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PEFC National Standard for Sustainable Forest Management in Macedonia

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1. Introduction

This document is complementary part of Macedonian scheme for PEFC forest certification. Requirements that are part of this Standard are compulsory for:

- Forest certification on individual level
- Group forest certification

This standard is applicable at the forest management unit level, or at another level as appropriate. Forest managers and forest owners are responsible to ensure full compliance to forest management standard including activities that are conducted by contracted forest operators in certified forest area. Forest managers and forest owners shall secure record-keeping procedures that provides evidence of compliance with the requirements of the forest management standards.

The basis for preparation of this Standard derives from Pan-European criteria and indicators for sustainable forest management (SFM) brought on Ministerial Conference for Protection of Forests in Europe in Lisbon, 1998.

Compliance with the current legal framework in Macedonia related to forest management, game, water, agriculture land, nature and environment protection, plants protection, safety and health regulations, Spatial Plan for Republic of Macedonia, international conventions ratified in Republic of Macedonia as well as other requirements for sustainable forest management that are not legally required and are part of PEFC FM Standard is mandatory.

This Standard was prepared on open way with participation of number of forest related stakeholders and was accepted by the members of official work group with consensus.

The standard compiles of 6 chapters as Pan-European criteria for SFM. Further it contains 16 thematic areas, 33 criteria and 90 indicators.

Description of requirements of this Standard that relates to sustainable forest management are part of criteria of the Standard. The link (connection) with legislation helps to link criteria requirement with relevant legal framework and rules that are in force in Republic of Macedonia and relates to the content of criteria if exist. Indicators serve to conduct objective and measurable estimation if requirements of criteria are met from the forest owner/manager. Sources of verification are pointing to documents and other sources of information confirming if requirements of criteria and indicators are met.

Fulfillment of criteria and indicators described in this Standard is on voluntary basis.

Number	Chapter	Thematic area	Number of Criteria	Number of indicators
1.	Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle	Forest inventory and forest planning	2	6
		Maintenance of forest resources in quantity, quality and structure	2	8
2.	Maintenance of forest ecosystem's health and vitality	Monitoring of forest resources	1	3
		Measures for maintenance of health and vitality of forest ecosystems	2	3
		Restrictions	5	10
3.	Maintenance and support of forest productive functions (wood and non-wood forest products)	Forest products	1	7
		Forestry activities and forest infrastructure	2	5
4.	Maintenance, conservation and enhancement of biological diversity of forest ecosystems	Forests of high ecological significance	2	6
		Forest practice in balance with nature	5	9
		Traditional management systems	1	4
5.	Maintenance and enhancement of forest protective functions (notably soil and water)	Forest protective functions	2	7
6.	Maintenance of socio-economic functions and conditions	Socio-economic functions of the forests	2	7
		Ownership and traditional rights	1	2
		Trainings, knowledge development	2	3
		Occupational health and safety	1	7
		Compliance with legislation	2	3

Chapter 1: Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle	
Thematic area: Forest inventory and forest planning	
Criterion No.	1.1.
Criterion description	Forest management is based on permanent inventory cycles, planning, implementation, monitoring and analysis of the management taking in consideration economical, ecological and social influence of forest management with aim to avoid unnecessary negative impacts. The results from the monitoring and analysis of the management are conducted for period of 10 years and are used in planning process for defining the goals of future management. Forest inventory and mapping is conducted on appropriate way which reflects the structural elements of the stand, management measures and is in balance with law regulation.
Connection with legislation	-Law on Forest; -Law on Nature protection; -Annual program for nature protection; -Rulebook for the content of Forest Management Plans (FMP), Plans for forest silviculture and protection (PFSP) and annual execution plans; -Rulebook for criteria for managing forest in private ownership for which is not developed FMP or Program as well as the form and structure of evidence book for private forests for each cadaster parcel separately;
Indicators	1.The goals of forest management are in line with criterion requests and are comprised in the forest management plans or their equivalents. 2. Quantity and quality of data obtained through regular forest inventory for forest management planning; 3. Data contained in forest maps; 4. Results from the monitoring and analyze of the management during period of 10 years are elaborated.
Source of verification	-Forest Management Plans (FMP), Forest Management Program or Evidence Book for private forests. -Plans for forest silviculture and protection (PFSP) Notification: equivalent of forest management plan is program which in accordance to the national regulation is developed for forest with 10-30ha and recording book which is developed for private forest parcels with area up to 10ha.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 1: Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle	
Thematic area: Forest inventory and forest planning	
Criterion No.	1.2.
Criterion description	Management plans or their equivalents are elaborated based on the existing forest legislation, taking in consideration existing spatial plans, current land use and other relevant documentation for specific area and treating the forest resources in balance with their volume and value, the ownership structure as well the purpose and intensity of their utilization. A summary of the forest management plan, plan for silviculture and protection or their equivalent which contains information about the forest management measures and location where they will be applied shall be publicly available based on the stakeholders request. The forest user or forest owner in accordance with national legislation decides what confidential information or information related to sensitive characteristics of the natural resources will not be part of the summary.
Connection with legislation	<ul style="list-style-type: none"> -Law on Forest; -Law on Nature protection; -Annual program for nature protection; -Rulebook for the content of Forest Management Plans (FMP), Plans for forest silviculture and protection (PFSP) and annual execution plans; -Rulebook for criteria for managing forest in private ownership for which is not developed FMP or Program as well as the form and structure of evidence book for private forests for each cadaster parcel separately;
Indicators	<ol style="list-style-type: none"> 1. The Content of the FMP and the PFSP and their equivalents comprised all aspects that are subject of the criterion requirements. 2. The Summary is developed and available for stakeholders on their request.
Source of verification	<ul style="list-style-type: none"> -Forest Management Plans (FMP), Forest Management Program or Evidence Book for private forests. -Plans for forest silviculture and protection (PFSP) - Field check conducted by independent body, - Interview with forest users, private forest owners and stakeholders.
Minimum requirements	Respect of the above mentioned requirements.

