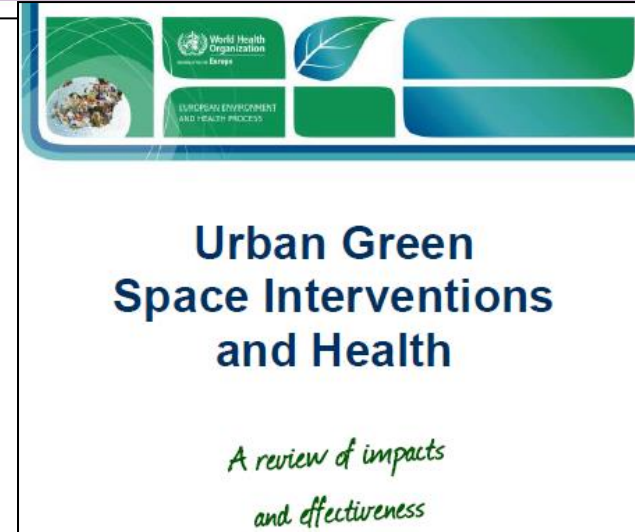
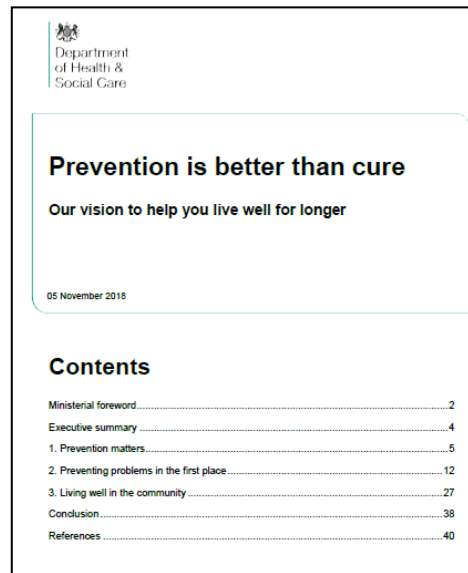


Positive effects of forests on human health and wellbeing – What does the research say?

Liz O'Brien
EU Forest Pedagogics
Congress
2021

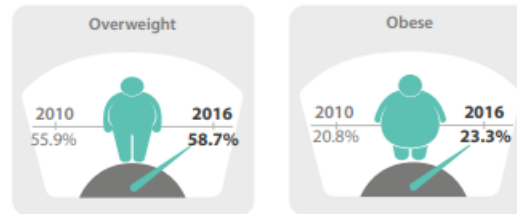


- Role of treescapes in contributing to health and wellbeing
- Importance for urban populations
- Addressing inequalities



- Over 110 million people in the WHO European region live with a mental health condition – over 10% of population
- Inactivity is 4th leading risk factor for all global deaths and costs 80.4 billion euros per yr to EU
- 1 in 5 children and young people in EU suffer from a developmental, emotional or behavioural problem
- Renewed focus on health due to Covid pandemic

The percentage of the population that is overweight or obese is rising in the WHO European Region.



Variations exist between countries and across gender.

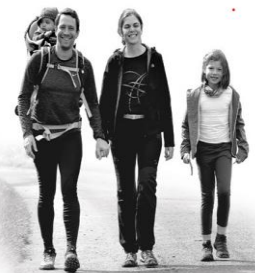


Home to Us All

How Connecting with Nature Helps Us Care for Ourselves and the Earth



November 2018



PHYSICAL ACTIVITY FACTSHEETS
FOR THE 28 EUROPEAN UNION MEMBER STATES OF THE WHO EUROPEAN REGION

- More than 25 million people in the UK experienced high levels of anxiety in late March when the lockdown was announced.
- A survey found increased levels of anxiety from
 - concerns for personal wellbeing (8.5 million)
 - job security (6.2 million)
 - impact of Covid-19 on their finances (5.3 million).

In Belgium depressive disorders have sharply increased from 10% in 2018 to 16%.

The survey found that people between the ages of 16 and 24 would be among those most affected.

