

# Restoring the Connection Between Forests and Human Health

Forests are among the most biologically rich areas on Earth, home to 80% of global terrestrial biodiversity. They provide us with oxygen, an array of natural resources, and a source of livelihood. They also play a crucial role in supporting our mental and physical health, yet this is often overlooked within health strategies, education programmes, and in everyday human lifestyles. Recognizing the extensive benefits and services provided by forests can help us to overcome many of the challenges linked to physical and mental well-being facing Europe today.

Writers: Chantal van Ham & Helen Klimmek

Grandfather and child  
Source: Anna Danilkova, shutterstock



Forest biomass-derived energy could reduce global carbon dioxide emissions by between 400 million and 4.4 billion tons per year.

Source: FAO Report 2016

## Nature Health

A growing body of evidence suggests that early childhood experiences with nature provide physical and mental health benefits, stimulate child development, and can help to generate a lifelong sense of connectivity and stewardship towards the environment, yet urbanization poses a growing challenge to these types of experiences. Today close to 75% of Europe's population and over 1 billion children worldwide live in cities.<sup>1</sup> While cities can be places of innovation, learning, and diversity, they can also pose a threat to healthy lifestyles by increasing exposure to pollution, limiting access to nature, and contributing to increasingly sedentary lifestyles. The current health challenges facing Europe require leadership in identifying the critical intersections between health and nature policies, as well as the creation of institutional conditions and partnerships that can support win-win solutions for the environment, human well-being, and the economy.

One-third of children spend under 30 minutes outside each day.



Children playing on a log  
Source: Shutterstock

## Health Challenges in the European Union

The European Union currently faces a number of health-care challenges. These include a changing demographic context, limited financial resources, growing health inequalities between and within Member States, and a growing prevalence of chronic diseases (also known as Non-Communicable Diseases)<sup>2</sup>. These types of illnesses, which include cardiovascular conditions (such

as heart attacks and strokes), cancer, chronic respiratory ailments, and diabetes, are responsible for 63% of all deaths worldwide and are the leading cause of mortality in Europe. Approximately 50 million people in the EU suffer from chronic diseases, representing an annual cost of € 115 billion to the EU economy. Mental health problems present an additional challenge, as

they result in wide-ranging and long-lasting effects and become a source of discrimination and inequality.

Fundamental to developing an effective European health system is the recognition that the presence of ecosystems such as forests can play a crucial role in helping us lead happier and healthier lives. Policies such as the EU Health

Strategy and the 7<sup>th</sup> Environmental Action Program will, once achieved, work towards this end. An integrated approach to health care could see governments promoting time in nature as part of public health policy, or providing information to physicians and patients alike about the health benefits of time spent in the forest. Physicians might then be able to prescribe visits to the

forest as a means of boosting mental health, which would support more effective preventative health care. This would help to improve the health status of the population and help to create better employment and economic outcomes.

## Forests for Healthier Lifestyles and Cleaner Air

Many behavioral and environmental factors have contributed to the rise of chronic illnesses. This includes less time spent being physically active<sup>3</sup> a trend particularly noticeable in children. Research conducted by the National Trust in the United Kingdom in 2012<sup>4</sup> found that children in the UK spend approximately 20 hours a week online and 17 hours a week watching television, with much less time devoted to playing outside in wild places compared to a generation ago.

Studies show that physical activity plays an important part in child and adolescent development, as well as in the prevention and treatment of health problems such as asthma.<sup>5</sup> Exercising in green spaces can lead to a reduced risk of stroke, cardiovascular disease, and obesity. It can also lessen symptoms of anxiety and depression. Natural areas such as forests are often deemed to be particularly attractive settings for outdoor recreation; ensuring accessibility to these types of spaces may therefore play an important role in encouraging more active lifestyles.

Forests also play a crucial role in reducing air pollution, the presence of which has a major impact on health. In France, according to a joint EU-OECD report on the state of health in the EU, approximately 48,000 premature deaths per year (9% of total mortality) are caused by high concentrations of fine particulate matter.<sup>6</sup> This problem is not unique to France: In 2013 nearly one fifth of the EU population lived in areas where the EU air quality limits for particulate matter were exceeded. Health care spending on

respiratory diseases in the EU represents approximately 6% of the total health care budgets of the Member States.

