

# PEFC N 02:2022

## 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

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Norwegian PEFC certification system for sustainable forestry

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PEFC ST 2002 Chain of Custody for Forest and Tree based products - requirements

PEFC ST 2003 Certification Body Requirements - Chain of Custody

PEFC ST 2001  
Trademark rules

## Preface:

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

The PEFC forest certification system is revised every 5 years and PEFC Norway started the revision process February 14<sup>th</sup>, 2020, with an open invitation for input to the process and participation in the working committee.

In the period June 2020 to June 2022, the working committee has revised the Norwegian PEFC Forest Standard and other standards included in the system.

The working committee has consisted of representatives from the following organisations:

- The United Federation of Trade Unions
- National Association of Outdoor Recreation Councils
- Women in forestry
- Norwegian Association of Heavy Equipment Contractors
- Nature and Youth - Young Friends of the Earth Norway
- Norwegian Forest Owners' Federation
- NORSKOG – forest owner member organization
- The Norwegian Association for Outdoor Organisations
- Statskog SF
- Sabima - umbrella organization for the biological associations in Norway
- Skognæringa Kyst
- Norwegian Pulp and Paper Association
- Norwegian Wood Industry Federation
- WWF Norway
- ZERO - Zero Emission Resource Organisation

In addition, the following have been represented as observers in the working committee:

- The Norwegian Environment Agency
- The Norwegian Agriculture Agency
- NIBIO - Norwegian Institute of Bioeconomy Research
- NINA - Norwegian Institute for Nature Research
- The Forestry Extension Institute
- Statsbygg

Oslo, 30 June 2022

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The official version of the document is Norwegian but is also translated into English.

If there are discrepancies between the Norwegian and English versions, the English version – approved by the PEFC Council – will take precedence.

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## Norwegian PEFC Forest Standard

The Norwegian PEFC Forestry Standard for sustainable Norwegian Forestry has 30 requirements.

### **The requirements**

Each requirement has a brief description of what one wants to achieve. The requirements also have descriptions of specific requirements. The requirements describe what forest owner must do to meet the targets for sustainable management. Requirements may involve specification of statutory obligations linked with management of 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 harvesting/ harvesting and other forestry operation. The requirements apply to the whole forest property for which a 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 in the requirements of the Norwegian PEFC Forest Standard is to have a well updated forestry plan and good planning procedures. Fewer and fewer forest owners are carrying out the practical measures on properties themselves – but even so, forest owner 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 relating to manager responsibility and planning, focus on the long-term management of the forest property.

#### Logging and forestry measures

All measures linked with harvesting and care of the forest require a certain awareness of implementation and consideration for other interests. The requirements linked with harvesting and forestry operations are linked with planning and implementation where the work will be carried out.

#### Special environmental values

As well as using forest management to ensure that the future forests is in good condition, it is necessary to safeguard biodiversity, cultural heritage and values linked with outdoor recreation and experiences. It's 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 the forest owner plans and takes into account the things witch 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 an incorrect interpretation of the requirements.

## Manager responsibility and planning

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

The requirement shall 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 the signed agreement.

#### Requirements:

##### Manager responsibility

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

Sustainable forestry is central to the UN's 17 Sustainable Development Goals and is written directly into sub-goal 15 – life on land. Entirety of the Sustainable Development Goal is decisively important, and the forest can contribute to a more sustainable world in many ways. For PEFC forest certification, the main focus is on *collaborate* (sub-goal 17), *climate* (13), *life on land* (15), *good health and quality of life* (3) and *responsible production and consume* (12).

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 takes place in compliance with laws and regulations which regulate forestry and the Norwegian PEFC Forestry Standard. Forest owner is also responsible for ensuring that anyone carrying out work in the forest has knowledge of the forest's known cultural heritage and environmental values.

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

Forest owner's responsibilities and knowledge obligations are applicable irrespective of their own expertise. If the forest owner does not have sufficient expertise, they must acquire such expertise. Forest owner's responsibilities are limited to the information available in public registers or which is of such a 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 harvesting, illegal land use, illegally initiated fires and other illegal activities.

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

The forest owner is also obliged to contribute to the financing of common measures for knowledge development in the forestry.

### Forest certification agreement

Before timber can be sold, a signed forest certification agreement must exist which regulates obligations and responsibilities in compliance with the Norwegian PEFC Forest Standard. In connection with signing a forest certification agreement, the forest owner is obliged to inform about conditions at the property that may be of significance for compliance with the Forest Standard. It can be information about open nonconformance and information or complaints from external parties.

## **Requirement 2. Workforce and safety**

The requirement shall ensure that forestry operations carried out under the forest owner's own auspices and when these services are rendered from others, are carried out in accordance with laws and regulations concerning the work environment and safety regulations, equality and discrimination

### **Requirement**

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

The forest owner must ensure that forestry operations carried out to order are documented in accordance with public regulations on protection of health, the environment and safety and in accordance with Norwegian tariffs regulations and applicable Norwegian law. Agreements on forestry operations must normally be concluded in writing between the parties. Equality must be promoted and law for equality and prohibition against discrimination must be followed.

Forest owner is responsible for ensuring that anyone carrying out harvesting and other forestry operations have sufficient expertise. The skills of their own employees and hired labour must 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 Aktiv Skogbruk, education through Skogskolen (digital course) or equivalent will suffice.

### Requirement 3. Planning in forestry

The requirement shall ensure that long-term as well as the operational planning in forestry meets the requirements for sustainable management of forest resources.

#### Requirement

##### Targets for planning and requirements for data

The planning must 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 a long-term, sustainable forestry which safeguards:

- the forest owner's financial returns
- long-term forest production
- future harvesting opportunities
- variation in type of harvesting
- the forest's contribution to the absorption and storage of carbon
- biodiversity
- outdoors recreation
- cultural heritage
- the risk of erosion and landslide
- water resources
- spawn streams for anadromous salmon fish
- waterways with river mussels
- important areas for herding reindeer

Through the planning the forest owner must clarify whether there are special long-term goals for forest property attached to the considerations/ interests mentioned above.

Scientific research results must be included in the assessment basis in connection with planning and preparation of forest management plans.

##### Long-term strategic planning

The forest owner must have a forest management plan or equivalent adapted to the size of the property and the use of the forest area. All forest properties must have either:

- a forest management plan with environmental registrations, cf. the requirements of the regulations concerning governments grants for forestry planning, which are revised continuously or every 15-20 years, or
- an environmental plan, cf. requirement 22, which together with continuously updated data from different databases form the basis for the long-term planning of the property. Requirement for revision of the environmental plan is set in requirement 22.



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

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

Planning shall ensure a cycle of continuous improvement in forestry to minimize or avoid negative impacts for considerations/interests mentioned above.

### Operational planning

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

- Localized information from public environmental databases on:
  - endangered species
  - endangered nature types
  - national important nature types (A-value, or equivalent valuation in Narin) according to DN Håndbok 13.
  - regional important nature types (B-value or equivalent valuation in Narin) according to DN Håndbok 13
  - nature types with "central ecosystem function" surveyed according to the Norwegian Environment Agency's instructions
  - selected nature types cf. law of biodiversity
  - priority species cf. law of biodiversity
- Information on well-known capercaillie leks (mating games), nesting sites for owls and birds of prey and rare territory-raising birds cf. requirement 26.
- Information about outdoor recreation values (where the municipalities have prepared knowledge bases and plans according with the Norwegian Environment Agency's scheme):
  - mapped and valued outdoor recreation areas according to the Norwegian Environment Agency's guide M-98
  - plan for outdoor recreation paths according to the Norwegian Environment Agency's guide M-1992
- Important outdoor recreation areas that, pursuant to the Planning and Building Act, are bounded by a land border or equivalent or are marked with regard zone to outdoor recreation
- Information about cultural heritage

The procedures for consulting of external sources for environmental information when planning harvesting, afforestation and tree species replacement and soil scarification are described in the relevant requirements.

Any forestry activity in selected nature types and areas with the instance of priority species must take place according to the law of biodiversity.

Planning of forestry in areas where forestry may affect the validity of NVE's risk zones

Planning operations in steep terrain, the NVE's risk zone map must be consulted. Where forestry operations will affect a risk zone for landslides avalanches and rockfalls in areas with buildings or important infrastructure, the relevant authority must be consulted. Consultation shall clarify whether the relevant authority want to enter into an agreement on a special management of this forest, which safeguards the forest's hedging function over time. If the relevant authority wants such an agreement, the forest owner should be positive about such an agreement.

Forest and environmental data are available information in public databases. A summary or extract of the forestry plan should, on request, be made publicly available. Information of a confidential nature may be omitted, cf. law of environmental information.

## **Requirement 4. Landscape plan**

The requirement shall ensure that landscape scales are considered for different interests in larger forest plots.

### **Requirement**

Continuous plots over 1000 hectares of productive forest shall have landscape plan, which will be revised at every 15 years.

For continuous plots of more than 1000 hectares of productive forest, a separate landscape plan must be compiled which show how stand- overarching, 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 2024 and then revised at least every 15 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, input from various interests and follow up 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 management of the plot which ensures a sustainable management of the resources and positive climate effects.

