

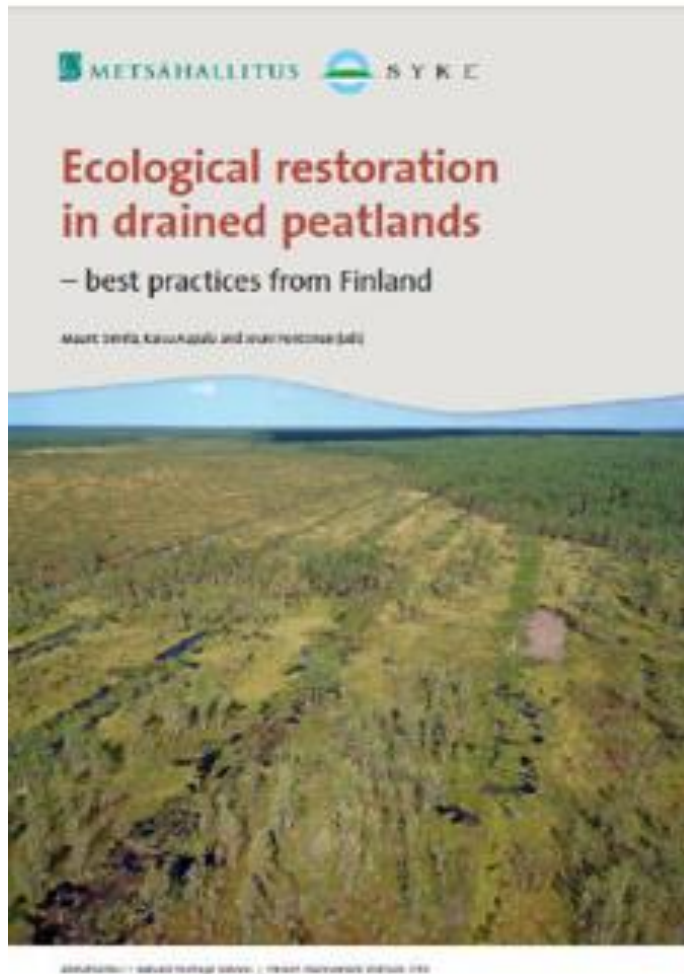


**Methods of ecological restoration
and management in Finland**
Petri Keto-Tokoi

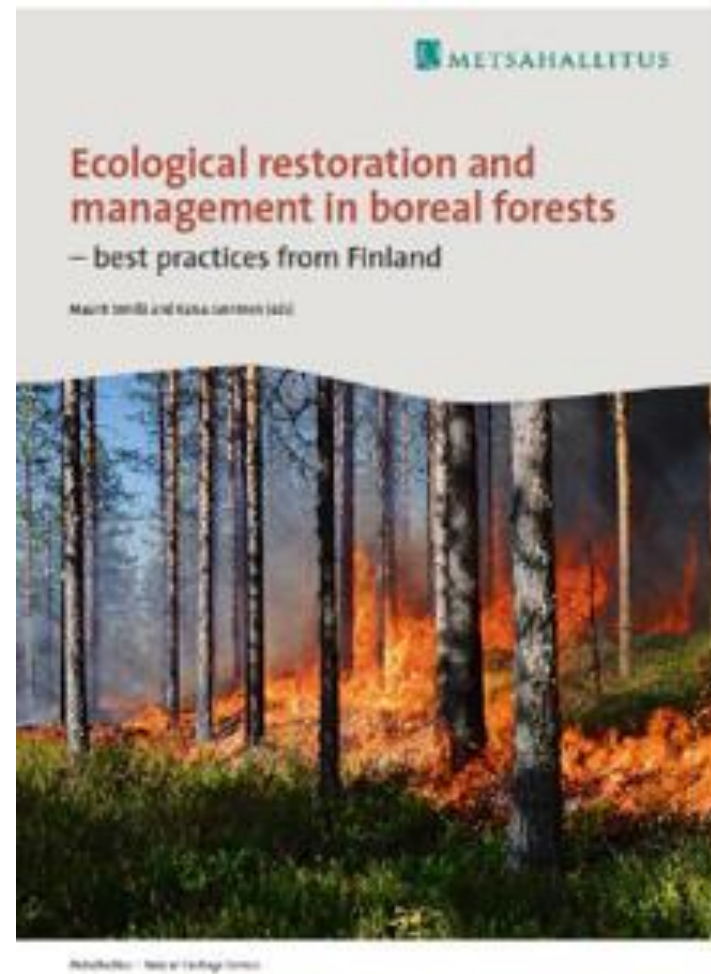


Tampere University of Applied Sciences

25 years of experience in two guidebooks



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Restoration or management?

- **Ecological restoration**
- **Single** operation that starts natural succession towards more natural state.
- Ecological restoration of forests
- Ecological restoration of drained peatlands

- **Ecological management**
- **Repeated** interventions that maintain wanted ecological state
- Ecological management in herb-rich forests
- Ecological management in nemoral broadleaved forests
- Ecological management in sunlit habitats
- Ecological management in cultural heritage habitats like woodland pastures and meadows

Controlled burning as a restoration method



Photos:
Janne
Oikarinen

Restoration burning area in Kauhaneva – Pohjakangas national park. Burned 2009.