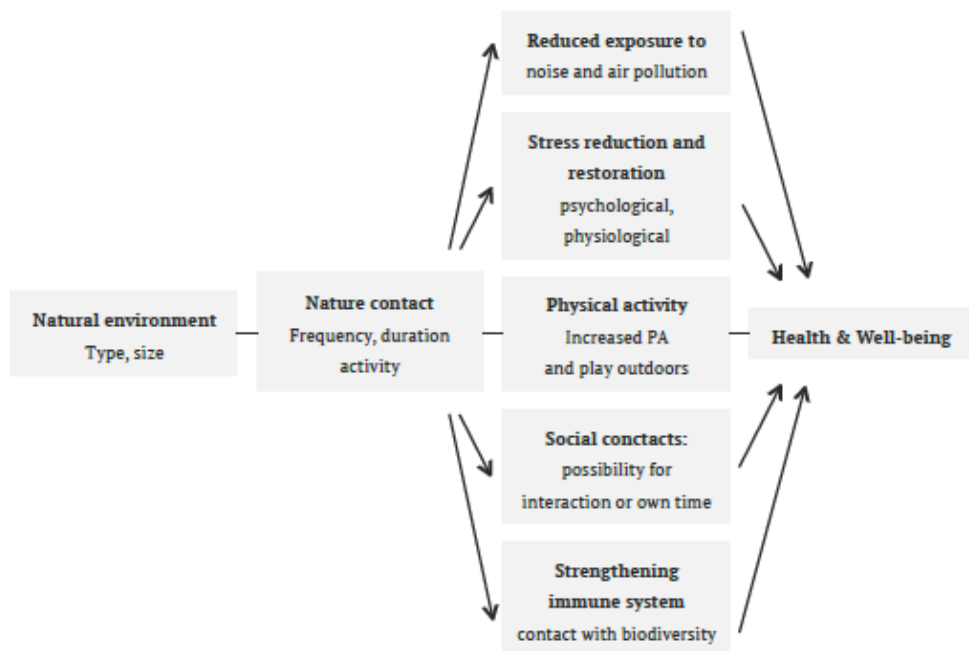