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

Thematic area: Maintenance of forest resources in quantity, quality and structure

Criterion No.	1.3.
Criterion description	<p>Forest management plans, plans for silviculture and protection or their equivalents are aimed towards maintaining of forests and forests lands as well towards improvement of economic, ecological, cultural and social values of the forests, including soil and water protection. The objectives should be achieved by use of appropriate means and are focused towards nature protection. Increasing the forest areas through conversion of abandoned agricultural and bare lands into forest land shall be always taken in consideration whenever it enrich economic, ecological and social and/or cultural values.</p> <p>It is restricted to decrease the area of forest and forest land through conversion to other types of land use, including conversion of primary forests to forest plantation unless in justified circumstances where the conversion is in compliance with:</p> <ul style="list-style-type: none"> a) national legislation relevant for land use and is a result of government authorities planning and decision including consultations with materially and directly affected people and organizations; b) does not have negative impact on the threatened (including vulnerable, rare or endangered) forest ecosystems, culturally and socially significant areas, important habitats of threatened species and other protected areas; c) long-term increase of economic and social benefits;
Connection with legislation	<ul style="list-style-type: none"> -Spatial plan of the Republic of Macedonia; -Law on Forest; -Law on Nature protection;
Indicators	<ol style="list-style-type: none"> 1. The management goals and predicted measures for their realization are in function for securing the criterion requirement. 2. Ratio of planned and implemented silvicultural and regeneration measures (%) contributes towards criterion requirement. 3. Areas under forest and forest land and their changes in relation with previous management period (ha, %, maps description). 4. Areas under natural and artificially planted forest stands.
Source of verification	<ul style="list-style-type: none"> - Data incorporated in the Forest Management Plans or their equivalents. - Plans for forest silviculture and protection (PFSP). - Existence of document for transferring of natural forest stands with artificially planted forest stands.
Minimum requirements	There is no decrease in the areas under forest (except in cases in correlation with national regulation).

