

Svenska PEFC ek för
TD IV



PEFC Sweden Forest Standard

PEFC SWE 002:4



Främjande av
uthålligt skogsbruk
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PEFC works for sustainable forest management where consideration is shown for environment, production, and social requirements.

The PEFC-logotype is found on products which derive from forestry that complies with PEFC requirements.

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1 Introduction

The aim of the Swedish PEFC Forest standard is to develop an active and responsible forestry in which timber production, environmental conservation, and social interests are properly balanced. The standard is based on the “Lisbon Declaration” which was adopted at the third Ministerial Conference on the Protection of Forests in Europe (now Forest Europe) in June 1998. The criteria, indicators, and operative guidelines outlined in the Lisbon resolutions L1 and L2 have been applied after evaluation. In addition, the principles, rules and guidelines stipulated by the Swedish forestry legislation and other applicable national legislation constitute a platform for the standard.

2 Scope

The Swedish PEFC-standard (TD IV) consists of six different standards which describe the system for PEFC-certification of forestry, forestry contractors and timber flows in Sweden:

- PEFC SWE 001 – Swedish PEFC certification system for sustainable forest management
- PEFC SWE 002 – Swedish PEFC forest standard
- PEFC SWE 003 – Swedish PEFC forestry contractor standard
- PEFC SWE 004 – Swedish PEFC requirements for direct certification and group certification
- PEFC SWE 005 – Swedish PEFC requirements for certification bodies
- PEFC SWE 006 – Guidance for notification of certification bodies

The present document PEFC SWE 002, The Swedish PEFC Forest standard, includes requirements concerning the following three areas:

Forest management standard

Lays down the objectives, fundamental guidelines, and requirements for an economically sustainable and site-adapted forestry production.

Social standard

Lays down the objectives, fundamental guidelines, and requirements for terms of employment, working environment, organization of work, competence, relations to the reindeer husbandry sector, the right of public access, and rural development.

Environmental standard

Lays down the objectives, fundamental guidelines, and requirements regarding consideration for natural- and cultural environments and outdoor life in forestry.

A fundamental principle to PEFC is that the responsibility to comply with the forest standard falls upon the forest owner.

2.1 Facilities and further information

Information on current legislation applicable to forestry and advice on forest management may be obtained from the web-based services “*Regelrätt Skogsbruk*”, rkrattsbaser.gov.se, and “*Kunskap Direkt*”, www.kunskapdirekt.se. The forest sector’s targets for good environmental consideration are to be found at www.skogsstyrelsen.se. For planning purposes the laser inventory data provided by the Forest Agency (<https://skogskartan.skogsstyrelsen.se/skogskartan/Default.aspx?startapp=skogligagrunddata>) and “*mina sidor*” at the Forest Agency web contains useful information.

3 Forest management standard

Forestry shall be practiced in a way that complies with applicable legislation and industry practice. Forestry shall be sustainable, and based on scientifically tested and site-adapted methods and principles. Forestry shall have a market perspective and make use of available market studies. Sustainable forest management refers to long-term management with the aim of preserving or enhancing the values of the forest holding in the form of forestry production, nature conservation values, and social values. Forest management shall prevent undesired forest fires and unlawful activities like illegal logging and illegal land-use.

Forest management comprises the cycle of inventory and planning, implementation, monitoring and evaluation, and shall include an appropriate assessment of the social, environmental, and economic impacts of both planned and completed forest management operations. In addition to own results, data and results from the National Forest Inventory and from The Forest Agency’s monitoring of environmental consideration may be used and available market studies may be used when applicable (e.g. <http://www.slu.se/institutioner/skogens-produkter/>).

3.1 Forest management plan

The Swedish PEFC-system is based on forest owners having a forest management plan adapted to certification. The forest management plan is a basis for planning the management of the forest holding.

- 3.1.1 Forest holdings of 20 ha productive forest land or more must have a forest management plan adapted to certification in accordance with Appendix 1. An evaluated and described method for assessment of conservation values shall form the basis for the forestry objectives.
- 3.1.2 Forest holdings with less than 20 ha productive forest land must have an overview map showing the location of voluntary set-asides as well as key-habitats, sites with conservation values, and ancient/cultural remains that are registered by concerned authority.

3.2 Productive capacity of the forest land

An important component in a sustainable forestry is the long-term productive capacity of the forest land, which shall be made use of and managed at forestry operations. Cleaning of ditches and fertilization are examples of measures to enhance production that may be of importance on land which is suitable for this.

- 3.2.1 In order to prevent soil compaction and to ensure the productive capacity of the forest land, soil conservation measures shall be undertaken when needed. Examples of such measures are reinforcement of tracks with logging debris and use of soil relieves. Alternatively, felling and timber extraction are undertaken when the ground is frozen.
- 3.2.2 Sustainable annual allowable cut shall be documented in the forest management plan.

3.3 Regeneration

In order to establish suitable conditions for an economically viable timber production, reliable regeneration methods shall be used.

- 3.3.1 Plants and seed material shall be adequate for the site in question and have a documented origin.
- 3.3.2 Regeneration measures shall have been undertaken within three years from the time of final felling. Control of regeneration shall be undertaken three years after planting at the latest, and five years at the latest after seeding or natural regeneration.
- 3.3.3 Soil scarification shall be site-adapted.
- 3.3.4 Reproductive material with extraneous genes (genetically modified reproductive material, GMO) must not be used.

3.4 Silvicultural measures

Pre-commercial thinning and thinning shall be undertaken in order to produce forests with high production- and nature values in accordance with established objectives.

- 3.4.1 Pre-commercial and thinning forests (*R1, R2, G1 and G2*) shall preferably be managed in accordance with forest management plan or equivalent management plans/estimations of potential cuts. Measures should be undertaken +/- 5 years from proposed point in time. Any deviation from forest – or management plan shall be motivated.

3.5 Other forest management methods

The clear felling system is the most common and most evaluated forest management method in Sweden. Other management methods are not researched to the same extent, but may be of

interest as alternatives with regard to for example variation in the landscape, recreation, and nature conservation.

