FOREST BIODIVERSITY SOUTHERN FINLAND

METSO Newsletter

FOREST BIODIVERSITY PROGRAMME FOR SOUTHERN FINLAND (METSO) 2003-2007

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GOOD PROGRESS WITH THE RESTORATION OF FORESTS AND MIRES

Metsähallitus, responsible for state-owned forests in Finland, is going to restore altogether 33,000 hectares of forests and mires in protected areas during the period 2003-2012. The forest restoration methods used include burning, promoting of the structural diversity of forests through the creation of small clearings, and increasing of the amount of dead and decaying wood by damaging trees. The objective in the restoration of mires is to restore the water balance and the original landscape structure. The drainage ditches are blocked mechanically by pushing the peat from the banks back to the ditch. The restoration effort is included in the Forest Biodiversity Programme for Southern Finland (METSO). The METSO Programme is part of Finland's National Forest Programme 2010.

Metsähallitus started the implementation of the Forest Biodiversity Programme for Southern Finland (METSO) in 2003. The action programme was prepared by the broadly-based METSO Committee with representatives of different authorities, NGOs and interest groups. The action programme presents 17 projects aimed at preserving the biological diversity of forests in southern Finland. One of the projects concerns the restoration and management of habitats in nature conservation areas.

Most of the conservation areas in Finland are located on State lands and they are governed by Metsähallitus. Metsähallitus is a State enterprise, whose tasks include the management of State-owned conservation areas. As set down in the METSO Programme, Metsähallitus is going to restore about 16,500 ha of both forests and mires in almost 700 different sites located in nature reserves in southern Finland and Ostrobothnia by 2012. The restoration work makes a significant contribution to supporting the employment of forest workers during the winter.

TOMMI PÄIVINEN

Old tree stumps tell us about the burning history of the area. Charred stumps become decayed more slowly than others.

Restoration activities planned carefully

The restoration plans drawn up before the measures are started establish the regions to be restored and methods to be used. The planning of the restoration begins with an inventory of the protected area. The inventory is an integral element of the METSO Programme, carried out under the project concerning the collection of basic information on nature reserves. This project will be completed in 2006, when there should be sufficient data available on the habitat types in the nature conservation areas covered by the

HANNU VALLAS

The structural diversity of forests is promoted through the creation of small clearings in uniform canopy stands. Small openings, placed randomly across the stand, vary in size and shape.

METSO Programme for preparing the restoration plans. In the inventory data is collected on the natural conditions in each area, including the habitats, tree stand, amount of decaying wood and how close to the natural state they are.

Restoration of mires

The inventory data are recorded to the geographic information system, and the stands to be restored are selected on the basis of maps and the information collected. Most of the drained mires located in conservation areas are restored. The forest restoration sites are in areas where the features of natural forests are the scarcest. The targeting of the restoration measures takes account of the occurrence of threatened species and other valuable sites so that the restoration of areas adjacent to these support the existing natural values. Other uses of the area and occupational safety also influence the selection.

Most of the mires to be restored have been drained for forestry purposes. Usually mires are restored by filling the ditches or, if there is not enough peat to do this, by damming the ditches. In most cases surface dams are constructed to ensure that water spreads widely on the mire. In some cases trees are cut to reduce evaporation and to improve the landscape.

Table 1. Area restored by Metsähallitus in the conservation areas covered by METSO according to type of work in 2003 and 2004 (hectares).

Year	Peatland restoration			Forest restoration				Total
	Filling of ditches	Damming of ditches	Total	Increasing decaying wood	Cutting small clearings	Burning	Total	
2003	982	48	1 130	618	469	83	1 170	2 200
2004	2 016	184	2 200	1 166	1 021	13	2 200	4 400

MARKKU NIRONEN

Controlled, purposely started forest fire is one of the forest restoration methods used by Metsähallitus. The fire spread s first across the field layer of the forest.

Restoration of forests

The forests to be restored were used for commercial purposes only a few decades ago so that their structure is still close to that of commercial forests. Restoration increases the structural features of natural forests, such as charred and decaying wood, and creates a more diversified tree stand in terms of the age, species and state of the trees. Efforts are also made to start various kinds of processes characteristic of natural forests, such as the creation of a varied continuum of decaying wood.