Chapter 1: Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle	
Thematic area: Maintenance of forest resources in quantity, quality and structure	
Criterion No.	1.4.
Criterion description	Forest management techniques and practices in the medium and long term shall safeguard the quantity and quality of the forest resources to the level that is economically, ecologically and socially desirable. Maintenance of the balance of the forest resources is secured through conducting of adequate silviculture measures and application of techniques for work in forest that minimize direct or indirect damage to forest, soil and water resources. Responsibilities for sustainable forest management shall be clearly defined and assigned.
Connection with legislation	Law on Forest; Law on Nature protection;
Indicators	<ol style="list-style-type: none"> 1. Forest classification according to: composition, purposes and management and silviculture methods (ha, map description) applied. 2. Selection of silviculture measures and performance techniques contribute to minimize the damage towards forest, soil and water resources. 3. Ratio between increment and allowable cut is in function for forest sustainability in quality and quantity and it is comprised in forest management plan, programme for management or in their equivalents. 4. Availability with qualified and skilled staff with defined responsibilities.
Source of verification	<ul style="list-style-type: none"> - Data incorporated in the Forest Management Plans (FMP), or their equivalents. - Plans for forest silviculture and protection (PFSP). - Executive plan. - Approved Annexes for amendments in the forest management plans and their equivalents in case of need for unplanned logging due to forest damage caused by biotic and abiotic factors.
Minimum requirements	Allowable cut is not higher than 80% from the increment.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Monitoring of the forest resources	
Criterion No.	2.1.
Criterion description	Health and vitality of forest is followed by permanent monitoring on the key biotic and abiotic factors and their influence on forests. The monitoring is conducted by professional institutions on annual basis in accordance with the national legislation. Monitoring shall be conducted by forest managers and forest owners on annual basis. During the analysis of the monitoring results and defining the measures for maintaining the health and vitality of forest ecosystems, naturally and regular occurrence of forest fires, forest pests and other factors that disrupts the stability of forest ecosystems is taken in consideration. Recommendations from professional institutions drafted in the results from the monitoring shall be considered in the forest management plans and their equivalents.
Connection with legislation	-Law on Forest; -Law on Nature protection;
Indicators	1. Number and amount of damage in forest from biotic and abiotic causes is monitored and documented. 2.Existence of functional system for monitoring on health and vitality of forest ecosystems and their functionality. 3. Monitoring activities are conducted by forest managers and forest owners.
Source of verification	-Data from monitoring contained in the annual reports for Bio-indicator points according to IPC Forest. -Annual reports from (RDFS) Reporting Diagnostic Forecast Service. -Data contained in the forest chronicle.
Minimum requirements	Regular monitoring of forest health and vitality in accordance with national legislation.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Measures for maintenance of health and vitality of forest ecosystems	
Criterion No.	2.2.
Criterion description	Maintenance of health and vitality of forest ecosystems is of primary importance for forestry. In forest management plans, plans for silviculture and protection or their equivalents are defined measures for maintenance of health and vitality, minimizing the risk of forest degradation or appearance of damages, as well as measures for eventual revitalization of degraded forest ecosystems. Forest management is based on natural processes and in determining the measures to maintain the health of forests primary is taken care for utilization of preventive biological measures in cases where it is feasible and economically justified. Maintaining the genetic, species and structural diversity contributes to maintenance of the health and vitality of forest ecosystems.
Connection with legislation	-Law on Forest; -Rulebook for content of Forest Management Plans, Plans for forest silviculture and protection и Annual Executive Plans; -Rulebook for introduction and maintenance of forest order.
Indicators	1. Selection of protection measures is in function for supporting the health and vitality of forest ecosystems with priority on application of biological measures. 2. In naturally originated forests adequate and like nature harvesting practices are applied (silviculture measures focusing on natural regeneration, selected cuts, long regeneration periods).
Source of verification	- Forest Management Plans or their equivalents. - Plan for silviculture and protection. - Annual Executive Plans. - Operational plan for fire protection. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Measures for maintenance of health and vitality of forest ecosystems	
Criterion No.	2.3.
Criterion description	Utilization of tools, mechanization and techniques during the harvesting operations, skidding and transport are taken in cautious way to avoid unnecessary damage to forest, soil and waterways, based on operational plans where are defined depending on the size of the forest property.
Connection with legislation	-Law on Forest; -Annual Executive Plans; -Rulebook for requirements for legal entities' minimal technical means and human resources for conducting forest harvesting activities (cutting and skidding); -Rulebook for content of Forest Management Plans, Plans for forest silviculture and protection and Annual Executive Plans;
Indicators	1. Selection of techniques and technology for conducting forest activities is in line with the criterion requirement.
Source of verification	- Annual Executive plans. - Elaboration of selected technique and technology for forests that are not part of the Forest Management Plans. - Reports from field control on evaluation of the forest damage, soil and water damage during the harvesting, skidding and transport operations. - Availability of protocols for execution of forest operations on the field.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Restrictions	
Criterion No.	2.4.
Criterion description	During forest harvesting, skidding and transport the risk of oil spillage is strictly avoided and indiscriminate disposal of waste on forest land. Non-organic waste is collected, temporary stored on designated locations for this purpose and later on disposed on locations designated for that purpose.
Connection with legislation	-Law on Forest;
Indicators	1. Prescribed rules and measures are provided to conductors of forest operations and are conducted. 2. Designated locations for temporary disposal of in-organic waste 3. The existence of materials and absorbents for oil in the cutting area and the machinery that is in use in forest operations.