The plan should show or review:

- the boundaries of the plot
- forest resources
- forest roads
- frequently used paths
- particularly important areas for the outdoor recreation
- areas with special restrictions (protected forests, priority species, selected nature types, nature reserves, etc.)

- key habitats
- occurrences of endangered/threatened species
- occurrences of priority species
- concentrations of at least four different NT forest species that have forestry as a known impact factor within an area of 1 hectare.
- national important nature types (A-value, or equivalent valuation in Narin) according to DN Håndbok 13.
- regional important nature types (B-value or equivalent valuation in Narin) according to DN Håndbok 13
- nature types with "central ecosystem function" surveyed according to the Norwegian Environment Agency's instructions, with registered NiN properties, indicating that there may be important environment qualities
- important game biotopes
- endangered nature types
- selected nature types
- important cultural heritage
- areas with special risk of erosion and landslides
- areas of special significance for the protection of water resources.
- spawn streams for anadrome salmon fish and waterway with river mussel
- important areas for herding (reindeer)

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, include a specification of possible average annual harvesting 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. These shall include, among other things, guidelines for selection of harvesting methods, including how the extent of selective felling can be increased on the property. These may be areas that are currently suitable for selective felling or that may be suitable for selective felling

For plots with requirements for landscape plan, at least 5 % of the forest must be deposited as biologically important areas cf. requirement 23.

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

## Requirement 5. Forest roads

The requirement shall ensure that forest roads are built in a way that good forestry-related solutions while also safeguarding outdoor recreation and environmental conditions.

### Requirement

When planning and building forest roads, consideration for outdoor recreation, cultural heritage, biodiversity and the risk of flooding, erosion and soil landslides must be emphasized, in addition to forestry and other commercial benefits.

No road shall be built in key habitats and areas set aside as biologically important areas (BVO) unless it has been clarified in advance that it can be done and replacement areas of at least equal quality have been set aside, cf. requirement 23 "Biologically important areas" and the routines for changing key habitats in requirement 22 "Key habitats".

No obstacles should be created for natural movement of water and fish migration.

The choice of route and road standard must be planned so that there is as little disturbance of 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. and in accordance with the principles of the main plan forest road where it is available.

When planning new road systems, forest owner must document the fact that roadbuilding is avoided in areas with recorded special environmental values.

In larger contiguous forest areas with a small extent of technical interventions and which are particularly important for biodiversity or outdoor recreation, new forest roads should normally be avoided. PEFC Norway can be applied for exemption.

In marginal forest areas with significant environmental and outdoor recreation or herding interests (reindeer), simple road solutions such as tractor roads and winter roads must be given priority.

## Requirement 6. Outdoor recreation

To experience nature is an essential part of outdoor recreation. The requirement shall contribute to securing opportunities to use the forest for recreation and experience nature in forests.

### Requirement

Outdoor recreation interests must be given special emphasis in areas important for outdoor recreation, this includes selection of harvesting methods and size of the harvest site, and avoiding damage to the paths when transporting logs. Important outdoor recreation areas are identified as areas that, pursuant to the law of Planning and Building, are bounded by a land boundary or equivalent or are marked with regard zone to outdoor recreation, and other urban areas and areas with similar use or outdoor recreation value.

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" refer to all paths and ski trails which are marked in the N50 map series or which have similar use or are clearly evident in the terrain.

Where harvesting affects groomed ski trails, skiers must be informed through distinct signboards.

The public have the general right to use the forest for recreation purposes and right to pick berries and mushrooms within the scope defined by the Outdoor Recreation Act and other legislation.

Commercial activity in forest area must take place in a way that the actual content of the general right use the forest for recreation purposes is maintained.

Forest owner 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 outdoor areas for nurseries, schools and school activity schemes and for start and finish areas for orienteering races, etc., and give permission for the same when this does not contravene to important commercial or ecological considerations. This does not alter the rights pursuant to the Outdoor Recreation Act.

The "Water Protection" requirement does not preclude establishment of fishing locations, picnic areas and viewing areas unless this contravenes important interests for the forest owner or ecological considerations.

## Requirement 7. Sami rights

The requirement shall ensure that Sami rights are safeguarded in area where forestry activities takes place.

### Requirement

The forest owner must recognize, respect and uphold the rights, customs and culture of affected herders (reindeer) in accordance with the provisions of the Reindeer Herding Act, the UN Declaration on the Rights of Indigenous Peoples – UNDRIP (2007) and ILO Convention 169 (1989).

The certificate holder must prepare a routine for periodic dialogue with the reindeer herding interests, the Norwegian Reindeer Herding Association in line with PEFC N 03 – Requirements for group certification.

The forest owner must not exploit his property in reindeer herding in such way that there is significant damage or disadvantage to reindeer herding. Before operations that may cause significant damage or disadvantage to the reindeer herders are implemented, a notification must be given to the relevant reindeer herding district associations. Notice must be given minimum three weeks before the planned operation can start. This applies where the total impact of clearcutting, fertilization and soil scarification exceeds 10 hectares in one or adjacent areas within the same year.

The reindeer herding district board shall, independent of the area extent of the operation, be notified by:

- Fertilization in areas included in point d-f of the list below
- Soil scarification in areas included in point e-h of the list below

If there are objections to notified operation, it must be followed up through active dialogue.

Where reindeer herding Sami people have rights, special consideration must be given to harvesting and other forestry operations in the following areas:

- a) Important migration paths
- b) Compilation areas
- c) Difficult passages
- d) Important distress grazing areas with lichen in the trees at grazing height
- e) Grazing gardens
- f) Calving area
- g) Lichen-rich vegetation
- h) Sami sacred sites, sacrificial places, burial grounds, culturally important paths and other places of particular cultural historical significance

### Considerations for Sami rights in other requirements

**Important emergency grazing areas with** lichen in the trees will in most cases be areas up to the forest border that are covered by the protection forest provisions pursuant to the Forestry Act. "In the case of harvesting and other forestry operations, the rules that apply to such forests must be followed", cf. requirement 11 - Harvesting. " In mountain forests, emphasis shall be placed on promoting and maintaining an old forest character as well as ensuring regeneration and production. When carrying out harvesting, selective felling forms shall therefore be used to the greatest extent possible in spruce-dominated forests, and small-scale clear cut harvesting and small seed tree stand

harvesting in pine-dominated forests". This requirement is also important to take into account for important distress grazing areas with regards to safeguarding lichen in the trees.

**It shall not be performed soil scarification in areas with lichen covered ground** with humus thinner than 3 cm and other lichen covered ground with significance for reindeer herding , cf. requirement 16 – Soil scarification. " Soil scarification shall be adapted to the place and landscape with the best practical possible method and technique to take into account biodiversity, water environment, carbon storage, reindeer herding and outdoor recreations. Spot scarification should be considered and preferred".

**"Fertilization** must not affect lichen-rich land", cf. requirement 19 - Fertilization

All **Sami cultural remains** from the year 1917 or earlier are automatically protected and must be taken into account in accordance with requirement 30 – Cultural heritage and cultural environments.

**Forest roads** in marginal forest areas up to the mountain can present challenges regarding the relocation of reindeer, reindeer land use and migratory routes. "In marginal forest areas with significant environmental, outdoor recreation or reindeer herders' interests, simple road solutions such as tractor roads and winter roads must be given priority", cf. requirement 5 – Forest Roads.

## Requirement 8. Preservation of the forest area

The requirement shall ensure that property management contributes to maintaining forest area available for forest production, carbon bonding and storage, outdoor recreation, biodiversity and other environmental values.

### Requirements:

Conversion of forest area for other use shall be restricted. The forest owner cannot make irreversible conversion of more than 5% of the forest area.

Changed land use, in accordance with law, which is not counted in 5%:

1. Areas that are part of the forestry infrastructure with direct connection to forest management such as forest road, place for timber, roundabouts, houses used in connection with the forestry , etc.
2. Establishing of paths, ski trails and equivalent activity of facilitating outdoor recreation.
3. Conversion of forests to other use takes place where, under the law, there is access to expropriation, provided that this contributes positively to sustainable social development in line with national and regional land use policies that include consultation with affected stakeholders.

The forest owner shall not convert:

- key habitats and areas set aside as biologically important areas (BVO)
- endangered nature types
- area with particularly high carbon storage (such as marsh, marsh forest and swamp forest)
- areas with cultural heritage remains, cf. requirement 30
- areas of particular importance for Sami culture and reindeer herders, cf. requirement 7

Areas that have been irreversibly converted after 14 February 2016 and which are not covered by the above exemptions are included in redistributed area.

Where conversion and other measures require public approval, such approval shall be available as part of the documentation.

A sale and change of ownership of forest property that does not satisfy the requirement, the new owner can apply to PEFC Norway for exemption from the requirement, so that the property can be included as certified. PEFC Norway may set conditions for such an exemption.

Timber from harvesting on forest areas re-regulated for development purposes or other irreversible conversion shall not be sold as certified in alignment with this standard.