- 3.5.1 Other forest management methods, for example different forms of continuous forestry, may be applied provided that the methods in question are site-adapted and documented in the forest management plan. If non-proven methods are used, these shall be evaluated in order to ensure long-term sustainable production.

3.6 Forest fuel

Extraction of timber and forest fuel is a natural part of an active forestry and shall be carried out in a manner ensuring that the long-term productivity of the forest land is preserved.

- 3.6.1 Extraction of forest fuel shall only be undertaken on land which is suitable for this, and where there is no risk of damage to the soil.
- 3.6.2 In connection to extraction of forest fuel, the land owner shall obtain information, for example via research findings or the Forest Agency, on the need and benefits of ash restoration to the site or other part of the forest holding. The need and benefits may refer to the land's productive capacity or to water quality. If needed, and where practical and economic prerequisites for ash restoration prevail, ash shall be restored to suitable land within the forest holding. Fertilization may also be an appropriate measure to maintain productive capacity of the land.

3.7 Pest control methods

PEFC aim for a toxic-free forestry, and therefore, PEFC evaluates on annual basis if there are satisfactory non-toxic means of pest control at hand.

- 3.7.1 Toxic products for pest control may *only* be used when other suitable methods are not at hand. Only those plant protection products that are approved by the Swedish Chemicals Agency may be used.
- For example, the use of chlorinated hydrocarbons and pesticides classified as WHO Type 1A and 1B is prohibited.
- 3.7.2 In the case chemicals are used, there shall be procedures in place ensuring that these are used in accordance with laws and ordinances as well as producer instructions. Staff shall be properly educated and equipped.

3.8 Exotic tree species

As exotic tree species count species which do not naturally grow in Sweden. Some of these may have advantages such as higher growth, advantageous wood qualities, better adaptation to damage from game or a changing climate. When exotic tree species are used, risks such as

forest infestations, effects on biological diversity, and unplanned natural regeneration shall be taken into account. Native species shall always be considered.

- 3.8.1 Presence of exotic tree species shall be documented in the forest management plan.
- 3.8.2 Larger forest owners (holdings ≥ 5000 ha productive forest land) shall limit the use of exotic tree species so that the total area of stands dominated by exotic tree species does not exceed 20 % of the productive forest land area.
- 3.8.3 Forest owners that have exotic tree species on their forest land shall limit and remove any propagation into existing formally protected and voluntarily set-aside forest land.
- 3.8.4 Larger forest owners shall have programs in place for the control of propagation into formally protected and voluntarily set-aside forest land. Larger forest owners shall also show consideration at stand- and landscape level when exotic tree species are used. This shall be clear from the forest management plan or equivalent.
- 3.8.5 Larger forest owners, with land holdings situated within the area of reindeer husbandry (3§ The Reindeer Husbandry Act (1971:437)) shall not establish stands with exotic species on sites which are of special importance to reindeer herding, unless otherwise is agreed during consultation. Such sites shall be documented in connection to consultations or through the Sami communities land use accounts, reindeer management plans or national accounts on reindeer herding.

3.9 Forest health

Forest owners shall, by means of appropriate silvicultural methods, work for the creation of vital forests by preventing damages to forests caused by climatic factors such as frost, wind and snow. The risk of damages by pests such as fungi and insects shall be minimised through application of the provisions and general advice of the Forestry Act.

- 3.9.1 Variation in stand age and tree species shall be aimed at, at forest holding level.
- 3.9.2 Risk-preventive measures and active forest protection shall be carried out in accordance with the forestry legislation.

3.10 Conversion of forest land

Conversion of forest land may affect nature values but may also entail great advantages to society.

- 3.10.1 Conversion of forest land to other land use shall only be made to a limited extent and where such conversion is consistent with current legislation, and after all necessary permissions have been obtained and consultation carried out. Examples of this are when conversion aims at development of infrastructure related to forestry or society at

large (such as roads, wind power etc.), research, improvement of recreational values, or preservation or development of cultural values or biological diversity. When forest land that has previously been under agriculture is again converted to agricultural use, this is considered to meet the above described criteria.

3.11 Game

Forest owners shall aim for adaptation of the size of game populations so that the long-term objectives regarding forest management and nature conservation may be obtained. A close cooperation between the forestry sector and hunters is a prerequisite for obtaining the objective of vital game populations which is on balance with the fodder supply.

3.11.1 Forest owners shall work for a balance between the size of ungulate populations and the fodder supply in order to keep damage levels down.

3.11.2 To judge whether the size of ungulate populations is well-balanced, objective and quality assured methods shall be used as a basis.

The size of ungulate populations may be considered well-balanced and on balance with fodder supply when:

- rowan, aspen, willow, and oak have the possibility to grow into trees in those parts of the country where they naturally occur
- it is possible to regenerate the forest land with suitable tree species
- at least 7 out of 10 regenerated stems of pine are undamaged at 5 m height
- the number of undamaged main stems of pine at 5 m dominant height is between 1200 and 1600 stems per hectare, depending on site class.

3.12 Consideration for reindeer husbandry

3.12.1 Consultation within the year-round pasture land for reindeer husbandry shall be practiced in accordance with the forestry legislation.

3.12.2 In areas with verified or probable right of reindeer herding (in accordance with SOU 2006:14), the following consideration shall be shown, object by object:

- On lichen type and lichen-rich vegetation type, soil scarification shall be carried out in such a way that forest regeneration is secured while soil impact is minimized.
- In stands with important hanging lichens, site adapted final felling shall be practiced and lichen rich edge zones be preserved along water courses and mires, as well as groups of trees with lichens.