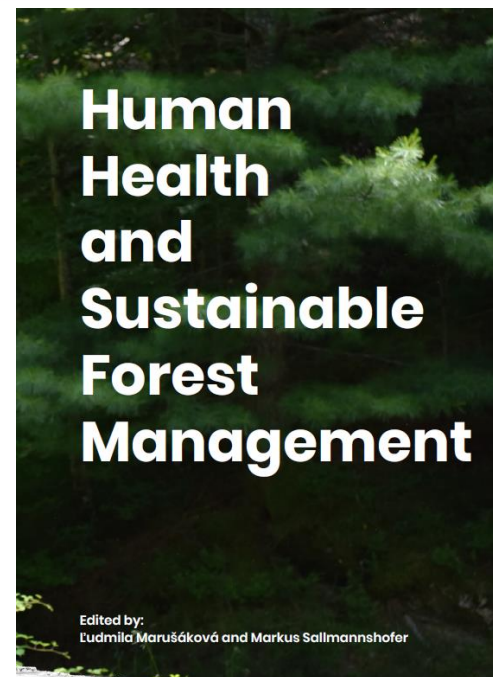
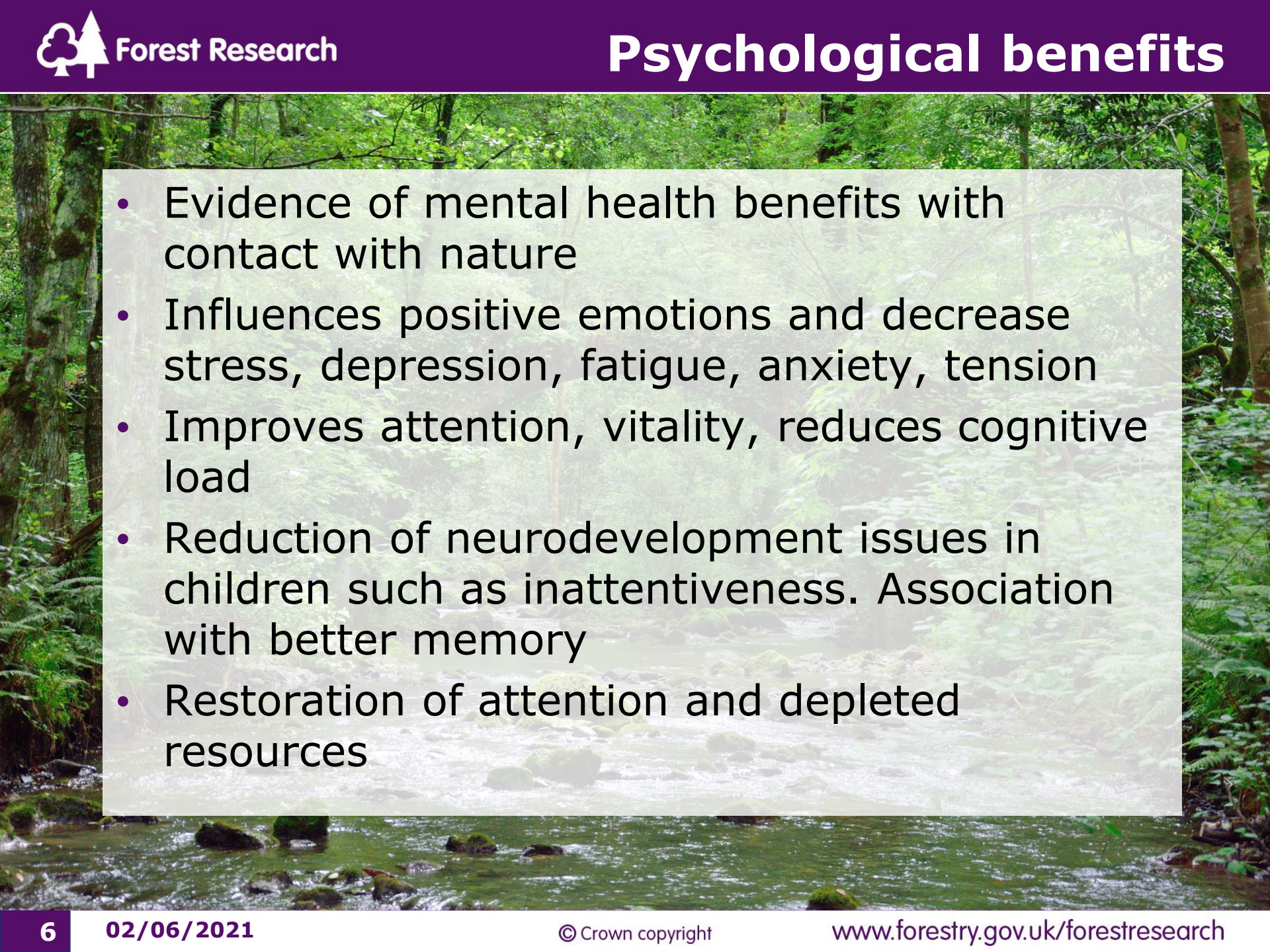
