

# Consideration in harvesting operations



Appendix to Södra contracts for  
harvesting assignments and wood deliveries

## Certification

The text in this brochure is based on the requirements in the FSC- and PEFCstandard.



## Policy document

Further information is available in the following policy documents:

- Nature conservation policy
- Harvesting in forests with high biodiversity values
- Environmental policy

## Definitions

### Nature conservation:

The expression is used as a collective term for three areas of consideration:

**Nature consideration** = consideration for biodiversity

**Cultural consideration** = consideration for the cultural environment

**Other consideration** = consideration for outdoor activities, etc.

### Levels of consideration:

Consideration in harvesting operations includes:

**Consideration for specific objects** = individual trees or small objects

**Conservation areas** = areas < 0.5 ha

**Conservation zones** = areas > 0.5 ha

### Felling instructions:

Written instructions for the work team including the amount of wood to be removed and the consideration measures required.

Illustrations: Martin Holmer

## To the forest owner

### About this brochure

This brochure explains your obligations for environmental consideration during harvesting under the current terms of contract. It should also act as a guide for the harvesting team.

Södra's nature conservation policy specifies that environmental consideration must be taken during harvesting. The purpose is mainly to preserve and develop forest with high biodiversity values and to help plants and animals survive in managed forest. It also aims to protect cultural heritage, minimise vehicular damage and avoid littering.

The brochure briefly describes the main areas of consideration required during final harvesting and thinning. The instructions meet the requirements of the FSC and PEFC standards. Supported by the 'green balance sheet', Södra carries out spot checks to monitor measures taken in the field.

### Forest with high biodiversity values

Södra evaluates biodiversity values before signing harvesting agreements. A special procedure is used to decide whether or not to sign harvesting agreements based on an assessment of biodiversity values.

When harvesting is done by the forest owner or a third party for delivery to Södra, the forest owner is responsible for Södra's nature conservation and environmental policies being followed. Harvesting may only take place if it does not compromise high biodiversity values. Södra is not otherwise required to accept the wood. Contact Södra in case of doubt.

Södra does not harvest or accept wood from nature reserves, other protected areas or key biotopes. Harvesting in accordance with current management instructions or directions from appropriate regulatory authorities is however permitted.

In areas with red-listed bird species that are sensitive to disturbance, felling may need to be seasonally adapted.

## High-biodiversity biotopes – description

High-biodiversity biotopes are areas with higher biodiversity values than the surrounding forest. These environments are important to species that are sensitive to harvesting.

### High-biodiversity biotopes include:

- Marshy natural forest
- Escarpments, steep slopes or ravines with old trees
- Marshes and wetland with springs
- Forest with rocky outcrops and extensive dead wood
- Other types of forest with old trees and extensive dead wood

## High-biodiversity biotopes – measures

- Damage caused by forestry practices should be restricted or avoided in, and adjacent to, high-biodiversity biotopes.
- Protection for these biotopes is primarily provided through specific conservation zones ( $> 0,5 \text{ ha}$ ) or conservation areas ( $< 0,5 \text{ ha}$ ).



## Edging zones and buffer zones – description

**Edging zones** and **buffer zones** are important for the protection of biodiversity on forest land as well as on adjacent land such as wetlands, lakes and waterways.

Edging zones often host a wealth of species including plants and animals from the actual edge zone as well as from adjacent environments.

Edging zones can exist in many different shapes and forms and should therefore be handled differently depending on the biodiversity values under conservation or development. Sometimes edging zones are best left untouched, in other cases biodiversity values can be improved through restoration harvesting.

The width of the edging zone depends on the natural conditions.

A buffer zone may consist of forest with low biodiversity values that is saved to preserve natural values in specific areas with high biodiversity values or to reinforce edging zones.

The buffer zone should be functional and its width adapted to individual conservation objects and local conditions.



## Edging zones – measures

### Preservation of edging zones

- ❑ Edging zones should be left adjacent to infields, wetlands, waste land and water needed to preserve or develop biodiversity values.
- ❑ Leave natural, leafy multilayer verges to open land/wetland.
- ❑ Leave protected broadleaved trees and undergrowth around streams and waterways as well as on wet/damp ground with streams.

### Restoration of edging zones

- ❑ Spruce in edging zones/verges and by lakes and waterways where standard production spruce goes to the edge, is harvested and not replanted. Instead, broadleaved trees and bushes are encouraged to achieve a layered edging zone with trees of different ages.
- ❑ More open verge environments adjacent to land such as infields are preserved or managed to protect values related to layering and light exposure, and helped develop by cleaning and other measures.

## Buffer zones – measures

### Buffer zones are left

- ❑ Where there is risk that high biodiversity values may be lost due to light entry and drying-out.
- ❑ Close to water where there is risk for widespread leakage of nutrients.