Forests that have had their production capacity significantly reduced through forest operations or other measures shall be restored with an emphasis on restoring production capacity and carbon sequestration. When carrying this out, consideration for environment and outdoor recreation shall be taken into account.

Forestry shall be carried out in such a way that areas available for outdoor recreation are not reduced or significantly impaired in quality.



## **Requirement 9. Genetic preservation – forest trees**

The requirement shall ensure natural genetic variation in forest trees.

### **Requirement**

The natural genetic variation of forest trees shall be safeguarded, both through systematic regeneration and natural regeneration from seedling trees. Genetically modified planting material should not be used. The rules for the use of seeds and plants in the Regulations on forest seeds and forest plants shall be applied.

## **Requirement 10. Transparency of environmental information**

The requirement shall ensure transparency about the basis for decisions and the practice of the Norwegian PEFC Forest Standard.

### **Requirement**

Requirements for environmental information pursuant to the Environmental Information Act relating to data from environmental registrations or other types of environmental information relating to the management of forest resources on the property shall be provided when required or it can be referred to information available in public accessible information solutions. Information shall be provided as soon as possible and no later than one month after the claim has been received (cf. Section 18 of the Environmental Information Act). By being certified, the forest owner gives the certificate holder the right and obligation to follow up legal claims for environmental information that the certificate holder possesses, on behalf of the forest owner.

If interest groups contact forest owner or certificate holder with a request for dialogue, the forest owner or certificate holder shall accommodate this through meetings or other appropriate means.

## Logging and forestry measures

### Requirement 11. Harvesting

The requirement shall ensure varied use of harvesting methods and regeneration methods that balance considerations for the forest owner's economy, the interests of outdoor recreation, biodiversity and other environmental values. It is a goal to increase the proportion of selective felling and small-scale clear-cut harvesting in the forest landscape.

#### Requirement

The possibilities of harvesting can be utilized within the framework set by considerations relating to economy, outdoor recreation, biodiversity, other environmental values and legislation.

In areas defined as protected forests pursuant to the Forestry Act and in other areas where harvesting is regulated by separate regulations or provisions, the rules that apply to such forests shall be followed.

The choice of harvesting method and the execution of the harvesting shall be adapted to future climate conditions and the conditions at the site, so that tree stability is safeguarded in affected and surrounding stands, the area's environmental qualities are preserved, landscape considerations are safeguarded and conditions are provided for a satisfactory regeneration with tree species adapted to the site.

The group certificate holder shall have the necessary expertise on selective felling forms, and describe how the goal of increasing the proportion of selective and small-scale clear-cut harvesting on their group members forest can be achieved in the short and long term, e.g. when planning and implementing forest measures. The forest owners shall be offered a product with planning and implementation of selective felling, cf. PEFC N03 – Chapter 7.2.

In spruce-dominated forests, selective felling shall be used where conditions economically and biologically suit this method, also with consideration of future climate and precipitation conditions.

The precondition for the use of selective felling forms in spruce-dominated forests is that good stability can be achieved for the remaining trees, and that the harvesting form provides the basis for satisfactory regeneration. In important outdoor recreation areas, special emphasis shall be placed on utilizing the possibilities for selective felling combined with small-scale clear-cut harvesting.

In mountain forests, emphasis shall be placed on promoting and maintaining an old forest character as well as ensuring regeneration and production. When carrying out harvesting, selective felling forms shall therefore be used to the greatest extent possible in spruce-dominated forests, and small-scale clear-cut harvesting and small seed tree stand harvesting in pine-dominated forests.

In rich deciduous forest, closed logging form shall be used. On the vegetation type blueberry oak forests on low and medium site indexes, open harvesting methods can be used, with the goal being to cultivate pine where this results in increased production.

As far as possible for the sake of stability and regeneration of the tree species present, selective fellings shall be used in swamp forests and marsh forests, and in the transition zone towards the firm

ground, cf. requirement 28. Where ordinary selective felling is not possible, small-scale clear-cut harvesting can be used. When forest management is carried out, emphasis shall be placed on safeguarding the ecological functions of all marshes and swamp forests, regardless of size. The bush vegetation is especially important. There is no requirement for adaptations of harvesting form for swamp forests and marsh forests less than 0,2 hectare.

The size and zoning of clear-cuttings and seed tree stand harvesting shall be adapted to the shapes and lines of the landscape. In important outdoor recreation areas, emphasis shall be placed on limiting and varying the size of the regeneration sites.

In the event of thinning, pre-cutting and other harvesting, indigenous trees that are not of economic interest shall be set aside, as long as they are not substantially hindering the forest operation or significantly inhibit future production.

Harvesting residue should be cleared away from streams, rivers, water and trails and ski trails. Unless special circumstances dictate otherwise, clearing shall be carried out immediately after the harvest has been completed. While harvesting is ongoing, in order to avoid unnecessary obstacles to public traffic, it should be cleared in trails and ski trails as soon as practicable.

## **Requirement 12. Waste and contamination**

The requirement shall ensure the collection and proper disposal of all types of waste to prevent contamination of the external environment on implementation of forestry operations.

### **Requirement**

The forest owner is responsible for ensuring that as little waste and emissions as possible occurs, and to ensure that waste collected is deposited properly and 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 equivalent must be delivered to an approved landfill.

Best available technology (BAT) shall be preferred when selecting equipment and machinery used in forestry operations, where this is relevant based on the risk of causing contamination and other serious environmental hazards. Machines used in forestry shall satisfy the emission requirements that applied at the time they were delivered from the manufacturer.

Forestry machines with larger quantities of oil under high pressure shall have equipment which limits leaks to a minimum. Proper maintenance and proper cleaning shall be carried out on all mechanical units.

Discharges of oil, fuel and chemicals that may harm the environment should be immediately sealed. Larger discharges must be notified to the fire department in the municipality.

Fuel should be secured against accidental incidents and stored in approved and lockable tanks. Fuel can only be stored at the recommended minimum distance of 50 meters to the nearest drinking water location unless otherwise specified.

### **Requirement 13. Retention trees and dead trees**

The requirement is intended to secure habitats for species associated with old, large trees and dead trees.

#### **Requirement**

##### Dead trees

Standing and fallen dead wood of deciduous trees and pines that have been dead for more than a year, and spruce that has been dead for more than 5 years shall be spared.

In situations with large quantities of death wood as a result of calamities, newly dead deciduous trees and pine can be taken out within two years. This must be justified and documented. Retention trees should be spared as normal.

##### Retention trees

At harvesting, at least 10 retention trees per hectare of the harvested area should be set aside.

Retention trees are left individually or in groups in the operational area in a way that contributes to tree stability. The requirement for number of retention trees applies as an average for the harvested area and may include several forest stands.

The retention trees are primarily selected from the oldest trees with the highest value for biodiversity. Both dominant tree species and any rare/uncommon tree species shall be represented. Where there is a risk of storm felling, up to half of the retention trees of living spruce and aspen can be cut to high stumps (trees that is cut higher than 3 meters). To find storm-resistant spruce trees that can act as retention trees, trees with a large twig-mass shall be preferred. Trees with diameter down to about 20 cm can also be used. Standing dead spruce can be included as retention trees. The sum of standing dead spruce and high stumps should not account for more than half the number of retention trees.

In pine forests with the occurrence of stumps affected by fires / Kelo elements, retention trees shall as be left in connection with these, when possible.

At least 2 of the life cycle trees should be chosen from the dominant tree species. In addition, priority shall be given to the following trees:

- a) Especially large/old trees, hollow trees and large trees with pronounced width, large twigs and/or flat crowns
- b) Large/old trees with distinctly older cultural tracks such as trees used for harvesting winter food for livestock, trees being used for nesting, pasture trees and barked pine trees previously used as an addition to grain in bread.
- c) Trees with holes for woodpecker and nest function for birds of prey
- d) Red-listed tree species such as ash, elm, native yew, wild apple, and various asal species

- e) deciduous trees in the forest landscape within the boreal zone
- f) Large specimens of aspen, willow, rowen, maple, linden, hackberry, hazel, cherries, juniper and holly
- g) Living trees with traces of previous fires

In areas with many such trees, the number of retentions trees shall be increased beyond 10 per hectare so that important trees are safeguarded.

No retentions trees should be left of foreign tree species. The same applies to foreign provenances that are obviously not adapted to the conditions of the site.

#### Management of retention trees

Retention trees shall be mapped in connection to the harvest. Where several trees are set aside in groups, there are no requirements for mapping each tree. When a central database for retentions trees has been established, these must be reported.

Retention trees that die should remain in the forest. These can only be removed if there is a written public order for this pursuant to the Forest Act concerning forest health.

Where there is a clear risk that retention trees or dead trees cause damage to house, buildings and infrastructure , or creates obstacles on the paths and roads, these can be cut and set aside.

## **Requirement 14. Off-road transportation**

The requirement shall 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.