- Forest fertilization shall not be carried out in stands of lichen type, if not otherwise agreed in connection to consultation in accordance with §20 and §31 of the Forestry Act.
- Prescribed burning shall not be carried out on land of the types lichen and lichen-rich and which are important from the point of view of reindeer herding, if not otherwise agreed in connection to consultation in accordance with §20 and §31 of the forestry act.
- Special consideration at felling shall be shown for reindeer migration tracks, sites for rounding up and sorting of reindeers, and sites used for grazing during reindeer migration, so that the function of these sites is not unnecessarily impaired.

3.13 Landscape ecology

All forest management planning should be made in a landscape-ecological context. This means that the landscape and natural runoff areas are considered at forestry operations, where also the need of restoring forest- and water environments is taken into consideration.

3.13.1 Forest owners with more than 5 000 ha of continuous productive forest land shall plan from a landscape-ecological perspective, with respect to the consolidation of the forest holding and other local conditions.

3.13.2 Forest owners with less than 5 000 hectares of continuous productive forest land shall take into consideration regional action plans or the equivalent in connection to forest management planning. This means that adjustment of the forest management is made at the level of the forest holding so that the management contributes to nature values being preserved and when needed enhanced in the landscape at hand, e.g. regarding the amount of dead wood, area of older forest rich in deciduous trees, or area of forest with high nature values.

4 Social standard

The business which are of importance to Swedish PEFC-certification shall be practiced so that current laws, Swedish collective agreements, and practice of the labour market are complied with. Resources offset shall be adjusted to every individual company's size and situation. Swedish PEFC and those forest owners, wood procurement organizations, and contractors which are certified according the Swedish PEFC-standard strive for a forest-related community of values based on:

- Social and cultural consideration
- Good relations with the surrounding world and other stakeholders being active in the forest
- The possibility for each person to use the forest according to the right of public access
- The right of ownership and the possibility to own and manage forests under reasonable conditions
- Vital rural areas with vital local businesses
- A business which is regulated through contracts between parties with mutual respect and responsibility
- A safe and healthy working environment
- All actors having adequate qualifications for the work being made

4.1 Consideration for social values, recreation and outdoor life

The social values of forests are all the good from the forest that humans benefit from; experience values, public health, jobs, and rural development. The concept also includes the economic and historical development of how forests have contributed to prosperity of the country's wealth and how this has made an imprint on peoples view on the forests. The forest sector's targets for good environmental consideration provide guidance for management of forests of significance to recreation and outdoor life. The targets have been elaborated by the Forest Agency, the forestry sector, and non-governmental organizations in collaboration. They concern especially designated areas such as recreational areas, recreational sites, forest tracks, and trails.

Swedish PEFC safeguards the right of public access. The right of public access gives individuals the possibility to visit the forest for recreation and outdoor life, provided that this does not cause any damage or inconvenience for the forest owner.

- 4.1.1 Areas on the forest holding which are of great significance to recreation and outdoor life shall be identified and documented. Identification and documentation shall be made prior to any forestry operation, at the latest.
- 4.1.2 In the case any area in line with 4.1.1 has been identified, the landowner or representative of the landowner shall, on the basis of local conditions and when it is warranted by the situation, take appropriate information- and dialogue measures prior to any forestry operations are begun.

- Any signs or notice sheets shall include contact information. In the cases informative signs/sheets are used, these shall be posted or handed out at least 14 days prior to any forestry operation is begun.
- In the case of forestry operations adjacent to schools, other public facilities, or close to residential areas, information shall be provided, or dialogue, e.g. information meeting, be offered.

4.1.3 The accessibility to frequently used tracks and trails shall be preserved at forestry operations, meaning among other things that debris from forest felling shall be removed and that soil scarification and rutting shall be avoided. Tracks and trails that have been damaged shall be repaired so that original accessibility is restored.

4.2 Rural development

The Swedish PEFC supports the principle of an economically sound rural development in all parts of Sweden. Small- and large scale forestry, including tourism based on natural- and cultural environments, constitute important platforms for development of the rural economy. The forest owner as well as wood procurement organizations and service organizations shall strive to apply the silvicultural- and forest management methods, as well as the sale and processing of forest products, which are the most appropriate for preserving and developing jobs, competitiveness, and profitability. In addition, forest owners and organizations shall strive to ensure the existence of sales of timber, timber deliveries, and service systems in all parts of the country, including in sparsely populated areas where transport distances may be long.

4.2.1 In the case of tendering processes for forestry services, local contractors shall be included. The size of the contract work should be adjusted so that local contractor enterprises may participate under market conditions.

4.2.2 How the adjustment in line with 4.2.1 is made shall be described by a routine.

4.3 Forestry and reindeer herding

The relations between reindeer herding and forestry build on mutual respect for, and the balancing of, different land-use needs in the northern parts of Sweden. Collaboration at the local level, and a balancing of different needs adapted to the specific situation, shall be sought for in order to arrive at solutions that are the most appropriate with respect to the local situation. Regarding family-forest enterprises, agreements between the Swedish Federation of Forest Owners and the Swedish Sami Association serve as a basis for collaboration, together with the policy "*Familjeskogsbruk och renskötsel i samverkan för Norrland*" (Family forestry and reindeer herding in collaboration for the northern parts of Sweden).

Consideration for the interests of reindeer herding shall be shown in accordance with the Forestry Act, § 13b, 14, 18b, 20 and 31. Regarding consultation, provisions and general advice according to § 20 and 31 of the Forestry Act shall be applied, unless otherwise agreed outside

the reindeer herding year-round pasture lands. See further the Swedish PEFC “Policy for balancing the interests of Forestry and Reindeer herding”, PEFC SWE 001.

4.4 Company responsibilities

Swedish PEFC strives for a long-term and equal collaboration between business- and contracting parties, characterised by mutual respect and responsibility.

- 4.4.1 Commercial contracts shall be signed in written form between client and contractor. The scope of the commission shall be clear from the contract.
- 4.4.2 Companies shall pay the fees and taxes prescribed by law. Swedish tax on companies and VAT-registration shall be accounted for.
- 4.4.3 When the closing account is not available as public document in Sweden, this shall be made available upon request from client, umbrella organization or certification body.

