

# PEFC N 02

## Norwegian PEFC Forest Standard

### Organisation

Articles of Association for PEFC  
Norway

PEFC N 06  
Procedures for development and  
auditing of Norwegian PEFC  
certification system

PEFC N 07  
Instructions for notification of  
certification bodies

### Forest certification

PEFC N 01  
Norwegian PEFC certification  
system for sustainable forestry

**PEFC N 02**  
**Norwegian PEFC Forest Standard**

PEFC N 03  
Requirements for group  
certification

PEFC N 04  
Requirements for certification  
bodies and accreditation bodies

PEFC N 05  
Glossary and definitions

### Traceability and logo usage

PEFC ST 2002:2013 Chain of  
Custody for forest based products -  
requirements

PEFC ST 2003:2012 Certification  
Body Requirements - Chain of  
Custody

PEFC ST 2001:2008  
Logo usage rules



[www.pefc.no](http://www.pefc.no)

## Foreword:

### Revision of PEFC Norway's forest certification system

The PEFC forest certification system must be revised every five years, and PEFC Norway commenced the revision process on 13 May 2013 with an open invitation for input for the process and participation in a working committee.

The working committee has worked between October 2013 and January 2015 to revise the Norwegian PEFC Forest Standard and other standards included in the system.

The working committee was made up of representatives of the following organisations:

- United Federation of Trade Unions
- Association of Intermunicipal Outdoor Recreation Boards
- Norwegian Association of Heavy Equipment Contractors
- Norwegian Forest Owners' Association
- NORSKOG
- Statskog SF
- Norwegian Pulp and Paper Association
- Norwegian Sawmilling Industry

The Norwegian Environment Agency and the Norwegian Agriculture Agency were also represented by observers on the working committee.

Oslo, January 27<sup>th</sup> 2015

#### Copyright notice

© PEFC Norway 2015

This document is copyright protected by PEFC Norway. The document is freely accessible on the PEFC Norway website or upon application to PEFC Norway.

Making changes or additions to the document is not permitted, nor is it permitted to reproduce or copy the document for commercial use without the permission of PEFC Norway.

The official version of the document is in Norwegian, but it has also been translated into English. In cases of doubt, the Norwegian version takes precedence.

<b>Document title:</b>	Norwegian PEFC Forest Standard	
<b>Document number:</b>	PEFC N 02	
<b>Approved by:</b>	PEFC Norway	<b>Date:</b> 20.02.2015
<b>Approved by:</b>	PEFC Council	<b>Date:</b> 14.01.2016
<b>Published:</b>	25.02.2015, amended 31.08.2015 and 22.06.2016	
<b>Transition date:</b>	One year from the official announcement of the PEFC re-endorsement decision	

## Content

Foreword: .....	2
Norwegian PEFC Forest Standard.....	1
Manager responsibility and planning.....	2
Requirement 1. Manager responsibility and forest certification agreements.....	2
Requirement 2. Workforce and safety.....	3
Requirement 3. Planning in forestry .....	3
Requirement 4. Forest roads.....	6
Requirement 5. Outdoor recreation .....	7
Requirement 6. Sami rights.....	8
Requirement 7. Preservation of the forest area .....	8
Requirement 8. Genetic preservation – forest trees .....	8
Requirement 9. Openness on environmental information .....	9
Felling and forestry operations .....	10
Requirement 10. Felling .....	10
Requirement 11. Waste and contamination .....	11
Requirement 12. Retention trees and dead trees.....	12
Requirement 13. Off-road transport .....	13
Requirement 14. Long-term timber production .....	14
Requirement 15. Ground preparation .....	15
Requirement 16. Distribution of tree species .....	15
Requirement 17. Use of pesticides .....	16
Requirement 18. Fertilisation and nutrient balance.....	16
Requirement 19. Use of foreign tree species.....	17
Requirement 20. Afforestation and tree species replacement.....	17
Special environmental values.....	19
Requirement 21. Key habitats.....	19
Requirement 22. Consideration for birds of prey and owls.....	21
Requirement 23. Consideration for capercaillie leks .....	22
Requirement 24. Water protection.....	23
Requirement 25. Wetlands and swamp forest .....	24
Requirement 26. Forests affected by fire .....	25
Requirement 27. Cultural monuments and cultural environments.....	25
Explanations .....	27

# Norwegian PEFC Forest Standard

The Norwegian PEFC Forest Standard for sustainable Norwegian forestry has 27 requirements.

## **The requirements**

Each requirement has a brief description of what it aims to achieve. The requirements also have descriptions of specific requirements. The requirements describe what forest owners have to do in order to meet the targets for sustainable management. Requirements may involve specification of statutory obligations linked with management of the forest property in general. There may also be requirements for planning or documentation at property level and specific requirements which must be met when carrying out felling and other forestry operations. The requirements apply to the whole forest property for which the certification agreement has been concluded.

## **Review of the requirements**

The requirements are presented under these main themes:

### Manager responsibility and planning

The best way to implement sustainable forestry pursuant to the requirements in the Norwegian PEFC Forest Standard is to have a well updated forestry plan and good plan procedures. Fewer and fewer forest owners are carrying out the practical measures on properties themselves – but even so, forest owners bear responsibility for ensuring that the measures are implemented as effectively as possible, both for the forest owner himself and for the community in general. The requirements linked with manager responsibility and planning focus on responsibilities and planning applicable for long-term management of the forest property.

### Felling and forestry operations

All measures linked with felling and care of the forest require a certain awareness of implementation and consideration for other interests. The requirements linked with felling and forestry operations are linked with planning and implementation where the work has to be done.

### Special environmental values

As well as using forest management to ensure that the future forest is in good condition, it is necessary to safeguard biodiversity, cultural heritage and values linked with outdoor recreation and experiences. It is too late to stop and think once a tree or an entire stand has been felled! In many instances, it is necessary to be aware of the consequences of measures beyond the actual operational area. The requirements linked with special environmental values must ensure that forest owners plan and take into account the things which we know, from current expertise, to have the best effect.

As well as the requirements themselves, annexes to the forest standard itself provide a number of explanations so as to avoid ambiguity and incorrect interpretation of the requirements.

## Manager responsibility and planning

### Requirement 1. Manager responsibility and forest certification agreements

This requirement must ensure that the forest owner plans and carries out forestry operations in compliance with the law and that the sale of timber to PEFC-certified timber buyers takes place in compliance with a signed agreement.

#### Requirements:

##### Manager responsibility

The forest must be managed sustainably so that it gives financial returns to the forest owner, adds value at a local and a national level and makes a positive climate contribution, while also safeguarding outdoor recreation and environmental values.

Forest owners who own forests pursuant to the Act on property registration (the Cadastre Act) are responsible for ensuring that planning and implementation of forestry operations take place in compliance with laws and regulations which regulate forestry and the Norwegian PEFC Forest Standard. Forest owners are also responsible for ensuring that anyone carrying out work in the forest has a knowledge of the forest's known environmental values.

If there is any duty to report or apply for felling or forestry operations, forest owners must plan the measures so that they are compliant with the requirements of the Norwegian PEFC Forest Standard. Implementation of these measures must also be in line with any requirements specified by the forestry authorised during processing of the report/application. If there is no duty to report felling or forestry operations, forest owners are obliged to maintain an overview of environmental values and to take these into account, by refraining from felling if necessary.