### **Requirement**

In the case of off-road transport, it is necessary to place emphasis on avoiding damage because of driving that are unsightly, make movement difficult, or can cause water runoff and erosion. When crossing rivers and streams with forest machinery, emphasis shall be placed on avoiding damage from transport that lead to erosion into the river/stream, e.g. by building a temporary bridge.

Where significant driving damage may be expected, mitigation measures including stopping the operations shall be considered. In areas with a lot of land with poor carrying capacity and where the risk of driving damage is high during the summer months, harvesting should preferably take place on frozen or well snow covered snowy. These measures shall be particularly considered in much used outdoor recreation areas and in areas with important environmental values in water and in case of high risk of runoff and erosion.

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

Transportation through key habitats and biologically important areas can be allowed if absolutely necessary to carry out the planned operation. In addition, non- harmful utility driving for other purposes can take place. Off-road transport through key habitats and BVO areas must be approved in writing by a person with forest biological competence when establishing or auditing.

Paths and ski trails, as well as roads of cultural interest should not be used as a driving route where it is practically possible to avoid this. Exceptions can be made to this rule if paths and ski trails are laid in already built-up forestry routes, or where it is necessary to avoid double routes and alternative

driving routes that will have greater negative consequences for the environment and outdoor recreations. Driving damage to paths must as far as possible be avoided.

Ruts which cause water runoff and erosion, driving damage to paths and ski trails and other significant damage shall be rectified as soon as the moisture conditions make this practically possible once use of the route is discontinued. When ending the operation, emphasis should be placed on preventing water from being left in paths.

Driving in buffer zones towards marshes, water, streams and rivers is avoided where there are alternatives.

No obstacles should be formed for natural water running and fish migration.

## **Requirement 15. Long-term timber production**

The requirement shall ensure that the forest areas' potential for production of timber and value creation is utilized satisfactorily, that assessments have been made with a future perspective, while taking long-term considerations of carbon sequestration and carbon storage, biodiversity and outdoor recreation.

### **Requirement**

#### Normal forest cycle and minimum age of harvesting

The timing of harvesting is important for many of the forest's functions and for interests related to forests. The normal forest cycle provided good health in the stands, and the minimum stand age for clear cutting and seed stands are stated in the table below. Harvesting time shall be adapted to conditions in the stand and operational conditions and may in certain cases decrease towards the minimum standage. On the other hand, consideration for carbon sequestration and carbon storage can make it optimal to delay the harvest to a stand age that exceeds normal forest cycle.

This forms the framework for the assessment of harvesting time. The forest owner is obliged to make both an individual assessment of the condition and economy of the individual stand and to balance this against other interests.

Site index H40	Normal forest cycle	Stand age limit * for harvesting (total age)
23 +	60 years	45 years
20	70 years	50 years
17	80 years	60 years
14	90 years	70 years
11	100 years	80 years
8	110 years	85 years
6	120 years	95 years

\*However, younger forest may be felled than stated as a lower age limit if this takes place as a consequence of legal conversion of the area to a different purpose, if the stand density is unsatisfactory, if existing tree species do not utilize the production capacity of the area in a

satisfactory manner, or if the value growth is small or negative as a result of weakened health or other reasons. Harvesting at a lower age than above stated as a lower age limit shall be justified and documented.

Nor can deciduous tree dominated forests in younger, satisfactory stocked stands be felled in the form of clear cuttings or seed stands.

#### Regeneration after harvesting

When planning harvesting, regeneration methods, including harvesting methods and the possibility of natural regeneration, as well as the need for soil scarification, shall be considered. The choice must be documented.

On areas where natural regeneration after harvesting has been planned, the trees must be felled in such a way that regeneration can be established as quickly as possible. If natural regeneration is not successful, silvicultural measures shall be implemented.

In areas where planting or sowing after harvesting has been planned, it must be planted or sown as soon as it is practically possible, and within three years at the latest unless the authorities have granted an exemption.

#### Juvenile stand tending

The need for juvenile stand tending shall be assessed.

Young forest fields must be tended to ensure good growth and fast establishment of new forests with satisfactory density.

When juvenile stand tending is done, emphasis shall be placed on utilizing the areas' opportunities for quality production, creating stable stands, and building a forest that provides a basis for variation in the-production and regeneration methods.

Mix of spruce and pine and groups and different tree species shall be sought, with occurrence of deciduous trees where conditions allow. Moreover, grazing for wild animal should be taken into account, especially ROS species (rowan, aspen and willow).

It shall not be felled trees over/in streams, paths, roads, cultural heritage and out on agricultural land. Furthermore, no buffer zones shall be cleared, unless the intervention in the long term ensures stable, and multi-layered vegetation belt, cf. requirement 27. Water protection

Disturbance of nesting birds of prey and owls should be avoided, cf. requirement 24. Consideration for birds of prey and owls.

## Requirement 16. Soil scarification

The requirement sets frameworks for the use and execution of soil scarification where considerations for forest regeneration, climate, biodiversity, outdoor recreation and other environmental considerations are balanced.

### Requirement

Before soil scarification can be carried out, consideration for biodiversity, outdoor recreation, reindeer herding, cultural heritage, erosion and water runoff must be assessed, and areas that are not to be scarified must be clarified. The assessments must be documented.

Areas that should not be scarified include:

- In marsh forests, swamp forests and spring forests
- Lime rich forest (lime stage h-i by Nature in Norway system, NiN)
- In nature types with tall-herbs (høgstaudeskog)
- In lichen woodland with humus cover less than 3 cm thick and other lichen woodland important for reindeer herding
- In buffer zones
- Less than 5 meters away from streams which are unlikely to run dry
- Less than 5 meters away from the outer edge of cultural registered delimitation or visible outer edge
- Within cultural heritage buffer zones
- Closer than 2.5 meters from frequently used paths
- In areas set aside as biologically important areas and key habitats
- Biologically valuable 'small areas' where vegetation is spared.
- In humid areas
- Selected nature types and functional area for priority species cf. The Nature Diversity Act

For areas where one, according to the assessment above, can carry out soil scarification, and where the measure will provide a significant effect on forest regeneration and production, the following requirements apply to implementation:

Soil scarification shall be adapted to the place and landscape with the best practical possible method and technique to take into account biodiversity, water environment, carbon storage, reindeer herding and outdoor recreations. Spot scarification should be considered and preferred.

Soil scarification is planned so that vegetation in the field and shrub layers is preserved as much as possible. Damage to lying and standing dead wood (not applicable to branches, tops and small logst) should be avoided.

In important outdoor recreation areas, consideration for outdoor recreation shall be considered specifically when deciding whether to perform scarification and only spot scarification can be used.



## Scarified area

It should not be scarified more than necessary to get a satisfactory number of suitable planting/ seedling sites. The table indicates the maximum degree of scarification in percentage by site index and from that minimum distance between stripes when stripe scarification is used.

<b>SPRUCE</b>		Stripe width, m			
		0,6		0,7	
Site index (H40)	Scarification degree in %	Minimum stripe distance (m)		Minimum stripe distance (m)	
		1 m lift up	2 m lift up	1 m lift up	2 m lift up
G26	20	2,7	2,4	3,2	2,8
G23	20	2,7	2,4	3,2	2,8
G20	18	3,0	2,7	3,5	3,1
G17	18	3,0	2,7	3,5	3,1
G14	18	3,0	2,7	3,5	3,1
G11	16	3,4	3,0	3,9	3,5
G8	16	3,4	3,0	3,9	3,5
G6	16	3,4	3,0	3,9	3,5

<b>PINE</b>		Stripe width, m			
		0,6		0,7	
Site index (H40)	Scarification degree in %	Minimum stripe distance in m		Minimum stripe distance in m	
		1 m lift up	2 m lift up	1 m lift up	2 m lift up
F20	20	2,7	2,4	3,2	2,8
F17	20	2,7	2,4	3,2	2,8
F14	18	3,0	2,7	3,5	3,1
F11	18	3,0	2,7	3,5	3,1
F8	16	3,4	3,0	3,9	3,5
F6	14	3,9	3,4	4,5	4,0

When performing soil scarification, continuous stripes should be avoided.

The stripes should normally not go deeper than 20 cm. However, stones pulled up can deepen the stripes. Increased runoff, erosion and changes in drainage conditions shall be avoided, among other things, by adjusting the stripe length and direction in relation to terrain.

The requirements for lift up apply:

- It Should always be driven with a break (lift up) in the stripes of at least one meter per 10 meters
- When humus cover is thinner than 5 cm, it should always be run with a break (lift up) in the stripes of two meters per 10 meters
- In case of scarification for natural regeneration, it should be breaks (lift up) with breaks(lift up) in the strips of two meters per 10 meters

## **Requirement 17. Tree species distribution**

The requirement shall ensure that the tree species composition safeguards both economic, environmental and outdoor conditions

### **Requirement**

The tree species composition shall be adapted to the site, as well as expected climate-related changes that will affect the composition of the tree species. It shall be facilitated that all tree species that naturally occur are present on the property.

A significant deciduous tree proportion shall be sought with own deciduous tree stands, deciduous trees in groups and as single trees, including old, large deciduous trees, unless climatic and soil conditions make this difficult.