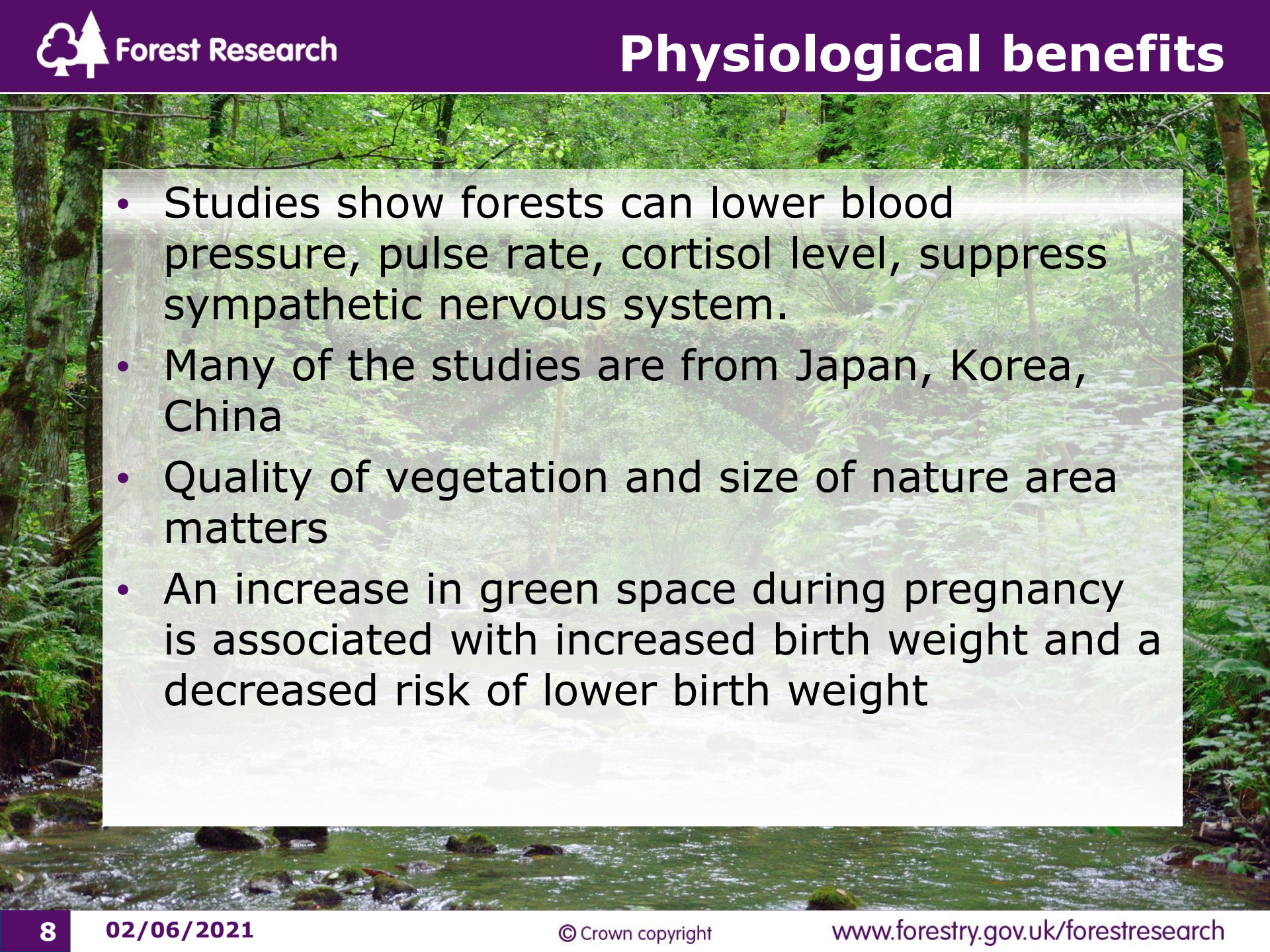


