

## Environmental work Holmen Skog

Holmen Skog makes a long-term commitment to all forest values – economic, social and environmental. Swedish forest management has two objectives carrying equal weight: a production objective and an environmental objective, and these thus apply to Holmen Skog. The natural productive capacity of forest land should be preserved, while at the same time ensuring favourable growth and productivity.

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### Environmental activities 2019

Holmen Skog’s forest management is certified according to both PEFC™ and FSC® ([FSC-ID](#)). There is also an option for private forest owners to affiliate themselves with Holmen Skog’s certification under what is known as group certification. Holmen Skog’s operations are reviewed every year by an independent auditor for PEFC™, FSC® and ISO 14001 certification. The 2018 audit was conducted in October by certification firm Det Norske Veritas (DNV-GL). Internal audits have also been conducted to ensure that Holmen Skog complies with the certification.

An important aspect of Holmen Skog’s environmental work is that employees and contractors document all accidents and deviations from procedures and instructions in an environmental reporting system. The aim of the environmental reporting is to improve procedures and working methods, and to provide a check on compliance with steering documents. In these reports, Holmen Skog also records all external communications and complaints received with regard to forest management. Each environmental report is assigned a case officer, who takes action on that particular case. The environmental reports also provide data for an analysis of whether there are areas that require more comprehensive action plans.

In 2019 an incident occurred when plastic balls from a seedling nursery spread to a neighbouring watercourse. The event was handled by the environmental authority and has been reported to the police. Holmen has called in external expertise to investigate the event and is putting measures in place to ensure no such incident occurs again.

All employees receive basic environmental and sustainability training on an ongoing basis. This takes the form of web-based training, which means that employees can choose the time when they complete it.

### **Consultation with reindeer herders**

Every year a consultation is held with reindeer herders to reach agreement on future forestry activities. Measures discussed in the consultation are harvests, scarification methods, lodgepole pine regeneration, fertilisation and road building. Holmen consults with Sami reindeer herding associations where Holmen's land holdings coincide with reindeer herding areas.

### **Models of good environmental conservation**

Models of good environmental conservation were developed collaboratively by the forest industry and its stakeholders in a project managed by the Swedish Forest Agency. The purpose of these models is to establish a consensus in the forest sector on what constitutes good environmental consideration and how this relates to the expectations that forest management policy places on forest owners. The models describe what good consideration for conservation of natural, cultural and social assets actually means.

All employees and contractors undergo training in models of good environmental conservation in the forest industry. This led to around 1 100 people being trained over the period 2014–2019.

### **Nature conservation**

Holmen's nature conservation strategy stakes out the path for attaining the overall objective of all naturally occurring species being able to thrive in the forest landscape.

Consideration is given to all forest land, but to differing degrees and in differing ways based on needs and circumstances. Holmen applies a prioritisation model based on the combined natural assets of set-asides at population and landscape level.

To achieve a greater effect and nature conservation benefit, nature-conservation stewardship is carried out both in set-asides and in the managed forest. This involves prescribed burning, clearing the ground around conservation trees, promoting the growth of broadleaves and creating dead wood. This is reported in the section on the environmental targets below.

In 2019, nature conservation specialists and operational planners received training in recognising biotopes of high conservation value and in Holmen's method of assessing conservation value.

Training on how to manage the environment for forests birdlife was carried out in partnership with Birdlife Sweden.

### **Knowledge forests**

Holmen's first knowledge forest, Kunnådalen, was opened in 2019. Holmen's knowledge forests are large areas where we focus attention on a specific aspect or theme of nature conservation. Natural assets are created, preserved and strengthened in line with the expressed aim at several different levels. The knowledge forests are to be an arena for our nature conservation targets but also places where we can show how we manage the forest, which welcome outdoor recreation and attract visitors.

Kunnådalen is a wilderness area, at the heart of which is about 1 000 hectares of older forest set aside for nature conservation purposes. It is home to several of Sweden's large predators such as bears, golden eagles, wolverine and lynx.

At least three more knowledge forests will be opened in the next few years.

### **Water**

Holmen Skog pays attention to water resources in all its work on the ground. Work on improvements continued in 2019.