The most common restoration measures undertaken in the METSO Programme are increasing the share of decaying wood and cutting small clearings in the middle of even aged tree stands (63 and 31% of the forest area to be restored, respectively).

The amount of decaying wood is increased in mature forests where the continuum of decaying wood is at risk of being interrupted or close to habitats of threatened species where there is a shortage of decaying wood. Small clearings are cut in areas where the tree stand is too one-sided to introduce deciduous trees to forests dominated by conifers and create variation to the age structure and state of the stand. The most spectacular restoration measure is burning (6% of the forest area to be restored), which increases the amount of charred wood and creates a more diversified stand structure - both living and dead.

The protection of threatened species is one important reason for restoration. According to the most recent survey of threatened species, about three per cent of the species living in Finnish forests are threatened, mainly as a result of the use of forests, changes in the range of tree species and age structure and decrease in the amount of decaying wood. Most of these species are invertebrates. Of the species living in mires, 48 have been classified as threatened due to drainage and abstraction of peat. The majority of these are cryptogams. Restoration aims to preserve the living conditions for threatened species by targeting the measures to their habitats.

Metsähallitus caught up with the goals

In 2003 Metsähallitus restored 1,170 ha of forest and 1,030 ha of mires. In the early part of the year

the plans were still lacking as the decision on METSO funding had been made in late 2002. At the turn of the year there were sufficient data available on the habitat types from only a small share of the areas to be covered, while practically no plans had yet been com-pleted. Getting the measures started also suffered from the labour disputes of the forest officials of Metsähallitus in the late spring of 2003.

During 2004 the restoration activity made good progress and the area covered was considerable, altogether 4,400 ha, which brought the work well to the average annual target level of 3,300 ha in 2003 and 2004. There were no major problems in the restoration, except that the abundant rains prevented restoration by burning almost completely and quite warm late autumn caused difficulties in the restoration of mires.

Restoration monitored actively

The impacts of restoration are being monitored to ensure that the objectives set for the measures are fulfilled. In 2004 the instructions for the monitoring of the restoration sites to be used in the follow-up of the METSO Programme were revised in cooperation between the environmental authorities. In peatland restoration sites the follow-up consists of visual observation of the spreading of water, condition of the dams, growth of seedlings, *etc*. No regular follow-up is carried out in most of the forest sites, except for the monitoring of the stand and seedlings in certain sites. More precise monitoring of the species is carried out within the limits allowed by the available funding. Follow-up projects started earlier will be continued as far as possible.

More information on the restoration work of Metsähallitus at http://www.metsa.fi/natural/habitatrestoration.

ANTTI BELOW

Increasing decaying wood, especially conifers, has proved favourable to the Three-toed Woodpecker (*Picoides tridactylus*). The earlier rare population has become more abundant in forests restored by burning.

METSO AND INTERNATIONAL AGREEMENTS

The METSO Programme is an integral part of Finland's implementation of various international agreements. METSO makes significant contributions to meeting the objectives for sustainable development set out by the Convention on Biological Diversity (CBD), the United Nations Forum on Forests (UNFF), and the Ministerial Conferences on the Protection of Forests in Europe (MCPFE). Maintaining and enhancing the biological diversity of forests is one of the resolutions of the MCPFE Vienna Conference (April 2003)

METSO IN BRIEF

METSO - the Forest Biodiversity Programme for Southern Finland 2003-2007 - is part of Finland's National Forest Programme 2010. METSO contains 17 sub-programmes, including pilot projects designed to test innovative voluntary means for landowners to promote biodiversity in the forests of southern Finland. The METSO Programme aims to design and test cost-effective measures to acquire the most ecologically valuable forest sites in southern Finland for temporary conservation or permanent protection.

Forestry is typically practiced on a small scale in southern Finland, where average cutting areas are only 1-2 ha. METSO is piloting new ways to increase biodiversity under such conditions, complementing the work done through several other programmes since the 1997 Forest Act.

The METSO Programme was carefully prepared through processes involving many stakeholders such as forest industry associations, forest owners' organisations, the Finnish Association for Nature Conservation and WWF Finland, as well as the two ministries responsible for the Programme, so as to complement and supplement Finland's National Forest Programme 2010. Like the rest of the National Forest Programme, METSO is backed up by intensive research and survey work and will be evaluated.

METSO Programme: www.mmm.fi/metso or www.ymparisto.fi/metso

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