Forest owners' responsibilities and knowledge obligations are applicable irrespective of their own expertise. If forest owners do not have sufficient expertise, they must acquire such expertise. Forest owners' responsibilities are limited to the information available in public registers or which is of such nature that it would be natural for forest owners to be aware of the information.

Forest management shall provide for adequate protection of the forest from unauthorised activities such as illegal logging, illegal land use, illegally initiated fires, and other illegal activities.

The forest owners shall manage the forest on the basis of relevant scientific research results and where appropriate use of local forest-related experience and knowledge of forestry.

Forest management shall be based inter-alia on the results of scientific research. Forest owners are also obliged to contribute to the financing of common measures for the development of knowledge in the forestry, cf. the current fee for Research and Development.

##### Forest certification agreements

Before timber can be sold, a signed forest certification agreement must exist which regulates obligations and responsibilities linked with compliance with the Norwegian PEFC Forest Standard. This is relevant in cases of group certification.

## Requirement 2. Workforce and safety

This requirement must ensure that forestry operations carried out under forest owners' own auspices and to order are implemented in accordance with applicable laws and regulations concerning the work environment and safety provisions.

### Requirements

Forest owners who carry out felling or other forestry operations in their own forests must have the relevant knowledge on working techniques, safe use of equipment used and public provisions on protection of health, environment and safety.

Forest owner must ensure that forestry operations carried out to order are documented in accordance with public provisions on protection of health, the environment and safety and in compliance with concluded agreements and tariff provisions for Norwegian wages and working conditions. An agreement on forestry operations must normally be concluded in writing between the parties.

Forest owners are responsible for ensuring that anyone carrying out felling and forestry operations has sufficient expertise. The skills of their own employees and hired labour should preferably be on a par with relevant expertise targets for the field of work in question in the specialist and vocational training for the forestry profession. For practical tasks, courses at Aktivt Skogbruk or the equivalent will suffice.

## Requirement 3. Planning in forestry

This requirement must ensure that the long-term as well as the operational planning in forestry observes the requirements specified for sustainable management of forest resources.

### Requirements

#### Targets for planning and requirements for data

Planning shall ensure that in the short and long term, the property is managed in line with the requirements specified in the Norwegian PEFC Forest Standard.

Planning and implementation of forestry activities on the property must be based on the target of running long-term, sustainable forestry which safeguards:

- the forest owner's financial returns
- long-term forest production
- future cutting opportunities
- the forest's contribution to the absorption and storage of carbon
- biodiversity
- outdoor recreation
- cultural monuments
- the risk of erosion and landslides
- water resources

Through the planning the forest owner shall clarify whether there is specific long-term management objectives for the forest beyond this.

### Long-term strategic planning

Forest owners shall have a forest management plan or equivalent adapted to the size of the property and use of the forest area. This implies:

- For continuous plots of more than 1,000 hectares of productive forest shall have landscape plan, which will be revised every 10 years
- Smaller properties must have either:
  - A forest management plan with environmental registrations, cf. requirements of the regulations concerning government grants for forestry planning, which are continuously revised or revised every 15-20 years, or
  - An environmental plan, cf. requirement no. 21, which together with continuously updated data from different databases form the basis for long-term planning of the property. Requirement for revision of the environmental plan is set in requirement no. 21.

The following shall be available for the long-term, strategic planning in forestry:

- Map showing property boundaries, topography, roads in the forest, site quality and tree species.
- Information on age and standing volume.
- Information on areas with special restrictions (protection forests, priority species, selected habitats, nature reserves, etc.).
- Key habitats mapped on the property
- Specification of maximum average annual cut, and its justification, the next 30 years.

Planning shall ensure a cycle of continuous improvement in forestry to minimise or avoid negative impacts.

### Operational planning

In addition, the following shall be available for the operational planning:

- Information from public environment databases which pinpoint threatened species, nationally important nature types (A-value according to DN Handbook 13) and cultural monuments.
- Information on well-known capercaillie leks (mating games) and nesting sites for owls and birds of prey.

The procedures for consultation of external sources for environmental information when planning felling, afforestation and tree species replacement and ground preparation are described in the relevant requirements.

### More about landscape plan

For continuous plots of more than 1 000 hectares of productive forest, a separate landscape plan must be compiled which shows how stand-wide, ecological landscape considerations are addressed during planning and administration of the forest. Existing landscape plans must be updated in compliance with the standard before the end of 2017 and then be revised at least every 10 years.

In addition to as updated data about the forest as possible, the planning shall be based on an evaluation of the development of the forest in the last period, and the experiences related to the forest management and the implementation of the plan during the period, as well as new regulations and new knowledge.

The main purpose of the plan is to clarify problems, opportunities and possible conflicts of interest between various user interests, and to prepare a long-term strategy for the management of the plot which ensures a sustainable management of the resources and positive climate effects.

The plan shall show or refer to:

- The boundaries of the plot
- Forest resources
- Forest roads
- Frequently used paths
- Particularly important areas for outdoor recreation
- Areas with special restrictions (protection forests, priority species, selected habitats, nature reserves, etc.).
- Key habitats
- The presence of endangered/threatened species
- Important wildlife habitats
- Threatened nature types and nationally important nature types (A-value according to DN Handbook 13)
- Important cultural monuments
- Areas with special risk of erosion and landslides
- Areas of special significance for the protection of water resources.

The various values shall be described in the plan and a strategy must be compiled for management of the plot which ensures that the various interests are safeguarded satisfactorily. The following must be prepared:

- A harvesting strategy, including a specification of maximum average annual cut and its justification in the plan period.
- An investment strategy which guarantees a satisfactory infrastructure in the forest, resource administration sustainable in the long term and a positive climate contribution.
- Guidelines for the forest management which contain information about the forest management measures to be applied. The guidelines shall also include guidelines for selection of harvesting methods, and clarification of any areas suitable for selective felling or which may become suitable for this on provision of specific care.

The plans must document the fact that at least 5% of the productive forest area will be managed as biologically important areas. In addition to key habitats and forest protected as nature reserves or national parks, forest owners can choose from areas of the following forest types in order to meet the area requirements:

- Old growth / old natural growth
- Calcareous forest, including younger calcareous forest managed according to plan for preserving biodiversity
- Swamp forest/wetland forest
- Rich deciduous forest
- Pasture woodland
- Coastal spruce forest / coastal pine forest
- Forests affected by fire
- Buffer zones
- Wasteland with trees within or next to biologically important areas (maximum 25% of the area)
- Areas with priority species
- Selected nature types or threatened nature types
- Capercaillie leks (mating areas) and other important wildlife habitats
- Nesting localities for birds of prey and owls
- Important types of nature

The requirement of mapping of minimum 5 % of the productive forest area is connected with the landscape plan. Otherwise this is documented through county statistics.

The landscape plan shall clarify any need to implement management measures to promote the development of the biologically important areas.

A summary or extract of the forest management plan and the landscape plan shall be made publicly available upon request. Information of a confidential nature may be omitted, cf. Environmental Information Act.

#### **Requirement 4. Forest roads**

This requirement must ensure that forest roads are built in a way that permits good forestry-related solutions while also maintaining environmental conditions.

