



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

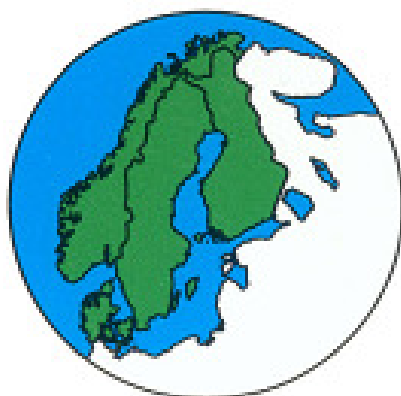
Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# **Scandinavian Forest Economics**

**No. 42, 2008**



**Proceedings  
of the Biennial Meeting of the  
Scandinavian Society of Forest Economics  
Lom, Norway, 6th-9th April 2008**

**Even Bergseng, Grethe Delbeck,  
Hans Fredrik Hoen (eds.)**

**Ås**

# **Conflicts between drinking water protection and income from Christmas tree production**

Tove Enggrob Boon and Henrik Meilby

## **Abstract**

Provision of pure drinking water is a main priority throughout Europe. At an overall level, The EU Water Framework Directive provides rules and guidelines for achieving a \*good environmental status\* in the water environment, including also drinking water resources. In Denmark, areas with valuable drinking water resources (groundwater) have been designated, so as to direct land use in these areas towards activities that enhance water protection. Forestry is considered a land use suitable for groundwater protection, and one of the aims of public afforestation is to protect ground water.

Forests cover 11 % (486,000 ha) of the land area in Denmark. The Forest Act allows production of Christmas trees and greenery on up to 10 % of areas designated as forest reserves (90 % of all forest areas).

Additionally, Christmas tree production takes place on farm fields. A total of 40,000 ha (8 % of the forest area) was forested with either *Abies nordmanniana* (ANR, Christmas trees) or *Abies nobilis* (ANO, greenery). However, the production of Christmas trees and greenery involves use of pesticides and fertilizers. This creates a potential conflict between the financial interests of the landowner and the common concern for groundwater protection.

The aim of this study is to investigate to what extent there is a geographical overlap between areas used for Christmas tree or greenery production and areas designated for groundwater protection, and how these areas are allocated to different types of owners (public, private). Implications for policy and practice are discussed. The analysis is based on data from a national forest inventory.

**Key words:** pesticides, ground water protection, greenery, *Abies nordmanniana*, *Abies nobilis*