RESEARCH BRIEF

Engaging citizens in exploring the beneficial impact of forests on well-being: a Belgian study

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Brief highlights:

Overwhelmingly positive perceptions on forest benefits to society → 96.4% of surveyed Belgian citizens believe that forests effectively benefit their health, demonstrating a strong appreciation of forests for improved mental and physical well-being in everyday lives.

Key forest benefits → Relaxation, stress relief, outdoor activities, and air quality improvement are the most valued forest benefits identified in the survey. This finding highlights the diverse cultural forest ecosystem services provided by these environments and how local people perceive nature to impact their wellbeing.

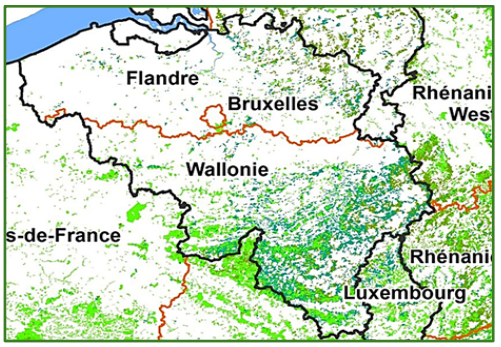
Citizen Science potential → Strong public interest in forests, as well as an increased interest in forestry and silviculture, create fertile ground for citizen science engagement. To safeguard and possibly restore degraded forested areas, citizens can directly participate in citizen science initiatives such us collection of valuable data and raising of awareness amongst the population.

Policy focusses needed → The recommendation to address current challenges, such as the lack of knowledge on forestry and lack of dense, wilder forested areas in the country point to a need to integrate the role of forests into urban planning to maximize well-being impacts of communities, as well as promoting sustainable forest management with the support of citizen science projects and collective action.

Forests are vital ecosystems that provide numerous functions, including carbon sequestration, biodiversity conservation, and benefits to human well-being. Human health is indeed positively supported by forests, as they offer protection against various diseases and environmental hazards as well as help reduce the risk of cardiovascular diseases, cancers, respiratory issues, and mental health problems. Therefore, safeguarding forests is not only a way to provide protection against natural disasters such as floods and extreme weather events, but also to prevent infectious disease outbreaks like COVID-19. Despite this, their importance is undervalued in public health strategies and resource allocation. Forested ecosystems are not given adequate priority in public funding, healthcare systems, or urban planning (World Wildlife Fund, 2024). Scientific evidence clearly shows the interconnection between public health and forests at local, regional, and global levels. Therefore, when addressing public health challenges in our communities and countries, it is crucial to consider how our treatment of forests affects our health, and vice versa.

In the country of Belgium, forests are unevenly distributed and cover approximately 23% of the land. In particular, the region of Flanders has one of the smallest per capita forest areas in Europe, due to its high population density and urbanization rates which have historically altered the landscape (Filière Bois Wallonie, 2024). Current forest patches however remain important for the population and for the local biodiversity, as they provide vital Ecosystem Services, including carbon sequestration, air and water regulation, and opportunities for recreation. Most importantly, they also contribute significantly to societal well-being.

Nonetheless, the pivotal role of forests in mitigating climate change impacts and bolstering ecosystem health in Belgium remains underexplored from a citizen perspective. To address this gap, a KU Leuven study surveyed citizens to assess their perceptions of forest benefits as well as of societal awareness of forest health. The findings, part of a broader research soon to be published, aim to guide policymakers and stakeholders on leveraging citizen engagement to enhance sustainable forest management and overall ecological resilience. This will help identifying key opportunities for better citizen involvement at the national level.



Forest cover distribution for the country of Belgium. Source: Filière Bois Wallonie; European Environment Agency (EEA), Corine Land Cover (2018)

Overview of the study

The survey study carried out is part of a Master's thesis research on forest contact and associated benefits for human well-being (see References). Focusing on the context of Belgium, the survey has sampled more than 800 individuals across the country, capturing insights on individuals' perceptions, opinions and beliefs on the beneficial role of local nature and forest ecosystems in their lives. The study, conducted during December 2024 and May 2025 in collaboration with another Master student, is yet to be published, adding a contribution to the existing literature on forest ecology and to the field of sustainable development.