Although forests cannot provide a panacea to air pollution, they do have an important role to play. According to a US study of tree and forest effects on air quality and human health, trees remove substantial amounts of pollution, with pollution removal being greatest in areas with the highest amount of tree cover.<sup>7</sup> Interestingly, the study found that “most of the pollution removal occurred in rural areas, while most of the health impacts and values were within urban areas”<sup>8</sup>, demonstrating the benefits forested areas provide even to people who do not live in close proximity to them.

Spending time in forests can help to lower concentrations of cortisol, pulse rate and blood pressure.

## The Physiological Effects of Spending Time in Forests

The benefits of outdoor physical activity for health and general well-being have been recognized in public health campaigns and initiatives. As part of the United States National Park Service's 'Healthy Parks Healthy People' program, doctors prescribe time in nature to help treat conditions such as diabetes, depression, and high blood pressure. In Japan the restorative benefits of forests were formally recognised in 1982 when the Ministry of Agriculture, Forestry, and Fisheries advocated Shinrin-yoku (forest bathing) as a form of stress management and relaxation. Though there is a need for more research into the physiological effects of Shinrin-Yoku, small-scale studies have shown its potential to contribute to preventative health care by lowering concentrations of cortisol, pulse rate, and blood pressure.

The potential of natural areas such as forests to provide an escape from our increasingly stressful, noisy, and polluted surroundings is also being acknowledged in other parts of the world. In the UK, a national project called NHS Forest is using forest and park areas near health care facilities to support rehabilitation and recuperation.<sup>9</sup> In Sweden, the Alnarp Rehabilitation Garden helps individuals to recover from stress-related mental disorders, stroke and war neuroses through nature-based rehabilitation.<sup>10</sup> In Scotland, the Forestry Commission is piloting projects that focus on bringing early-stage dementia patients into contact with woodland environments in order to expose them to stimulating environments and promote a sense of well-being and self-worth.

Cyclists in Ardennes, Belgium  
Source: defotoberg, shutterstock



Mummelsee near Seebach, Black Forest, Baden Wurttemberg, Germany  
Source: Juergen Wachenhut\_shutterstock

## Reconnecting People with Nature

Although there is ample evidence demonstrating the positive links between human health and outdoor activity, adults and children are in fact spending more and more time indoors. In his book *Last Child in the Woods*, Richard Louv coined the term 'nature-deficit disorder' to describe the range of behavioural problems, such as diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses, that result from less time spent outdoors. Sedentary and indoor lifestyles have not only resulted in a growing disconnect between people and nature, manifested in a lack of knowledge about local wildlife and

natural areas, but have also contributed to physical and mental health problems such as rising levels of obesity, vitamin D deficiency, and asthma.

Reconnecting people with nature by showcasing the wonder and beauty of the natural world as well as the many essential services and benefits entailed can play an important role in encouraging more active and healthy lifestyles. Initiatives such as IUCN's #NatureForAll campaign aim to do just that by inspiring a new generation of thinkers and doers across all sectors of society to connect with nature and take action to support

its conservation. By fostering collaboration between initiatives from around the world that focus on restoring the connection between humans and nature, the #NatureForAll campaign seeks to promote a very simple idea: the more people experience, connect with, and share their love of nature, the more support there will be for its conservation. This, in turn, will have a positive impact on human health by ensuring that we continue to benefit from the vast array of valuable goods and services provided by nature, such as clean air, green spaces, and stress-free environments, which are so essential to our health and well-being.



Hikers at the Herrenwieser See, Westweg, Forbach, Black Forest, Baden-Wuerttemberg, Germany  
Source: Juergen Wachenhut, shutterstock

## Encouraging Dialogue to Facilitate a Healthier Future

More integrated policies and knowledge are needed to achieve our aim of living well within the limits of our planet. There is a lot to gain from bringing the nature conservation and health sectors closer together. Joint initiatives could identify the services that ecosystems provide for human well-being, facilitate their integration in EU policy objectives, and together develop solutions for health-related challenges.