Figure 2: Suggested mechanisms for health benefits (Tyrväinen et al. 2018, adapted from Hartig et al. 2014)



- 
- Evidence of mental health benefits with contact with nature
 - Influences positive emotions and decrease stress, depression, fatigue, anxiety, tension
 - Improves attention, vitality, reduces cognitive load
 - Reduction of neurodevelopment issues in children such as inattentiveness. Association with better memory
 - Restoration of attention and depleted resources

- Evidence that proximity to nature can impact people's physical activity levels
- Exercising in nature can build strength and agility
- Access to urban green space associated with increased physical activity and lower risk of obesity in children
- Considerable physical and mental health benefits for those with severe mental illness of physical activity of any intensity or duration

- 
- Studies show forests can lower blood pressure, pulse rate, cortisol level, suppress sympathetic nervous system.
 - Many of the studies are from Japan, Korea, China
 - Quality of vegetation and size of nature area matters
 - An increase in green space during pregnancy is associated with increased birth weight and a decreased risk of lower birth weight

- Social relationships and impact on loneliness
 - Study in Netherland of 10,000 people found less greenspace was associated with perceived lack of social support and loneliness
 - More urban greenspaces can promote social interaction in children
- Developing new relationships
 - Interventions/programmes to encourage connection with forests can result in new social contacts
 - Environmental volunteering as a way to meet new people
- Participation and capacity building
 - Forest community events and activities improving social cohesion

- Parks, forests, grasslands and other urban green spaces (green community squares, greenways) can improve mental health
- Higher biodiversity generally resulted in better mental health outcomes
- Direct effects of exposure to the coast showed reasonably consistent positive mental health benefits



- Systematic review of experimental studies
 - Positive impact on children's appreciation of school grounds
 - Positive impact on attention restoration – only after grounds had been greened for a longer period
 - Greening can stimulate physical activity – not shown in all studies
 - Pro-social behaviours some increase
 - Beneficial effects of greening on socioemotional health outcomes
- Conclusion
 - Offers opportunities to reduce health equity gaps by improving school children's physical and mental health





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Article

Physical Activity Supporting Connection to Nature, and Helping to Maintain Wellbeing during the Covid-19 Restrictions in England

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Abstract: The Covid-19 pandemic and the restrictions put in place to prevent or reduce the spread of the disease led to anxiety, concern and stress for many people. In England restrictions varied at different times of the year, and throughout this time there was a lot of attention focused on the importance of exercise and on engaging with nature to maintain wellbeing. We undertook an online survey that ran for six weeks in June/July 2020 and gained a response from 2115 people, of which 25% were male and 74% female, with 35% aged 16–44 and 65% aged 45+. This survey focused on people who were already interested or engaged with nature. We explored whether being physically active changed or not, if being active impacted people's wellbeing and whether those who were active benefited from connecting to nature. We found that those meeting the government recommended levels of physical activity in the previous week, of 150 min, were more likely to maintain their overall wellbeing through feeling that the things they did in their life were worthwhile ($p < 0.0001$) and reported an increase in feelings of connection to nature ($p < 0.0001$). While those who did less than 30 min of physical activity in the previous week were less happy ($p < 0.0001$) and more anxious than usual ($p < 0.0001$). The research highlights the importance of physical activity and contact with nature and how these can play important roles in maintaining people's everyday wellbeing under extremely difficult national circumstances.

Citation: O'Brien, L.; Forster, J. Physical Activity Supporting Connection to Nature, and Helping to Maintain Wellbeing during the Covid-19 Restrictions in England. *Int. J. Environ. Res. Public Health* **2021**, *18*, 4585. <https://doi.org/10.3390/ijerph18094585>

Keywords: physical activity; trees and woodlands; nature; wellbeing; nature connection; motivations

Why society needs nature - Lessons from research during Covid-19 - Forest Research

Engagement with nature before and during the Covid-19 restrictions - Forest Research

Why society needs nature

Lessons from research during Covid-19



“We love walking but I'd never take the time to actually try to study the types of trees around us. Our twin boys, 4, have loved finding out more about the nature around us during this period. We were always so busy before lockdown, walks were for exercise, but now we spend time actually enjoying what's around us”

“I have always loved trees, woodland, forests, but having more time and a very adventurous toddler, our family has spent a lot more time exploring and playing in woods/forests and learning more about the flora and fauna. Being involved in a community gardening group too, we have looked into ways of adding more trees, and looking after our local areas”

Opportunities to engage with nature during Covid-19

“Walks serve a multitude of purposes: exercise for the children, ‘fresh air’ when everyone is getting a bit fractious, time killing when everyone is bored, supporting home schooling (we have learned SO MUCH about bugs...)”

“Myself and the children have absolutely loved taking part in nature hunts, tree rubbing and mini east hunts! generally learning about our surroundings has been wonderful”

- Nature engagement
- Craft (woodland) engagement
- Social engagement

Activities important for a 'green mind' - the linking of the mind/body and connecting that through behaviours in natural and social environments.

