

Conscious clearings

Photo: Andreas Alm. Sveaskog's image bank



◀ Trees to be left standing in a clearing are marked with plastic tape, clearly visible to those logging the plot.

Newly logged, a clearing can look very barren and boring. All the trees are gone and all you can see are perhaps traces of the harvesting machines used to log them. But if you look more closely, you will see that there are in fact quite a few trees left in the clearing, both stands and individuals. The Swedish Forestry Act, which is the law governing forestry, stipulates that foresters must consider natural values by compiling clearing considerations, so that rare plants and animals, protected biotopes, old trees, large-diameter trees, older dead trees and protection zones around lakes and waterways are taken into account as much as possible.

Trees of natural value

Over the years, overgrowth and logging have resulted in a lack of old and large-diameter trees, and some tree species have even become rare. Consequently, it is important that these trees are spared when logging to encourage regeneration or when implementing other silvicultural measures in order to create future production forests that are more ecologically sound.

When determining whether a tree should be spared as a tree of natural value, as per the Swedish Forest Agency's definition, various characteristics must be considered. The first is the age of the tree, which can be determined if, for example, you have an increment corer and can extract a core sample to count the number of growth rings. However, few people carry such a corer with them, so instead we can look for characteristics that trees develop with age, such as the shape and appearance of the bark, crown and branches. In the case of conifers in northern Sweden, 200 years is the threshold for old age, while a lower

threshold applies to deciduous trees. The diameter of the tree shall also be considered, whether it is very broad or at least considerably broader than the surrounding forest. Rare tree species are also considered to be of natural value and are to be spared. These are tree species that were previously more widespread than today, such as rowan and willow.

The final criterion is to check whether the tree has any special characteristics. These could be cavities, nests, traces of fire and the presence of polypores.

Sometimes, trees left standing in clearings do not appear to qualify as trees of natural value, but these are called development trees and, in the next generation, will hopefully become trees of natural value.

Deadwood

Lying or standing dead trees are essential to many species living in the forest. Some species live or shelter in dead trees, while others forage in the decomposing wood. In the past, before the dawn of modern

forestry, there was plenty of deadwood in the forests. Trees lived so long that they died naturally, were windthrown in storms or died in forest fires, and these dead trees remained in the forest. Modern forestry, with its thinning and final logging, has resulted in a drastic reduction in the amount of deadwood found in the forest. This is why it is important that silvicultural measures include plans to increase the amount of deadwood in the forest. All deadwood already found in the forest must be spared and protected during logging work. This is why you often see dry trees in clearings, or perhaps a grove with lying dead trees, also referred to as coarse woody debris. The person operating the forest machine is also responsible for creating deadwood and this is usually achieved by creating a tall stump, which is a stump standing 3 metres tall.

Wetlands, lakes and waterways

Water is a natural part of the landscape, in all its forms, and water must be considered when logging the forest. The exact reasons may vary, but essentially it is about protection so that the water quality where logging is conducted is the same as further downstream where the tributary flows into a river or the sea. Confirmation of success is that the aquatic organisms found in the landscape remain healthy and continue to thrive, such as seeing large salmon and trout in the river into which the tributary flows.

Forest stands

A clearing usually has stands of trees of different sizes that have been spared, and the larger the clearing, the greater the number of stands. Sometimes a stand is spared to avoid too much open ground, to provide somewhere for birds to shelter for instance. In most cases, the stand surrounds old coarse woody debris, or perhaps a large ant hill, combining several natural values in one conservation consideration. In other cases, it might be a grove of trees of greater natural value that has been spared. The Swedish Forest Agency has listed about twenty different types of forest, protected biotopes, that must be spared when logging. These include, for example, forests with much hanging lichen, escarpments, springs and burned forests.

Ancient remains and cultural relics

There are many traces of previous generations who have lived and worked in the forests. These include building foundations, traces of charcoal and tar production, Sami settlements, pathways and much more, and all of them must be taken into account in forestry work. A clear indication that such remains are found at a logging site is when the logging team has pre-

pared so-called cultural stumps. These stand about 1.3 metres tall and encircle or run adjacent to the remains or relic. Depending on how old the remains are, the Swedish Forest Agency or the county administrative board will offer advice and guidelines on how to plan logging work around the remains.

The history of the clearcut

Patch clearcutting, which is the most common logging method in Sweden today, has a history that stretches all the way back to the 1860s in southern Sweden. The methods in use before this were selection logging and diameter-limit cutting, which entailed harvesting the most valuable trees. Once this procedure had been repeated a few times, all that remained were sparse cut-through forests, with particularly poor chances of growing and becoming dense forests again.

In the 1950s, patch clearcutting gained momentum when government forestry policy resulted in unilateral and extensive investment in high timber production. More forest roads were built and better technical aids were developed to make the forests easier to work. Subsidies were paid for clearcutting the cut-through forests and planting new ones. The clearings became larger and larger. Deciduous trees were to be replaced with conifers as they were of greater economic interest. Deciduous trees were treated with chemicals to prevent them from eradicating conifer saplings in clearings. Exotic tree species were introduced, mires were drained and logging was largely conducted without a second thought for nature conservation and whether species could survive in the landscape.

The clearcuts produced in the 1960s and 70s were large and barren and the new forest established after logging was comprised of trees of the same age and the same single species. This resulted in a huge drop in variation in the landscape and a lack of habitats for many forest species. In the 1960s, the Swedish government appointed a nature conservation commission to look into matters and this highlighted the general need for consideration and assigned responsibility to those working in the forest. In the 1970s, the first nature conservation proposals were drawn up and in 1979 they were enacted in the Swedish Forestry Act. The Swedish Forestry Act in force today places economic and environmental objectives on equal footing.

The forest that grows following final logging today, as compared to the 1960s, includes older trees, a different mix of tree species, more deadwood, corridors in the form of perimeter zones and virgin stands. Slowly but surely, habitats can be recreated and species can once again thrive in the landscape.