Source of verification	-Internal rulebook of the forest owner or forest user for mandatory precautions and behavioral measures during conduction of forest activities (for regular employees and service providers). -Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Restrictions	
Criterion No.	2.5.
Criterion description	It is prohibited pasturing and other cattle browsing, fodder, collection of seeds from the forest tree species, unless it is done in accordance with the plan and with the permission provided by the user or owner of the forest.
Connection with legislation	-Law on Forest;
Indicators	1. Existence of regulations and supervision of its implementation. 2. Monitoring and control of regulation violations.
Source of verification	- Remarks in the forest chronicle. - Remarks in the reports of (RDF) Reporting Diagnostic Forecasts Service and ISPF. - Archived reports of registered offenders. - Archived reports from conducted inspection checks. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Restrictions	
Criterion No.	2.6.
Criterion description	It is not allowed starting the fire in forest, resin tapping, peeling of the bark from the trees, collecting dry leaves, humus and other activities that weakens productive capacity or threaten the survival of the forest and its multiply functions.
Connection with legislation	-Law on Forest;
Indicators	1. Existence of regulations and supervision of its implementation. 2. Monitoring and control of regulation violations.
Source of verification	- Remarks in the forest chronicle. - Remarks in the reports of Service for (RDF) Reporting Diagnostic Forecasts and ISPF. - Archived reports of registered offenders. - Archived reports from conducted inspection checks. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Restrictions	
Criterion No.	2.7.
Criterion description	<p>The use of pesticides in forest is minimized and used in cases when application of silvicultural and biological measures is not justified. The application of pesticides is recommended by an expert or relevant institution. It is prohibited usage of pesticides WHO* Type 1A and 1B. In cases where no other viable alternatives are available, type 1A and 1B may be applied on request only with prior written approval by PEFC Council. Usage of pesticides such as chlorinated hydrocarbons it is prohibited, as well as any pesticides prohibited with Stockholm Convention on Persistent Organic Pollutants. Usage of pesticides is conducted according to the instructions given by the producer and implemented only with proper equipment and persons specially skilled for this purpose.</p> <p>*WHO = World Health Organization</p>
Connection with legislation	<ul style="list-style-type: none"> -Law on products for plant protection. -National List for approved products and active substances. -World Health Organization list's for types of pesticides. - Stockholm Convention on Persistent Organic Pollutants.
Indicators	<ol style="list-style-type: none"> 1. Documented utilization of pesticides by type, quantity, treated areas, remaining quantities and storage of chemicals. 2. Records of completed training of persons who apply pesticides.
Source of verification	<ul style="list-style-type: none"> - Reports from the Ministry of Agriculture, Forestry and Water Economy for conducted treatment. - Recommendation for pesticides utilization by the appropriate institution. - Approval from PEFC Council for use of type 1A and 1B pesticides.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 2: Maintenance of forest ecosystem's health and vitality	
Thematic area: Restrictions	
Criterion No.	2.8.
Criterion description	Usage of fertilizers in forest is avoided. The fertilizers can be applied only by recommendation of respective institution on controlled and prescribed manner, taking in consideration their influence on the environment.
Connection with legislation	-Law on Quality and Safety of Fertilizers, bio-stimulators and material for enhancement of soil conditions.
Indicators	1. Records from type and quantity of used fertilizers
Source of verification	- Recommendation for usage of fertilizers by professional institution.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 3: Maintenance and support of forest productive functions (wood and non-wood forest products)	
Thematic area: Forest products	
Criterion No.	3.1.
Criterion description	Maintenance of the forests resource capacities for production of timber and non-timber forest products and services is one of the main goals of forest management planning. Forest management planning shall provide economic goals of the forest management with observation on annual basis. The forest structure and its productive capacities are base for determining the economics goals in forest management plans or their equivalents, taking in consideration the current need for different forest products and services and the market flows. Forest management planning shall also identify all important functions and services of the forest area and to secure that all of these functions will be retained with the forest management activities foreseen. Forest management practices supports capacities of forest resources for production of diversified timber and non-timber products and services. The level of utilization of the products (timber and non-timber) doesn't not jeopardize their long-term sustainability, with due regard to nutrients off-take from the soil at the level of optimum utilization of the products. Commercial utilization of non-timber forest products is regulated and performed under monitoring and control and is in compliance with the regulations.
Connection with legislation	-Law on Forest; -Law on Hunting -Law on Nature protection; -Rulebook for content of Forest Management Plans, Plans for Forest Silviculture and Protection and Annual Executive Plans; -Rulebook for content of the hunting management plan; -Rulebook for the types of other forest products and methods for their utilization and collection (Official Gazette of RM No 155/2011)
Indicators	1. List of product types (from wood, mushrooms, forest fruits, herbs, game, stone and other) considered in FMP and FSPP and their equivalents. (Notification: relevant for management activities according to plan (FMP, FSPP), program for management. Data for the game are part of the hunting management plan, developed for certain territory) 2. Identified services and functions from the forest (recreation, sport, landscape, tourism, culture, water retention, soil protection) identified in FMP and FSPP and their equivalents. 3. Ratio between increment and planned available cut (available quantity for utilization) of wood products is in function for fulfilment of the criterion request. 4. Quantity of wood waste after cutting that remains on the stand. 5. Records of issued licenses for collection of non-wood forest products (NWFP) (where is regulated). 6. Records for trade of non-wood forest products in forest (where is regulated). 7. Economic goals of the forest management and evaluation on performance on annual basis exists.
Source of verification	-Data from Forest Management Plans, Plans for Forest Silviculture or their equivalents. -Data in FMP, PFSP ant their equivalent for increment and planned available cut. -Data for approved and marked wood quantity for cutting and for produced wood quantity (book for marking, monthly reports, evidence in FMP). -Licenses for collection of non-wood forest products in forest.