## Tree groups and limitation of large harvested areas – description

Tree groups are collections of trees with current biodiversity values that are lower than high-biodiversity biotopes but which would make a valuable contribution to variation in the landscape if preserved for free development or maintained to promote biodiversity values.

Tree groups also help reduce the clear-cut appearance of large harvested land. The groups may contain biodiversity value trees as well as development trees (see following definition).

## Tree groups and limitation of large harvested areas – measures

- ❑ Small stands of trees that do not yet have high biodiversity values are left rather than harvested so their biodiversity value can increase.
- ❑ Aim to save tree groups as small conservation areas adjacent to existing individual biodiversity trees or natural terrain formations, such as boulders and hollows.
- ❑ When harvesting areas of three hectares or more, consideration is required so the land will appear less clear-cut. A good rule of thumb is a distance of about 100 metres between measures of this type and the edge of the clearing.
- ❑ During thinning in particular, it may be appropriate to free or otherwise highlight the preserved tree group so it can be more easily seen later.



## Impediments (non-productive forest land)

Impediments are areas with low production capacity ( $< 1 \text{ m}^3/\text{sk}$  per hectare a year).

- Forestry activities may only be carried out to preserve or benefit biodiversity.



## Biodiversity value trees – description

Biodiversity value trees include living or dying trees with green leaves or healthy needles at the top. They should have special biodiversity value and be differentiated from the production forest in the stand to be harvested.

### Examples of biodiversity value trees:

- Particularly big, old or slow-growth trees with high biodiversity values.
- Nesting trees with twig nests, hollow trees or big trees with broad and thick branches/flat top.
- Big hazel, aspen and alder trees in coniferous stands if not otherwise abundant.
- Sallow, rowan, whitebeam, maple, linden, bird cherry, wild cherry, elm and hawthorn with a diameter  $> 7 \text{ cm}$ , if not otherwise abundant.
- Trees with evident open fire scars or clear traces of old cultural activity.

### Biodiversity value trees do not include

- Trees included in the normal forest management programme, including arrangements for seed-trees, shade and saw logs.
- Older main stems of softwood, hardwood or valuable tree species that are managed for timber production.

## Biodiversity value trees – measures

- ❑ All biodiversity value trees are to be preserved during forestry.
  - Exceptions may be made during road construction, where there is risk for human injury or building damage and for trees close to power lines.
- ❑ Wind-felled biodiversity value trees should not be processed unless they are a threat to people or buildings, or prevent access to roads and paths.



## Development trees – description

Development trees are normal living trees that are preserved to increase biodiversity value.

Development trees in harvesting areas should ideally be concentrated in tree groups, conservation biotopes or buffer zones.

Examples of development trees:

- Ordinary aspens, birches and pines
- Valuable deciduous tree species

## Development trees – measures

- Development trees are preserved where there are insufficient biodiversity value trees so that at least 10 green trees are preserved per hectare including biodiversity value trees.
  - Prioritise trees with a diameter of breast-height more than 30 cm. Only trees with a diameter of breast-height of at least 15 cm on final harvesting and 10 cm on thinning are counted.
- Fewer development trees may be needed in southern Sweden if biodiversity value trees are made up of large oak or beech trees.
- All hardwood species in the stand should remain after the measure.



## Dead trees and windthrows – description

Different types of dead trees and dead wood have particularly high biodiversity value. Around 40 per cent of red-listed forest species are associated with deadwood.

Saving different forms of dead wood is thus one of the most effective conservation measures that can be made. It is also cost-effective as dead trees have low timber value.

Problems with insect infestation can arise on recently-dead softwood trees. The following measures consider biodiversity as well as forest conservation.

## Dead trees and windthrows – general measures

- Avoid driving over dead trees, tall stumps and valuable windthrows.
- Save all dead trees and windthrows:
  - a) from biodiversity value trees and other trees that were previously left for conservation purposes
  - b) in conservation areas
  - c) on impediments

Exceptions:

- Dead trees that represent a safety risk are cut to high stumps (working environment, power lines, roads, buildings).
- In forests close to urban areas and along public paths, it may be necessary to cut or move dead wood to increase accessibility and safety.



## Dead trees and windthrows less than one year old – measures

- ❑ When processing windthrows in clearings, leave all wind-felled biodiversity trees and an average of at least two big new windthrows per harvested hectare.
- ❑ The amount of fresh softwood that may be left is determined by the National Board of Forestry (Skogsstyrelsen) – the level is normally 5 m<sup>3</sup>sk/ha with 3 m<sup>3</sup>sk/ha in infestation-control areas.