##### **Requirements**

When planning and building forest roads, emphasis must be placed on outdoor recreation, environmental values and the risk of flooding, the risk of erosion and landslide, in addition to the purely forestry-related use and other commercial use of the area. Roads must not be built in key habitats without clarifying in advance that this can be done, cf. the procedures for alteration of key habitats in requirement 21 "Key habitats".

The choice of route and road standard must be planned so that there is as little disturbance of the nature as possible. The alignment must be adapted to the landscape as far as possible, and the road must be constructed lightly in the terrain.

When planning new road systems, forest owners must document the fact that roadbuilding is avoided in areas with recorded special environmental values. Attempts must be made to avoid siting new road systems in larger, continuous forest areas of special value for environmental protection or outdoor recreation and with little scope of technical intervention.

In marginal forest areas in which use of the land for purposes other than pure forestry is paramount, simple road solutions such as tractor routes and winter vehicle routes must be given priority.

## **Requirement 5. Outdoor recreation**

Experiencing nature is an essential part of outdoor recreation. This requirement must help to secure opportunities to move around and experience nature in forests.

### **Requirements**

When carrying out forestry operations, emphasis must be placed on safeguarding the quality of the experience, particularly along paths and ski trails. "Paths and ski trails" refers to all paths and ski trails which are marked, which are indicated in the N50 map series or which have corresponding use or are clearly evident in the terrain.

Particular emphasis must be placed on outdoor interests in forest areas close to towns and densely populated areas by selecting – among other things – the felling form and area size, and by avoiding damaging paths by driving over them.

Where felling of trees affects groomed ski trails, the skiers must be informed through distinct signboards.

The public have the general right to cross outlying fields and the right to pick berries and mushrooms within the scope defined by the Outdoor Recreation Act and other legislation.

Commercial activity in forest areas must take place in a way that the actual content of the general right to free movement is maintained.

Forest owners must assist, within the scope of reasonable commercial exploitation and privacy, with appropriate solutions for the construction of paths, ski trails, picnic areas, etc. and for outdoors areas for nurseries, schools and school activity schemes, and give permission for the same when this does not contravene important commercial or ecological considerations. This does not alter the rights pursuant to the Outdoor Recreation Act.

The requirement "Water protection" does not preclude the establishment of fishing locations, picnic areas and viewing areas unless this contravenes important commercial or ecological considerations.

## **Requirement 6. Sami rights**

This requirement must ensure that Sami rights are safeguarded in areas where forestry takes place.

### **Requirements**

Forest owners must respect and take into account Sami rights, cf. the provisions of the Reindeer husbandry Act. If Sami rights exist on the property, these must be safeguarded.

## **Requirement 7. Preservation of the forest area**

This requirement must ensure that the property administration helps to keep forest space available for forest production, carbon sequestration, outdoor recreation, biological diversity and other environmental values.

### **Requirements:**

Forestry operations must not be carried out which impair the forest's future production and opportunities for rejuvenation.

Forestry must take place so that space available for outdoor recreation is not reduced or considerably diminished in quality.

This standard does not preclude the legal reallocation of forest land for other purposes, given that it makes a contribution to long-term conservation, economic and social benefits. Timber from felling in areas rezoned for development purposes or reallocated for a different purpose which requires the forest to be cut may be sold as certified provided that cutting is carried out in compliance with Norwegian law. Conversion of forest to other types of land use shall be limited and forest owners are not allowed to make irreversible conversion of more than 10 percent of the forest area within the forest management unit. Forest owners are not allowed to convert forest containing key habitats or endangered landscape types.

## **Requirement 8. Genetic preservation – forest trees**

This requirement must ensure natural genetic variation among forest trees.

### **Requirements**

The natural genetic variation among forest trees must be safeguarded. Genetically modified plant material must not be used. The rules on the use of seeds and saplings in the Regulation on forest seeds and forest saplings will be applied.

## **Requirement 9. Openness on environmental information**

This requirement must ensure openness the decision-making data and practising of the Norwegian PEFC Forest Standard.

### **Requirements**

Requirements on environmental information pursuant to the Environmental Information Act on data from environmental records or other types of environmental information linked with administration of forest resources at the property must be provided when so requested. Information must be given as soon as possible and at the latest within a month after the reception of the requirement, cf. the Environmental Information Act § 18.

## Felling and forestry operations

### Requirement 10. Felling

This requirement must ensure that felling forms and rejuvenation methods are used which balance consideration for forest owners' finances, the interests of outdoor recreation, biodiversity and other environmental values.

#### Requirements

Felling opportunities must be utilised within the scope defined by considerations relating to economy, outdoor recreation, biodiversity, other environmental values and legislation. In areas defined as protection forest pursuant to the Forestry Act and in other areas in which felling is regulated with separate regulations or provisions, the rules applicable to such forests must be adhered to.

Selection of a felling form and implementation of felling must be adapted to local conditions so that stability is maintained in affected and surrounding stands, the environment qualities of the area are preserved, landscape considerations are taken into account and conditions are provided for satisfactory rejuvenation with species suited to the growing site.

In forests dominated by spruce, selective felling must be used if economic and biological conditions so permit. However, forests dominated by spruce are normally rejuvenated by means of clear cutting and planting, as this will normally be the most economical solution resulting in the highest forest production.

To be able to use selective felling forms in forests dominated by spruce on solid ground, it is necessary to be able to achieve good stability among the remaining trees, and for the felling form to provide a basis for satisfactory rejuvenation with the conditions prevailing at the growing site. In frequently used outdoor areas, particular emphasis must be placed on exploiting opportunities for use of selective felling, ideally combined with small-scale clear cutting.

Pine forest must normally be rejuvenated by means of seed tree stand felling or other felling forms which provide conditions for natural rejuvenation. Saplings may be planted or seed may be sown in the case of tree species replacement and if significant production gains can be made.

In mountain forests, emphasis must be placed on promoting and maintaining old growth characteristics. Therefore, when carrying out felling, selective felling forms (mountain forest felling) must be used as widely as possible in forests dominated by spruce, and small-scale clear cutting and smaller seed tree stands in forests dominated by pine.

In rich deciduous forests, selective felling forms must be used, except on the vegetation type bilberry-oak forest with low and medium site quality.

The size and adjustment of clear cutting and seed tree stand felling areas must be suited to the shapes and lines of the landscape. In frequently used outdoor recreation areas, emphasis must be placed on limiting and varying the size of the rejuvenation areas.

In felling fields, there will often be smaller trees where felling would not be of financial interest. Emphasis must be placed on saving such trees.

Felling waste must be removed from streams, rivers, lakes, paths and ski trails. Unless special circumstances dictate otherwise, such waste must be removed immediately following completion of felling. While felling is in progress, paths and ski trails must be cleared as soon as is practicably possible so as to prevent unnecessary hindrance of public access.

## **Requirement 11. Waste and contamination**

This requirement must ensure the collection and proper disposal of all types of waste so as to prevent contamination of the external environment on implementation of forestry operations.

### **Requirements**

Forest owners are responsible for ensuring that as little waste as possible is generated, and for ensuring that waste collected is disposed of properly and deposited correctly when requirements are defined for approved landfill.