4.5 Employer responsibilities

PEFC strives for vital companies within the forest sector. Employees at all levels are the organization’s principal asset. With full involvement and awareness of the company’s business concept, the abilities of the staff may be used for the organizations best.

- 4.5.1 Companies with employees shall formulate objectives and make sure that the staff is familiar with those.
- 4.5.2 Employment- and work conditions shall, for all employees, be in accordance with current legislation. In addition, the provisions of the Swedish collective agreement shall form the basis for contracts between employers and employees. In the event an employee demands a collective agreement to be in place, such an agreement shall be signed.
- 4.5.3 An employment contract informing the employee about the conditions for the employment shall be signed in written form. The employer is responsible for this to take place. The contents of the contract shall be in accordance with *Lagen om anställningsskydd* (Employment Protection Act) and current Swedish collective agreement.
- 4.5.4 Contactor whose business is geographically dispersed shall, in the cases the commission implies that temporary accommodation is offered/ assigned, ensure that the staff enjoy for the season good living conditions during the contract period. In the cases a client is engaging a contractor whose business is geographically dispersed, and the commission implies that temporary accommodation is offered/ assigned, the client must make sure that the contractor and/or its staff enjoy for the season good living conditions during the contract period. Any agreements beyond collective agreement, regarding reporting for duty, journey home, and journeys at free time, shall be laid down in written form. If

the employee is paying for accommodation and journeys via deduction from salary, this shall be reasonable and be accounted for in the employment contract and the salary specification.

4.6 Insurances

PEFC is of the opinion that people working in the forestry sector shall have basic insurance cover.

- 4.6.1 Any person undertaking forestry work, as employee or business owner, shall have insurance cover including:
- Occupational injury
 - Medical/ life insurance
 - Occupational pension
 - Premium exemption

Guidance is provided by Fora's collective insurances.

4.6.2 Any person undertaking forestry work, as employee or business owner, shall have a Swedish tax card or proof of SINK-tax (special income tax for people working in Sweden and residing abroad) and be registered with the Swedish Social Insurance Agency as well as hold a proof of their right to Swedish care benefits. As alternative to registration with the Swedish Social Insurance Agency, an A1-certificate may be demonstrated. For employees from third country who do not have access to Swedish care benefits, a special insurance shall be in place.

4.6.3 When a client is hiring a company from abroad, it falls upon the client to make sure the employer and its employees are registered with the Swedish Tax Agency and the Swedish Social Insurance Agency. In addition, the client shall make sure that the employer and its employees have a European Health Insurance Card or the Swedish Social Insurance Agency's "certificate on the right to care benefits in Sweden" and that they are familiar with their rights and benefits according to the Swedish social insurance system. As alternative to registration with the Swedish Social Insurance Agency, an A1-certificate may be demonstrated. For employees from third country who do not have access to Swedish care benefits, a special insurance shall be in place.

4.6.4 In the case an employer hires employees from abroad, it falls on the employer to make sure that the Swedish Tax Agency and the Swedish Social Insurance Agency are notified. In addition, the employer shall make sure that the employer and its employees have a European Health Insurance Card or the Swedish Social Insurance Agency's "certificate on the right to care benefits in Sweden" and that the employees are familiar with their rights and benefits according the Swedish social insurance system. For employees from third country who do not have access to Swedish care benefits, a special insurance shall be in place.

For EU/EEA-citizens, registration with the Swedish Social Insurance Agency is made by using the form 5456. Some of the certificates according to 4.6.2 – 4.6.4 require contacts between the

Swedish Social Insurance Agency and the Social Insurance Agency at home, which means that a certain time period for processing may be expected.

4.7 Organization of work

Swedish PEFC-certified companies strive for continuous improvements which allow employees and the business to develop. The work situation shall be adapted to the medical and ergonomic premises of each individual.

- 4.7.1 A description of responsibilities and duties shall be established which clarifies the role of each individual within the organization.
- 4.7.2 The company shall at least twice a year conduct and document formal workplace meetings.
- 4.7.3 Personal development dialogues including the need of skills development shall be held at least once a year.

4.8 Work environment

PEFC-certified companies shall work for a good and secure work environment within the framework of current legislation and good industry practice. A reasonable time of transition shall be allowed for measures requiring larger economic investments like rebuilding and replacement of machinery. Work environment- and health care work shall have a preventive purpose in order to remove health risks.

- 4.8.1 Employer and employees shall collaborate and systematically work to improve the work environment (*SAM*) in a way that encompasses all employees of the forest-related business.
- 4.8.2 Safety- and emergency routines shall be in place at the workplace and be established in a way ensuring that they are understood by everyone concerned.
- 4.8.3 Staff shall have access to staff facilities in accordance with Swedish legislation on work environment and applicable collective agreement.
- 4.8.4 A safety committee shall be in place at any workplace where at least 50 workers are employed at a regular basis, or if the employees so require. A local agreement may be reached which allows these issues to be handled by a body which also handles other issues.
- 4.8.5 Companies with five or more employees shall have a safety representative. Regional safety representatives and/or the occupational health service are appropriate partners in safety work.

- 4.8.6 The employer is responsible for seeing to it that appropriate occupational health services with regard to the work conditions are at hand. Occupational health service refers to an independent expert resource within the areas of work environment and rehabilitation. The occupational health service shall in particular work to prevent and set aside health risks at workplaces as well as be competent to identify and describe the relations between work environment, organization, productivity, and health. The occupational health service shall also be able to provide support in crisis management.
- 4.8.7 If the work entails the use of chemicals, routines shall be in place ensuring that these are used in accordance with laws and ordinances and follow the instructions given by the producer. A list of chemicals and safety data sheets shall be available. Staff shall have the necessary competence, training, and equipment.

4.9 Equal rights and opportunities

PEFC wants to promote equal rights and opportunities and counteract every form of discrimination so that everyone feels welcome in the forestry sector. It shall for example be possible to combine employment and parenthood.