Minimum requirements	<ul style="list-style-type: none"> - There is no decreasing of the forest area and forest qualitative structure. - The wood waste after cutting thinner than 3cm remains at harvesting area with respect to the provisions for conduction of forest order. - Regular available cut is not higher than 80% of the annual increment of wood mass.
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Chapter 3: Maintenance and support of forest productive functions (wood and non-wood forest products)	
Thematic area: Forestry activities and forest infrastructure	
Criterion No.	3.2.
Criterion description	Forest silviculture and regeneration measures are conducted by use of adequate techniques and technologies, in time and manner that support maintenance of productive capabilities of the forest habitat by avoiding unnecessary damage towards remaining forest trees in the stand as well towards soil layer in the forest.
Connection with legislation	<ul style="list-style-type: none"> -Law on Forest; -Rulebook for the content of the FMP and FSPP and Annual Executive Plans;
Indicators	<ol style="list-style-type: none"> 1. Selection of silviculture and regeneration measures for prevention of damage to remaining trees in the stand are in function of criterion request. 2. Utilization of adequate technology during the harvesting is preventing damages on remaining trees in the stand and is in function of criterion request. 3. Utilization of the skidding technique that minimize the damage on soil layer. 4. Skidding is performed on network of skidding roads described in AEP.
Source of verification	<ul style="list-style-type: none"> - Provisions in PFSP for selection of silviculture and regeneration measures. - Provisions in FMP for selection of techniques types for cutting and skidding.
Minimum requirements	<ul style="list-style-type: none"> -Respect of the above mentioned requirements. -Tree damage is allowed up to 2% of the volume of the remaining standing trees in the cutting area.