The use of water maps based on laser data when planning and implementing forest management measures ensures greater precision in determining where forest machines can be driven. Technology is used to reduce impact on land and water during harvesting work, known as *Logging without a trace*. This work continued in 2019.

Models of good environmental consideration have now been implemented in a drive to improve consideration for water by clearly setting out the action to be taken, e.g. when establishing buffer zones along the water's edge.

### **Fire**

Fire training was carried out for key staff in the spring in preparation for summer 2019. The procedure 'Consultation with contractors in harvesting and soil preparation' was used frequently during the summer in periods of high fire risk. This has produced good results with very small areas with unwanted fires.

To improve biodiversity, Holmen has conducted prescribed burning on 50 hectares of land in 2019.

### **Seedlings**

In order to regenerate our harvested forests, Holmen planted almost 19 million seedlings in 2019. In southern Sweden and along the coast of Norrland, pine weevils are causing major damage to seedlings and the plants therefore need to be protected for their own survival. We have now largely switched from chemical pesticides (toxic) to mechanical protection.

To reduce leakage of the nutrient nitrogen when growing seedlings, the amino acid Arginin is used as the nitrogen source. Compared with conventional fertilisers, the Arginin nitrogen is bound more tightly in the peat in which the seedling is planted so less leaks out. In 2019 1.6 million seedlings were planted with fertiliser added at the planting stage. This is to improve plant establishment and so increase survival and improve growth.

Using money from the Swedish Environmental Protection Agency's Klimatklivet initiative, we have invested in reducing emissions of fossil carbon from our nurseries.

Our greenhouses in Friggesund are now heated by district heating instead of oil-fired boilers. The growing chamber has also been updated with more energy-efficient lamps.

In Gideå, oil-fired heating is being replaced with a biofuel boiler heated using wood chips. This project is in progress and will be completed early in 2020.

### **Wildlife management**

Grazing damage results in large losses of forest growth and biodiversity in Sweden. It is therefore very important to Holmen that the size of moose populations is in balance with their food supply.

The national survey of wildlife damage, ÄBIN, was conducted according to plan. The Swedish Forest Industries Federation, Sveaskog and the Federation of Swedish Family Forest Owners jointly met the cost of the surveys. The survey results show that levels of damage remain very high. The wildlife damage survey is an essential part of the new adaptive approach to moose management, which is based on the best possible data.

### **The art of growing forests**

The publication 'The art of growing forests' describes Holmen Skog's forest management and the history that lies behind it, and can be read as a printed book. The target readership is mainly external readers who gain a general description of the forest management that Holmen carries out. Procedures and instructions are published digitally in Holmen Skog's business system and are used by Holmen employees.

### **Peat**

Holmen's peat field outside Örnsköldsvik was taken into use in 2009 and is harvested annually for energy purposes. Production amounted to 70 GWh in 2019.

### **Environmental targets**

Holmen Skog has decided on six environmental targets, all of which have action plans and are followed up on an annual basis.

### *1. Reduced fossil carbon dioxide emissions for logging and transporting wood*

Reduced carbon dioxide emissions continue to be one of the most important environmental targets, and this is becoming more ambitious by extending it to also cover wood transport. The consumption of fossil carbon dioxide by Holmen Skog's logging and wood transport must decrease by 20 per cent by 2020 compared to 2014.

#### **How will we achieve this?**

- Reduce the fuel consumption of forest machines thanks to more efficient and environmentally friendly engines
- Higher production per hour thanks to more efficient machinery and improved methods helps to cut fuel consumption per m3 solid volume on the road
- Reduce fuel consumption per transported load by loading more wood onto every timber truck
- Greater use of renewable fuel in harvesters and timber trucks
- Plan wood transport more intelligently so that our customers' needs are met with the minimum amount of transport.

#### **How will we follow up on this?**

- Logging: checked by calculating the amount (kg) of fossil carbon from fuel per cubic metre of harvested wood.
- Transport: checked by calculating the amount (kg) of fossil carbon from fuel per cubic metre of wood and kilometre transported.