All types of waste from both manual and mechanical forestry operations must be removed once work has been completed.

Hazardous waste such as oils, fluids, batteries, fuel containers and suchlike must be submitted to an approved landfill.

Best available technology (BAT) must preferably be used when selecting equipment and machinery for implementation of forestry operations where relevant on the basis of the risk of contamination and other serious environmental problems.

Forest machinery with larger quantities of oil under high pressure must have equipment which limits leaks to a minimum in the event of a problem.

If oil leaks occur, they must be stopped immediately. Proper maintenance and cleaning must be carried out on all mechanical units. Larger leaks must be reported to the fire division commander in the municipality.

Fuel must be secured to prevent accidents and be stored in approved, lockable tanks. Fuel can only be stored at a recommended minimum distance of 50 metres to the nearest drinking water location, unless specified otherwise.

## Requirement 12. Retention trees and dead trees

This requirement must guarantee habitats for species linked with old, large trees and dead trees.

### Requirements

#### Dead trees

Standing dead deciduous trees, large dead pine, natural high stumps of all tree species and fallen dead wood (low) more than five years old must generally be saved when felling.

#### Retention trees

When carrying out rejuvenation felling (clear cutting, seed tree stand felling and final felling of shelterwood), at least 10 storm-resilient trees must be left per hectare as retention trees, ideally in groups. The requirement for 10 retention trees per hectare is applicable as an average for a defined operational area. An operational area may consist of several felling fields which are felled over the course of a year, with adjacent buffer zones and stands.

The retention trees are primarily selected from the oldest trees in the operational area. Both dominant tree species and any rare/uncommon tree species must be represented among the retention trees. If there is a risk of storm felling, spruce and aspen retention trees may be cut to high stumps (trees cut above 3 metres). To find storm-resilient spruce trees which can act as retention trees, suppressed trees with a diameter of down to approximately 20 cm can also be used. Standing dead spruce can also be included, making up up to half of the number of retention trees.

When there are trees of major visual value in the felling field, trees being used for nesting or with holes for woodpeckers, old, large aspen trees, old pollards/deciduous trees harvested for foliage, rich deciduous trees and tree species which are unusual in the area, these must be given priority when selecting retention trees. When leaving groups of trees in the felling field trees with a diameter of breast height down to 20 cm can be included as retention trees. For tree species which rarely become so large, the diameter requirement can be reduced further.

Retention trees of foreign species must not be left. The same is applicable to foreign provenances which are obviously suitable for the conditions on the growing site. In afforestation areas, there is no requirement to leave spruce as retention trees in areas where tree species replacement or afforestation has taken place.

#### Management of retention trees

It must be possible to identify retention trees associated with completed felling, even when these retention trees are sited outside the felling field. Retention trees sited outside the felling field must be located on a map and documented if there is a risk of them being felled at a later date. If a number of trees are grouped together, it is not necessary to map each individual tree.

Retention trees which die must remain in the forest. This will only conflict in exceptional cases with the provisions on forest hygiene in the regulation on sustainable forestry. If the requirements of the standard are to be set aside, a written order must be issued by the forestry authorities indicating that such trees must be removed.

Dead trees and retention trees may be removed for the purposes of keeping paths and ski trails, roads and other tracks open and if they are deemed hazardous to children at play.

### **Requirement 13. Off-road transport**

This requirement must ensure that damage to the terrain is limited and that any damage is rectified as quickly as possible in order to safeguard paths and trails and to prevent erosion and water runoff.

#### **Requirements**

In the case of off-road transport, it is necessary to place emphasis on avoiding damage to the terrain which is unsightly, which impedes movement and which may cause water runoff and erosion. When crossing rivers and streams with forest machinery, emphasis must be placed on avoiding leaving tracks which would lead to erosion out in the river/stream.

In frequently used outdoor recreation areas, remedial measures or stoppage of operations must be assessed in the event of significant damage. In areas where there is a lot of land with poor load-bearing capacity and if there is a major risk of damage to the terrain during operations in summer, timber should preferably be removed when the land is frozen or thoroughly covered in snow.

Off-road transport must not take place in areas designated as key habitats if this would damage the biological values.

Paths, trails and roads of cultural interest must not be used as routes for motor vehicles if it is practicably possible to avoid this. Paths and trails sited on routes for motor vehicles which have already been set up for forestry operations are excepted from this requirement. Exceptions may be made to the main rule in order to avoid double routes and alternative routes for removal of trees which would have a major adverse impact on the environment and outdoor recreation.

Ruts which cause water runoff and erosion, damage caused by vehicles to paths and trails and other significant damage must be rectified as soon as the moisture conditions make this practicably possible once use of the route is discontinued.

## Requirement 14. Long-term timber production

This requirement must ensure that the options offered by forest areas for production of timber, addition of value and storage of carbon are utilised satisfactorily.

### Requirements

#### Minimum age for felling

Clear cutting and seed tree stand felling must not take place in younger, satisfactory forests dominated by coniferous trees. The minimum stand ages for such felling are:

Site quality H40	Lower age limit for felling (total age)
26	40 years
23	45 years
20	50 years
17	60 years
14	70 years
11	80 years
8	85 years
6	95 years

However, younger forest may be felled if this takes place as a consequence of legal reallocation of the area to a different purpose, if the stand density is unsatisfactory, if existing tree species do not utilise the production capacity of the areas in a satisfactory manner, or if the value growth is small or negative as a result of impaired health or other reasons.

Smaller areas of younger, satisfactorily dense forest may be felled in order to achieve effective adjustment of larger felling fields.

#### Rejuvenation after felling

When planning felling, rejuvenation methods and the need for ground preparation must be assessed. The choice must be documented.

In the case of areas where natural rejuvenation is planned after felling, it is necessary to carry out felling in a manner which will allow rejuvenation to be established as quickly as possible. If natural rejuvenation is not successful, silvicultural measures must be implemented.

In areas in which planting or sowing is planned after felling, planting or sowing must be carried out as soon as is prudent and practicably possible, and within three years at the latest unless the authorities have granted an exemption.

#### Young forest treatment

When treating young forest, emphasis must be placed on utilising the opportunities offered by the land for quality production, creating robust stands and building up a forest which provides a foundation for variation in felling and rejuvenation methods.

## Requirement 15. Ground preparation

This requirement must ensure that ground preparation helps to ensure satisfactory rejuvenation after felling and that the measure is implemented in as careful a manner as possible with respect to outdoor recreation and the environment.

### Requirements

When carrying out planting and arranging natural rejuvenation, ground preparation of the vast majority of land types will improve conditions for rejuvenation of the area.

Ground preparation must be carried out in such a way that the operation helps to ensure satisfactory rejuvenation after felling, while also taking into account biologically important areas (BIAs), paths, streams, the risk of erosion and cultural monuments.

Continuous furrows must be avoided during ground preparation. Broken stripes are obtained by means of a natural lifting as a result of the aggregate passing over stumps and stones or by a mechanical lifting. In terrain with risk of erosion the furrows must not exceed 10 metres.

Furrows must normally be no more than 20 cm deep. However, rocks taken up may make the furrows deeper in parts. In areas where there is thick humus, it may also be necessary to have deeper furrows in order to dig down to the mineral soil.