Chapter 3: Maintenance and support of forest productive functions (wood and non-wood forest products)**Thematic area:: Forestry activities and forest infrastructure**

Criterion No.	3.3.
Criterion description	Construction of forest infrastructure (roads for transport and skidding, bridges and other objects) is performed in accordance with FMPs and their equivalents. Natural field configuration is used for avoiding unnecessary decreasing of soil layer and its spilling in water resources. During the construction of forest infrastructure measures are applied that preserves the natural level and function of water resources. Maintenance of the infrastructure is adequate and according with conditions and needs, with minimal negative impact on environment. Maintenance and drainage of forest roads is conducted according to plans and in accordance with the category of forest road. Therefore, more importance is given in rare, sensitive and representative ecosystems or genetic reserve stands, and the pathways of migration of key or endangered animal species.
Connection with legislation	-Law on Forest; -Law on Nature protection; -Rulebook for content of FMP, PFSP and Annual Executive Plans;
Indicators	1. Plan for construction and maintenance of forest road and other infrastructure with focus on the possible influence on ecosystem and migration corridors.
Source of verification	- Provisions from FMP for forest infrastructure. - Field check conducted by independent body for conduction of the plan for road construction.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Forests of high ecological significance	
Criterion No.	4.1.
Criterion description	<p>Forest management goals shall aim to maintain, conserve and enhance biodiversity on ecosystem, species and genetic level and, where is appropriate to maintain/reach diversity at landscape level. During forest management planning, inventory and mapping of forests, if ecologically important forest exists, areas will be identified, protected and/or conserved, containing significant concentration of:</p> <p>(a) protected, rare sensitive, virgin or representative forest ecosystems; (b) threatened or protected endemic species and habitats of threatened species, defined and recognized in referent lists; (c) endangered and protected genetic in situ resources, as well as to be taken into account (d) nationally significant, large landscape areas with natural distribution and abundance of naturally occurring species.</p> <p>Notification: Criteria 4.1 shouldn't obligatory prohibit activities of forest management if they don't damage the biodiversity values of these biotopes.</p>
Connection with legislation	<ul style="list-style-type: none"> -Law on Forest; -Decision on determination of rare tree species in forest; -Law on Nature protection;
Indicators	<ol style="list-style-type: none"> 1. Forest categorization according to forest designation. 2. Selection of silviculture and regeneration measures are in function to sustain biodiversity. 3. Identified and mapped forests of high ecological values according to the criterion requests. 4. Identification according to the national and international referent lists.
Source of verification	<ul style="list-style-type: none"> - Forest Management Plans or their equivalent. - Plan for Forest Silviculture and Protection. - Forest maps. - Provisions from the FMP and PFSP or their equivalent for selection of measures in function for sustaining the biodiversity.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Forests of high ecological significance	
Criterion No.	4.2.
Criterion description	Protected and endangered species of forest plants, mushrooms and forest animals shall not be exploited for commercial purposes. Where is necessary, measures shall be taken for their protection, nursing and increase their population. Notification: Criteria 4.2 shouldn't obligatory eliminated activities of forest management if they don't damage the biodiversity values of these biotopes.
Connection with legislation	-Law on Forest; -Decision on determination of rare tree species in forest; -Law on Nature protection; -Law on hunting; -Decision on determination of useful wild bird's species; -National and International reference lists; -List of Strictly protected wild species in Republic of Macedonia (Official Gazette of RM 139/11 from 07.10.2011);
Indicators	1. Respect of the law regulation 2. Selection of protection measures according to the criterion description included in FMP PESP or their equivalents.
Source of verification	- Archived reports from conducted inspection checks. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Forest practice in balance with nature	
Criterion No.	4.3.
Criterion description	In stands where established diversity exists according to species and aged structure, forest management measures are applied supporting their existence as well as in stands with recognized values in landscape diversity perspective. In forest stands where diversity of species and age structure is not established, silviculture measures for ensuring their promotion shall be established.
Connection with legislation	-Law on Nature protection; -Law on Forest;
Indicators	1. Forest areas stability under uneven aged and mixed stands. 2. Conducted field activity doesn't disturb the landscape diversity. 3. Application of forest silviculture measures for improvement of the structural forest diversity.
Source of verification	- Data from FMP and PFSP or their equivalent for the stand types compared to previous management period. - Forest maps that gives reflection of the composition of forests by type and age. - Field check conducted by independent body.
Minimum requirements	- There is no decreasing of the areas of uneven aged and mixed stands.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems

