

FORFUS-RT4.3

PhD project on forest-based recreation, part of the "Forest function under stress" doctoral training unit (FORFUS)



This project is part of the doctoral training unit [FORFUS: Forest function under stress](#)

Inspiration

In 2021, forests provided about 58% of the total amount of nature-based recreation in Europe. The value of outdoor forest recreation (OFR) depends on the attributes (e.g. species, structural diversity, infrastructures) and accessibility of the particular forest, and varies by activity type (e.g. walking, biking, nature observation). Currently, few approaches consider supply and demand factors simultaneously, highlighting a first research gap. Furthermore, there is little information available about the impact of forest disturbances, such as pests or drought, on OFR, and this represents a second gap. A third gap covers the limited valuation of OFR, specifically for Luxembourg.

Innovation

The objectives of this research topic are to (1) define an improved and tailored evaluation approach for OFR, building further on existing methods; (2) quantify the value of OFR in Luxembourg; (3) quantify the impact of forest disturbances on OFR supply and value; (4) estimate the supply and demand of OFR in Luxembourg; (5) support the valuation of other ecosystem services (ES), especially those covered in FORFUS, and compare these with OFR.

Building on existing approaches, a new survey-based approach will be introduced in collaboration with STATEC to investigate the recreational preferences of a representative sample of Luxembourgish residents. The survey will adopt methodologies based on both revealed (e.g. travel cost) and stated preferences (e.g. choice experiment) to estimate the OFR value, considering household socio-economic data. The DC will also investigate the impact of forest disturbances on OFR using visual media (e.g. photos, videos). The supply and demand of OFR will be assessed via a spatial analysis to identify recreational hotspots and inform forest management of them. Finally, the valuation of other ES will be performed based on benefit transfer methodologies, considering forest function/flow values obtained in other RT to put into context the value of OFR for human wellbeing.

Impact

The scientific knowledge generated in this project will help quantify the value of outdoor forest recreation, and its supply and demand. It will be evaluated in comparison with other ecosystem services, and specifically in the Luxembourgish context. It will also show the influence of disturbances on these particular ecosystem services and provide insights into how to manage them to continue to provide these services. This will all help steer policy on these matters. Furthermore, the approach method can also subsequently be used for other cases.

Partners

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