Ground preparation must not be carried out:

- In wetland forest, swamp forest and source forest
- In calcareous forest
- In tall-herb woodland
- In lichen woodland with humus cover less than 3 cm thick
- In areas designated as buffer zones
- Less than 5 m away from streams which are unlikely to run dry
- Less than 5 m away from the outer edge of cultural monuments
- Within cultural environments
- Less than 2.5 m away from frequently used paths

## Requirement 16. Distribution of tree species

This requirement must ensure that the composition of tree species takes into account both economic and environmental conditions.

### Requirements

The composition of tree species must be suited to the qualities of the growing site. Where climatic and soil-related conditions so permit, attempts must be made to implement a significant number of deciduous trees, with separate deciduous tree stands, deciduous trees in groups and individually, including old, large deciduous trees. Where conditions so permit, attempts must be made to implement a mixture of spruce and pine.

Norwegian tree species which are rare in the area must be safeguarded and/or promoted during forestry operations.

## Requirement 17. Use of pesticides

This requirement must ensure that spraying as a silvicultural measure is only used if it is clearly more effective than mechanical methods, that landscape qualities and experience assets are safeguarded, and that no harmful pesticides are used in forestry.

### Requirements

Based on a precautionary principle, spraying of forest as a silvicultural measure must be subject to strict regulation. The need for this must be reduced as far as possible by means of varied use of different felling forms and silvicultural methods. If this does not lead to the desired results, spraying may take place in case this would clearly be more effective than mechanical methods to prevent the spread of grass, herbs and foliage which would prevent the desired rejuvenation.

Spraying must not be carried out on vegetation which is more than 2 metres high on average.

In frequently used outdoor recreation areas, emphasis must be placed on ensuring that the landscape qualities and experience values linked with a varied range of deciduous trees will not be significantly reduced by the measure.

Pesticides used must be approved Norwegian Food Safety Authority (“Mattilsynet”) for the purpose in question. Use of highly toxic or harmful pesticides in forestry shall be avoided. Users of pesticides in forestry must hold spraying certificates (evidence of authorisation). When using pesticides, the correct equipment must be used and the instructions supplied by the manufacturers of the substances must be followed.

## Requirement 18. Fertilisation and nutrient balance

This requirement must ensure that fertilisation results in increased forest production and increased carbon sequestration, while at the same time being carried out properly so that nutrient loss and nutrient leakage are minimised.

### Requirements

Forestry must be carried out in a manner which allows the natural processes and long-term production capacity of the land to be maintained. Nutrient loss and nutrient leakage must be kept to a minimum. Areas with special environmental assets must not be fertilised or affected by fertiliser or ash spreading.

To increase timber production, it is possible to fertilise appropriate areas on the vegetation types heather-bog bilberry-Scots pine woodland, cowberry-bilberry woodland, bilberry woodland, small-fern woodland and tall-fern woodland. Fertilisation of peatland is possible if rejuvenation is already established.

In the case of fertilisation in forests, it is necessary to maintain a fertiliser-free zone of 25 metres around lakes, rivers and streams (this is applicable to streams which are unlikely to run dry) in order to prevent runoff. Fertilisation must not take place until the snow has melted, and the time of fertilisation will otherwise be adapted to ensure that the risk of nutrient leakage is minimised.

Any ash spreading in forests must take place in compliance with the regulation on fertilisers, etc. of organic origin.

### **Requirement 19. Use of foreign tree species**

This requirement must ensure that the use and spread of foreign tree species are kept under control.

#### **Requirements**

Norwegian tree varieties must be used for afforestation and rejuvenation after felling. Foreign tree species may be used if there are problems with establishing rejuvenation with satisfactory production. Foreign tree species can also be used to a lesser extent for production of special qualities.

Use of foreign tree species assumes that the measure has received prior approval pursuant to the regulation on the use of foreign tree species as specified in the Nature Diversity Act. The options for the use of foreign tree species are limited to the use of Sitka spruce, Lutz spruce and larch in coastal areas from Vest-Agder to Troms. Lodgepole pine, *Pinus contorta*, can also be used in upland areas (above 450 metres above sea level) in Nord-Gudbrandsdalen and in Østerdalen where it is extremely difficult to achieve pine rejuvenation on account of the fungus *Phacidium infestans* and elk browsing.

The spread of foreign tree species must be kept under control by means of forest management.

### **Requirement 20. Afforestation and tree species replacement**

This requirement must ensure that afforestation and tree species replacement in afforestation areas take place in such a manner that the measures result in climate benefits and create a foundation for future addition of value, while also safeguarding other environmental values.

#### **Requirements**

Afforestation and tree species replacement must provide a basis for forestry which is profitable in the long term. The measures must not be implemented in areas with no existing or future profitable technical solutions. Afforestation or tree species replacement in areas without elements of old plantations must not be carried out on islands and along fjords in outer coastal areas.

The design of the plant fields must be suited to the landscape. Emphasis must be placed on creating soft transitions between spruce forest and the surrounding areas. In the case of properties where there is a basis for a significant percentage of deciduous forest, it is necessary to ensure a minimum of 20% deciduous forest on the property.

In the case of afforestation, frequently used paths and trails must be taken into account so that the experience value linked with the use of the path/trail is maintained. Planting must not take place less than 2.5 metres away from such paths and ski trails.

In addition, the following are also prohibited:

- Afforestation on open heather land.
- Tree variety replacement in wooded ombrotrophic bog in Western Norway.
- Tree species replacement in swamp forest.
- Tree species replacement in rich deciduous forest , with the exception of the vegetation type bilberry-oak forest of low and medium site quality.
- Tree species replacement in flood plain forest north of Saltfjellet.
- Tree species replacement north of Saltfjellet in rich, damp, tall-herb birch forest with almost full undergrowth of tall herbs and ferns.
- Tree species replacement in the most calcium-rich forest types.

The Artskart and Naturbase databases must be consulted before afforestation or tree species replacement takes place. This measure cannot be implemented if the measure would damage the living environment of a threatened species or damage a threatened habitat or values in a registered habitat categorised as nationally important(A-value) according to DN Handbook 13. Any afforestation or tree species replacement in the living environment of a threatened species or within a registered nationally important nature type (A-value) assumes that a person with forest biology expertise has assessed the measure and found that it can be implemented without causing any significant damage to the environmental values.

Afforestation or tree species replacement must not take place in selected habitats and ecological function areas for priority species, unless the authorities have agreed to this.

Areas on which the authorities have approved planting as a climate measure may be planted. The purpose of the requirement is in that case regarded as achieved.

## Special environmental values

### Requirement 21. Key habitats

Key habitats must secure living environments for species deemed to be threatened and included in the Norwegian Red List.

#### Requirements:

##### Establishment and management of key habitats

Key habitats must be mapped on properties of more than 100 decares of productive, commercially exploitable area. The key habitats must be documented in a forestry plan or environmental overview. If management measures can be carried out, these must be described in the forestry plan or environmental overview.

The Environment Registration in Forest (MiS) method must be used when mapping out habitats and selecting new key habitats. Forest biology expertise approved by certificate holder must be used when mapping out habitats and selecting new key habitats.

If the forest owner wishes to change the boundaries of a key habitat or replace one defined key habitat with a new key habitat, this must be documented in the forestry plan or environmental overview and be approved by the certificate holder.