## Dead trees and windthrows more than one year old – measures

- ❑ Dead trees and windthrows that have been dead more than a year are to be left unless:
  - a) they represent a safety risk for forest workers or the general public
  - b) they block frequently used paths and roads
  - c) there is documented risk for mass propagation and the dead trees provide host material for harmful insects
- ❑ When removing harvesting residues such as branches, roots and tops, a portion is always to be left in place. Particular care should be taken when removing harvesting residues from hardwood forest.
- ❑ Where reforestation is required, areas with dead forest should be handled in accordance with the requirements of the Swedish Forestry Act and in dialogue with the National Board of Forestry.



## New high stumps – description

Making new high stumps is a way of imitating the natural production of dead wood.

Fresh high stumps attract different species than old dead wood, making them a valuable complement to other conservation measures.

The number of high stumps required under certification is too low to cause bark beetle problems.



## New high stumps – measures

- ❑ In regeneration harvesting and heavy thinning of stands of trees other than oak and beech, make at least three high stumps or ringbarked trees per hectare of harvested area.
  - High stumps should have a diameter of breast-height more than 25 cm on final harvesting and more than 10 cm on thinning, and be at least 3 m in height.
  - When harvesting manually by chainsaw, ringbarked trees can be left instead of high stumps.
- ❑ Try to combine different tree species, primarily pine and hardwood.
- ❑ When regenerating oak and beech stands, create or leave at least two ringbarked trees or high stumps of the main tree species on average per hectare of harvested area.
  - No high stumps or ringbarked trees need to be created from other valuable deciduous tree species.

## Consideration of water and ground – description

Water protection should be part of all forestry measures.

Lakes and waterways should be considered part of the overall forest landscape and forestry measures assessed from a landscape and drainage area perspective as far as possible.

Particular consideration should be taken when harvesting in areas close to water.

## Water consideration – measures

- ❑ Particular consideration should be taken in wet areas and water environments with high biodiversity value.
- ❑ Avoid vehicular damage, particularly when crossing waterways and wetlands.
- ❑ Take preventative measures against oil and fuel leakage from forest machinery.
- ❑ Use environmentally sensitive oils.
- ❑ Obstacles and other damage to waterways should be avoided and repaired in conjunction with road construction and installation or renovation of road culverts.



## Ground consideration – measures

- ❑ Plan your driving to avoid significant vehicular damage.
- ❑ Prevent vehicular damage by laying out brushwood or other ground protection equipment.



## Cultural heritage consideration – description

Cultural heritage is to be preserved in all types of forestry measures.

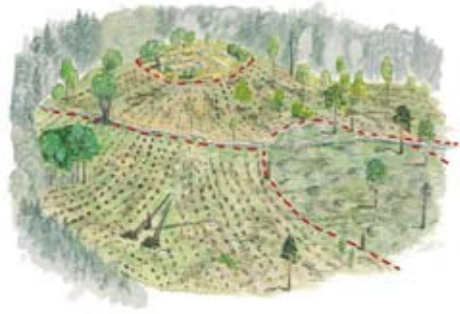
Historic monuments include ancient remains and other heritage objects.

All ancient remains are protected under the Heritage Conservation Act and may not be removed or damaged without special permission.

Under the Swedish Forestry Act forest owners are obligated to protect other heritage objects. The economic map shows ancient remains and other heritage objects, but note that not all objects are registered.

## Cultural heritage consideration – measures

- ❑ Forestry measures should be carried out so as not to damage historic monuments and to minimise damage to other heritage objects. .
- ❑ On frequently used paths and paths with cultural heritage value, damage is to be avoided during forestry measures and access is to be restored after their completion.



## Other forms of forestry consideration – measures

### Experience

- ❑ Ensure that paths and roads are accessible and that vehicular damage is repaired.

### Other

- ❑ All littering is to be avoided.
- ❑ All waste is disposed of in accordance with municipal regulations and guidelines.
- ❑ Transportation of dangerous waste is carried out by qualified carriers and driven to disposal sites that are approved by the municipality.
- ❑ Only ecodiesel may be used.
- ❑ Absorbents are to be carried in vehicles and used on oil and diesel spillages.



## Felling instructions

The felling instructions you receive from Södra form the basis of your work.

The instructions provide the emergency coordinates where ambulance and emergency services should go if you call 112.

The instructions are also to include the location of known historic monuments and other heritage objects to help you find them and avoid damage.

Areas requiring special consideration should be marked. Otherwise apply general consideration measures.

The felling instructions are to be signed and returned to Södra when the assignment is completed.



## Emergency preparations

In case of emergency call the Swedish emergency services (Räddningstjänsten) on 112. State the emergency coordinates shown in the felling instructions.

The work team is to include a contact person that can communicate with emergency services in Swedish or English.

The emergency coordinates specify the place where emergency services are to go in the event of turn-out (ambulance, fire brigade, police).

Everyone in the work team should know where it is located.

## Should something happen...

If something happens that prevents you meeting your obligations, the contact person at Södra should immediately be contacted.

The purpose is to minimise damage and improve procedures as needed.





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