#### **Outcomes 2019**

- Logging: Consumption of fossil carbon dioxide from fuel per cubic metre of wood harvested has fallen by 39 per cent since the reference year 2014
- Transport: Consumption of fossil carbon dioxide (from fuel) per cubic metre of wood and per kilometre transported has fallen by 38 per cent since the reference year 2014. The target has thus been attained.

### *2. Plan for and implement nature conservation measures in Holmen's own forests with the highest natural assets*

Holmen will improve the environmental benefit in forests which have already been set aside through targeted conservation measures in suitable areas. By 2020, Holmen will have classified half of the areas set aside for development of natural assets. This classification means that we will decide which of the forests that have been set aside will be left to develop freely and which will be subject to nature conservation measures. The objective of conservation measures is to preserve, strengthen or regenerate natural assets.

#### **How will we achieve this?**

- Up to 2020, half (50%) of the area set aside will be surveyed and classified. The results of the survey will be documented.
- By 2020, nature conservation measures will have been implemented on at least 30 forest areas per district, 150 areas in total.

#### **How will we follow up on this?**

- How large an area of the forest set aside has been classified
- How many of the forest areas that require measures have been addressed

**Outcomes 2019**

- 43 % of the area set aside has been surveyed and classified.
- Nature conservation measures have been implemented on 134 forest areas.

**3. No serious damage by vehicles**

Damage by vehicles in connection with logging can cause erosion and sludging of watercourses, leakage of nutrients and unwanted release of heavy metals, e.g. mercury. Holmen strives to avoid serious damage by vehicles entirely in all forest management activities, regardless of whether they are on our own land or on behalf of other landowners. We work in accordance with industry-wide environmental policy on damage by vehicles on forest land.

Serious damage by vehicles consists of the following:

- Damage by vehicles<sup>1</sup> in and directly adjacent to<sup>2</sup> watercourses and lakes
- Damage by vehicles which leads to increased transport of sludge to lakes and watercourses
- Damage by vehicles which causes waterlogging or flooding adjacent to watercourses due to damming
- Damage by vehicles<sup>1</sup> on peatland close<sup>2</sup> to watercourses and lakes
- Damage by vehicles which affects natural assets, for example areas subject to special consideration and detailed environmental efforts
- Damage by vehicles which reduces accessibility on frequently used paths and trails
- Damage by vehicles which reduces recreational value in frequently used open-air recreation areas
- Damage by vehicles to archaeological sites and other valuable cultural heritage sites

**How will we achieve this?**

- By improved planning so that we do not drive as much in areas where there is a risk of damage by vehicles
- By using the 'Logging without a trace' method.
  - building simple bridges over watercourses
  - lining properly with brushwood

**How will we follow up on this?**

- Regular follow-ups of serious damage by vehicles

**Outcomes 2019**

- The most recent central follow-up showed that around 99 per cent of the areas studied have suffered no serious damage by vehicles. Work on introducing Holmen's 'Logging without a trace' method is, in general, improving steadily. Access to soil moisture maps makes it easier to plan logging without a trace.

**4. Reduce use of fossil diesel and heating oil at the nurseries**

The nurseries' objective is to reduce their consumption of fossil fuels between 2012 and 2020, compared to average consumption in 2011–2013.

The following reduction must be made:

- Fossil heating oil: 20 per cent less per seedling produced.
- Fossil diesel: 10 per cent less per seedling produced

**How will we achieve this?**

- By making sure machines and accompanying parts that are used in the nurseries are properly adjusted and serviced regularly
- By using and/or mixing in more renewable fuel for heating
- Reduce consumption of heating oil by improving the use of greenhouses
- Reduce diesel consumption by planning and streamlining driving and use of machinery in the nurseries

**How will we follow up on this?**

- By measuring the consumption of heating oil and diesel in litres per seedling produced

**Outcomes 2019**

- Fossil heating oil: has decreased by 30 per cent per produced seedling since measurements began
- Fossil diesel: has decreased by 20 per cent per produced seedling since measurements began

<sup>1</sup> *Damage by vehicles is defined as tracks which are more than 10 m long and at least 30 cm deep on average.*

<sup>2</sup> *'Directly adjacent to' and 'close' are defined as areas within a radius of 15 m of watercourses and lakes.*