- 4.9.1 Employer and employee shall collaborate to achieve equality in working life and the employer shall be able to demonstrate how this is done. For organizations with more than 25 employees this is made by means of a plan for equality at the workplace.

4.10 Competence in forestry

Staff that are well qualified for the work performed is an important component in implementation of the PEFC-standard. Staff performing forestry work shall have a good understanding of the PEFC-standard. For any additional professional categories, qualification requirements may be specified by the Swedish PEFC in collaboration with SYN (the professional committee for the forestry sector).

- 4.10.1 Staff that are planning, supervising, or performing forestry work shall have adequate qualifications in relation to the work.
- 4.10.2 Staff that are planning, supervising, or performing forestry work shall have for the purpose adequate competence in nature- and cultural environment conservation through a SYN-course on the subject or equivalent.
- 4.10.3 Staff that are planning, supervising, or performing forest ditching shall have qualifications equivalent to the SYN-course *skyddsdikning/dikesrensning* (precautionary ditching/cleaning of ditches).
- 4.10.4 Staff that are planning, supervising, or performing soil scarification shall have qualifications equivalent to the SYN-course *markberedning/markbehandling* (soil scarification/soil management).

- 4.10.5 Staff responsible for planning and classification of an area into forestry objectives prior to an operation, and forest management planners, shall have qualifications in forest-related assessment of nature conservation values in accordance with SYN or equivalent.
- 4.10.6 Forest management planners shall have qualifications equivalent to higher education in forest management planning and according to requirements established by the plan producer.
- 4.10.7 In the case of gaps in the level of education, adequate management and supervision shall be applied during a transition period until competence requirements are met.
- 4.10.8 For staff employed at a seasonal basis which lacks competence in forestry, the quality of the work and compliance with the PEFC-requirements shall be ensured by management, supervision, training, or by other means.
- 4.10.9 Recurrent seasonal workers, except from planters, shall after three months meet applicable competence requirements.

4.11 Skills development

Systematic skills development shall be included as an important component of the certified company's staff policy.

- 4.11.1 Training needs for all staff shall be identified through dialogue with the employees.
- 4.11.2 Concerning those actors where qualifications in nature- and cultural environment conservation is required, this competence shall be refreshed at least every fifth year, e.g. by the SYN-course *Natur- och kulturmiljövård – förnyelse* (Nature -and cultural environment conservation – refresher).
- 4.11.3 Concerning those actors where qualifications in precautionary ditching/cleaning of ditches is required, this competence shall be refreshed at least every fifth year.
- 4.11.4 Concerning those actors where qualifications in soil scarification/soil management is required, this competence shall be refreshed at least every fifth year.
- 4.11.5 Refresher course for forest management planners shall be conducted at least every fifth year and calibration exercises held regularly according to the documented routines of the plan producer.
- 4.11.6 Completed and planned courses shall be documented.

4.12 Family enterprises

In a family enterprise on own forest holding (which have no external employees) or in cases where individual landowners are collaborating on any of the land owners' forest holdings, the criteria 4.5.1 – 4.5.3, 4.7 and 4.9 need not be applied.

4.12.1 Performers of forestry operations shall have a good understanding of applicable PEFC-requirements.

5 Environmental standard

One of PEFC's cornerstones for a sustainable forest management is to safeguard and promote the environmental values of the forests. Flora, fauna, soil, and water shall be taken into consideration at every forestry operation. As a complement to adjusted forestry measures, areas shall also be completely set aside for environmental purposes.

Forestry shall be practiced in such a way that current laws and industry practice is complied with. The objectives for good environmental consideration should generally exceed the minimum requirements of the forestry legislation. Additional guidance is provided by the forest sector's targets for good environmental consideration. Environmental consideration measures taken at previous operations in the forest stand shall be safeguarded.

5.1 Set-asides for environmental purposes

5.1.1 At least 5 % of the productive forest land shall be set aside for conservation purposes (forestry objective *NO* or *NS*). Set-aside areas shall be indicated in a forest management plan. Exemptions are made for forest holdings with less than 20 hectares of productive forest land which lacks areas with conservation values.

5.1.2 The smallest area for set-aside is 0,3 ha. For forest owners with 5 000 ha or more, the smallest area for set-aside is 0,5 ha.

5.1.3 The forest owner shall strive to restore or create conditions to bind together habitats worthy of protection where this is appropriate. Concerning selection and demarcation, areas shall be prioritized according to the below:

1. Key-habitat or area with equivalent conservation values
2. Site with conservation values or equivalent
3. Stand with developable conservation values and/or areas of great significance to recreation and outdoor life or cultural environments

Examples of sites with conservation values are areas including rare or sensible habitats, locally decreasing and for the region typical habitats, areas including endemic (only occur within a specific area) species, areas with known occurrences of red-listed species according to the Swedish Species Information Centre and areas with protected species. These areas may have been identified by the Forest Agency.

Areas which have been identified in the forest management plan as valuable to recreation and outdoor life shall have been identified based on:

- high degree of utilization
- high experiential qualities
- good accessibility and reachability

5.1.4 In key-habitats and in areas set aside for nature conservation purposes, where management is needed in order to preserve or enhance conservation values, measures

shall be taken. Only measures to preserve or enhance biological diversity are allowed. In areas set aside for recreation and outdoor life or cultural environments, only measures that preserve or enhance social values and, nature values and/or cultural values are allowed.