A substantial amount of deciduous tree share shall be facilitated in the event of regeneration and juvenile forest tending (cf. requirement 15 – long-term timber production), thinning and harvesting (cf. requirement 11).

Deciduous trees as retention trees shall be given priority, cf. requirement 13 retention trees and dead trees.

Where the conditions are right, a mixture of spruce and pine should be sought.

Norwegian tree species that are rare in the area shall be safeguarded and/or promoted by forestry measures.

## **Requirement 18. Use of pesticides**

The requirement shall ensure that the use of pesticides as a forest culture measure is limited and only used where it is clearly more efficient than mechanical methods, that consideration for landscape qualities and outdoor experience values is safeguarded. It is not allowed to use pesticides in forestry that pose a risk to health or the environment.

### **Requirement**

Based on a precautionary principle, use of pesticides in forests as a forest as a measure shall as far as possible be avoided and subject to strict practice.

The principles of integrated pest management (IPM) shall be used as a basis for vegetation control. Through forest measures, the forest owner shall endeavor to minimize or avoid the use of chemical pesticides. This is done by varied and adapted use of logging forms and silvicultural culture methods. Where absolutely necessary, pesticides can be used when it is the only effective, convenient or economical method of preventing the spread of grass, herbal and deciduous vegetation that inhibits the desired regeneration. The forest owner or certificate holder shall have the necessary expertise in IPM, cf. PEFC N 03.

The use of pesticides should not take place on vegetation that is on average more than 2 meters high.

The above rules can be deviated from when combating invasive species.

It is not allowed to use pesticides closer than 25 meters from lakes, streams, rivers, marshes, lichen-rich areas, key habitats, biologically important areas (BVO), endangered species and close to endangered nature types, or areas with other special environmental values.

The choice of pesticide, method of application and time of application shall minimize the risk of harm to species other than intended.

In frequently used outdoor areas, emphasis shall be placed on the safeguarding the opportunities for berry and mushroom picking, the landscape qualities and outdoors experience values associated with a varied landscape with deciduous trees, shall not be significantly reduced by the measure.

All use of pesticides shall be marked in the terrain in accordance with the Regulations on pesticides.

Pesticides used must be approved by the Norwegian Food Safety Authority for the relevant purpose. The use of pesticides must be documented.

Users of pesticides in forestry must have a certificate (certificate of authorization). When using pesticides, the right equipment shall be used, and the instructions given by the manufacturers of the pesticides shall be followed.

#### Use of biological means of pest control

The use of biological means of pest control should be limited to needs. Biological means approved by the Norwegian Food Safety Authority can be used in accordance with the authority's guidelines. The use of biological means of combat must be documented, including the type and treated area.

### **Requirement 19. Fertilization and nutrient balance**

The requirement shall ensure that fertilization is only used where it results in increased forest production and increased carbon sequestration, while at the same time it is carried out in a prudent manner so that nutrient loss and nutrient leakage are as little as possible and that considerations for biodiversity and other precautionary considerations are safeguarded.

#### **Requirement**

The forest owner shall ensure that forestry is operated in a way that ensures the natural processes and long-term production capacity of the forest area are maintained. Nutrient loss and nutrient leakage shall be as little as possible. The use of fertilizers shall not be an alternative to natural care of nutrients in the soil.

It shall not be fertilized in areas that are characterized by elements such as dead- wood, or multi layers of trees, or age variation – which often is a result from the absence of open harvesting. Fertilization can take place in areas where it has a significant positive effect on growth and minimal negative effect on biodiversity and water quality.

Where it can be documented that the wood production will increase significantly, it can be fertilized on suitable, intermediate nutrient rich sites on vegetation types, berry heather forests, blueberry

forests, small fern forests and large fern forests. On all other vegetation types, it shall not be fertilized.

Fertilization should not affect lakes, ponds, rivers, streams, marshes, lichen woodland, key habitats, BVO areas, endangered and near endangered nature types, or areas with other special environmental values. A fertilization-free buffer zone of 25 meters shall be set aside towards these areas (applies to streams with year-round water flow) to avoid runoff.

To ensure compliance with the fertilizer-free buffer zone, in weather conditions or methods that can reduce the level of precision, a fertilizer-free buffer zone of 50 meters shall be used.

Fertilization shall not occur until the snow melt is finished in spring and be finished before the end of August. The fertilization shall be adapted to the time and weather conditions that minimize the risk of nutrient leakage.

The use of fertilizers shall be documented, including type, quantity, date and treated area.

## **Requirement 20: Use of foreign tree species**

The requirement shall ensure that use is limited and avoid the spread of foreign tree species in order to take into consideration landscapes, outdoor activities, biodiversity and forest production/climate.

### **Requirement**

In the event of afforestation and regeneration after harvesting, Norwegian tree species shall be used. Foreign tree species can only be used on areas where foreign tree species have been planted for forestry purposes in the past.

The possibility of using foreign tree species is limited to the use of the tree species sitka- spruce gran, lutz-spruce and larch, and only in coastal areas from Lindesnes to Troms.

The use of foreign tree species requires that the measure is pre-approved by applicable legislation and mapped.

Planting foreign tree species also requires that one has experience from the previous circulation which suggests that:

1. the use of the tree species will result in significantly better production than with Norwegian tree species and/or is necessary to ensure a satisfactory regeneration
2. the use of the tree species does not have a material negative impact on landscapes, outdoor recreation and biodiversity
3. the spread to other areas can be avoided or kept under control
4. the area has operational technical availability that provides economic profitability in the long term and enables future harvesting, dispersal control and logging.

When planting foreign tree species, minor changes in stand location can be made, provided this does not have a material negative impact on the above-mentioned considerations and does not significantly increase the total area.

Before planting foreign tree species, the forest owner must identify and map where there is a stand of foreign tree species on the property, which is not considered economically viable to harvest. On

properties with such stock, the forest owner shall as far reasonably remove these, or contribute to their removal where public authorities facilitate their removal. Priority shall be given to tree species and stands with a risk of spreading to biologically important areas.

All forest owners with foreign tree species on the property should keep control of unwanted spread of foreign trees.

Forest owners with seed-ripe stands of foreign tree species must check for unwanted spread from these stands and implement measures to remove such spread at least every 5 years. Where the spread from these stands occurs in neighboring properties, the forest owner shall contact the neighbor/s to agree how this will be removed.

When foreign tree species are discovered on forest properties where no foreign tree species are planted, occurrences must either be removed or reported to the owner of the stand that is the source of the spread. Where the source cannot be identified, findings are reported to the municipality.

In the event of regeneration of foreign tree species after harvesting that are not listed here, or where the use of foreign tree species is not to be continued, natural regeneration from the previous stand must be removed. Trees should be removed before becoming seed-ripe.

Routines for internal control of compliance with this requirement must be documented.

## **Requirement 21. Afforestation and tree species change**

The requirement shall ensure that afforestation and change of tree species are implemented so that the measures provide climate benefits through permanent, net increased carbon storage throughout the ecosystem, and create a basis for future value creation, while at the same time safeguarding the consideration of other environmental values.

### **Requirement**

Afforestation and tree species changes shall provide the basis for long-term profitable forestry.

Along the coast from Lindesnes to Kirkenes, afforestation and tree species changes can only take place in areas where such measures have previously taken place successfully to a great extent, and only in connection with future profitable operational technical solutions. In such areas, Norwegian spruce can also be replanted after harvesting of foreign tree species. Outside these areas, including in buffer zones against marshes, water and watercourses, the forest owner shall remove occurrences of tree species that are not indigenous when this measure is reasonable.

The stands shall be suited to the landscape. Emphasis shall be placed on creating soft transitions between the spruce forest and the surrounding areas, and a minimum of 20% of indigenous tree species shall be ensured on the property. On properties larger than 50 hectares, the use of non-indigenous tree species shall not exceed 70% of the property.

When afforesting, frequently used paths and trails must be taken into account so that the outdoors experience value associated with the use of the path/trail is maintained. It shall not be planted closer than 2.5 meters from such paths and ski trails.

There should be no tree species change or afforestation in:

- biologically important areas (BVO), endangered nature types on the Red List (including flood forest fields) or areas with key habitat qualities.
- selected nature types or in ecological functional areas for priority species.
- pine marsh forest in Western Norway.
- swamp forest.
- deciduous forest, with the exception of the vegetation type blueberry- oak forest on low site index.
- lime forest (lime stage h-i by Nature in Norway, NiN)
- in rich and moist tall-herbs birch forest with almost fully covered undergrowth of high herbs and large ferns.
- large fern forest and "istervier" community north of Saltfjellet.
- almond-willow and mist-willow thicket.
- overgrown pastureland with special natural values.
- within the protection zone of known cultural heritages.
- pasture forest.
- buffer zones along marshes, water and waterways.