Engaging with these types of activities people are making memories, learning skills, sharing and giving to others which can calm the brain and improve health

[Evaluation of the Westonbirt Arboretum Community Inclusion programme and Visitor Experience - Forest Research](#)





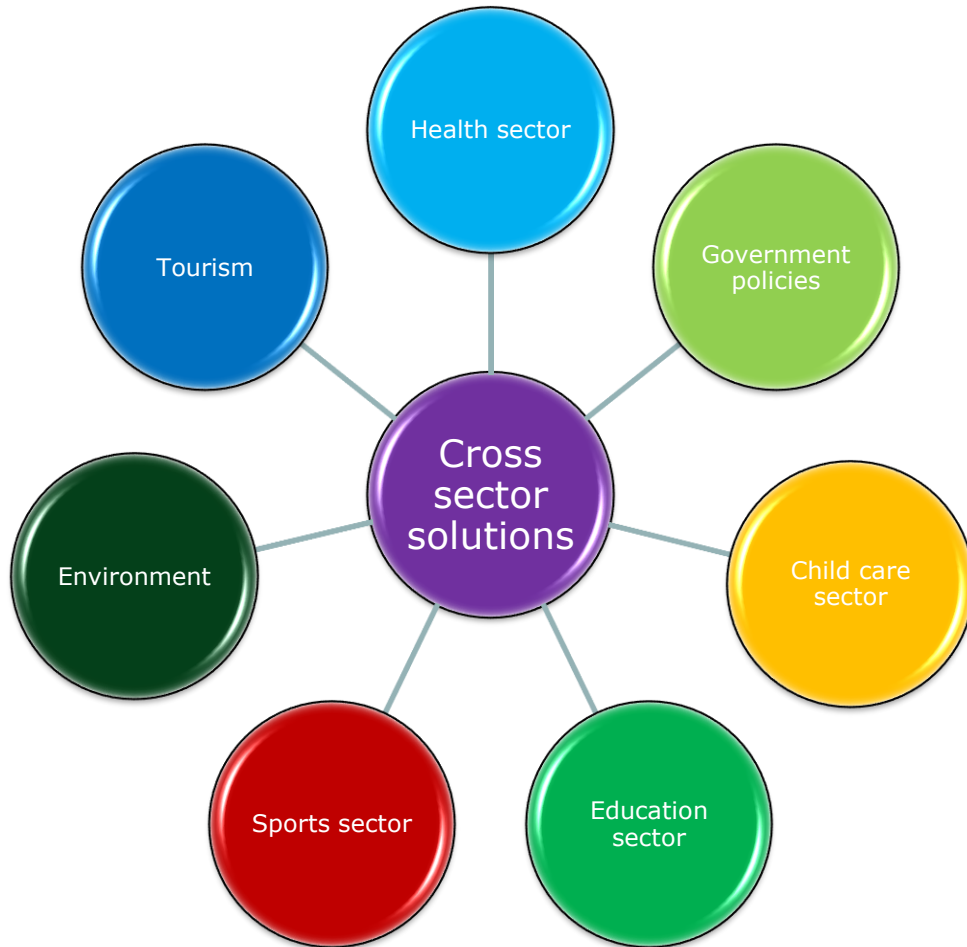
Preparing food, cooking
and eating together,
working together





Learning skills – lighting fires, using a Froe, fence weaving





- Policies that allow time spent outdoors in forests/nature and a focus on experiential learning
- Policies that support delivery of health benefits of forests/nature
- Policies focus on opportunities near to where people live

Covid-19 raising issues of inequalities in:

- Access to nature/forests
- Quality of nearby nature
- Proximity to nature
- Amount/size of nature