Key findings from the study

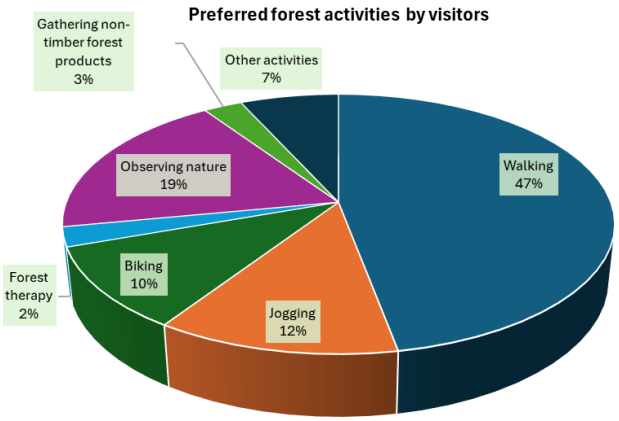
Science has shown how natural environments like forests possess restorative qualities that can help alleviate mental fatigue and lead to healthier, more resilient individuals and communities (Berman et al., 2012; Doimo et al., 2020; Kaplan & Kaplan, 1989). Our KU Leuven survey research, in alignment with the Sustainable Development Goals (SDGs) below, shows a similar trend, as citizens in Belgium tend to perceive local forests as important for mental health, physical well-being and climate change mitigation. Insights from the same research show how citizens in Belgium perceive local forests for their Cultural Ecosystem Services, including mental health & well-being, contributing to mitigating the impacts of extreme weather events, such as floods and storms, by stabilizing soil and reducing runoff. Overall, the survey has indicated a strong, positive link between spending time in forests and improved well-being, with individuals reporting increased feelings of personal value, refreshment, energy, activity, calmness, and relaxation. Some of the most relevant results:

1. **Perception of health benefits:** An overwhelming majority (96.4%) of respondents believe that forests benefit their health, while only a small percentage are unsure (2.8%) or disagree (0.8%).
2. **Most valued benefits:** Respondents highly value forests for relaxation/stress relief (95%), outdoor activities (88%), better air quality (82.2%), and beautiful scenery (81.5%). Spiritual connection (33.5%) was valued less.
3. **Nature enhances mood and energy:** Survey data indicates that nearly half of respondents feel *relaxation* (17%) as the primary benefit, with a significant portion also experiencing

increased *energy* (14%) and *clarity* (13%) in thoughts. This is correlated with regular forest visits (at least once a month).

4. **Community knowledge:** 66% of respondents reported familiarity but not involvement. However, this shows a willingness to learn about the forest´s environmental benefits.

What emerged from the survey is also that most respondents spend a lot of time in the forest: they spend between half an hour to 3 hours on their forest visits, the majority of which appear to be in the Flanders and Wallonia regions. Additionally, we noticed that the preferred activities of visitors in Belgian woods are walking, jogging, hiking, meditating, forestry and silviculture activities, accompanied by additional recreational activities such as observing trees and flowers, and forest therapy.



Survey graph showing preferred forest activities in Belgium.
Source: survey data elaborated by author.

Community engagement with forests

Such insights from regular forest visitors bring valuable local knowledge to the table, as their familiarity with specific forest areas enables them to notice subtle changes in ecosystems, identify local species, and track seasonal variations – all crucial data points for scientific research. In Belgium there exist citizen science projects, such as "*Observations.be*" , "*Scivil*" and "*Quel est cet arbre?*", which tap into this local expertise. These platforms allow citizens to report wildlife sightings and identify tree species, contributing to a broader understanding of Belgium's forest biodiversity. Moreover, since the forest ownership landscape is changing, small parcel owners often lack forestry knowledge or management skills. This represents an opportunity for more experienced citizens and private owners to bring fresher perspectives, creating diverse approaches for citizen science and ensuring appropriate forest stewardship (Rondeux et al., 2015).