The databases Artskart and Naturbase must be consulted before afforestation or tree species changes take place. The measure cannot be implemented if the measure harms the environment of an endangered species or harms an endangered nature type or the values of a registered nature type with A- or B-value according to "DN Handbook 13", or nature types with "central ecosystem function" mapped according to the Norwegian Environment Agency's instructions with moderate to very high quality. Any change in forestry or tree species assumes that a person with forest biological competence has assessed that the measure can be implemented without causing harm to the environmental values.

## Special environmental values

### Requirement 22. Key habitats

Key habitats are intended to ensure habitats for species considered endangered on the Norwegian Red List. The key habitats are intended to preserve species that have special habitat requirements, and where the habitats can become rare in areas used for forestry .

#### Requirement

##### Establishment and management of key habitats

Key habitats shall be mapped on properties larger than 5 hectares of productive, commercially exploitable area. The key habitats shall be documented in the forestry plan or environmental overview. If management measures can be carried out, these must be described in the forestry plan or the environmental overview.

The Key habitat Registration method in Forest (MiS), or other method approved by the authorities, shall be used when mapping and selecting new key habitats. Forest biology expertise approved by certificate holder shall be used when mapping and selecting key habitats.

If the forest owner wants to change the boundaries of a key habitat or to replace key habitats that are set aside with a new key habitats, these must be documented in the forestry plan or environmental overview and approved by the certificate holder. Existing key habitats can only be replaced with key habitats of equivalent or higher value for biodiversity and changing the boundaries of key habitats shall not have a material negative impact on the value of the key habitats.

The key habitats shall be left untouched or managed in a way that maintains, or improves, the conditions of biodiversity. Where key habitats are managed in other ways than untouched, measures shall be prepared in consultation with a person with forest biology expertise approved by the certificate holder. Key habitats cannot be converted for other purposes unless there is a public decision that imposes such conversion. Conversion to pastures can be carried out provided that a replacement area is allocated cf. rules for replacing key habitats.

If it is decided that a new mapping or revision should be carried out, all certified forest owners are obliged to participate. Assessment of the need for revision and any revision of environmental registration shall in principle be carried out every 15 years, cf. guidelines for revising key habitats. Such assessment shall be approved by the certificate holder and documented.

Both when revising existing and new environmental registrations in forests, external sources of environmental information in the databases Artskart, Narinbase and Naturbase shall be assessed, providing information of potential important key habitats. In addition to the sources listed during the consultation of environmental databases when planning harvesting, concentrations of at least four different forestry NT(red list) species that have forestry as a known influence factor within an area of 1 hectares shall be considered in this process.

##### The possibilities of using precautionary routine.

On properties with less than 5 hectare of productive, commercially exploitable area, when planning harvesting and forestry operations, precautionary measures shall be used to clarify whether there

are important key habitats. Mapped key habitats shall be safeguarded, if necessary by refraining from harvesting or by taking the necessary considerations. The precautionary routine must be approved by a certificate holder.

When key habitats are indicated, harvesting and other forestry operation cannot be carried out until such mapping is done. If there exists a plan for mapping of key habitats in the area in the near future, an exemption may be granted to carry out the mapping when this happens. In such cases, the precautionary routine is used.

Where there have previously been no requirements for mapping key habitats (when harvesting spruce or foreign tree species), registration of key habitats shall be phased in during a 15-year period, adapted to local conditions.

#### Consultation with environmental databases

When planning harvesting, external sources of environmental information in the databases Artskart, Narinbase and Naturbase must be consulted. Where forestry operation may affect mapped environmental information, as listed below, and the mapped information has not previously been assessed in connection with the selection of key habitats, a person with forest biology expertise shall assess whether one or more key habitats shall be established in the area.

The information that in this case requires an assessment is:

- endangered species
- endangered nature types
- nationally important nature types (A-value, or equivalent valuation in Narin) according to DN Håndbok 13.
- regionally important nature types (B-value or associated valuation in Narin) according to DN Håndbok 13
- nature types with "central ecosystem function" mapped according to the Norwegian Environment Agency's instructions, with registered NiN (Nature in Norway) properties indicating that there may be important key habitat qualities

Assessment of the need to establish key habitats is based on the MiS methodology or other publicly method approved by the authorities.

Any forestry activity in selected nature types and areas with the occurrence of priority species shall follow the rules of the Nature Diversity Act.

#### Documentation and reporting

New key habitats shall be reported to the database "Sbase" at NIBIO, so that the information becomes available in the Kilden access solution. The same should be done in the event of any change or relocation of the key habitat.

When mapping, selecting or changing key habitats, choices must be justified and documented. The same applies to the selection and change of allowed measures.





## Requirement 23: Biologically important areas

The requirement shall ensure the safeguarding of biologically important areas (BVO) in the forest landscape over time.

### Requirement

#### Property size and requirements

- For forest properties over 150 hectares of productive forest, at least 5% of the forest must be set aside and mapped as biologically important areas at the latest in connection with the first regional forestry plan project.
- For forest properties less than 150 hectares, safeguarding biologically important areas must be documented through statistics from the National Forest Inventory Crossing at the minimum possible level, which provides representative statistical basis. If the monitoring shows that there are less than 10% biologically important areas in the monitoring area, measures shall be taken to reach 10 % cf. requirements for the certificate holders (PEFC N 03 – requirements for individual and group certification)

#### Requirements for areas to be included in biologically important areas

In addition to key habitats and forests protected as nature reserves, landscape reserves or national parks, forest owners can choose from the biologically most valuable areas of the following forest types to meet the area requirement:

- old forest /old naturally regenerated forest.
- calcicolous rock lime forests, including younger calcicolous rock lime forests, where it is managed plan-wise to preserve species diversity
- swamp forest / marsh forest
- deciduous forest of high value
- pasture forest
- fire-affected forest
- buffer zones
- tree-set impediment within or up to biologically important areas (maximum 25% of the area)
- areas with priority species
- selected nature types or endangered nature types
- occurrence of endangered species (indicator for key habitat)
- concentrations of at least four different, forestry NT red list- species that have forestry as a known influence factor, within an area of one hectare (indicator for key habitat)
- capercaillie leks and other important game biotopes
- nesting sites for birds of prey and owls
- important habitat types according to DN håndbok 13 and the Norwegian Environment Agency's instructions

Biologically important areas shall be set aside as untouched or managed in a way that maintains, or improves, the conditions of biodiversity. Any measures to develop or preserve the values in the biologically important areas must be approved by a person with relevant forest biological expertise and documented.

## Requirement 24: Consideration for birds of prey and owls

The requirement shall 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.

### Requirement

Before harvesting, the forest owner must check with all relevant available sources to get knowledge about nesting birds of prey and owls that require special considerations, cf. the table below. The forest owner and certificate holder are obliged to comply with all information received.

Nesting sites for birds of prey and owls shall have an area of consideration where no harvesting should be carried out (see table below). When harvesting towards a nesting site, it must be avoided that the nesting site is left as an "island" in the landscape, and the area shall be adapted to the terrain.

In addition, there shall be a buffer zone without forestry disturbance during the nesting season (see table below). A person with forest biological expertise and expertise in birds of prey and owls approved by a certificate holder can make changes in the consideration zone buffer zone and time periods without interference from forestry. The buffer zone shall be expanded in cases where the relevant species alerts persistently as a result of forestry activity.

Species	Consideration and consideration time	Buffer zone with time period without forestry disturbance
Eagle owl Golden eagle Sea eagle	Flat and undulating terrain; radius at least 100 meters.  Cliff and terrain steeper than 60 degrees; at least 100 m to each side and 50 m from the cliff foot or the steep terrain.  Consideration shall be taken regardless of when nesting was last observed at the nesting site.	Radius 400 m from nesting site.  January 1st to July 31st
Goshawk Honey Buzzard	The forest owner can choose from 2 options:  1. From 40-100 meters, selective harvesting can be carried out. The harvesting is designed so that an retains or develops layering in the stand and avoids direct visibility into the nesting site.  2. A consideration area with a radius of 80 meters without harvesting.	At least 200 m in radius around the nesting site.  Period of consideration: 1 March to 31 July

	Consideration shall be given for 10 years after the last known nesting or as long as the nesting site is somewhat intact or is clearly maintained. Absence of nesting must be documented.	
Osprey	<p>Harvesting is allowed towards the nesting tree.</p> <p>At least one stable retention tree of a large pine, preferably with a flat crown or which, incidentally, has the potential to facilitate nest for osprey, must be retained.</p>	<p>Radius at least 200 m from nesting site or nest in use.</p> <p>March 1 to July 31</p>
Peregrine falcon  Rough-legged buzzard  Ural owl  Great grey owl	<p>Flat and undulating terrain; radius 50 m.</p> <p>Cliff and terrain steeper than 60 degrees; 50 m to each side and 25 m from the cliff foot /steep terrain.</p> <p>Consideration shall be exercised for 5 years following the last nesting.</p>	<p>Radius at least 200 m from nesting site or nest in use.</p> <p>March 1 to July 31</p>
Common Buzzard  Eurasian hobby	<p>Radius 25 m.</p> <p>Considerations for 5 years following the last nesting.</p>	<p>Radius at least 50 m from nesting site.</p> <p>March 1 to July 31</p>

## Requirement 25. Consideration for capercaillie leks

The requirement shall ensure that the big bird's playing place or capercaillie leks is taken into account.

