

# Forests for wood production and stress recovery: trade-offs in long-term forest management planning

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Cite this article as:

Nordström, E., Dolling, A., Skärbäck, E. et al. *Eur J Forest Res* (2015) 134: 755. doi:10.1007/s10342-015-0887-x

## Abstract

Forests play an important role, contributing to human health and well-being as environments for recreation and rehabilitation. Stress has become a significant problem in modern societies, and the importance of forests as environments for stress relief has been recognized in recent years. To maintain and create forests for rehabilitation, consideration of their rehabilitation value needs to be incorporated into forest management planning and to do this, we need to define and quantify the characteristics of good rehabilitation forests. This study presents an approach for including rehabilitation value as an aspect of forest management planning. This approach is applied to three case study areas in northern, middle and southern Sweden to identify trade-offs between maintaining high wood production while creating forest areas suitable for rehabilitation from stress-related diseases. The results show that quite large areas of rehabilitation forest (10–15 % of total forest area) can be maintained at a relatively small loss in economic net present value (NPV) of wood production (ca 2 % of maximum NPV). When using the rehabilitation value indicator defined in this study, age and spatial variables (distance to roads and water) seem to be the most limiting factors.

## Keywords

Forestry; Indicator; Landscape; Rehabilitation; Restorative effect; Stand-level variables