Survey data indicate that citizens typically spend between thirty minutes and three hours on their forest visits, reflecting a meaningful engagement with nature within their daily lives. Since forests serve as **restorative environments** that help reduce stress, enhance mood, and improve cognitive functioning (Verschuuren et al., 2021), being in nature can enhance mood and trigger feelings of happiness. Simply the sights, sounds, and smells of a forest can in fact evoke positive emotions. Survey data indicates that nearly half of the respondents feel *relaxation* as the primary benefit, while a significant portion also experiences *increased energy* and *clarity in thoughts*. Overall, there appears to be a positive perception on the mental health benefits associated with forests. This is correlated with the fact that most respondents admitted visiting forests at least once a month in their free time.

In this scenario, it is possible to align citizen science initiatives with the habits of visitors, fostering a major engagement with forestry. Improved engagement with forests is crucial for citizen science as it fosters community involvement in conservation efforts, restoration and sylviculture activities.

Deriving key information from survey data, a heightened public interest and knowledge in forestry are both spurred by increasing concerns over climate change, biodiversity loss, and the documented health benefits of natural environments. Promoting activities such as forest bathing and meditative practices can enhance mindfulness and immersion in natural settings. These activities help to revitalize the intrinsic human connection with nature, which is essential for addressing ecological anxiety and promoting proactive environmental stewardship.

Policy recommendations

On average, over 200 hectares of forest continue to disappear each year in Flanders (The Brussels Times, 2023). Prioritizing the preservation and expansion of forests in Belgium will enhance their effectiveness in addressing climate change mitigation and broader environmental restoration efforts, while positively impacting the local population.

Considering the survey findings, the following recommendations are presented:

Promote citizen science initiatives to protect forests collectively

- Develop accessible platforms for citizen science projects, such as mobile apps or community-based neighbourhood programs for both urban and rural areas.
- Encourage collaboration between schools, local governments, and NGOs to foster forestry awareness and participation in forest activities, such as tree planting, sylviculture, monitoring of forest biodiversity, engaging in forest therapy and more.

Enhance education on benefits derived from forests

- Launch public awareness campaigns to educate young citizens on the role of forests in climate mitigation and the specific threats that they face.
- Integrate climate change and forest conservation topics into school curricula and community workshops.
- Conduct further research and studies on individual perceptions of nature, forests and other ecosystems at the local level.

Support urban green spaces

- Increase investment in urban forests and green infrastructure to improve air quality, reduce heat islands, and enhance societal well-being in cities where pollution, noise and stress can threaten residents' mental and physical health.
- Involve urban residents in the planning and maintenance of green spaces to foster a sense of ownership and stewardship towards nature.

Foster inclusivity in policy-making

- Ensure that policies addressing forests consider the unique needs and perspectives of both urban and rural populations.
- Create platforms for citizens to contribute their insights and experiences to policy development, so that they can share their knowledge and opinions on local forest patches.

Concluding remarks

Forests are fundamental to both well-being and climate resilience in Belgium, yet their full potential to enhance societal well-being remains untapped. As the KU Leuven study supports, engaging citizens through education, citizen science, and inclusive policies offers a sustainable and efficient way for governments and societies to harness the power of local ecosystems, preserve them against climate change, and enhance the quality of life for all residents, as well as for local flora and fauna. Recognizing the crucial interconnectedness of forest health and public well-being is essential for effective conservation and improved health outcomes. It is vital for decision-makers to acknowledge the importance of forests in safeguarding human health, biodiversity, and the global climate, and to promote collaborative conservation efforts as an integral public health strategy. This document serves the purpose of disseminating knowledge on forest perceptions and opinions in Belgium, advocating for public participation in providing a sustainable and equitable future for Belgian forests.

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