- 5.1.5 Conservation management in stands classified as forestry objective *NS* shall be implemented in accordance with the forest management plan.
- 5.1.6 When the proportion of key-habitats exceeds the PEFC's requirements for voluntary set-aside for nature conservation and the State is not prepared to reimburse the landowner for the financial loss, felling with enhanced consideration may be allowed, provided that the following conditions are met:
- The forest owner/umbrella organization shall in consultation with the Forest Agency have sought for a long-term solution for prioritization and management of the holding's key-habitats. The consultation shall be documented by a protocol.
 - The State shall have been given two years' respite, allowing authorities to plan what set-asides that are prioritized within the framework of the State.
 - The forest owner/umbrella organization shall have provided the board of the PEFC complete information on the matter.
- 5.1.7 In the voluntary set-aside, the certified forest holding's parts in set-asides on commonly owned forest land may be included, as well as areas under nature conservation agreement. Areas that were set-aside as nature reserves or habitat protection areas before certification of the forest holding, and where the landowner has been fully compensated, may not be included.
- 5.1.8 If the State, after certification, decides to form a nature reserve or a habitat protection area of a voluntarily set-aside area, the landowner is not obliged to set-aside equivalent additional land to meet the 5 % requirement, provided that the landowner is still the owner of the protected area.
- 5.1.9 In cases where more than 10 % of productive forest land has been set-aside for nature conservation purposes, the following relaxations from the standard may be applied:
- For up to 5 % of the productive forest land, the standard's requirements regarding creation of dead wood and retaining of potential conservation trees need not be applied. The requirements of the forestry legislation must however always be met.
 - If at least half of the set-aside area is formed by stands dominated by broad-leaves, paragraph 5.4.2 does not have to be met. In edge- and buffer zones as well as in biotopes requiring special consideration, broad-leaves shall be safeguarded.
 - For larger forest owners, stands dominated by exotic tree species may form up to 25 % of the area of productive forest land.

Any relaxations of the rules shall be documented in the forest management plan.

5.2 Forests that shall be managed with enhanced consideration

Individual stands sometimes include areas with higher conservation values than its surroundings, such as water courses, vertical surfaces, and scree slopes. These shall be given special consideration at forestry operations in order to safeguard biodiversity. Forests containing conservation values, which are not prioritized for set aside, shall be managed with high ambitions as regards nature conservation.

- 5.2.1 Guidelines indicated in the forest management plan regarding consideration for existing values shall be observed.

5.3 Conservation trees/ potential conservation trees

All forestry operations are of significance when it comes to establishing future conservation values. The retention of special trees is valuable for biodiversity and often enhances the aesthetic functions of the forest.

- 5.3.1 At thinning and regeneration felling, all conservation trees shall be retained to live, die, decompose, and decay. If the total number of conservation trees at regeneration felling amounts to less than 10 per hectare, these shall be complemented with potential conservation trees so that 10 trees per hectare are always retained.

In stands where it is difficult to distinguish conservation trees, e.g. in older forest of lower site classes, consideration may be adapted according to the following: For forest owners with forest land site indexed T18/G18 or lower, all deciduous conservation trees are retained, and at least 10 coniferous conservation trees per hectare, as an average in the area concerned.

- 5.3.2 Felling of a stand of seed trees is in this context considered part of regeneration felling. Provided that a sufficient amount of conservation trees and potential conservation trees have been retained at regeneration felling, additional potential conservation trees need not be retained when seed trees are felled.
- 5.3.3 Felling of a conservation tree is only allowed:
- when the operation implies that another tree, judged to have higher conservation values, is favoured
 - in the case of road construction, risk of damages to humans or buildings, as well as for trees in the vicinity of power cables.

The harvested tree is retained as fresh dead wood.

A conservation tree may be in a stage of dying or alive. A conservation tree must have special conservation values and differ from the stand that is to be harvested.

Examples of conservation trees:

- trees that are different from the rest of the stand, especially thick and/or old trees
- thick trees with manifest wide and thick-branched/flat crown
- thick spruces that have previously grown without competition, so called “enclosed pasture spruces”
- thick aspens and alders, unless they appear in abundance
- the following trees when they occur in stands dominated by conifers: tree-like willow, rowan, Swedish whitebeam, linden, bird cherry, wild cherry, or thick common hazel
- solitary or smaller groups of valuable deciduous trees in the boreal forest landscape
- thick common junipers
- trees with manifest open fire scars
- trees with hollows and trees with nests of dry twigs
- trees with evident traces of cultural activity

The following trees do not count as conservation trees:

- trees that are part of the ordinary management program, e.g. seed trees, shelterwood trees, and saw timber stands
- older conifer -, common deciduous -, or valuable deciduous main stems that are managed for timber production.

Potential conservation trees are living ordinary trees, representative of the stand, that are retained in order to develop into conservation trees during the following rotation period. As potential conservation trees are chosen those trees deemed to have the best possibility to develop conservation values. Potential conservation trees may well be retained adjacent to groups of trees, edge zones and biotopes requiring special consideration.

5.4 Deciduous trees

Deciduous trees in forest stands are important both to biological diversity, aesthetic functions and cultural environments. PEFC strives to increase the proportion of older and thicker deciduous trees as well as the area dominated by deciduous trees.

- 5.4.1 At sites where natural conditions for regeneration of deciduous trees is at hand, forest management shall be carried out so that at least 5 % of the area of mesic and moist soils on the productive forest land consists of stands dominated by deciduous trees. It shall be indicated in the forest management plan which compartments that have been identified.
- 5.4.2 In stands where natural conditions permit, deciduous trees shall be safeguarded in cleaning and thinning operations, so that they constitute at least 10 % of the number of stems until the last thinning. Until regeneration felling, there shall be at least 20 deciduous trees per hectare. Exceptions are mixed stands of pine and aspen where the risk of *Melampsora rust* must be taken into account.

5.5 Dead wood

The existence of dead wood is an important element for biological diversity and often in short supply in managed forests. Therefore, a fundamental ambition of the PEFC is to increase the amount of standing dead trees, old wind-throws, high stumps, etc. The biological value of the dead wood, which depends on thickness, degree of decay, tree species, and location, shall be taken into consideration.

5.5.1 All older dead wood shall be safeguarded in forestry operations. The dead wood shall if possible be retained intact in its original location.

5.5.2 In stands classified as *PG* with a large proportion of older dead wood, at least 20 of the biologically most valuable dead trees/wind-thrown trees per hectare shall be retained.

