp>
 - Exposição a pragas e doenças: <http://www2.icnf.pt/portal/florestas/prag-doe/ag-bn>
 - Mapa de perigosidade de Incêndio Rural: <http://www2.icnf.pt/portal/florestas/dfci/inc/cartografia/cartografia-risco-classes-perigosidade>

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