The key habitats must be reported to the Kilden database. The same must be done if any key habitat is altered or relocated.

The key habitats must be left untouched or managed in a way which does not reduce, or which actually improves conditions for biodiversity. If key habitats are managed in any manner other than untouched, management measures must be prepared in consultation with a person with forest biology expertise and approved by the certificate holder. Key habitats cannot be reallocated for other purposes unless a public decision is made which permits such reallocation.

In cases where it is documented that the quality of existing key habitats within an area is not satisfying, and a new mapping out or revision is determined, all certified forest owners are obliged to take part in the process.

##### Opportunities for use of a precautionary procedure

In the case of properties with less than 100 decares of productive, commercially exploitable area, when planning felling and forestry operations it is necessary to use a precautionary procedure in order to clarify whether there are any habitats pursuant to the MiS instruction. Mapped qualities must be taken into account, if necessary by refraining from felling or by showing the necessary consideration. The precautionary procedure must be approved by certified timber buyers.

When mapping key habitats is required, felling and other forestry operations cannot take place until such mapping has taken place. If there are plans to carry out an area valuation with environmental registration in the near future, dispensation may be granted to carry out mapping when this happens. The precautionary procedure will be applied in such instances.

In afforestation areas, there is no requirement for mapping of key habitats if only spruce or foreign tree species are to be felled. The requirement for mapping of key habitats is applicable prior to felling in pine forest and deciduous forest on properties with more than 100 decares of productive, commercially exploitable pine forest and deciduous forest. The precautionary procedure must be applied if off-road transport of timber from spruce forest is to pass through pine forest and deciduous forest.

#### Consultation with environmental databases

When planning felling, external sources of environmental information in the Artskart and Naturbase databases must be consulted. If the forestry operations could affect known occurrences of threatened species, threatened nature types or nationally important nature types (A areas) pursuant to DN Handbook 13, and the information on the species/habitats has not been assessed previously during selection of key habitats, a person with forest biology expertise must assess whether one or more key habitats should be established in the area. Assessment of the need to establish key habitats is based on MiS methodology. The municipality and County Governor must be notified of any new key habitats. New key habitats will be reported to the Kilden database.

Any forestry activities in selected habitats and areas where priority species are found must take place pursuant to the rules of the Nature Diversity Act.

## Requirement 22. Consideration for birds of prey and owls

This requirement must ensure that nesting sites for birds of prey and owls can be maintained over time and that the birds are not disturbed while they are nesting.

### Requirements

Before felling, forest owners must check with a public database, municipality or certified timber buyer to find out about nesting birds of prey and owls requiring special considerations, cf. the table below. If forest owners have received information which is not stored in a public database, this must be taken into account.

Nesting sites for owls and birds of prey must have a consideration-demanding area in which no clear cutting or seed tree stand felling is carried out cf. the table below. When felling next to a nesting site, emphasis must be placed on not leaving the nesting site standing like an "island" in the landscape.

In addition, this area must not be disturbed by forestry during nesting periods (see the table below). A person with forest biology expertise approved by a certified timber buyer can make changes to the consideration-demanding zone and period in which no disturbance from forestry is to take place.

Species	Consideration-demanding zone and period	Area and period without disturbance from forestry
Eagle owl Golden eagle Sea eagle	Flat, undulating terrain; radius 100 metres.  Cliff and terrain steeper than 60 degrees; 100 m to either and 50 m from cliff foot/steep terrain.  Consideration must be exercised irrespective of time if there is a known and visible nesting site.	Radius 400 m from nesting site.  1 January to 31 July
Honey buzzard Goshawk Osprey Peregrine falcon Buzzard Ural owl Great grey owl	Flat, undulating terrain; radius 50 metres.  Cliff and terrain steeper than 60 degrees; 50 m to either and 25 m from cliff foot/steep terrain.  Consideration must be exercised for 5 years following the last nesting.	Consideration must be exercised 200 m from nesting site or nests in use.  1 March to 31 July
Common buzzard	Radius 25 m. Consideration for 5 years following the last nesting.	Radius 50 m from nesting site. 1 March to 31 July

## Requirement 23. Consideration for capercaillie leks

This requirement must ensure that capercaillie leks (mating sites) are taken into consideration.

### Requirements

Capercaillie leks have at least two lekking capercaillie. Leks with around 5 active capercaillie are normally up to around 50 decares in size. Larger capercaillie leks can be up to 100 decares in size, or in some cases even larger.

Before felling, forest owners must check with a public database, municipality or certified timber buyer to find out about capercaillie leks. If forest owners have received information which is not stored in a public database, this must be taken into account.

Irrespective of property size and property boundaries, capercaillie leks must be managed so that they can operate for as long as possible. Felling may take place if this is done in a way which does not impair conditions at the lek. Assessment of whether felling is possible and planning of felling must take place in cooperation with a forest biologist or other qualified person approved by a certified timber buyer.

Depending on the forest type, management of capercaillie leks should take place on the basis of the following:

- In sparse pine or mixed coniferous forest of low site quality. Felling should normally not be carried out.
- In pine or mixed coniferous forest of medium site quality in which the forest has grown dense and shades the undergrowth that provides hiding places. Felling which improves conditions can be carried out here.
- In spruce forest of medium and high site quality in which the forest has grown dense and shades the undergrowth that provides hiding places. Felling can be carried out if a selective felling form is used. In forests where a selective felling form cannot be used, the forest must be maintained until its health is weakened or the capercaillie stop lekking.

When felling takes place next to a lek, emphasis must be placed on not leaving the lek standing like an "island" in the landscape.

If the forest owner uses thinning to facilitate the establishment of new capercaillie leks, and capercaillie start using the area, felling of the capercaillie lek may take place as long as this is agreed with a certified timber buyer.

## Requirement 24. Water protection

This requirement must guarantee the water quality in lakes and waterways and create habitats for species which naturally live in or near to waterways.

### Requirements

#### Buffer zones along lakes and waterways

A belt of vegetation around lakes, rivers and streams which are unlikely to run dry must be preserved or developed. It is important to create robust, multi-layer buffer zones at lakes and along rivers and streams more than two metres wide. Along streams less than two metres wide, bushes and small trees must be retained in order to ensure a belt of vegetation.

The width of the buffer zones must be suited to conditions on site and may vary within one and the same buffer zone. Buffer zones more than one tree height wide will only be needed in exceptional cases. Vegetation types and terrain form must provide guidance for the width of the buffer zones. Working on the basis of a buffer zone width of 10-15 metres, adjustment should be made for the following:

- Rich deciduous, tall-herb, tall- fern and swamp woodland – significantly wider buffer zone (25-30 metres)
- Swamp forest around the waterway – wider buffer zone.
- Dry vegetation and dry terrain around the waterway – narrower buffer zone.
- Single-layer pine forest – narrower buffer zone.
- Densely layered deciduous forest around the waterway – narrower buffer zone.

All the flood area must normally be included in the buffer zone in order to capture the special conditions that occur in periodically flooded areas.

Felling and maintenance in the buffer zone must take place with a view to creating a robust, expansive and multi-layered belt of vegetation along lakes and waterways. Deciduous trees must be given priority in the buffer zone.