Larger continuous areas with dead forest, which is not retained for conservation purposes, may be taken care of in order to make possible regeneration in accordance with the provisions of the forestry legislation, but set-aside/management according to the forestry objectives *PF-*, *NS-*, or *NO-*stands shall however always be taken into consideration.

5.5.3 At extraction of merchantable timber from second thinning until final felling (except from stands of valuable broad-leaf trees), thick dead wood consisting of at least three fresh high stumps, logs, lying or ring-barked trees per hectare shall be created. If there is already three units of snow-breaks, wind-thrown trees, or equivalent per hectare, or more than 3 m³ total volume over bark per hectare, additional new dead wood need not be created.

5.5.4 Felling of a stand of seed trees is considered part of the regeneration felling. Provided that a sufficient amount of dead wood was retained at regeneration felling, additional amounts of dead wood need not be created when the seed trees are felled.

5.5.5 At regeneration felling in stands of oak and beech, dead wood shall be created so that, when it is time for termination of the stand, there are at least two dead trees of the main tree species per hectare. From other valuable deciduous trees, occasional fresh high stumps, logs, lying or ring-barked trees shall be created during the final stage of the thinning phase.

5.5.6 Alongside tracks/hiking trails or where there is a risk of damage to humans or buildings, dead wood that risks being wind-thrown shall be cut and retained in the form of high stumps or left on the ground.

5.5.7 In connection to extraction of logging residues, consideration shall be shown in the form of retaining thick deciduous- and pine tree tops.

5.5.8 Exemptions from the requirement to create and retain fresh dead wood of coniferous trees are allowed when:

- there is a documented risk of mass propagation of noxious insects
- after larger/extensive infestation in area declared by the Forest Agency as special area for combating of pests

5.6 Ditching

Consultation with the Forest Agency should be conducted before cleaning/ maintenance of ditches is made. Precautionary ditching may be applied when regeneration requirements of the forestry legislation cannot be met in any other way. In previously ditched areas where the frequency of ditches is too sparse or ditches are wrongly constructed, new ditches may be established provided that permission is obtained from the County Board.

- 5.6.1 Drainage must not be undertaken on forest land that has not been ditched before.
- 5.6.2 Ditches shall not be maintained on peat-land where the effect of ditching has not occurred, is very limited, or where high conservation values may be damaged, except where the ditch is draining another ditched area.
- 5.6.4 In connection to cleaning of ditches, ditches that fall directly into water courses and lakes shall be taken care of in order for sediment in the water to be given the possibility to settle before the water reaches the water course.
- 5.6.5 Exceptions from the rule of not establishing new ditches can be made in the event of floods threatening the vitality of the forest stand, and which are occurring beyond the land owner's own control. Excluded from this exception are forests with high conservation values that are naturally and recurrently flooded.

5.7 Methods for protection of soil and water

Forestry may affect soil and water in different ways. Extraction of timber and forest fuel decreases the amount of available nutrients, and soil damages may imply that nutrient turn-over in the soil is negatively affected, that the soil is compacted, as well as that ground- and surface water is affected through transport of sediment or soluble nutrients and heavy metals. Felling- and silvicultural work must be performed throughout the year, which places stringent demands on planning and implementation. The building of forest roads shall be coordinated across property borders where applicable and should not be built directly adjacent to lakes, wetlands, sensitive biotopes, cultural remains and frequently used tracks. Water catchment areas should be protected against present and future risks.

- 5.7.1 Measures shall be planned with respect to season and soil stability so that damages to soil and water are avoided.
- 5.7.2 Special consideration shall be shown to wetlands and other water environments when planning for forestry operations and road construction.
- 5.7.3 New roads shall be established in a way that preserves the running of natural watercourses and that minimises damages to watercourses and hinders for migration. New road ditches shall not fall directly into watercourses, lakes, or wetlands.
- 5.7.4 In connection to refurbishment of roads, road drains shall be fixed so that they do not constitute a hinder for migration.

- 5.7.5 Appropriate methodology and technology shall be used to minimise rutting in harvesting operations, especially where transports intersect watercourses.
- 5.7.6 Any rutting caused by harvesting equipment shall be taken care of in case damages are causing a direct flux of sediment and humus into a lake or watercourse, or if they constitute a hinder for accessibility to frequently used roads, tracks, trails, etc. In every other case, restoration risks doing more harm than good.
- 5.7.7 On land where there is risk of erosion, intermittent soil scarification methods shall be used.
- 5.7.8 When harvesting in steep conditions the risk for avalanches and slides should be considered and evaluated in relation to possible risk-reducing costs.

5.8 Edge- and buffer zones

Edge zones and buffer zones are important to biological diversity on forest land as well as to adjacent land use classes. The prerequisites differ between areas and the buffer zones shall be adjusted to the current conditions.

- 5.8.1 In edge zones/forests edges and on the shores of lakes and watercourses, deciduous trees and bushes shall be favoured in order to create a layered and uneven-aged edge zone.
- 5.8.2 On sites where a buffer zone is needed but is lacking, measures shall be taken as soon as possible for the creation of a functional buffer zone, which breadth shall be adjusted to the object to be protected and conditions on the site.
- 5.8.3 Rutting at edge- and buffer zones shall be avoided.

5.9 Burning

Historically, in particular dry soils have been burning at regular intervals, entailing a specific flora and fauna. Since today's forests seldom burn, such species are rare. To increase the area of burnt forest is therefore an important nature conservation measure.

The requirements concerning burning apply to forest holdings of at least 5 000 hectares of continuous productive forest land.

- 5.9.1 Where the terrain is suitable, prescribed burning shall during a five-year-period be undertaken on an area equivalent to at least 5 % of the regeneration area on dry and mesic soils which are suitable for burning.

Exemptions are made for regions where natural fires have been of subordinate significance. This includes montane forests, western parts of Västergötland, western parts of Småland, Bohuslän, Halland, Skåne, southern parts of Blekinge as well as Öland and Gotland. Exemptions are also made for urban woodlands and areas adjacent to buildings. Burning shall not be undertaken on lichen-rich soils of significance to reindeer husbandry.