Meaningful engagement and connection

Overall a strong desire for a fairer and greener society



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Briefing Note

Innovative NHS Greenspace in Scotland

Green Exercise Partnership July 2014

This briefing note is based on interviews with a small number of Directors of Public Health and senior staff with responsibilities for planning and policy, estate and sustainable management in NHS Scotland in 2013. The research was undertaken to better understand the drivers and priorities faced by the interviewees and where NHS greenspace might contribute to meeting current health priorities. The work was commissioned by the Green Exercise Partnership (GEP) which comprises NHS Scotland, Forestry Commission Scotland and Scottish Natural Heritage to support the NHS greenspace demonstration programme being co-ordinated by the GEP. The briefing note also draws on GEP papers and on evaluative evidence from existing demonstration projects that have been running since 2010. While NHS greenspace was not considered core business for the NHS Scotland staff interviewed it was viewed extremely positively, contributing to a range of policies including health, well-being and biodiversity. The interviews illustrated that there is potential for greenspace design to be stipulated as an essential requirement for retrofitting existing healthcare facilities and in the creation of new facilities. This would be in line with the NHS ethos and approach over much of its history and help meet important social, environmental and economic benefits. There are exciting opportunities to use the NHS estate far more effectively to promote better health outcomes for patients, staff, visitors and the wider community.

1 



Valuing and governing tree and forest ecosystem services in Great Britain

This summary outlines the key results and messages from a research programme that provides new insights into how to recognise and understand the value of ecosystem services (the goods and benefits) provided by trees and forests. This work aims to inform policy-makers and practitioners, helping them make decisions about tree and forest management in urban and rural areas.

The programme is being delivered by Forest Research, with guidance from representatives from across Great Britain.



Background

There is increasing evidence that trees and forests provide multiple ecosystem services to society. However, there are challenges to understanding and eliciting the benefits gained from these services and their underlying value, and bringing them together into a format useful to policy makers and practitioners.

This programme uses new and innovative approaches to help determine these services and benefits and show how they can contribute to important government objectives such as health, education, wellbeing, civic action, biodiversity, water management and economic regeneration.

Increasingly, these services and benefits are being identified in urban and peri-urban areas and are becoming recognised by large populations within society. Understanding how these benefits affect different groups, including the public and land managers, is important for land use and land management decision-making processes. This awareness can contribute to the design of interventions and approaches that support and

help people to access and care for trees and forests; likewise, it can support land managers to create and manage woodlands for a range of ecosystem services.

This programme has three main research objectives:

1. valuing tree and forest ecosystem services;
2. mechanisms to deliver tree and forest ecosystem services;
3. changes in tree and forest ecosystem service values.

Key results and messages

1. Valuing tree and forest ecosystem services

Our research explores the value of different tree and forest ecosystem services and uses innovative methods to identify and capture those values. We expand on just three of these below, but you can learn more about the wider range of research on our website.





Nov 2014 Briefing Note

We have stopped moving

Tackling physical inactivity - a role for the Public Forest Estate in England?

Forests are very highly valued by the public in England, as the consultation in 2011 that proposed selling off the **Public Forest Estate (PFE)** highlighted. The widespread outcry to the consultation showed that people value forests and access to them for many diverse reasons (O'Brien and Morris, 2013). Thousands commented on the importance of having a PFE and how the management of this resource by **Forest Enterprise England (FEE)** afforded everyone with welcoming sites and good facilities that provide opportunities for all ages. This briefing note highlights the importance of the PFE in England and the contribution it can make to tackling the national crisis of physical inactivity. The scale of this problem is enormous and is a national priority that needs to be addressed, in part, by providing many attractive locations and spaces that are suitable for, and can help in, encouraging physical activity. Inactivity is the fourth greatest risk factor for poor health in England. It contributes to almost 1 in 10 premature deaths: equal to smoking (PHE, 2014b). It is a greater cause of death in the United Kingdom (UK) than in comparable countries such as the United States, Netherlands or France.

The evidence outlined in this briefing note draws on research in forests but also greenspace and green infrastructure in which trees are often an important or key component. We conclude that the PFE in England is extremely versatile and has the potential to contribute to cost effective solutions for the health sector targeted at preventing ill health and also in recovery and treatment programmes. It is uniquely placed to replicate and provide opportunities for 'industrial-scale growth' of successful initiatives.

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