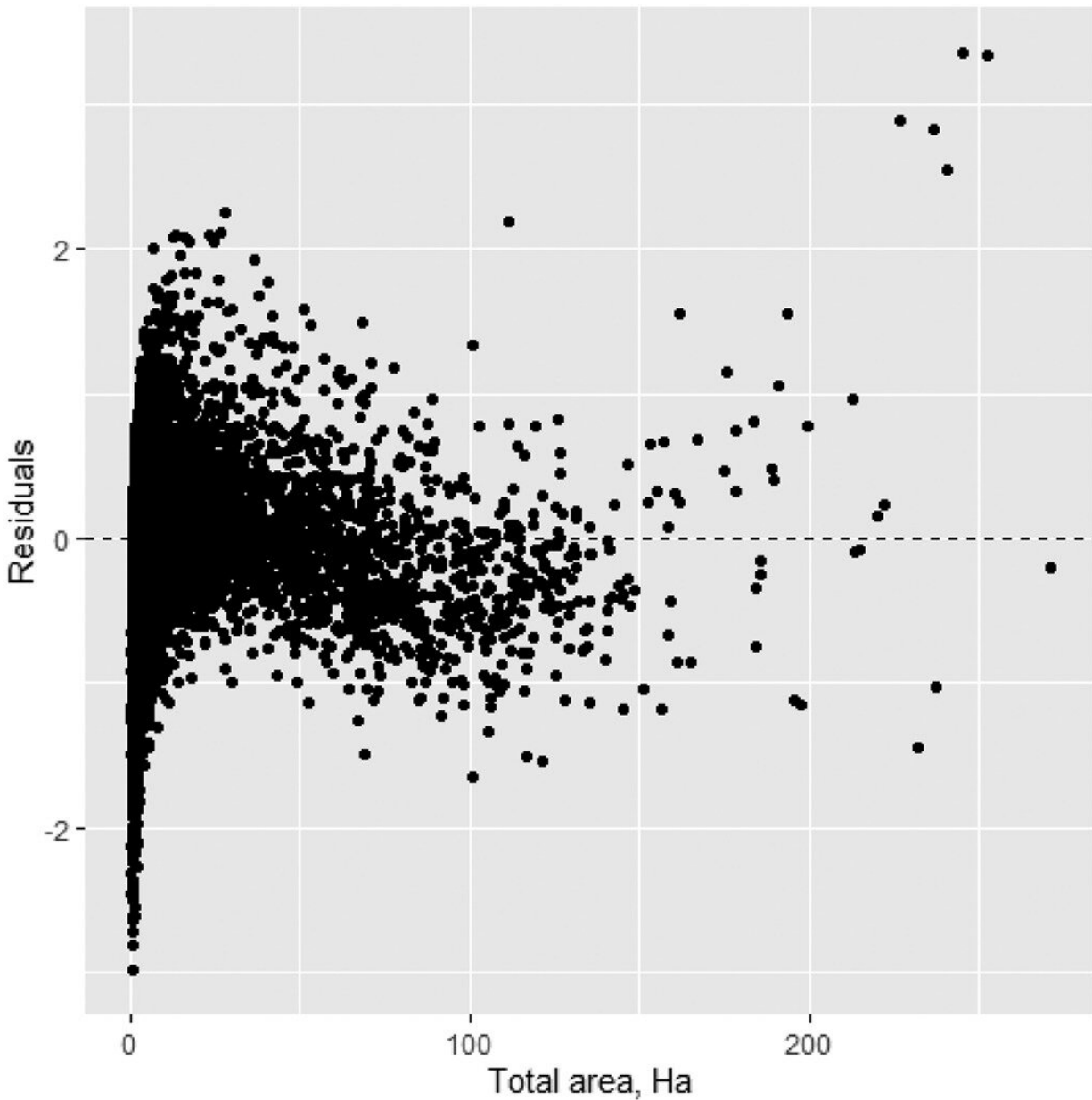


# Putting a price tag on the amenity value of private forests

March 2 2023

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Model residuals from model 1, total land area. Credit: *Forest Policy and Economics* (2022). DOI: 10.1016/j.forpol.2022.102867

When it comes to venturing into and enjoying nature, forests are the people's top choice—at least in Denmark. This is also reflected in the sales prices of properties with private forest. But beyond earnings potential, this first study of its kind, conducted by the University of Copenhagen, puts a price tag on the so-called amenity value of Danish private forests.