- 5.9.2 Naturally burnt forest may be counted.
- 5.9.3 Felling and burning shall be planned based on the prerequisites of the stand, the area, or the landscape so that fire-dependent species are favoured, e.g. by burning the humus layer to a sufficient extent and so that a significant portion of the trees in the stand are killed or damaged.
- 5.9.4 Soil scarification shall not be made after burning in the general case, and where the prerequisites so permit, natural regeneration shall be applied.
- 5.9.5 When burning is undertaken in areas classified for production (forestry objective *PG/PF*), the area actually burnt may be multiplied with a factor of adjustment according to the table below.

Table 1. Multiplication factor for burnt area

Burning in areas classified for production	Factor of multiplication
Retained volume at least 15 % of original volume	1,5
Retained volume at least 30 % of original volume	2

The volume retained is considered as nature conservation and must not be extracted at a later stage.

- 5.9.6 When burning is undertaken in areas classified as *NS*, the area actually burnt may be multiplied with a factor 3.
- 5.9.7 Decision on setting-aside of burnt or fire-struck stand that is not previously set-aside may be taken after the fire.
- 5.9.8 Before burning is begun, local provisions regarding notification must have been fulfilled and necessary permissions must have been obtained. The forest owner has the sole responsibility for fire break-outs that do not meet the criteria for the concept of "*räddningstjänst*" (rescue services) according to *Lagen om skydd mot olyckor* (the Act on protection against accidents).

5.10 Cultural environment

At forestry operations on land with presence of cultural remains, guidance is provided by the forest sector's targets for good environmental consideration. Regarding ancient remains, notice

or decision from the County Administrative Board applies at first hand. Ancient- and cultural remains with extension in the terrain demand special planning prior to any operation in order to avoid damages and special consideration shall be given to communication between client and operator.

5.10.1 Forestry operations shall be undertaken in a way that do not cause damage to ancient remains and ancient remain areas, and so that damages to other cultural remains are minimised.

5.10.2 In connection to forest management planning and site planning, all known and newly identified ancient- and cultural remains shall be marked in the forest management plan and in the operational site directive. A routine for up-dating of information shall be in place.

5.10.3 Special conservation values that are part of cultural environments, e.g. species of trees and bushes of the cultural landscape or where the composition of species bears the imprint of earlier usage, shall be taken into consideration and favoured to an appropriate extent.

5.10.4 Other trees that are growing on and adjacent to ancient- and cultural remains and their visible structures, shall normally be removed.

5.10.5 Cultural stumps shall be created in order to indicate the occurrence of ancient- and cultural remains, unless this appears clearly in any other way.

Appendix 1. PEFC-adapted forest management plan

NOTE: TRANSITION RULES SHALL BE SPECIFIED. FOR CURRENT CERTIFIED FOREST OWNERS WITH VALID PLANS; THE REQUIREMENTS ENTER INTO FORCE WHEN THE PLAN IS RENEWED.

A forest management plan shall provide a detailed description of the forest holding as a whole, as well as for each compartment, including information like average stand age, soil fertility, and management needs for the compartments. Each compartment shall be assigned a “forestry objective”, indicating the long-term management objective. The area set aside for nature- and/or cultural conservation purposes shall be clearly indicated in the forest management plan.

The forest management plan shall take regional objectives for handling of nature consideration into account and be placed within a landscape-ecological perspective.

A certified forest owner shall within 2 years from the date of certification demonstrate or submit to the umbrella organization or the certification body an approved forest management plan encompassing the entire forest holding under the same ownership. In case of any changes in the property under the same ownership, the forest owner shall have revised the plan to accommodate to the new situation within 2 years at the latest.

Requirements for general information in the forest management plan:

1. plan producer and responsible forest management planner
2. the forest owner’s objective of the forest management
3. information on what forest holdings are part of the management unit
4. time for undertaking of the inventory
5. commentaries to the holding including information on ancient remains, key-habitats, protected areas, habitat protection, nature conservation agreements, nature reserves, Natura-2000 areas, water protection areas (described on a map)
6. map showing property lines and boundaries of land use classes
7. distribution of area on land use classes
8. age class distribution
9. distribution of tree species
10. summary of proportion of productive forest land consisting of:
 - a. stands dominated by deciduous trees, existing and future
 - b. mesic and moisture soil
11. summary of forestry objectives
12. thematic map of proposed actions
13. thematic map of forestry objectives
14. information on sustainable annual allowable cut

Requirements for compartment-specific information in the forest management plan:

1. Area
2. Age
3. Forestry objective
4. Distribution of tree species
5. Site index

6. Maturity class
7. Volume
8. Classification of soil moisture
9. Proposals for action
10. Information on measures to preserve or create broad-leaf dominance in identified stands
11. For stands classified as *NO*, *NS* and *K/PF*:
 - a. Reason behind the classification
 - b. Actions to preserve and reinforce existing values
12. Information on ancient remains and cultural sites
13. Areas of special significance to outdoor life and recreation

At planning, planners shall pay attention to the strategy for landscape-ecological planning of each forest owner or certification umbrella.

The plan is normally valid for a plan period of 10 years. If the plan period has expired, a forest management plan may be considered up to date, after the quality of the plan has been examined by umbrella organization or certification body, and provided that any of the following is met:

- At a good follow-up, i.e. where field-assessments form the basis for continuous up-dating and incorporation of new actions.
- Plans for forest holdings in site classes lower than 2,5 m³ standing volume per ha and year. For these holdings, a plan period of up to 15 years is applied.

A forest management plan *is not* up to date when:

1. The plan period has expired, proposed actions have been taken, but follow-up has not been carried out.
2. The plan period has expired and proposed actions required by the standard have not been undertaken.
3. If the forest to some parts significantly has changed character, e.g. through storm, fire, flooding or infestation.
4. If the forest holding has undergone significant changes, e.g. through acquisition of additional forest land or parceling, which may imply revised priorities for areas set aside for nature conservation purposes.