Thematic area: Forest practice in balance with nature

Criterion No.	4.4.
Criterion description	<p>Forest management measures have a goal to ensure successful natural forest regeneration. If this is not possible, afforestation measures should lead into securing adequate quantity and quality of forest resources in accordance with habitat conditions. In selection of forest species for afforestation priority has to be given to native tree species of local provenance that are well adopted on the habitat conditions. Only provenances and varieties of introduced species may be used if their impact on the ecosystem and genetic integrity of native species is adequately estimated and there are not negative impacts. In the planning for afforestation and reforestation measures, aspects of ecological connectivity shall be analyzed. Afforestation and reforestation that contributes to improvement and restoration of ecological connectivity shall be promoted and implemented. It is not allowed utilization of reproductive materials from genetically-modified tree species.</p> <p>Notification: (CBD (Convention on Biological Diversity) Guiding Principles for the Prevention, Introduction, and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species) are recognized as directions for avoidance of invasive species.</p>
Connection with legislation	<ul style="list-style-type: none"> -Law on Forest; -Law on Nature protection; -Law on reproductive forest planting material; -UN Convention for Biological Diversity;
Indicators	<ol style="list-style-type: none"> 1. Selection of measures for silviculture and regeneration of stands is in line with criterion requirement. 2. Selection of measures and species for planting is in line with criterion requirement. 3. Data in forest chronicle for appearance of natural processes for seed maturity and forest regeneration.
Source of verification	<ul style="list-style-type: none"> - FMP, PFSP or their equivalent. - Forest chronicle (only in FMP and PFSP). - Professional assessment of the impact of introduced species. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Forest practice in balance with nature	
Criterion No.	4.5.
Criterion description	Forest silviculture and utilization activities must be conducted on a way that doesn't cause lasting damage on ecosystems. Wherever is possible, practical measures shall be taken to improve or maintain biological diversity.
Connection with legislation	-Law on Forest; -Law on Nature protection;
Indicators	1. Documented assessment for condition of the stand and ecosystem after conduction of forest activities.
Source of verification	- Archived reports from conducted regular inspection checks. - Archived reports from conducted internal inspection checks. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Forest practice in balance with nature	
Criterion No.	4.6.
Criterion description	Forest management measures should be oriented towards establishing balance between the pressure of animal populations toward regeneration, forest development and biodiversity protection.
Connection with legislation	-Law on Forest; -Law on Hunting -Law on Nature protection;
Indicators	1. Documentation for monitoring on the presence of game (animal) populations and their influence on forest ecosystem.
Source of verification	- Hunting management plan. - Report from ICP Forests. - Forest chronicle. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Forest practice in balance with nature	
Criterion No.	4.7.
Criterion description	Standing and fallen dead trees, monumental trees, trees with holes, old trees and special rare tree species are left in quantity and composition necessary for preserving biodiversity, taking in consideration the potential effects for health and stability of the forest and neighboring ecosystems.
Connection with legislation	
Indicators	1. Existence of written directions and their implementation for leaving monumental, old, dead and laying trees in forest.
Source of verification	- Number and quantity of old, dead and laying trees in forest. - Field check conducted by independent body
Minimum requirements	- Minimum 3 trees per hectare according to criterion description are left in the stand. - The wood waste after cutting thinner than 3 cm remains at harvesting area with respect to the provisions for conduction of forest order.

Chapter 4: Maintenance, conservation and enhancement of biological diversity of forest ecosystems	
Thematic area: Traditional management systems	
Criterion No.	4.8.
Criterion description	Traditional way of management of coppice forest can be conducted on appropriate habitats and in cases where it is ecologically, socially and economically viable.
Connection with legislation	- Law on Forest;
Indicators	1. No increase of coppice forest stands area. 2. Clear cut is not allowed on fields with average slope over 75%. On fields with average slope between 50-75%, the cutting area shall not exceed 2 ha. On fields with average gradient up to 50%, the cutting area shall not exceed 10 ha. 3. Clear cut is applicable on area that is not neighbouring with coppice forest younger than 4 years. 4. It is not allowed clear cut in high forest, protective and protection forests except in cases of silviculture measure to mitigate effects of events caused by the nature or human (wildfires, windbreaks, diseases, avalanches, illegal cutting and other) and is in accordance with the provision from FMPs, PFSP and their equivalents as well as for construction of infrastructural and capital objects in accordance with national legislation.
Source of verification	- Data from FMP or their equivalent for stands types and compared with previous management period. - Field check conducted by independent body.
Minimum requirements	- A minimum of 10 trees per hectare remains standing after clear cutting.