Single-layer, unstable older forests dominated by spruce can be felled in order to establish a layered buffer zone. Any deciduous trees and smaller trees will be saved. Such felling must be documented. In other single-layer forest, emphasis should be placed on establishing a full buffer zone during thinning.

The buffer zones can be opened in certain places for reasons of outdoor recreation, cultural landscape and traffic safety.

#### Other considerations for waterways

The following requirements must safeguard water resources:

- When planning in forestry, emphasis must be placed on safeguarding water resources, cf. requirement 3 "Planning in forestry".
- Emphasis must be placed on avoiding contamination of lakes and waterways, cf. requirement 11 "Waste and contamination". Fuel, for example, must not be stored less than 50 metres away from a water source.

- When carrying out fertilisation in forests, emphasis must be placed on avoiding runoff to waterways, e.g. by establishing a 25-metre fertiliser-free zone around lakes, rivers and streams, cf. requirement 18 "Fertilisation and nutrient balance".
- Ground preparation must take place carefully and no less than 5 metres away from streams which are unlikely to run dry, cf. requirement 15 "Ground preparation".
- When cleaning trenches and carrying out supplementary trenching, the water must not be discharged directly into streams, rivers and lakes, cf. requirement 25 "Wetlands and swamp forest "
- Emphasis must be placed on avoiding and, where necessary, rectifying any wheel tracks causing water runoff and erosion. When crossing rivers and streams with forest machinery, emphasis must be placed on avoiding leaving tracks which would lead to erosion out in the river/stream, cf. requirement 13 "Off-road transport".
- Felling waste must be removed from streams, rivers and lakes, cf. requirement 10 "Felling".

## Requirement 25. Wetlands and swamp forest

This requirement must ensure that ecological functions to wetlands, wooded bog and swamp forest are maintained during forestry operations.

### Requirements

#### Trenching

There must be no new trenching of wetlands, bogs and swamp forest. Trenches may be cleaned and supplementary trenching may be carried out unless there is a need to restore key habitats/biologically important areas (BIAs) for this type of land on the property. When trenches are cleaned/supplementary trenching is carried out in an area, the water must not be discharged directly into streams, rivers and lakes.

#### Felling

As far as possible with regard to stability and rejuvenation of present tree species, selective fellings must be used in swamp forest and wetland forest, and in the transition zone to firm ground. If regular selective felling is not possible, small-scale clear cutting can be used.

During forest management, emphasis must be placed on observing the ecological functions of all wetlands and swamp forests, irrespective of size. Bushes are particularly important. There are no requirements for adaptation of felling form for wetlands and swamp forests of less than 2 decades.

#### Buffer zone around wetlands/bogs

If there is a natural reason for doing so, during felling and forest management it is necessary to preserve or develop a multi-layer buffer zone along wetlands. Measures/arrangements must be made for a composition of local tree species in the buffer zone. The buffer zone must be sited on firm ground, but wetland trees can be included in the assessment concerning the ecological function of the buffer zone.

It is important to create robust buffer zones. The width zones must be suited to conditions on site and may vary within one and the same buffer zone. Buffer zones more than one tree height wide will only be needed in exceptional cases. For wetlands, the vegetation types and terrain form must be

normative for the width of the buffer zones. Working on the basis of a buffer zone width of 10-15 m, adjustment should be made for the following:

- Rich deciduous, tall-herb, tall-fern and swamp woodland – significantly wider buffer zone (25-30 metres)
- Steep terrain around wetlands - narrower buffer zone.
- Dry vegetation and dry terrain around wetlands - narrower buffer zone.
- Single-layer pine forest - narrower buffer zone.
- Densely layered deciduous forest around wetlands - narrower buffer zone.
- Single-layer spruce forest - very narrow buffer zone.
- Smaller wetlands - down to 5 metres.

There are no requirements for establishment of buffer zones around wetlands of less than 2 decares.

Individual trees can be felled in the buffer zone, but no more trees than are needed to allow the buffer zone to maintain its function. All local tree species, layering and key elements in a buffer zone must be present even after individual trees have been removed. Buffer zones should be established and developed naturally as far as possible.

## **Requirement 26. Forests affected by fire**

This requirement must secure living conditions for species which are more or less dependent on burnt forest for their habitat.

### **Requirements**

In the case of forest fires in older forests where more than 5 decares is affected by fire, 5 decares per property must be left untouched for 10 years. In the case of forest fires in older forests of an area of less than 5 decares, the entire area will be left untouched for 10 years.

Allocated burnt forest area must be assessed over the course of the 10-year period for allocation in accordance with the standard Biologically important areas.

In the case of forest fires covering more than 100 decares, allocation of areas must be assessed by forest biology experts and be based on academic considerations.

## **Requirement 27. Cultural monuments and cultural environments**

This requirement must ensure that cultural monuments and agricultural cultural landscapes are taken into consideration.

### **Requirements**

#### Cultural monuments

All cultural monuments predating 1537 and all Sami cultural monuments more than 100 years old are automatically protected, cf. the Cultural Heritage Act. Other known and valuable cultural monuments must also be taken into account.

Forest owners are responsible for familiarising themselves with what cultural monuments are recorded in the forest, cf. the Askeladden or Kulturminnesøk databases, and to take these into account during felling and forest management. The regional cultural heritage authority must be consulted if felling or other forestry operations may conflict with protected cultural monuments.

Trees can normally be felled at or next to cultural monuments. The greatest risk of destroying cultural monuments occurs when driving into terrain with forwarders/large forest tractors. Such vehicles should not be driven within 5 metres of known cultural artefacts.

Ground must not be prepared less than 5 m away from the outer edge of the cultural monument and within registered cultural environments, cf. the requirement relating to cultural monuments and cultural environments.

#### Cultural environments

New forest must not be established on cultural land of less than 5 decares in the forest landscape. Forest may be established in exceptional cases in which reallocation is approved by the municipality pursuant to § 9 of the Land Act, provided that this does not conflict with valuable cultural monuments or cultural environments.

## Explanations

The purpose of the explanations is to avoid ambiguity or incorrect interpretation of the requirements. Defining tolerance limits on compliance with several of the requirements is important.

Explanations are linked with the following requirements:

### **Requirement 1. Manager responsibility and forest certification agreements**

The requirement specifies requirements stating that a signed forest certification agreement must exist which regulates obligations and responsibilities for compliance with the Norwegian PEFC Forest Standard. The requirement for the contents of such agreements is described in PEFC N 03.

The obligation to contribute to the financing of common measures for the development of knowledge in forestry is now met by paying the statutory fee of Research and Development. If this agreement is replaced by a non-statutory agreement, the forest owners will be obliged to contribute to the financing of the new one.

### **Requirement 3. Planning in forestry**

In the requirement it is assumed that the planning and implementation of forestry measures on the property shall be based on a goal of conducting a long-term and sustainable forestry that takes into account the forest owners economic returns.

This presupposes that it is based on the market opportunities in the short and long term. Current market situation for various assortments and available market analyzes relating to demand for different assortments and new market opportunities shall be applied in the forestry planning. Planning must also take into account other economic activity that the forest owners have on the property, such as tourism etc.