Primarily on fire continuity sites

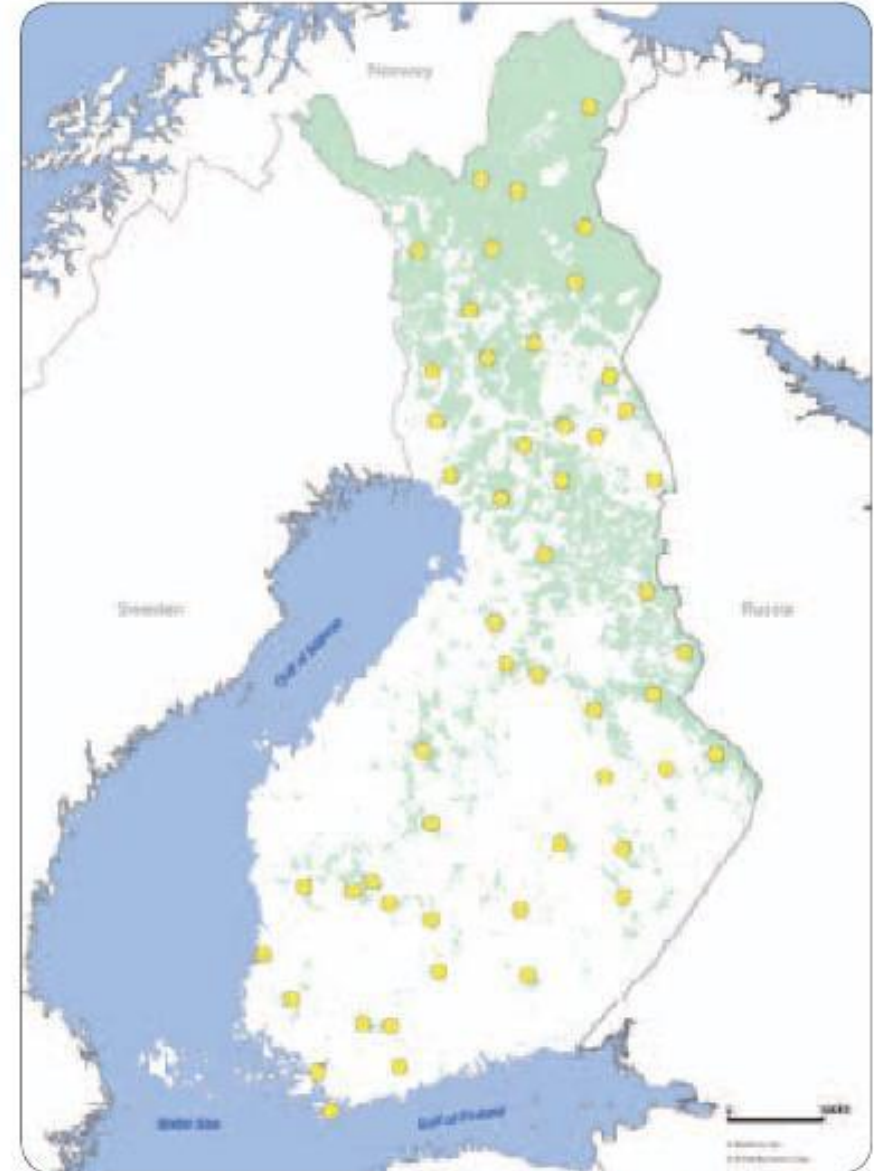


Figure 4. A network of 52 forest fire continuity sites has been designated in protected areas and some commercially managed forests between these areas. Selected areas of forests in these sites are burnt at intervals of 3–5 years. The areas run by Metsähallitus are shown in green.

Increasing the amount of dead wood by



Girdling by chainsaw



Felling by chainsaw



Pushing down with an excavator Photo: Juha Siekkinen



Blasting with dynamite

Creating canopy gaps to diversify forests



Photo: Metsähallitus



Dismantling unnecessary forest roads



Photos: Helena Lunden

Ecological restoration of drained peatlands by filling and damming the ditches



Removal of spruces from herb-rich forests, nemoral broadleaved forests and white-backed woodpecker habitats



Photo: Esko Tainio



Photo: Jarmo Halonen



Photo: Esko Tainio

Removal of trees and in some cases burning of sunlit esker ridges



Photos: Harri Tukia

Photo: Helena Lunden

Similar methods can be used in managed forests, integrated to timber production

Like:

Leaving significantly higher amount of retention trees in harvesting

Prescribed burning with high number of retention trees

Burning of retention tree groups

Patch cuttings and removal of spruces in unprotected herb-rich forests and white-backed woodpecker habitats, maintaining dominance of broadleaved trees

Creating dead wood by making high stumps with a harvester in thinnings and final fellings

Controlled burning with high volume of retention trees, 50 m³/ha





Private dead wood garden



Photo: Hannu Rasiranta