...forests can play a crucial role in helping us lead happier and healthier lives

Many health and nature related activities take place at the local and regional scale, but at the national level the positive links between public health and nature can also be promoted through policy and institutional frameworks. The EU has an important role to play in supporting the protection of nature, the implementation of the EU biodiversity policy, and in ensuring that policies and financial mechanisms take into account

the links between health, societal, and environmental concerns.

Supporting dialogue between policymakers, scientists, and communities is essential to developing more holistic approaches to human health-care and environmental protection. The Parks for the Planet Forum, launched in 2012 by IUCN and Salzburg Global Seminar, supports this process through a combination of annual high-level meetings with an evolving multi-year work programme to share pioneering approaches at local and international levels. Over the next decade, this forum aims to position nature at the very heart of human health and well-being, security, and prosperity across the planet. By fostering this type of dialogue and raising awareness of the multiple benefits of nature towards human well-being, IUCN will continue to re-establish the connection between humans and nature, and thereby support the achievement of a healthier and happier Europe for all. 

Notes:

1. Unicef 2016
2. [ec.europa.eu/health/sites/health/files/programme/docs/factsheet\\_healthprogramme2014\\_2020\\_en.pdf](http://ec.europa.eu/health/sites/health/files/programme/docs/factsheet_healthprogramme2014_2020_en.pdf)
3. [ec.europa.eu/health/sites/health/files/state/docs/health\\_glance\\_2016\\_rep\\_en.pdf](http://ec.europa.eu/health/sites/health/files/state/docs/health_glance_2016_rep_en.pdf)
4. [www.nationaltrust.org.uk/documents/read-our-natural-childhood-report.pdf](http://www.nationaltrust.org.uk/documents/read-our-natural-childhood-report.pdf)
5. [ec.europa.eu/health/sites/health/files/state/docs/health\\_glance\\_2016\\_rep\\_en.pdf](http://ec.europa.eu/health/sites/health/files/state/docs/health_glance_2016_rep_en.pdf)
6. [ec.europa.eu/health/sites/health/files/state/docs/health\\_glance\\_2016\\_rep\\_en.pdf](http://ec.europa.eu/health/sites/health/files/state/docs/health_glance_2016_rep_en.pdf)
7. Nowak, D.J. Hirabayashi, S., et al. (2014). Tree and forest effects on air quality and human health in the United States. *Environmental Pollution* 193:119–129 [www.fs.fed.us/nrs/pubs/jrnl/2014/nrs\\_2014\\_nowak\\_001.pdf](http://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_nowak_001.pdf)
8. [www.cbd.int/health/SOK-biodiversity-en.pdf](http://www.cbd.int/health/SOK-biodiversity-en.pdf)
9. [ieep.eu/assets/2092/Health\\_and\\_Social\\_Benefits\\_of\\_Nature\\_-\\_Final\\_Report\\_Executive\\_Summary\\_sent.pdf](http://ieep.eu/assets/2092/Health_and_Social_Benefits_of_Nature_-_Final_Report_Executive_Summary_sent.pdf)
10. [ieep.eu/assets/2092/Health\\_and\\_Social\\_Benefits\\_of\\_Nature\\_-\\_Final\\_Report\\_Executive\\_Summary\\_sent.pdf](http://ieep.eu/assets/2092/Health_and_Social_Benefits_of_Nature_-_Final_Report_Executive_Summary_sent.pdf)



The third session of the Parks for the Planet forum, entitled The Child in the City will take place in Salzburg from 18-21 March 2017. It will focus on setting a new change agenda to promote access to nature, health and development for vulnerable children and communities in growing urban centers and cities.

For more information please see: [www.salzburgglobal.org/calendar/2010-2019/2017/session-574.html](http://www.salzburgglobal.org/calendar/2010-2019/2017/session-574.html)



The International Union for Conservation of Nature (IUCN) is a membership Union uniquely composed of both government and civil society organizations. It provides public, private and non-governmental organizations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together.

Created in 1948, IUCN has evolved into the world's largest and most diverse environmental network. It harnesses the experience, resources and reach of its 1,300 Member organizations and the input of some 16,000 experts. IUCN is the global authority on the status of the natural world and the measures needed to safeguard it. Our experts are organized into six commissions dedicated to species survival, environmental law, protected areas, social and economic policy, ecosystem management, and education and communication.