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# **Scandinavian Forest Economics**

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**Finn Helles and Petrine Steen Nielsen (eds.)**  
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## ABSTRACTS

### **Recreation value of forests in Lorraine: A spatial analysis**

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Heterogeneity in households' preferences for recreational use of forests may lead to spatial sorting, i.e. households choose their residential location in accordance with their preference for forest recreation. In this study we estimate the recreational value of forests in Lorraine applying revealed and stated preference data. Our approach allows us to estimate individual-specific preferences for recreational use of different forest types. These estimates are used in a second stage of the analysis where we test whether preferences depend on the access to recreation sites. A correlation between access to forests and preferences may indicate spatial sorting driven by spatial heterogeneity in the access to forest recreation. Spatial sorting has implications for the estimation procedures in valuation studies but may also have policy implications, e.g. influencing the choice of afforestation areas.

### **Images of forest owners - a review of owner typologies**

Tove Enggrob Boon  
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Scandinavian countries have a rich tradition of studying the forest owner, from the early 1970s' recognition of the human factor in wood production, to the current focus on exploring the experienced value and sense-making of forests to owners.

An increasingly frequent means of analysis has been the use of forest owner typologies. Typologies can be valuable policy tools as they simplify complex data about forest owners to a handful of owner types that can be used to formulate and target policy goals and instruments towards the forest owners.

Through a review of forest owner typologies, this study outlines the development in research about forest owners and how the image of what a forest owner is has changed. This reflects, on the one hand, the changing role of forests in society and, on the other hand, the evolving and continually more diversified social science dimension of forest research.

Based on the review, we present new frames of understanding the roles and relationships of forest owners in society, hereby pointing at potentials for innovation as well as towards future research needs.

**Keywords:** landowner, typology, motivation, forest, policy, behaviour

## **Are Economists Valuing Biodiversity at Gunpoint? Evidence of no or decreasing willingness to pay for population levels above preservation**

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Biodiversity valuation studies typically address the willingness to pay (WTP) for species survival. This is an ethically challenging question, and the question is if this distorts WTP-measures? To investigate, we designed a Choice Experiment to evaluate WTP for increases in population levels of endangered and general wildlife in three habitats, including increases beyond survival needs. Respondents trade off increases in populations against income tax and restrictions in recreational access. For endangered and general wildlife across all habitats, mean WTP estimates are higher for moderate population increases than for higher. A Latent Class model shows that respondents fall into three categories: The first seems to care little about wildlife at all. The second places emphasis on wildlife, but with equal weight to moderate and high increases. This could be motivated by warm glow or deontological motivations. The third group is ambivalent about doing much for wildlife, and in particular general wildlife. Their WTP is low and they prefer moderate increases over high. We interpret their mixed signals drawing from literature on moral motivations and self-image considerations. Our results raise questions regarding what biodiversity valuation studies actually measure and points to the caution needed when using these results.

**Keywords:** Latent Class, Random parameter Logit, Use values, Heuristics, moral satisfaction, self image, scope, choice experiment, access, warm glow of giving.

## **Measuring the performance of forestry – a proposed Forest Management Index as boundary spanner at the science-policy interface**

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A basic criterion for the success of sustainable forest management (SFM) is the ability to assess and monitor the conditions and derived benefits of forest assets on which environmental policies should respond. However, it is inherently difficult to quantify these assets and the status and development of forest management are not always well understood or appreciated by neither the general public nor the architects of broader policy processes in which forestry is but one component. We argue that the concept of SFM is losing momentum, partly due to the difficulties in monitoring and communicating its performance.

This paper takes a fresh look at the requirements and opportunities for an index of forest management performance at national level. The Forest Management Index (FMI) is discussed in the light of social scientific theories on boundary work at the science-policy interface and is proposed as a boundary spanning object that is able to connect the two domains of science and policy.

‘Forest resources condition’ and ‘flow of primary forest benefits’ are suggested as determinants for the performance of forest management. Relative change in growing stock and value of primary products and services are found practical indicators. Data from FAO’s Forest Resources Assessment (FRA) 2005 are used as empirical substance for exemplification, and countries, corresponding to 80 percent of the world’s forest area, are ranked according to their forest management performance. Despite of scientific shortcomings, the index is found to be a legitimate and legible compromise between the complexity of Criteria and Indicators and the over- simplified *de-facto* use of ‘forest cover change’ as measures for SFM by taking into account considerations of both data availability and politics requirements.