Forests have a nearly therapeutic effect on humans. Perhaps that is why eight out of ten of Danes have wandered in the woods over the last year and trends like forest bathing are gaining in popularity. Most people have probably experienced relaxing their shoulders, deepening their breathing, and found peace while being immersed in the deep, quiet tranquility of a forest.

While there is nothing novel about venturing into the woods to find peace of mind, the value of forests for Danes is fully intact. Studies by the Danish Outdoor Council and UCPH's Department of Geosciences and Natural Resource Management, among others, have shown that Danes prefer forest outings over trips to the beach or wandering open fields and meadows.

Forest owners are quite aware of this as well. A new study by researchers at the University of Copenhagen's Department of Food and Resource Economics investigated the amenity value of private forest ownership. It turns out that there are good reasons to buy (or plant) private forest for anyone interested in increasing the quality of their and their family's life—or increase their property value, as the amenity value is clearly reflected in the sales prices of rural properties.

"We see a fairly significant difference in the price of rural homes with and without forested areas larger than half a hectare. In fact, we see an increased value of DKK 25,000-75,000 per hectare of private forest, less the income opportunities from the forest," says Marie Laurup of the Department of Food and Resource Economics, the study's lead author.

Using [large data sets](#), Laurup and her colleagues were able to exclude other rural home factors that might otherwise explain their increased value, thereby excluding the forest's potential as a source of income from forestry, hunting leases, etc., from the equation.

"In this way, we isolated this intangible amenity value of private forests and put a price tag on it," says the researcher.

She hopes that the findings can be used by public authorities and lawmakers to target government support and incentives to establish and conserve private forest.

## **The bigger the forest, the greater its amenity value**

Most forests in Denmark are owned by private landholders. Proprietorship is divided into many small forest owners and a few people who own a lot. According to Marie Laurup, forest owners have a great influence on the landscape that Danes live and go about in. As such, it was interesting for her to investigate the values private forest owners attribute to their forests.

"Fortunately, we can see that private forest owners are like most people when it comes to forests. In particular, they love deciduous forests and their tall and thereby older trees. So, they have an incentive to manage their forest with the same interests in mind, and thus with the same values as the rest of society. So far so good," says Marie Laurup.

But why do they have forest—is it just to make money? The researchers sought answers to this question as well. The conclusion was that forest holds great value for private owners, beyond its capital value.

"In fact, the figures in our study demonstrate that regardless of whether it is a small or a slightly larger forest, the sale price is characterized by a value attributed to it by the owner's pure joy of the forest, i.e., its perceived amenity value. We haven't accounted for all forest sizes in the study, but based on the data we have, it seems that any increase in value follows forest size. The more, the better," says Marie Lautrup.

## **Can help increase Danish forest area**

The researchers hope that politicians and public authorities will be able to use the study to target legislation on deductions and subsidies related to forest management and afforestation efforts.

For example, the results can be used to accelerate ordinary people's efforts to increase Denmark's forest area, because establishing small forests is a good investment.

"In Denmark, we have a political goal of reaching 20-25% forested area by the end of the 21st century. The remaining 5-10% can be obtained by encouraging private landowners to plant forests, among other things. Traditionally, it has been difficult to put the public subsidy pool to use," explains Marie Lautrup.

"Those who receive forest subsidies tend to be the large forest owners. So, if you want to boost private forest development, you may need to get hold of the slightly smaller owners. Here, the study clearly shows that it creates value, both in terms of quality of life, but also financially, to become a small forest owner," she says.

Planting forests of a certain size in Denmark may also make them fall under the Danish Forest Act. The 1805 law prohibits forests from being cleared and came into being at a time when Denmark lacked wood to build warships, among other things.

According to Marie Lautrup, increasing the forested area of Denmark has several advantages. On the one hand, it will increase [forest](#) access for Danes, as private forests are open to all during daytime, so long as paths are used, except for in very small forests.

At the same time, it could play a role in Denmark's efforts to reduce atmospheric CO<sub>2</sub>, as trees are natural CO<sub>2</sub> capturers.

The paper is published in the journal *Forest Policy and Economics*.

**More information:** M. Lautrup et al, Is there more to trees than timber? Estimating the private amenity value of forests using a hedonic land model for combined agricultural properties, *Forest Policy and Economics* (2022). [DOI: 10.1016/j.forpol.2022.102867](https://doi.org/10.1016/j.forpol.2022.102867)

Provided by University of Copenhagen

Citation: Putting a price tag on the amenity value of private forests (2023, March 2) retrieved 24 April 2024 from <https://phys.org/news/2023-03-price-tag-amenity-private-forests.html>

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