For forest owners who have a traditional forestry plan, it will be natural to use the specialist forest information in this during both operational and long-term planning in forestry. For forest owners who do not have such plans, the specialist forest data found in the Gårdskart and Kilden databases (particularly SAT-SKOG data) will be sufficient to meet the requirement for information on forest resources.

The necessary information on environmental values will primarily be accessible in public databases. Capercaillie leks and nesting sites for owls and birds of prey are exceptions to this: the forest owner will be able to acquire information in other ways, cf. requirements 22 and 23.

### **Requirement 4. Forest roads**

Attempts must be made to avoid siting new road systems in larger, continuous forest areas of special value for environmental protection and outdoor recreation with little scope of technical intervention. The expression "attempts must be made to avoid" means that in such areas, more stringent requirements are defined for the documentation of the need for roads than in other areas, in accordance with environmental values and outdoor recreation. If roads are built in such areas, particular emphasis must be placed on environmental adaptation in the form of road standards, selection of routes, alignment, etc.

### **Requirement 10. Felling**

The consideration for paths and ski trails refers to all paths and ski trails which are marked, which are indicated in the N50 map series or which have corresponding use or are clearly evident in the terrain.

#### **Requirement 11. Waste and contamination**

There are separate rules for the use of mobile fuel tanks larger than 1000 litres and for labelling of tanks.

#### **Requirement 12. Retention trees and dead trees**

When leaving the retention trees in groups or groves in the felling field, trees of individual tree species may also count as retention trees even if they have a diameter of breast height of less than 20 cm. Rich deciduous trees, grey alder, goat willow and rowan can have a breast height of down to 15 cm.

#### **Requirement 13. Off-road transport**

It is very important that wheel tracks that cause water runoff and erosion and damage to paths and trails are rectified as quickly as possible. Other significant damage also has to be rectified, but when assessing whether the wheel tracks are of such nature crucial emphasis should be placed on whether the wheel tracks could create reactions among the general public.

#### **Requirement 14. Long-term timber production**

It will only be possible to know exactly how old a forest is when knowledge is available on when the area was planted. Extensive measurements will not be necessary to determine the age of the forest, cf. the requirement concerning the minimum age for felling.

It is now agreed that smaller areas with younger forest may be cut in order to achieve a good adjustment of larger felling sites. Normally the younger forest should not amount to more than 5 decares on felling sites smaller than 25 decares. On larger felling sites the younger forest should not amount to more than 20 % of the area.

A requirement has been defined which indicates that the rejuvenation method selected must be documented when planning felling. This is necessary so that the group certificate holder can establish procedures which ensure that planned planting is actually carried out. The procedures must be adapted to suit the challenges in the area, cf. the results from the authorities' results control, for example. The aim is to ensure that planting is also carried out when no contract has been concluded on planting when trees are felled.

#### **Requirement 15. Ground preparation**

In the case of ground preparation around streams and paths, there is a tolerance of 1.0 and 0.5 metres respectively in accordance with the minimum distance defined.

#### **Requirement 17. Use of pesticides**

Normally the requirement that it shall not be used highly toxic or harmful pesticides is secured as long as one only uses pesticides approved by the Norwegian Food Safety Authority for that specific

purpose. Use of chlorinated hydrocarbons is anyway not allowed. The same applies for WHO type 1A and 1B pesticides, unless there is no other viable alternative available.

### **Requirement 18. Fertilisation and nutrient balance**

A fertiliser-free zone of 25 metres around lakes, rivers and streams is required. There is a tolerance of 10 metres linked with this zone.

### **Requirement 20. Afforestation and tree species replacement**

Bullet point 6 in the requirement: This requirement describes the fact that the **rich, humid** part of the tall-herb birch forest, with almost full undergrowth of tall herbs and ferns, must be excepted from afforestation and tree species replacement. This is birch forest which environmentally (rich and humid) is closer to rich swamp forest and wetlands. It will be of interest to define this part of the tall-herb woodland and the forest type "the most calcium-rich forests" more clearly on basis of the NiN-system (Nature types in Norway) when this system is more fully developed.

### **Requirement 21. Key habitats**

#### The method

It is assumed in the standard that the future selection of key habitats will be based on the Environment Registration in Forest (MiS) method. This method involves registering defined habitats and working on the basis of these registrations to select and delimit key habitats.

#### Delimitation and tolerance

There is no obligation to mark key habitats with fixed points in the forest. This means that there will not be a precise boundary in the forest, apart from where the boundary follows a stream, road or similar. The boundary will be marked as a boundary on a map.

Crucial emphasis must be placed on avoiding non-permitted felling in the key habitats which are also used as a basis when using GPS with normal accuracy. However, a breach of this requirement will only be considered to be present if such felling takes place more than 10 metres within the delimited key habitat or if the area of the key habitat is reduced.

If it turns out that the boundary of the key habitat on the map is incorrect, this must be corrected before felling takes place. Relocation must be approved by the certificate holder. Key habitats delimited by roads do not prevent normal road maintenance.

#### Consultation with environmental databases

The aim of consultation with the Artskart and Naturbase databases is to clarify whether planned felling may affect:

- Selected nature types or the presence of priority species
- Threatened species or nature types pursuant to the Norwegian Red List, or the authorities' registered nature types of national value/A areas.

Any forestry activities in selected nature types and areas where priority species are found must take place pursuant to the rules of the Nature Diversity Act.

Registration of threatened species, threatened nature types and nature types of national value (A areas) must be used to clarify whether there is a need to establish new key habitats in the area.

#### Revision of key habitats

In case new mapping of habitats based on the MiS methodology and/or revision of key habitats within an area is required, documentation of its necessity must be available. The analysis documenting the need for revision must be based on the current instruction for registration, ranking and selection of habitats based on the MiS methodology and must include a geographically delimited area.

### **Requirement 22. Consideration for birds of prey and owls**

These considerations are linked with "natural" nesting sites, not nests built by humans.

Consideration-demanding zones and areas without disturbance from forestry are defined as the radius from nesting sites. These indications in metres are not intended to be absolute. Terrain conditions and adjustment of the felling area may be taken into account when assessing where these boundaries lie. Such adjustment must be documented. However, the total area must not be reduced.

However, major adjustments in the delimitation of the consideration-demanding zones (more than 20 % of the specified radius) must be made by a person with forest biology expertise and approved by the certificate holder.

Accurate measurement of the areas is not necessary. Use of GPS will suffice.

Forestry operations, ground preparation or mechanical/manual young forest treatment cannot take place within the specified period in areas without disturbance from forestry. This requirement does not prevent the use of roads and loading sites in the area.

### **Requirement 23. Consideration for capercaillie leks**

These considerations refer to actual capercaillie leks. The requirement nevertheless states that when felling next to a lek, emphasis must be placed on not leaving the lek standing like an "island" in the landscape. The exception to this is if the lek is surrounded by felled areas and aged spruce forest which cannot be maintained for a further 15-20 years.

### **Requirement 24. Water protection**

Reference is made in the requirement to a series of other requirements which include requirements which must take water resources into account. The wording of these requirements is applicable as requirements.

### **Requirement 27. Cultural monuments and cultural environments**

There is zero tolerance towards off-road driving and ground preparation less than 5 metres away from protected cultural artefacts, unless this has been agreed in advance with a cultural heritage authority.