## **Impact of the future global scenarios on the EU forest sector development**

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The future of the EU forest sector is dependent not only on EU policies, but also largely on the future global socio-economic context. Two IPCC SRES scenarios A1 and B2 are used as contrasting reference scenarios, each representing a different path of evolution of the forestry sector in developing countries and the CIS region. The A1 scenario is one likely future scenario, and has dominated over the past couple of decades, as the world economy and the forest sector have become increasingly globalised. The A1 scenario is defined as the continuation of relatively high economic growth and a correspondingly high growth in the consumption of wood-based products. Environmental issues are attributed relatively high significance in the EU and other developed countries, but in other less developed countries the environment and sustainability are of less concern. This disregard leads to the continuation of unsustainable forestry and the degradation of forests in the developing world. The B2 scenario foresees future development, whereby the environment is afforded a high level of importance in all world regions, and under which concerns are addressed through local, regional approaches. Under this scenario regionalisation counters the globalisation trend and economic growth is slower. These contrasting global contexts expose the EU forest sector to different conditions, which have a substantial impact on forestry and the development of the forest industry.

The global forest sector model EFI-GTM was used to analyse the above scenarios for the EU and the global forest sector. The EU is expected to continue increasing imports of raw wood from Russia and other countries under A1, which will help to sustain the growth of the pulp and paper industry while ensuring that there is less pressure on EU forests. However, a declining supply of wood from outside of the EU and decreasing imports of wood into the EU under the B2 scenario will lead to slower growth of the EU forest industry and result in more pressure on European forests.

## **Visits to National Parks and Hiking Areas: A Panel Data Analysis of Their Socio-Demographic, Economic and Site Quality Determinants**

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The numbers of visits to national parks and other types of nature areas have increased remarkably in Finland in last ten years. This trend is partly similar in many other countries, but also opposite trends has been observed. In order to better understand the potential visitor flow to national parks, and thus the potential for nature tourism based on those visits, it is interesting to study which social, economic or environmental factors could explain this trend. This study examines the impacts of socio-demographic, economic and park quality determinants on the visits to nature areas. The authors apply panel data estimation techniques to Finnish data on 46 national parks and hiking areas between 2000–2008. The main results show that visits to nature areas reacted positively to population size and quality features of the area, but negatively to gasoline prices and income level. Of the age-classes, the population share of 'early retirees' - people between 65 and 74 years of age - increased significantly the number of visits to nature areas, whereas the share of 'baby boomers' - people between 55 and 64 - was insignificant in explaining the number of visits to nature areas. As the baby boomers are reaching retirement age, and assuming that their generation behaves as the 'early retirees' in this study, the demand for national parks and hiking areas will increase substantially in the upcoming years. This will put pressure on expanding current parks and establishing new ones.

## **Policies and processes for improving forest holding size and structure in Finland**

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The ongoing economic downturn together with the trend of closing down the production of the Finnish forest industry has generated political interest in improving circumstances for the forest sector. In June 2009 a

development project was started at the Finnish Forest Research Institute, supervised and financed by the Ministry of Agriculture and Forestry. This project aims at improving the wood markets and profitability of forestry by increasing forest holding size and developing the structure of forest holdings. The project seeks to formulate concrete policy propositions based, if possible, on cost-benefit analyses.

The average size of a forest holding in Finland is 24 hectares, and the average age of the owner is 60 years. These facts have an impact on the functioning of the wood market, as a great share of Finnish forests is owned by private people. Furthermore, inheriting and family deals are the predominant way for ownership changes. Very few forest holdings are traded in the open market, which decreases possibilities of fast development in the average holding size. Forest possessions are regarded mostly as a financial investment and only partly as a production investment in Finnish taxation, which causes disincentives for both the holding-size and the age questions.

The range of the measures covered by the project vary from creating tax-incentives in order to increase the holding size to information websites and creating networks for various professionals. During the first part of the project, emphasis has been on the tax-related measures. Developing them is a great balancing act between requirements as macroeconomic efficiency, the principles of neutrality and equality, and the national and EU level regulation. Furthermore, finding feasible instruments accepted by all sectors, ministries as well as interest groups, provides further challenges.

**Keywords:** forest policy, tax instrument, forest holding size, wood market.