### Requirement

A capercaillie lek has at least two playing capercaillies. Lek sites with approx. 5 active capercaillies are normally up to about 5 hectares in size. Larger capercaillie leks can be up to 10 hectares in size, in some cases larger.

Before harvesting, the forest owner must check with all relevant sources in order to get knowledge about capercaillie leks. The forest owner is obliged to assess all information received.

Regardless of property size and property limits, a capercaillie lek shall be managed so that it can function as long as possible. Harvesting can be carried out when done in a way that does not impair the conditions at the leks. Assessment of whether it can be performed harvesting and planning of the harvest must be done in cooperation with a person with relevant forest biological competence approved by the certificate holder.

Depending on the type of forest, the management of the capercaillie lek shall be carried out based on the following:

- In sparse stocked pine or mixed forest with spruce and pine of low site index. Harvesting shall not normally be carried out.
- In pine or mixed coniferous forests of medium site index in which the forest has grown dense shading out undergrowth that provides hiding places. Harvesting which improve conditions can be carried out.
- In spruce forests of medium and high site index where the forest has grown dense and shading out the undergrowth that provides hiding places. Harvesting can be carried out where selective felling form is used. In forests where selective felling form can not be used, no harvest can be performed until forest its health is weakened or the capercaillie stop using the leks.

When harvesting towards the leks, it must be avoided that the lek is left as an "island" in the landscape, and the area shall be given a natural delimitation.

In the period April-May, forestry operations shall be avoided in areas with capercaillie leks.

Around capercaillie lek where 15 or more active capercaillies s have been documented, a management plan shall be prepared before harvesting takes place in the birds' "day areas". The plans should be made where in cooperation with a person with forest biological competence and special expertise in capercaillie. Harvesting should mainly be done through the use of selective felling that preserve continuity in the forest landscape and promote layered forest, and where forest management facilitate future selective fellings.

Where the forest owner has facilitated the establishment of a new capercaillie lek site of a similar size, and a corresponding number of capercaillies and the lek is in use, the old lek area can harvested in agreement with the certificate holder

## **Requirement 26. Consideration for other nesting birds**

The requirement shall help to reduce the disturbance of birds in the nesting period.

### **Requirement**

During the nesting season (normally the period May, June and July), forestry in forests of special importance for bird life shall be avoided, provided that it is not necessary to get to the forest behind these forests.

These types of forests are:

- a) Overgrown areas that used to be open landscapes, cultivated land or pastures
- b) Buffer zones against cultural landscapes, waterways and wetlands
- c) Marsh forest and swamp forest
- d) Deciduous tree dominated forest

For the elderly (developmental stage 4 and 5), multi-layered, deciduous tree dominated forest, forestry operations in this period shall be avoided. Forestry is defined as machine harvesting of timber for industrial purposes of a certain extent.

Forestry in areas with known occurrences of territory-raising bird species with small populations shall be adapted during the nesting season of these birds so that the risk of negative impact is reduced. Considerations can be directed specifically to the nesting site of the birds, or to important and/or relevant nesting biotopes.

The following birds are defined as territory-raising bird species with small populations:

- a White-backed woodpecker (in Southern and Eastern Norway)
- b) Little bunting
- c) Rustic bunting
- d) Ortolan bunting
- e) Arctic warbler
- f) The woodlark
- g) Red-flanked bluetai

## Requirement 27. Water protection

The requirement shall ensure the water quality in lakes and waterways and conserve habitats for species that are naturally based at or in the waterways.

### Requirement

Forestry in and in close proximity to water, rivers, streams and wetlands shall be adapted so that water quality and life environments at and in water are preserved or improved.

#### Buffer zones along lakes and waterways

Along water, rivers and streams which are unlikely to run dry or wider than one meter, a multi-layered buffer zone shall be preserved or developed. Along other streams, shrub vegetation and smaller trees shall be saved to secure a string of vegetation.

The buffer zone shall be wide enough to maintain the stability and ecological functioning of the zone. The width can vary along a single buffer zone in line with natural variation in the field, and the vegetation type and terrain shall be the guideline for the adaptations. Based on a width of 10-15 meters, the width is adjusted for the following:

- Rich deciduous, tall-herb, tall-fern and swamp woodland – significantly wider (25-30 meters)
- Dry vegetation types or steep terrain towards the waterway - narrower buffer zone.
- Single-layer pine forest - down to 5 meters.
- 1-2 meter wide streams - down to 5 meters

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

Buffer zones shall normally remain untouched. Any harvesting in the buffer zone shall promote stability, layering and natural tree species distribution. Foreign tree species shall be removed, while deciduous trees and stable trees shall be spared. Harvesting in the buffer zone shall be documented.

Single-layer, unstable spruce forests in buffer zones can be harvested with the aim of establishing stability, layering and natural tree species distribution. Stable trees shall be spared, and special attention shall be paid to important spawning streams. Such harvest shall be justified and documented. An exemption shall be applied for where this is required by law.

For the sake of outdoor recreation, important cultural landscapes, traffic safety or operational necessities, the buffer zones can be opened in certain places. The exceptions shall be justified and documented.

#### Other considerations for waterways

The following requirements shall safeguard water resources:

- When planning in forestry, emphasis shall be placed on safeguarding water resources, spawning streams for anadromous salmon fish and watercourses with river mussels, cf. requirement 3 "Planning in forestry".
- Emphasis shall be placed on avoiding contamination of lakes and waterways, cf. Section 12 of the Regulations. point 12 "Waste and contamination". For example, do not store fuel close to 50 meters from a water source.
- When fertilizing in forests, emphasis shall be placed on avoiding runoff against waterways, among other things by leaving a fertilisation-free zone of 25 meters against lakes, rivers and

streams (50 meter at low dispersal precision), cf. requirement 19 "Fertilizing and nutrient balance".

- Soil scarification shall take place carefully and no closer than 5 meters from the stream which are unlikely to run dry, cf. requirement 16 "Soil scarification"
- When restoring forest ditches and performing supplementary ditching, the water shall not be directed straight into streams, rivers and lakes, cf. requirement 28 "Wetland and swamp forest"
- Emphasis shall be placed on avoiding and, where necessary, rectifying any wheel tracks can cause water runoff and erosion. When crossing rivers and streams with forest machinery, emphasis shall be placed on avoiding driving tracks that lead to erosion into the river/stream, cf. Section 12 of the Regulations. point 14 "Off-road transportation".
- Harvesting waste shall be cleared away from streams, rivers and water, cf. Regulations. requirement 11 "Harvesting"

## **Requirement 28. Wetlands and swamp forest**

The requirement shall ensure that climate, biodiversity and ecological functions of wetlands, marsh forests and swamp forests are safeguarded by forestry measures.

### **Requirement**

#### Ditching

New-ditching of marshes and swamp forests shall not happen. If necessary, restoration and adjustments of the existing ditches system in previous marsh- and swamp forests can be performed, where this has resulted in productive forests, unless it:

- a) Drains areas not affected by the original ditches system
- b) Is set aside for restoration as a part of the property's biologically important areas
- c) Occurs on areas that are defined as selected nature types pursuant to the Nature Diversity Act or where the authorities will fund the restoration of wetlands
- d) Occurs in endangered nature types with reasonably intact values
- e) Changes hydrology in biologically important areas and other protected areas

The assessments must be documented.

Water from ditches should not be directed straight into streams, rivers or other water environments. Where runoff from ditches has a negative impact on the water environment, measures shall be taken to reduce or prevent further damage.

Where rivers, streams, water, marshes or other wetlands, as well as their network are damaged by previous measures, the forest owner shall allow restoration to be carried out where it does not reduce forest production or other values of the property.



## Harvesting

As far as possible with regard to stability and regeneration, selective felling shall be used in swamp forests and wetland forests and in the transition zone to firm ground. Where ordinary selective felling is not possible, small-scale clear cutting can be used.

In forest operation, emphasis shall be placed on safeguarding the ecological functions of all wetland and swamp forests, regardless of size. The bush vegetation is especially important. There is no requirement for adaptations of harvesting form for wetland and swamp forests less than 0,2 hectares.

## Buffer zone vs. marsh

If there is a natural reason for doing so, during harvesting 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 of the zones must be suited to conditions on site and may vary within one 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 meters)
- 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 and layered deciduous forest around wetlands - narrower buffer zone
- Single-layer spruce forest - very narrow buffer zone.
- Smaller wetlands - down to 5 meters

There are no requirements for establishment of buffer zones around wetlands of less than 0,2 hectares.

## **Requirement 29. Fire-affected forest**

The requirement is intended to ensure conditions of life for species that have burned forests as a habitat. It is a aim to increase the amount of habitats related to burnt forest, both in the actively managed forest area and in protected areas.

### **Requirement**

In the case of forest fires in older forests stands where more than 0,5 hectares are burnt 0,5 hectares of the most biologically valuable areas with fire-affected forest per property shall be set aside as untouched for 10 years. In the case of forest fires in older forests on areas less than 0,5 hectares, the entire area shall be set aside as untouched for 10 years.