Chapter 5: Maintenance and enhancement of forest protective functions (notably soil and water)	
Thematic area: Forest protective functions	
Criterion No.	5.1.
Criterion description	Forest management planning shall aim to maintain and enhance protective forest functions, such as erosion protection; wind protection; protection of water resources; protection from harmful effect of water (floods, avalanches); and infrastructure protection. Forest of protective purposes are registered and mapped in Forest Management Plans or their equivalents. Silviculture and protection measures are adapted to their function.
Connection with legislation	-Law on Forest; -Law on Water;
Indicators	1. Selection of silviculture and regeneration measures is in function of fulfilment of the criterion request. 2. Maps of forest areas with protective purpose. 3. Categorization of forest according to the purpose
Source of verification	- Forest maps. - FMP and their equivalents. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 5: Maintenance and enhancement of forest protective functions (notably soil and water)	
Thematic area: Forest protective functions	
Criterion No.	5.2.
Criterion description	In forests exposed on risk from soil erosion selection and implementation of measures for forest protection and silviculture is appropriate with their purpose and is aimed at protecting of the soil. In forest with water protection functions special attention is dedicated in implementation of forest practices in order to avoid damage effects on the water quantity and quality. Inappropriate chemical and harmful substances which has negative impact on the water quality are avoided during forest utilization.
Connection with legislation	-Law on Forest; -Law on Water; -Law on Agricultural land;
Indicators	1. Selection of silviculture and regeneration measures for forest with protective purpose is in function for fulfilment of the criterion request. 2. Usage of adequate technology is in function for fulfilment of the criterion request. 3. Clear cutting is forbidden in forests with a protective function, except in cases for forest rehabilitation due to extraordinary phenomena (fire, calamities, etc.) 4. It is prohibited the use of invasive techniques or use of heavy machinery which rupture and damage the soil layer in forests that are at risk of soil erosion or forests are of protective function.
Source of verification	- Provisions in FMP for selection of measures for silviculture and protection. - Provisions in execution plans for selection of techniques for harvesting and skidding. - Field check conducted by independent body.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Socio-economic functions of the forests	
Criterion No.	6.1.
Criterion description	Forest management maintains socio-economical forest functions, their contribution on rural development and employment possibilities, community well-being, recreational and esthetic values as well as their positive impact on human health. Procedures for improved access to the forest products and services for communities living in forest areas shall be analysed and simplified. Forest managers and forest owners shall analyse and provide actions to secure recreational and aesthetic values of the forests. Forest sites with recognized historical, cultural or spiritual values and forest areas that essential for satisfying basic needs of local communities are managed with due attention, precaution and respect towards significance of that area. Effective and continuous communication and consultation with local population and other stakeholders are basic tools for resolving potential complaints in regards to forest management. In cases of dispute forest managers/forest owners shall prescribe mechanism for resolving dispute in effective way.
Connection with legislation	-Law on Forest; -Law on Nature protection; -Law on Agriculture and Rural development;
Indicators	1. Work engaged inhabitants from the rural municipality in forest area. 2. Forest management securing the functions of recreation and supporting aesthetic values. 3. Consultative meetings among the forest managers and local community for issues of interest to the local community related to forestry. 4. Recognized forest areas with historical, cultural and spiritual values according to the reference lists (where relevant). 5. Analyze for procedures for improved access for products and services for communities living in forest areas exists. 6. Dispute settlement procedures available.
Source of verification	- Data for engaged inhabitants in forestry from the rural municipality. - Data from the archive of the forest user or forest owner (employing contracts, temporary engagement, service). - Existence of mountain house, weekend settlement, hiking and bike trails, marked locations for natural streams, waterfalls etc. - Archived reports on realized thematic meetings. - Internal document for improved access for products and services for communities living in forest areas. - Archived reports on executed dispute settlement procedures.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Socio-economic functions of the forests	
Criterion No.	6.2.
Criterion description	Forest are natural good of public interest and all citizens has the right of free access in forests for enjoyment and recreation, on their own responsibility for their safety and with an obligation to respect legal provisions. The free entrance can be limited or prohibited in protected parts of the forests, in forest parts where the human safety is in danger, in period of year of existing threat of forest fires or performance of harvesting, silviculture and forest protection activities. For informing about restriction of free access to forests, all appropriate tools for information are used (local media, municipal info, web-site, info boards on the field).
Connection with legislation	-Law on Forest;
Indicators	1. Respect of the procedures for free access in forests.
Source of verification	- Archived documents for proclaimed ban for access by locations and time duration. - Interviews with local stakeholders for free access in forest. - Field and other type of check conducted by independent body for existing means for informational.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Ownership and traditional rights	
Criterion No.	6.3.
Criterion description	Property rights and land tenure arrangements are clearly defined, documented and established for the relevant forest area. The legal, customary and traditional rights related to forest and forest land are recognized and respected in accordance with national regulations. The activities undertaken in forest management respects legal, customary and traditional rights. Note: UN Declaration for the rights of indigenous people is not applicable for Macedonia.
Connection with legislation	-Law on Forest; -Law on Real Estate Cadaster
Indicators	1. Existence of property lists and established borders of cadaster parcels. 2. Securing the right of rural inhabitants to harvest wood from state forests for their own needs.
Source of verification	- Overview of the cadaster parcels within property list. - Archived requests and approvals for harvesting in state forests. - Interviews with the representatives of the rural population.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Trainings, knowledge development	
Criterion No.	6.4.
Criterion description	Professional and technical staff employed in forestry, service providers and forest owners have access to information and possibility for training regarding sustainable forest management as a precondition to fulfill all requests related to forest planning and management prescribed by this standard.
Connection with legislation	
Indicators	1. Availability of materials and organized trainings for employees and other persons engaged in forest operations for meeting the requirements for conducting sustainable forest management.
Source of verification	- The content of prepared materials for training and schedule for the trainings. - Notes (reports) from the trainings conducted. - Interviews with operators on field.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Trainings, knowledge development	
Criterion No.	6.5.
Criterion description	Forest management is based inter-alia on the results of the scientific research. Forest users and forest owners on request of relevant institutions and organizations, in framework of their availability are contributing to research activities and collection of data. Where it is relevant, the local knowledge and experience that is related to forests is implemented in order to improve sustainable management of forests.
Connection with legislation	
Indicators	1. Relevant professional and scientific research applied (if exists). 2. Requests for cooperation in scientific research (if exists).
Source of verification	- The content of professional applicable and scientific research related to forest management. - Arhived requests for cooperation.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Occupational health and safety	
Criterion No.	6.6.
Criterion description	Forestry works are planned, organized and performed in a manner that identify all possible risks towards health and appearance of accidental events by implementing all reasonable measures for protection of the workers. The engaged workers are informed about the permanent risks and they are properly trained for performing their work in order to preserve their health.
Connection with legislation	-Law on occupational health and safety -ILO (International Labor Organization) Conventions ratified by the Republic of Macedonia -Collective agreement for workers in forestry -Rulebook for occupational health and safety.
Indicators	1. Identification of all possible risks at work. 2. Certificates for conducted trainings for safety during working activities in forests. 3. Engagement of trained workers in execution of forest operations. 4. Mandatory wearing safety equipment, possession of first aid kit and respect of protocols for safety at work (Rulebook for occupational safety). 5. Secured means of communication in need of emergency. 6. Usage of proper technical means and other work equipment. 7. Records on frequency of job related injuries per years.
Source of verification	- List of ratified conventions by Republic of Macedonia. - Awareness on potential risks. - Certificate of completed training. - Contracts with trained workers engaged in forest operations. - Reports from the field inspections for compliance of the provision of wearing protective equipment, first aid kit and usage of proper technique for work (internal control, labor inspection). - Radio station, mobile phones available on the field. - Statistics of recorded accidents at work.
Minimum requirements	- Respect of the above mentioned requirements. - Workers in the forest that are under the age of 18 years are not hired.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Compliance with legislation	
Criterion No.	6.7.
Criteria description	Forest management comply with applicable regulations in the field of forestry, trade, nature and environment conservation; ownership and land tenure rights; occupational health and safety; labor law and collective agreement (where is applicable), payment of fees, royalties and taxes.
Connection with legislation	All laws that are relevant to the different areas mentioned in the description of the criteria
Indicators	1. The frequency of violations of the relevant regulations by the user or forest owner, categorized by type of regulation and their injuries.
Source of verification	- Archived reports on the number of violations of legislation by the user or forest owner identified by the relevant institutions. - Interviews with the engaged persons, employees and the representatives of the institutions.
Minimum requirements	Respect of the above mentioned requirements.

Chapter 6: Maintenance of socio-economic functions and conditions	
Thematic area: Compliance with legislation	
Criterion No.	6.8.
Criteria description	Forest managers shall implement legal provisions for protection of the forests from illegal activities and with that to ensure the implementation of systemic protection of forest. Systematic protection is in accordance to national legislation and provides regular functioning of institutions and bodies responsible for carrying out such kind of activities. On annual basis, forest owners shall monitor, record, investigate and report cases of illegal acts at their forests to institutions responsible for systematic protection of forests from illegal activities.
Connection with legislation	-Law on Forest; -Law on inspection; -Criminal Law (Code)
Indicators	1. Illegal activities in forests are registered and processed in accordance with national legislation. 2. Monitoring report of forest owners prepared on annual basis.
Source of verification	- Daily reports of forest guardians. - Charges submitted by the Forestry Police, State Forest Inspectorate and other institutions relevant for the mentioned area. - Monitoring reports of forest owners.
Minimum requirements	Respect of the above mentioned requirements.