

Box C2

Forest set-aside for biodiversity conservation – the Danish Nature Package and beyond

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In 2016, the Danish government launched the 'Nature Package' (MFVM 2016). A significant element in the package was a decision to increase biodiversity in Danish forests, with the aim of improving the conditions for a number of animal, plant, and fungi species. The government thus made an agreement to set aside 13 300 ha of state forest. With this agreement, the total areal of forest with the aim of conserving biodiversity on state forest areas increased to 22 300 ha or approximately 20 % of the state forest area.

The specific allocation of forest areas to be set aside resulted in the selection of 45 state forests or forest sites for biodiversity conservation. An imported selection criterion was the selection of large connected areas, in contrast to small and scattered 'hot spots'. Thus, the newly selected forests include not only high value forest for biodiversity, but also younger stands planted within the last decades, stands of exotic tree species, as well as open habitat types such as forest meadows and swamps as natural elements in the forest. These open biotopes, such as meadows and small wetlands, benefit a diversity of species not found in the closed forest.

Selection of sites was carried out based on scientific analyses including a national evaluation of the status and preferences of threatened species and data on their presence in the state forests and nationally (Buchwald 2018).

'Untouched' forest is here defined as forest with no forestry activity, meaning no commercial felling of trees, so as, to become 'minimum intervention' reserves. The selected sites will after a restoration period be left to develop naturally. Grazing and other nature restoration activities may be applied for the benefit of biodiversity. In addition, management activities may be applied for the benefit of outdoor recreation as well as for preservation of pre-historic sites. Sold wood from the restoration period partly finances the effort (changed in 2020 – see below).

An up to 10-year nature restoration period is applied in the broadleaved forest region, and up to 50 years in the conifer plantation region. Restoration activities will thus end in 2026 in broadleaved forests and in 2066 for the plantation forests. After the transition period minimum-intervention untouched forest applies. However, trees assessed to be a danger to forest visitors or assessed problematic in relation to pre-historic sites or biodiversity e.g. invasive alien species may be felled after 2026. Cut trees must be left in the forest as deadwood.

Most of the forest set aside for nature conservation has been planted within the last 200 years. This means these forests consist of mostly even-aged stands with one main tree species. The transition period makes it possible to prepare the forest with the aim of transforming even-aged stands to less homogeneous stands, reducing or even eradicating exotic tree species, promoting less common native tree species, and thus increasing the structural variation in the forest.

The other part of the effort under the Nature Package is the designation of 'other forest for biodiversity'. This forest is primarily broadleaved forests where the concern for biodiversity is combined with continuing, but reduced, forestry activity. A minimum of 15 habitat trees are left per hectare.

Table 1. Political 2016 area targets and final selection of Danish state forests for biodiversity conservation.

	Protection type	Forest region/type	Nature package area targets (ha)	Final selection (ha)
Nature package	Untouched forest	Broadleaved forest	6 700	6 900
		Conifer plantation region	3 300	3 300
New selections	Other forest for biodiversity	Primarily broadleaved forest	3 300	3 600
		Total	13 300	13 800

'Other forest for biodiversity' includes forest areas that benefit from some level of forestry activity e.g. old oak (*Quercus robur* and *Q. petraea*) forest in competition with beech (*Fagus sylvatica*).

Management guidelines have been developed to make sure management efforts across the country and over time is applied within the same framework for the benefit of biodiversity. For example, the guidelines provide instruction on how to fell trees in the transition period, and prioritise use of native European tree species rather than exotic tree species. The guidelines also include advice on management for specific biodiversity elements.

An important part of the package is the development of a transparent management plan for each forest with involvement of local stakeholder groups and public hearing of the proposed management plan. The process includes public forest walks. The plans include e.g. details on nature restoration and removal of exotic tree species.

Changing management conditions – a new political agreement

In 2019 a new Danish Government took office. At the same time, there was growing debate and criticism about the felling of trees for up to 50 years in the selected set-aside forests. Especially the option to cut some of the native tree species and sell them as part of the transition period has been criticised.

In June 2020 the new government launched a new political agreement changing some of the conditions stated in the Nature Package described above (MFVM 2020). Also, it was decided to set aside an additional 6000 ha of untouched forest for biodiversity conservation.

The new agreement includes; all commercial forestry stopping immediately in the sites planned for untouched forest and the transition period only allowing nature restoration activities to take place. Non-native tree species must be removed and invasive species combated in order to create space for native species. Open habitats and natural succession are promoted. Native trees are only to be felled for a specific conservation objective and the wood may not be sold but must instead increase the deadwood pool. Some trees must be 'veteranised', (veteranisation is the process whereby younger trees are deliberately damaged – e.g. by ringbarking) in order to promote standing deadwood. Only wood from non-native trees may be

extracted and sold. This income is used for nature restoration including rewilding selected sites with large-scale fenced naturalistic all-year grazing. In Denmark almost all of the used broadleaved tree species are deemed native (except *Acer pseudoplatanus*) while all conifers are deemed non-native except Scots Pine (*Pinus sylvestris*).

References

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