During the 10-year period, set asides of the burnt forest area shall be assessed to consider permanently set asides as key habitats, cf. Section 12 of the Regulations. requirement 22 - Key habitats.

In the case of forest fires larger than 5 hectares, the set asides shall be assessed by forest biological expertise and be scientifically justified.

## **Requirement 30. Cultural heritage and cultural environments**

The requirement shall ensure that cultural heritage and cultural environments are taken into account in accordance with the regulations in the cultural heritage Act.

### **Requirement**

#### Cultural heritage

All cultural heritage remains from before 1537 and all Sami cultural heritage remains from the year 1917 or older are automatically protected, cf. the Cultural Heritage Act. In addition, the forest owner must take into account other known and valuable cultural heritage remains.

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

For other non-protected cultural heritages remains, they can be viewed in the cultural heritage plan, where this has been prepared.

Where cultural heritage remains are discovered that are assumed to be automatically protected and not known in advance, in connection with forestry operations, these must be marked in the terrain and reported to the county municipality, cf. the Cultural Heritage Act.

Normally, forests can be planted on or at cultural heritage remains. The greatest risk of destruction of cultural heritages remains is by off-road driving with forest tractors and other machines. Such driving is not allowed closer than 5 meters from the registered delimitation or visible outer edge of known cultural heritage remains.

Soil scarification must not take place closer than 5 meters from the registered delimitation or visible outer edge of the cultural heritage and within registered cultural environments. If a larger protection zone than 5 meters has been specified for the cultural heritage remain, this must be followed, unless otherwise agreed with the regional cultural heritage authority.

Cultural heritage can be damaged by windfalls. Retention trees shall therefore not normally be placed within the protection zone of cultural heritages. Stable trees of special importance for the cultural heritage remain shall be spared.

It can be planted within the protection zone of the cultural heritage remain site, provided that the forest being planted can be managed and harvesting without having to drive in the safety zone.

It should not be planted in the protection zone of cultural heritage remains where it may be important for the value of the experience of the cultural heritage remains or where the cultural heritage can be damaged by the forest establishment. This applies to known cultural heritage remains including safety zones:

- Burial mounds and burial chars
- Slag mounds
- Burial ground
- House ruins
- Historical roads

#### Cultural environments

Cultural environments mean areas where cultural heritages are part of a larger whole or context (cf. Section 2 of the Cultural Heritage Act).

The deviance and rejuvenation of forests within cultural environments (cf. Section 2 of the Cultural Heritage Act) shall be clarified with the regional cultural heritage authority prior to operation.

## Explanations

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

There are explanations related to the following requirements:

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

The requirement specifies 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 joint measures for knowledge development in forestry is fulfilled when forest owner is obliged to pay forestry's Research and Development fee to the Forestry Initiative Fund (Skogtiltaksfondet).

### **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 i.e. Tourism.

For forest owners who have a traditional forestry plan, it will be natural to use the forest information in this during both operational and long-term planning in forestry. For forest owners who do not have such plans, the 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 24 and 25.

### **Requirement 5. Forest roads**

In larger contiguous forest areas with little technical interventions and which are particularly important for biodiversity or outdoor recreation, new forest roads shall normally be avoided. An application can be sent to PEFC Norway for exemption. When assessing the areas' importance for biodiversity, emphasis shall be placed on whether the area contains environmental values that are inadequately set aside in protection areas. When assessing the area's importance for outdoor recreations, emphasis shall be placed on whether the absence of intervention makes the area particularly attractive for outdoor recreation.

### **Requirement 11. Harvesting**

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

### **Requirement 12. Waste and pollution**

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

### **Requirement 14. 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 15. 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 harvesting.

A requirement has been defined which indicates that the regeneration method selected must be documented when planning harvest. This is necessary so that the group certificate holder can establish procedures which ensure that planned planting is 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 stands are harvested.

### **Requirement 16. Soil scarification**

In the case of soil scarification around streams and paths, there is a tolerance of 1.0 and 0.5 meters respectively in accordance with the minimum distance defined.

### **Requirement 18. Use of pesticides**

Normally, the requirement that highly toxic or harmful pesticides should not be used is ensured when pesticides used are approved by the Norwegian Food Safety Authority for the specific purpose. In any case, the application of chlorinated hydrocarbons is not allowed. The same applies to WHO type 1A and 1B pesticides unless there are no other alternatives available. A support for assessing a pesticide-medium toxicity can also be found in the FSC Lists of highly hazardous pesticides (FSC-POL-30-001a EN).

*Integrated pesticides* are the consideration and use of all available techniques and methods that can be united to prevent pests from developing, and thus keep the use of pesticides and other forms of intervention at an economically and ecologically sound level, while reducing the risk to human health and to the environment. Integrated plant protection in forests builds on the 8 main elements:

1. Prevention

2. Surveillance
3. Basis for decision
4. Use of non-chemical methods
5. Choice of pesticide
6. Reduced use of pesticides
7. Resistance
8. Evaluation

#### **Requirement 19. Fertilization and nutrient balance**

Weather conditions: Do not fertilize if downpours have been reported, during prolonged periods of drought or in strong winds.

Ash fertilization in forests is not regulated by the authorities today. In the event of such regulation enabling the measure, PEFC -guidelines shall be made for this.

#### **Requirement 21. Afforestation and tree species change**

Bullet point 6 in the requirement: The 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 exempted from afforestation and tree species change. This is birch forest, which environmentally (rich and humid) is closest to rich swamp forests and wetlands.

It is relevant to define this part of the high-quality forest and the forest type "the most calcareous forests" in more detail in the guide to the standard, based on the NiN-system (Nature types in Norway).

#### **Requirement 22. Key habitats**

##### Method

It is in the standard required that future selection of key habitats is based on method for selecting key habitats approved by the authorities. Today, this method applies to Environmental Registration in Forests (MiS). This method entails that defined key habitats are registered and that a selection of key habitats is set aside based on this registration. If another method is approved, separate guidelines shall be made for how this shall be implemented in accordance with the text of the requirement.

##### Boundaries and tolerance

There is no requirement for key habitats to be marked with fixed points in the forest. This means that there will be no exact limit in the forest, except where it follows streams, roads or similar. The boundary will be marked as on a digital map.

Felling in the key habitats where normal accuracy is based on the use of GPS should not occur.

If it turns out that the key habitats boundaries on maps is incorrect, this must be corrected before harvesting. The changes shall be approved by the certificate holder. Key habitats with boundaries towards roads do not hinder normal road maintenance, which does not significantly affect the environmental qualities of the key habitats. Normal road maintenance is maintenance that requires keeping the road in the road class it is built as.

#### Consultation with environmental databases

The consultation with the databases Artskart, Narinbase and Naturbase aims to clarify whether a planned harvest can touch:

- endangered species
- endangered nature types
- nationally important nature types (A-value, or equivalent valuation in Narin) according to DN Håndbok 13.
- regionally important nature types (B-value or associated valuation in Narin) according to DN Håndbok 13
- nature types with "central ecosystem function" mapped according to the Norwegian Environment Agency's instructions, with registered NiN (Nature in Norway) properties indicating that there may be important key habitat qualities

Any forestry activity in selected nature types and areas with the occurrence of priority species shall take place in the following the rules of the Nature Diversity Act.

Registration of endangered species and nature types according to the bulleted list above will 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 24. Consideration for birds of prey and owls**

The considerations are related to "natural" nesting sites, and exposed nesting boxes, artificial nests and nesting platforms set up in consultation with the forest owner. According to the Biodiversity Act, all places where the above-mentioned species of birds are nesting must be taken into consideration, regardless of permission.

Consideration areas and buffer zones without forestry interference are defined as radius from nesting site. Changes in the consideration area and buffer zone can be given when terrain conditions allow it. Such adaptation shall be made by a person with forest biological competence with experience and expertise in birds of prey and owls and be documented. However, the total area shall not be reduced.

No accurate measurement of the areas is required. The use of GPS is sufficient.

Forestry operations, soil scarification or mechanical/manual juvenile stand tending cannot take place within the specified period in buffer zone without disturbance from forestry. This requirement does not prevent the use of roads in the area.

#### **Requirement 25. Considerations for capercaillie leks**

The considerations apply to the capercaillie leks. Nevertheless, it is required that the leks shall not be set aside as an "island" in the forest landscape. The exception to this is if the lek is surrounded by felled areas and aged spruce forest which cannot be maintained for 15-20 years longer.

#### **Requirement 27. Water protection**

In the requirement, reference has been made to several other requirements to safeguard the consideration of water resources. It is the wording of these requirements that applies.

Where there is a possibility for exemption pursuant to Section 11 of the Water Resources Act. Applications must be sent to the relevant public authority.

#### **Requirement 30. Cultural heritage and cultural environments**

There is zero tolerance towards off-road driving and soil scarification less than 5 meters away from protected cultural artefacts unless this has been allowed in advance consulting a cultural heritage authority.